REFERENCE BOOK

ON

NATO RATIONALIZATION, STANDARDIZATION AND INTEROPERABILITY (RSI)

VOLUME ONE

PUBLIC LAWS AND REPORTS, MEMORANDA OF UNDERSTANDING, SECRETARY OF DEFENSE ANNUAL REPORT TO CONGRESS, INTELLECTUAL PROPERTY RIGHTS TRANSFER GUIDELINES, HISTORY, DEFINITIONS, BIBLIOGRAPHY, POINTS OF CONTACT

COMPILED BY

AMERICAN DEFENSE PREPAREDNESS ASSOCIATION
1700 NORTH MOORE STREET
ARLINGTON, VIRGINIA 22209

NOTICE

The NATO RSI Program is dynamic. New actions are occurring almost daily and, as a result, new materials become available from time to time.

ADPA is contemplating issuing a Volume 3 in late Spring, 1980, to consist of the new materials, to bring the Reference Book up to date.

When the Reference Book went to press, action had not been completed by the Defense Acquisition Regulatory Council on the complete revision of DAR Section VI, "Foreign Purchases." DOD Directives 2010.6, 2035.1, and 5000.1 and DOD Instruction 5000.2 were then also in the course of revision.

These and other pertinent documents would be considered for inclusion in Volume 3. Further information will be forthcoming at a later date.

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NOVEMBER 1, 1979

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SECTION 1

EXECUTIVE SUMMARY

AN OVERVIEW OF THE ACTIVITIES WHICH COMPRISE NATO RATIONALIZATION, STANDARDIZATION AND INTEROPERABILITY

EXECUTIVE SUMMARY

The NATO Alliance has acknowledged from its inception that military and economic advantage would accrue from the promotion of commonality, or at least comparability, in tactical doctrine, modes of organization, procedures and equipment. For many years, however, achievement fell short of aspiration, especially in development and production of military equipment. NATO fielded a large variety of equipments over the years for essentially equivalent roles.

Attitudes began to change in the last few years. The Alliance is especially concerned about its posture vis-a-vis Warsaw Pact modernization of weapons. As a result, there has been renewed interest in the rationalization of NATO Alliance defense efforts. Reflecting the need to enhance both military effectiveness and more efficient use of resources allotted to defense, a major thrust has been launched in the direction of achieving greater commonality in equipment. The basis for this movement is the growth of expenditures by the United States and its NATO Allies for development and production of military hardware and the labor force engaged in this work.

During the 1970s, the members of the NATO Alliance have developed and produced defense equipment for their own use. In some cases they have joined with one or

another European NATO countries in development and production of equipment for their joint use. They have established the EUROGROUP and the INDEPENDENT EUROPEAN PROGRAM GROUP to coordinate the planning and execution of joint programs to the same end. In the meantime, the United States has undertaken to remove barriers to participation of the North American NATO Allies in the common efforts to improve the defense posture of all the Allies and to use their overall resources to the best advantage of all.

Standardization offers the prospect of greater interoperability among Alliance armed forces and also less expense in the acquisition of weapon systems, because of scale and other economies, and logistics savings over the lifetime of weapons. More economical procurement is not the ultimate purpose of the rationalization effort, however, but rather a way of safeguarding military effectiveness in the face of budgetary constraints.

In the mid-1970s the issue was brought to a head both in the Congress and in the Executive Branch. The Congress enacted statutes which pressured the Executive to move toward closer interoperability and standardization. The Secretary of Defense brought up to date policy statements on the subject and entered into general and reciprocal memoranda of understanding with some NATO Allies and other Western countries.

The policy of the United States, in accordance with section 802 of Public Law 94-361, the Fiscal Year 1977 Defense Appropriation Authorization Act (page 4-5 infra), requires that equipment procured for United States forces stationed in Europe under the terms of the North Atlantic Treaty should be standardized or at least interoperable with equipment of other members of NATO. Pursuant to the Congressional mandate, the Department of Defense will as a matter of priority seek new concepts and methods of cooperation with the Allies to improve NATO's military effectiveness and provide for equitable economic and industrial opportunities for all participants. The Defense Department will also seek greater compatibility of doctrine and tactics, to provide a better basis for arriving at common NATO requirements. The Defense Department's announced goal is to achieve standardization of entire systems where feasible and to gain the maximum degree of interoperability throughout Alliance military forces.

The five top priority areas for interoperability and standardization established by the Joint Chiefs of Staff and endorsed by the NATO Military Committee are:

* command, control, and communication systems.
* cross-servicing of aircraft.
* ammunition.
* compatible battlefield surveillance/ target designation/acqisition systems.

* interoperability and standardization of components and spare parts in all programs.

The United States has established three major approaches in its efforts to achieve greater Alliance standardization and interoperability:

* Establishment of general and reciprocal procurement memoranda of understanding (MOUs) with NATO member nations, intended to encourage bilateral arms cooperation by waiving "buy national" restrictions and establishing regular review of armaments programs and trade.

* Negotiation of dual production of already developed or nearly developed systems. Under this approach, nations that have developed systems valuable to the NATO Alliance would permit others to produce the systems and avoid undertaking redundant development programs. Dual production could lead to early introduction of the latest technology, with a more effective use of resources.

* Creation of families of weapons still in research and engineering, but not yet developed. NATO nations would agree to develop complementary weapon systems within a mission area, which they had planned to develop in the next few years.

These three major U.S. approaches could lead to improvement of the management structure of arms cooperation within the Alliance. The new Alliance Periodic Armaments Planning System (PAPS) would be used by the Conference of National Armaments Directors (CNAD) to identify mission needs and to seek cooperatively developed equipment solutions. The NATO Armaments Planning Review (NAPR) is a system of national equipment replacement schedules to provide a means to

review national armaments plans and identify opportunities for armaments cooperation.

The normal means of achieving armaments cooperation is to rely on industry to arrange for efficient means of collaboration on each program or project. If commercial industrial arrangements are not sufficient to satisfy any particular governmental desire for greater industrial or technical participation, government-to-government compensatory arrangements may be considered. Foreign manufacturers will be given access to U.S. requirements and opportunity to compete with U.S. firms for awards of contracts to satisfy U.S. needs. If necessary, "Buy American" limitations will be waived. The Secretary of Defense has already taken several actions to accomplish such waivers by making determinations and findings under the Buy American Act. The memoranda of understanding with NATO Allies make it possible to liberalize their "buy national" policies into a two-way street of cooperative procurement.

This Reference Book on NATO RSI makes generally available copies of some of the documents which will be valuable to an understanding of the RSI program.

The Culver-Nunn amendments to the Defense Appropriation Authorization Acts for FY 1975, 1976, and 1977 provide statutory basis for RSI in the United States. (See section 4.)

The Secretary of Defense submits annual reports to the Congress pursuant to the Culver-Nunn amendments. A copy of the Fifth Annual Report, January 31, 1979, is included in Section 6.

Department of Defense Directive 2010.6 is the principal statement of United States policy. A draft of the current revision of 2010.6 is provided at page 11-1.

The transfer of intellectual property rights among NATO participants is recognized as a sensitive area. At the direction of the Conference of NATO Armaments Directors (CNAD), a set of principles and guidelines governing such transfers has been prepared and was approved by representatives of CNAD on June 30, 1979. (See section 8.)

Available memoranda of understanding are reproduced at section 5.

A useful history of significant RSI events, 1949-1979, is included in section 2. Definitions of RSI terms promulgated by the Defense Department in DOD Directive 2010.6 are included in section 3. A bibliography is included in section 9. Lists of points of contacts in Washington and NATO capitals and descriptions of EUROGROUP, Independent European Program Group, and Periodical Armaments Planning System are included in section 10.

The basic Defense Acquisition Regulation dealing with "Foreign Purchases" is being revised but was not ready at the time of publication of the Reference Book.

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NATO RSI REFERENCE BOOK

SECTION 2

HISTORY

A BRIEF CHRONOLOGY OF MAJOR EVENTS WHICH PROVIDE BACKGROUND FOR NATO RSI

Chronology of Major NATO Standardization and Interoperability Events—1949–1978

1949

Creation of the Military Production and Supply Board which represented the first attempt within NATO to rationalize defense production.

Establishment of a Defense Financial and Economic Committee to develop overall financial and economic guidance for defense programs and to make recommendations on the interchange of military equipment among the allies.

1951

Temporary Council Committee established to submit proposals for the reconciliation of NATO military requirements to serve as the basis for increased standardization and interoperability of weapons and equipment.

Military Agency for Standardization created as the principal agency for standardization within NATO and charged with the formulation of standardization agreements (STANAGS) on procedural and materiel matters. Notwithstanding limited success in some low-level standardization, no major system has ever been standardized under NATO standardization agreements.

1952

Production and Logistics Division was set up as part of NATO's newly created International Staff to promote the most efficient use of alliance resources for the equipment and support of its forces. Subsequently, its title was changed in 1960 to that of the Production, Logistics and Infrastructure Division and again in 1967 to its present designation as the Defense Support Division.

Establishment of the Advisory Group for Aerospace Research and Development (AGARD) within the NATO Military Committee to provide a broad spectrum of scientific and technical advice and improve the cooperation of member nations in aerospace research and development.

1954

Creation of the NATO Defense Production Committee to take over supervision of correlated production programs and other associated activities; in particular, coordination of work on standardization and the exchange of technical information.

1957

At the December Heads of Government Meeting, President Eisenhower offered to make available U.S. technical knowledge to further joint European weapons production.

1958

The NATO Defense Production Committee became the Armaments Committee and was given increased responsibility to deal with questions of applied research and development.

Establishment of the NATO Maintenance Supply Services (NMSSS), to facilitate the supply of spare parts and the provision of maintenance and repair facilities necessary for the support of various common weapon systems in NATO. In 1964, the NATO Maintenance and Supply Services was redesignated as the NATO Maintenance and Supply Organization (NAMSO).

1959

NATO Basic Military Requirement (NBMR) Procedure adopted as a means to develop common military requirements to serve as the basis for future alli-

ance efforts to achieve greater standardization and interoperability. However, no NATO Basic Military Requirement ever developed resulted in agreement to cooperate in producing equipment to meet it and the NBMR procedure was abolished in 1966 in recognition of this failure.

1964

Establishment of the NATO Committee of Defense Research Directors to undertake work in the area of applied research connected with new weapons which had previously been nominally the responsibility of the Armaments Committee.

1965

An Exploratory Group was set up by the North Atlantic Council to examine the whole question of alliance cooperation in research, development and production of military equipment.

1966

The North Atlantic Council approved the report of the Exploratory Group setting forth principles on which further cooperation should be based, the procedures which should be followed and the proposed structure for their implementation. As a result, the NBMR process was abolished in favor of a less rigid approach involving NATO sponsored bilateral and multilateral arms cooperation initiatives. Structurally, the Armaments Committee was disbanded; four main bodies responsible for promoting arms cooperation were created by transforming the existing three Service Advisory Groups into Service Armaments Groups and changing the Committee of Defense Research Directors into the Defense Research Group. Finally, a new high-level body entitled the Conference of National Armaments Directors (CNAD) was established to act under the authority of the North Atlantic Council to encourage and assist countries to join together in equipment and research projects and serve as a means for exchanges of relevant information.

1968

The CNAD established the NATO Industrial Advisory Group (NIAG) to provide a forum for the free exchange of views and information on various industrial aspects of NATO armaments questions.

EUROGROUP is formed by representatives from the U.K., Belgium, the Netherlands, Luxembourg, Germany, Greece, Italy, Denmark, Norway and Turkey to facilitate arms cooperation between the European members of the alliance.

1974

August—Enactment of the "Department of Defense Appropriation Authorization Act, 1975" (P.L. 93-365) which contained the Nunn Amendment directing the Secretary of Defense to assess the consequences in cost and loss of combat-effectiveness to the alliance due to the failure to standardize; to make specific proposals for common action within NATO to make standardization in research, development, procurement and support and integral part of the NATO planning process; and periodically report to Congress on the Congress of these efforts.

Publication of a report prepared for the State Department by Thomas Callaghan entitled. "U.S./European Cooperation in Military and Civil Technology."

December—At the NATO ministerial meeting, Secretary of Defense James Schlesinger made a strong plea for increased attention to NATO rationalization and standardization.

1975

May—Department of Defense/Department of State Joint Colloquium entitled, "The Implications for U.S. Foreign Policy and Industry of Standardizing Military Equipment in NATO."

At the NATO summit meeting, President Ford declared that the alliance had not done enough to standardize weapons and called for greater efforts to rationalize collective defense efforts.

October—Enactment of the "Department of Defense Appropriation Authorization Act, 1976" (P.L. 94-106) containing the Culver-Nunn amendment which declares it to be the sense of Congress that equipment procured for U.S. forces stationed in Europe under the terms of the North Atlantic Treaty be standard-

ized or interoperable and directs the Secretary of Defense of develop and implement procedures to carry out such policy to the maximum feasible extent.

November—Memorandums from the Secretary of Defense promulgated on the Basic Policy for NATO Weapon Systems Standardization and on DoD's NATO Rationalization/Standardization Charter.

EUROGROUP Ministers call for greater efforts to rationalize European armaments planning and collaboration.

December—During the NATO Ministerial Meeting, at the suggestion of France, an Ad Hoc Committee on Equipment Interoperability was created.

1976

February—Creation of the Independent European Program Group (IEPG) composed of EUROGROUP members and France to stimulate defense cooperation between all the European NATO partners.

March—The Assembly of the Western European Union (WEU) sponsored a Symposium on European Armaments Policy in Paris to encourage increased rationalization.

The Senate Armed Services Subcommittees on Research and Development and Manpower and Personnel held a joint hearing on European defense cooperation.

June—Completion of the classified study prepared by LTG James F. Hollingsworth entitled, "An Assessment of the Conventional Warfighting Capability of the U.S. Army in Central Europe" served to surface and highlight serious readiness problems within the alliance while raising congressional awareness of these deficiencies.

June—Enactment of the "International Security Assistance and Arms Export Control Act of 1976" (P.L. 94–329) providing various waivers of existing laws to further increased U.S. participation in NATO standardization and interoperability efforts.

July—Enactment of the "Department of Defense Appropriation Authorization Act. 1977" (P.L. 94–361) strengthened the language of the previous year's legislation by inserting "it is the policy of the United States" that equipment for U.S. forces in NATO be standardized or interoperable and authorized the Secretary of Defense to waive the "Buy America" Act in the interest of NATO standardization. It further declared it to be the "sense of Congress" that common NATO military requirements be developed on which to base future cooperative weapons development; that interallied procurement would be facilitated by greater reliance on licensing and coproduction agreements; and that the "two-way street" concept of cooperation between Europe and North America is contingent upon the ability of European nations to operate on a united and collective basis and urged them to accelerate their efforts toward armament collaboration.

1977

January—Publication of a report by Senators Nunn and Bartlett entitled, "NATO and the New Soviet Threat" which served to publicize serious alliance readiness deficiencies in the face of improving Soviet conventional capabilities.

March—Issuance of Department of Defense Directive No. 2010.6, "Standardization and Interoperability of Weapon Systems and Equipment with the North Atlantic Treaty Organization" which directed all DoD components to include NATO standardization and interoperability goals as fundamental considerations in their development and procurement programs. Accompanying this statement of DoD policy was the appointment of a Special Advisor to the Secretary of Defense on NATO Affairs and the establishment of NATO RSI staffs throughout the Department.

Publication of the Congressional Research Service of the Library of Congress's study for the House Committee on International Relations entitled, "NATO Standardization: Political, Economic, and Military Issues for the Congress."

May—At the NATO Summit Meeting at London, President Carter made the strongest Presidential statement yet on NATO standardization and promised that the U.S. would seek to improve the balance of the "two-way street" across the Atlantic. Also agreed upon was an annual increase alliance defense budgets by 3 percent in real terms.

At the NATO Ministerial Meeting at Brussels, assisted by the efforts of President Carter and Secretary of Defense Brown, NATO's Long-Term Defense Program (LTDP) and Short Term Initatives were initiated with tasks forces being

set up to draft concrete proposals to be put before NATO heads of state and ministers next year.

Publication of the report of the House Armed Services Committee Delegation to NATO entitled, "NATO and U.S. Security."

June–October—Hearings were held by the Subcommittee on Europe and the Middle East of the House Committee on International Relations on Western Europe in 1977: Security, Economic and Political Issues.

July—Hearing by the Legislation and National Security Subcommittee of the House Committee on Government Operations was held on the Problems in the Standardization and Interoperability of NATO Military Equipment.

August—Hearing by the Subcommittee on Manpower and Personnel of the Senate Armed Services Committee was held on NATO Posture and Initiatives.

September—Enactment of "Department of Defense Appropriations Act for FY 1977" (P.L. 94–419) provided that the restrictions on procurement of of "specialty metals" produced outside the U.S. would not apply . . . when it is necessary to further standardization and interoperability of equipment requirements within NATO."

November—Publication of the report of the House Committee on Government Operations entitled, "Interim Report on the Standardization and Interoperability of NATO Military Equipment."

December—At the NATO Ministerial Meeting, the NATO Short Term Initiatives were approved.

1978

January—Publication of GAO Report to the Congress entitled, "Standardization in NATO: Improving the Effectiveness and Economy of Mutual Defense Efforts."

May—Appointment of a Special Subcommittee on NATO Standardization, Interoperability and Readiness by the House Committee on Armed Services.

At the NATO ministerial meeting, Ministers received and accepted ten task force reports embodying the Long-Term Defense Program and forwarded them to the Washington summit for consideration by the NATO Heads of State.

At the Washington summit, the NATO Heads of State endorsed with modification the Long-Term Defense Program as a basis for long-range planning and reaffirmed the 1977 commitment to increased defense spending to improve NATO military effectiveness.

May–December—Hearings were held by the Special Subcommittee on NATO Standardization, Interoperability and Readiness in accordance with its charter.

August—The Defense Science Board conducted its 1978 Summer Study on Achieving Improved NATO Effectiveness Through Araments Collaboration.

HISTORY

1979

January -- Secretary of Defense submitted his Fifth Annual Report on "Rationalization/Standardization within NATO" to the Congress. (See Section 6)

-- The Defense Science Board submitted its report on the "NATO Family of Weapons Study". (See Section 7)

May -- Under Secretary of Defense (R&E) issued report of implementation of recommendations in the DSB 1978 Summer Study on RSI. (See Section 7)

June -- CNAD Representatives approved "NATO Principles and Guidelines in the Field of Licensing and Coproduction for the Purpose of Armaments Standardization or Interoperability". (See Section 8)

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SECTION 3

DEFINITIONS

RSI TERMS AS DEFINED IN
DOD DIRECTIVE 2010.6

DEFINITIONS

A. Codevelopment. A development project to which more than one government contributes effort or resources.

B. Collocation (Colocation). The physical placement of two or more detachments, units, organizations, or facilities at a specifically defined location.

C. Commonality. A quality which applies to materiel or systems possessing like and interchangeable characteristics enabling each to be utilized or operated and maintained by personnel trained on the others without additional specialized training; and/or having interchangeable repair parts and/or components; and applying to consumable items interchangeably equivalent without adjustment.

D. Compatibility. The characteristic or ability of systems to co-exist and function in the same environment without mutual interference.

E. Compensatory Offset Agreements

1. Government-to-government compensatory coproduction and offset agreements: Such agreements are those which have the effect or create the impression, of obligating the Department of Defense to place orders for

systems or components in foreign countries, or to require U.S. private contractors to place orders and subcontracts in foreign countries, as a condition for the sale of U.S. defense articles to those countries or for other foreign participation in a mutual defense program.

2. Private compensatory coproduction and offset agreements. May be between U.S. companies and foreign companies, entities or governments. They have the effect of obligating the U.S. company to place orders or subcontracts in foreign countries as a condition for the sale of U.S. defense articles to those countries.

F. Cooperative Projects (Term of reference used in the Security Assistance Act of 1979) A project described in an agreement under which NATO or one or more countries thereof, agrees to (1) share with the U.S. the costs of research and development, testing and evaluation (RDT&E) of certain defense articles, and the costs of any agreed joint production ensuing therefrom, in furtherance of NATO standardization and interoperability; or (2) bear the costs of RDT&E of certain defense articles and to have such articles produced for sale to, and licensed for production within, other participant member countries including the U.S., and the U.S. agrees to bear the costs RDT&E of other defense articles and to have such defense articles produced for sale to, and licensed for production within, other participant member countries in order to further the objectives of rationalization of the industrial and technological resources within the NATO.

G. Cooperative Research and Development. Any method by which governments cooperate to make better use of their collective research and development resources to include technical information exchange, harmonizing of requirements, codevelopment, interdependent research and development, and agreement on standards.

H. Coproduction. Any program wherein the US Government, either through diplomatic or Ministry of Defense to Department of Defense agreement: (1) enables an eligible foreign government, international organization, or designated commercial producer to acquire the technical information and "know-how" to manufacture or assemble in whole or in part an item of U.S. defense equipment for use in the defense inventory of the foreign government; or (2) acquires from a foreign government, international organization, or foreign commercial firm, the technical information to manufacture domestically a foreign weapon system for use by the Department of Defense. It includes government-to-government licensed production arrangements. It does not include: (1) overseas or domestic licensed production based on direct commercial arrangements with U.S. contractors in which the US Government is involved solely on the basis of U.S. export or import licensing, or (2) the provision of technical data for the purpose of providing information for maintenance, repair, overhaul, or operation of a defense item, without permission to manufacture the item or its components.

I. Dual Production. As used in the NATO context, it is the co-production of the same weapon system on both sides of the Atlantic Ocean Although it implies independent production sources, it is often used in cases where some parts or components of the weapon system are produced on only one side of the Atlantic Ocean.

J. Electronic Interoperability. A special form of interoperability whereby two or more electronic equipments, especially communications equipments, can be linked together, usually through common interface characteristics and so operate the one to the other. See also interoperability.

K. Family of Weapons. A weapons family is composed of related and complementary weapons systems in a particular mission area. For example, systems in an air-to-ground munitions family could be defense suppression, antiarmor, antipersonnel, and airfield attack, etc.

L. Identical. The degree of standardization where either materiel, doctrines or procedures agree in every detail.

M. Harmonization. The process and/or results of adjusting differences or inconsistencies to bring significant features into agreement.

N. Independent European Program Group (IEPG). The IEPG was created in November 1975, as an independent forum to promote closer inter-European cooperation in the development, production and procurement of defense equipment. Its members are Belgium, Denmark, France, Germany, Greece, Italy, Luxembourg, Nethlands, Norway, Turkey and the United Kingdom.

O. Interchangeability. A condition which exists when two or more items possess such functional and physical characteristics as to be equivalent in performance, fit and durability, and are capable of being exchanged one for the other without alteration of the items themselves or of adjoining items, except for adjustment.

P. Interconnection. The linking together of interoperable systems.

Q. Interoperability. The ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together. See also logistic interoperability and electronic interoperability.

R. Licensed production. See coproduction.

S. Logistics Interoperability. A form of interoperability whereby the service to be exchanged is assemblies, components, consumables or spare parts. Logistics interoperability will often be achieved by making such assemblies, components, consumables and spare parts interchangeable, but

can sometimes be a capability less than interchangeability when a degradation of performance or some limitations are operationally acceptable. See also interoperability.

T. Memorandum of Understanding (MOU). An international agreement between two or more parties. When used in the context of NATO programs, it usually refers to government-to-government agreements negotiated between allied defense agencies and signed by officials of the executive branch of governments, usually at or below the ministerial level.

U. National Policy and Procedures for the Disclosure of Classified Military Information to Foreign Governments and International Organizations (U) (Short Title: National Disclosure Policy) (NDP-1). Promulgates national policy and procedures in the form of specific disclosure criteria and limitations, definitions of terms, release arrangements and other guidance required by U.S. departments and agencies having occasion to release classified U.S. military information to foreign governments and international organizations. In addition, it establishes and provided for the management of an interagency mechanism and procedures which are required for the effective implementation of the policy.

V. Rationalization. Any action that increases the effectiveness of Allied forces through more efficient or effective use of defense resources committed to the alliance. Rationalization includes consolida-

tion, reassignment of national priorities to higher alliance needs, standardization, specialization, mutual support improved interoperability, or greater cooperation. Rationalization applies to both weapons/material resources and non-weapon military matters.

W. Specialization. An arrangement within an alliance wherein a member or group of members most suited by virtue of technical skills, location, or other qualifications assume(s) greater responsibility for a specific task or significant portion thereof for one or more members.

X. Standardization. The process by which members nations of NATO achieve the closest practicable cooperation among forces, the most efficient use of research development, and production resources, and agree to adopt on the broadest possible basis, the use of: (a) common or compatible operational, administrative, and logistic procedures; (b) common or compatible technical procedures and criteria; (c) common, compatible, or interchangeable supplies, components, weapons, or equipment; and (d) common or compatible tactical doctrine with corresponding organization compatibility.

Y. Teaming Arrangements. An agreement of two or more firms to form a partnership or joint venture to act as a potential prime contractor, or an agreement by a potential prime contractor to act as a subcontractor under a specified acquisition program, or an agreement for a joint proposal resulting from a normal prime contractor-subcontractor, licensee-licensor, or leader company relationship.

Z. Transatlantic Dialogue (TAD). The TAD comprises negotiations between representatives of the North American nations (United States and Canada) and the IEPG under the auspices of the Conference of National Armament Directors concerning the ways to improve cooperation in the development, production and procurement of NATO defense equipment in order to make the best possible use of Alliance resources.

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SECTION 4

PUBLIC LAWS AND REPORTS

EXCERPTS FROM FEDERAL LAWS DEALING WITH NATO RSI AND CONGRESSIONAL REPORTS ON THE SUBJECT. FOR STATEMENTS MADE BY THE SECRETARY OF DEFENSE AND OTHER DEFENSE OFFICIALS TO THE HOUSE SUBCOMMITTEE ON STANDARDIZATION, INTEROPERABILITY AND READINESS (REPORT BEGINS ON PAGE 4-33), SEE PAGES 12-123 TO 12-314

Public Law 93-365
93rd Congress, H. R. 14592
August 5, 1974

An Act

To authorize appropriations during the fiscal year 1975 for procurement of aircraft, missiles, naval vessels, tracked combat vehicles, torpedoes, and other weapons, and research, development, test and evaluation for the Armed Forces, and to prescribe the authorized personnel strength for each active duty component and of the Selected Reserve of each Reserve component of the Armed Forces and of civilian personnel of the Department of Defense, and to authorize the military training student loads and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Department of Defense Appropriation Authorization Act, 1975.
88 STAT. 399
88 STAT. 400

U.S. military forces in Europe, deployment.

SEC. 302. (a) The United States military forces in Europe can reduce headquarters and noncombat military personnel relative to the number of combat personnel located in Europe. Therefore, except in the event of imminent hostilities in Europe, the noncombat component of the total United States military strength in Europe authorized as of June 30, 1974, shall be reduced by 18,000. Such reduction shall be completed not later than June 30, 1976, and not less than 6,000 of such reduction shall be completed on or before June 30, 1975; however, the Secretary of Defense is authorized to increase the combat component strength of United States forces in Europe by the amount of any such reduction made in noncombat personnel. The Secretary of Defense shall report semi-annually to the Congress on all actions taken to improve the combat proportion of United States forces in Europe. The first report shall be submitted not later than March 31, 1975.

Reports to Congress.

Army, Navy and Air Force, combat components.

(b) For purposes of this section, the combat component of the Army includes only the infantry, cavalry, artillery, armored, combat engineers, special forces, attack assault helicopter units, air defense, and missile combat units of battalion or smaller size; the combat component of the Navy includes only the combat ships (aircraft carrier, cruiser, destroyer, submarine, escort and amphibious assault ships)

88 STAT. 402

and combat aircraft wings (fighter, attack, reconnaissance, and patrol); the combat component of the Air Force includes only the tactical fighter reconnaissance, tactical airlift, fighter interceptor and bomber units of wing or smaller size.

NATO members, weapons systems, standardization, assessment and evaluation.

(c) The Secretary of Defense shall undertake a specific assessment of the costs and possible loss of nonnuclear combat effectiveness of the military forces of the North Atlantic Treaty Organization countries caused by the failure of the North Atlantic Treaty Organization members, including the United States, to standardize weapons systems, ammunition, fuel, and other military impediments for land, air, and naval forces. The Secretary of Defense shall also develop a list of standardization actions that could improve the overall North Atlantic Treaty Organization nonnuclear defense capability or save resources for the alliance as a whole. He shall also evaluate the relative priority and effect of each such action. The Secretary shall submit the results of these assessments and evaluations to the Congress and subsequently shall also cause them to be brought before the appropriate North Atlantic Treaty Organization bodies in order that the suggested actions and recommendations can become an integral part of the overall North Atlantic Treaty Organization review of force goals and development of force plans. The Secretary of Defense shall report semiannually to the Congress on the specific assessments and evaluations made under the above provisions as well as the results achieved with the North Atlantic Treaty Organization allies. The first such report shall be submitted to Congress not later than January 31, 1975.

Submittal to Congress.

Reports to Congress.

U.S. tactical nuclear warheads in Europe. Use and reduction, study.

(d) The total number of United States tactical nuclear warheads located in Europe on the date of enactment of this Act shall not be increased until after June 30, 1975, except in the event of imminent hostilities in Europe. The Secretary of Defense shall study the overall concept for use of tactical nuclear weapons in Europe; how the use of such weapons relates to deterrence and to a strong conventional defense; reductions in the number and type of nuclear warheads which are not essential for the defense structure for Western Europe; and the steps that can be taken to develop a rational and coordinated nuclear posture by the North Atlantic Treaty Organization Alliance that is consistent with proper emphasis on conventional defense forces. The Secretary of Defense shall report to the Committees on Armed Services and Foreign Relations of the Senate and the Committees on Armed Services and Foreign Affairs of the House of Representatives on the results of the above study on or before April 1, 1975.

Report to congressional committees.

Public Law 94-106
94th Congress, H. R. 6674
October 7, 1975

An Act

To authorize appropriations during the fiscal year 1976, and the period beginning July 1, 1976, and ending September 30, 1976, for procurement of aircraft, missiles, naval vessels, tracked combat vehicles, torpedoes, and other weapons, and research, development, test and evaluation for the Armed Forces, and to prescribe the authorized personnel strength for each active duty component and of the Selected Reserve of each Reserve component of the Armed Forces and of civilian personnel of the Department of Defense, and to authorize the military training student loads and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Department of Defense Appropriation Authorization Act, 1976.

SEC. 814. (a) It is the sense of the Congress that equipment, procedures, ammunition, fuel and other military impediments for land, air and naval forces of the United States stationed in Europe under the terms of the North Atlantic Treaty should be standardized or made interoperable with that of other members of the North Atlantic Treaty Organization to the maximum extent feasible. In carrying out such policy the Secretary of Defense shall, to the maximum feasible extent, initiate and carry out procurement procedures that provide for the acquisition of equipment which is standardized or interoperable with equipment of other members of the North Atlantic Treaty Organization whenever such equipment is designed primarily to be used by personnel of the Armed Forces of the United States stationed in Europe under the terms of the North Atlantic Treaty.

88 Stat. 401.

(b) The report required under section 302(c) of Public Law 93-365 shall include a listing of the initiation of procurement action on any new major system not in compliance with the policy set forth in section (a).

(c) Section 302(c) of Public Law 93-365 is amended by deleting the last two sentences and inserting in lieu thereof the following: "The Secretary of Defense shall report annually, not later than January 31 of each year, to the Congress on the specific assessments and evaluations made under the above provisions as well as the results achieved with the North Atlantic Treaty Organization allies.".

94TH CONGRESS } HOUSE OF REPRESENTATIVES { REPORT
1st Session } { No. 94–413

AUTHORIZING APPROPRIATIONS FOR FISCAL YEAR 1976 AND THE PERIOD BEGINNING JULY 1, 1976, AND ENDING SEPTEMBER 30, 1976, FOR MILITARY PROCUREMENT, RESEARCH AND DEVELOPMENT, ACTIVE DUTY, RESERVE, AND CIVILIAN PERSONNEL STRENGTH LEVELS, MILITARY TRAINING STUDENT LOADS, AND FOR OTHER PURPOSES.

JULY 26, 1975.—Ordered to be printed

Mr. PRICE, from the committee of conference, submitted the following

CONFERENCE REPORT

[To accompany H.R. 9674]

SEC. 814. (a) It is the sense of the Congress that equipment, procedures, ammunition, fuel and other military impedimenta for land, air and naval forces of the United States stationed in Europe under the terms of the North Atlantic Treaty should be standardized or made interoperable with that of other members of the North Atlantic Treaty Organization to the maximum extent feasible. In carrying out such policy the Secretary of Defense shall, to the maximum feasible extent, initiate and carry out procurement procedures that provide for the acquisition of equipment which is standardized or interoperable with equipment of other members of the North Atlantic Treaty Organization whenever such equipment is designed primarily to be used by personnel of the Armed Forces of the United States stationed in Europe under the terms of the North Atlantic Treaty.

(b) The report required under section 302(e) of Public Law 93-365 shall include a listing of the initiation of procurement action on any new major system not in compliance with the policy set forth in section (a).

(c) Section 302(c) of Public Law 93-365 is amended by deleting the last two sentences and inserting in lieu thereof the following: "The Secretary of Defense shall report annually, not later than January 31 of each year, to the Congress on the specific assessments and evaluations made under the above provisions as well as the results achieved with the North Atlantic Treaty Organization allies.".

NATO Standardization

The Senate amendment contained language intended to provide impetus for further standardization of military equipment in NATO by declaring it to be United States policy that equipment procured for U.S. forces stationed in Europe be standardized or at least interoperable with the equipment of our NATO allies. The Secretary of Defense was also directed to implement procurement policies to this effect, and report to the Congress whenever this policy could not be complied with.

The House conferees, although in agreement with the goal of standardization particularly in the area of communication and other similarly suitable equipment, expressed grave concerns that the import of this language as presently constituted could be misconstrued and possibly used to our disadvantage.

After lengthy discussion of this matter, the House recedes with amendments. The section in the Senate amendment concerning the "Buy America" Act and its relationship to the Secretary of Defense's authority to procure articles manufactured outside the United States was deleted and the reporting requirement was modified. The Senate conferees strongly believe that whenever the Secretary of Defense determines that it is necessary, in order to carry out the policy expressed in this section, to procure equipment manufactured outside the United States, he is authorized to determine, for the purposes of section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. 10a), that the acquisition of such equipment manufactured in the United States in inconsistent with the public interest.

The conferees stressed that while the reporting requirement only covers non-compliance on major systems, the amendment also urges standardization of procedures, logistics and support equipment.

Public Law 94-361
94th Congress, H. R. 12438
July 14, 1976

An Act

To authorize appropriations during the fiscal year 1977 for procurement of aircraft, missiles, naval vessels, tracked combat vehicles, torpedoes, and other weapons, and research, development, test, and evaluation for the Armed Forces, and to prescribe the authorized personnel strength for each active duty component and of the Selected Reserve of each Reserve component of the Armed Forces and of civilian personnel of the Department of Defense, and to authorize the military training student loads, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Department of Defense Appropriation Authorization Act, 1977.

Standardized or interoperable equipment. 89 Stat. 540.

SEC. 802. Section 814(a) of the Department of Defense Appropriation Authorization Act, 1976 (89 Stat. 544), is amended to read as follows:

"(a)(1) It is the policy of the United States that equipment procured for the use of personnel of the Armed Forces of the United States stationed in Europe under the terms of the North Atlantic Treaty should be standardized or at least interoperable with equipment of other members of the North Atlantic Treaty Organization. In carrying out such policy the Secretary of Defense shall, to the maximum feasible extent, initiate and carry out procurement procedures that provide for the acquisition of equipment which is standardized or interoperable with equipment of other members of the North Atlantic Treaty Organization whenever such equipment is to be used by personnel of the Armed Forces of the United States stationed in Europe under the terms of the North Atlantic Treaty. Such procedures shall also take into consideration the cost, functions, quality, and availability of the equipment to be procured. In any case in which equipment authorized to be procured under title I of this Act is utilized for the purpose of carrying out the foregoing policy, the Secretary of Defense shall report to Congress the full details of the nature and substance of any and all agreements entered into by the United States with any other member or members of the North Atlantic Treaty Organization providing for the acquisition of equipment manufactured outside the United States in exchange for, or as a part of, any other agreement by such member or members to acquire equipment manufactured in the United States. Such report shall be made by the Secretary within 30 days of the date of enactment of this Act.

Report to Congress. 89 Stat. 531.

"(2) Whenever the Secretary of Defense determines that it is necessary, in order to carry out the policy expressed in paragraph (1) of this subsection, to procure equipment manufactured outside the United States, he is authorized to determine, for the purposes of section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. 10a), that the acquisition of such equipment manufactured in the United States is inconsistent with the public interest.

Report to Congress.

"(3) In any case in which the Secretary of Defense initiates procurement action on a new major system which is not standard or interoperable with equipment of other members of the North Atlantic Treaty Organization, he shall report that fact to the Congress in the annual report required under section 302(c) of Public Law 93-365, as amended, including a description of the system to be procured and the reasons for that choice.".

88 Stat. 402.

NATO members, standardized or interoperable weapons and equipment.

SEC. 803. (a) It is the sense of Congress that weapons systems being developed wholly or primarily for employment in the North Atlantic Treaty Organization theater shall conform to a common North Atlantic Treaty Organization requirement in order to proceed toward joint doctrine and planning and to facilitate maximum feasible standardization and interoperability of equipment. A common North

Atlantic Treaty Organization requirement shall be understood to include a common definition of the military threat to the North Atlantic Treaty Organization countries. The Secretary of Defense shall, in the reports required by section 302(c) of Public Law 93-365, as amended, identify those programs in research and development for United States forces in Europe and the common North Atlantic Treaty Organization requirements which such programs support. In the absence of such common requirement, the Secretary shall include a discussion of the actions taken within the North Atlantic Alliance in pursuit of a common requirement. The Secretary of Defense shall also report on efforts to establish a regular procedure and mechanism within the North Atlantic Treaty Organization for determining common military requirements. 88 Stat. 402.

(b) It is the sense of the Congress that progress toward the realization of the objectives of standardization and interoperability would be enhanced by expanded inter-Allied procurement of arms and equipment within the North Atlantic Treaty Organization. It is further the sense of the Congress that expanded inter-Allied procurement would be facilitated by greater reliance on licensing and coproduction agreements among the signatories of the North Atlantic Treaty. It is the Congress' considered judgment that such agreements, if properly constructed so as to preserve the efficiencies associated with economies of scale, could not only minimize potential economic hardship to parties to such agreements but also increase the survivability, in time of war, of the Alliance's armaments production base by dispersing manufacturing facilities. Accordingly, the Secretary of Defense, in conjunction with appropriate representatives of other members of the Alliance, shall attempt to the maximum extent feasible (1) to identify areas for such cooperative arrangements and (2) to negotiate such agreements pursuant to these ends. The Secretary of Defense shall include in the report to the Congress required by section 302(c) of Public Law 93-365, as amended, a discussion of the specific assessments made under the above provisions and the results achieved with the North Atlantic Treaty Organization allies.

(c) It is the sense of the Congress that standardization of weapons and equipment within the North Atlantic Alliance on the basis of a "two-way street" concept of cooperation in defense procurement between Europe and North America could only work in a realistic sense if the European nations operated on a united and collective basis. Accordingly, the Congress encourages the governments of Europe to accelerate their present efforts to achieve European armaments collaboration among all European members of the Alliance.

Calendar No. 834

94TH CONGRESS
2d Session

SENATE

REPORT
No. 94-878

AUTHORIZING APPROPRIATIONS FOR FISCAL YEAR 1977 FOR MILITARY PROCUREMENT, RESEARCH AND DEVELOPMENT, AND ACTIVE DUTY, SELECTED RESERVE, AND CIVILIAN PERSONNEL STRENGTHS ANT FOR OTHER PURPOSES

REPORT

[To accompany H.R. 12438]

ON

AUTHORIZING APPROPRIATIONS FOR FISCAL YEAR 1977 FOR MILITARY PROCUREMENT, RESEARCH AND DEVELOPMENT, AND ACTIVE DUTY, SELECTED RESERVE, AND CIVILIAN PERSONNEL STRENGTHS AND FOR OTHER PURPOSES

TOGETHER WITH

INDIVIDUAL AND ADDITIONAL VIEWS

COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

MAY 14, 1976.—Ordered to be printed

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1976

69-019

★(Star Print)

Cooperation With NATO Allies

The committee continues to strongly support the principle of close cooperation by the United States with its NATO allies in pursuing the objectives of standardization, rationalization and interoperability. Toward this end, joint public hearings were conducted by the Subcommittee on Research and Development and the Subcommittee on Manpower and Personnel on March 31, 1976. This set an important precedent by providing a public forum for the appearance, presentation and exchange of views of a committee of eight legislators, representing the North Atlantic Assembly Subcommittee on European Defense Cooperation, on these matters of mutual interest. Representatives from the U.S. Department of Defense and Department of State also testified. The record of these hearings will be printed as a separate document and will be available at a later time.

The committee is concerned that the ability to maintain an effective military force to counter the Soviets in Europe is hampered by a wide disparity in the types of weapons, ammunition and other military equipment in the hands of the Alliance nations. The lack of interchangeability and standardization of a combined and integrated force undermines the effectiveness of this force which faces an enemy armed with a uniformity of modern weapons. In economic terms, NATO commanders have estimated that up to $15 billion is wasted annually because we are bogged down with a diversity and multiplicity of national weapon systems.

The committee acknowledges and emphasizes the important role that legislators must assume in helping find solutions and to support the Department of Defense as well as the Departments of State and Commerce in their efforts to achieve these common objectives. The

Section 802—NATO Standardization Amednment

The committee reaffirms the importance of achieving standardization and interoperability of weapons in NATO in order to achieve an effective fighting force. It has been estimated that duplication of weapon systems and logistics among the allies totals $10–$15 billion each year and the lack of standardization leads to a 30–40 percent loss in combat effectiveness.

In his second report to the Congress on the standardization, the Secretary of Defense reported progress in the following areas: standardization of fuels, ammunition, components, spares, procedures and logistics; interoperability in communications; consolidated training; and combined and expanded military exercises. Agreements have been made on a common program for production of the F–16 fighter aircraft and the Roland II air defense system. In reaching a decision on an improved battle tank for the United States, the German Leopard 2 tank will be tested in addition to the United States XM–1. The Army has agreed tentatively to purchase a Belgian-made machine gun.

The current status of weapon standardization is not good. Of the items mentioned previously, some are still far from fruitation. The United States and NATO allies are exchanging research, development and technological information but must strive towards increased cooperation if the goal of standardization is to be accomplished.

The fiscal year 1977 committee amendment on NATO standardization offered by Senator Culver, is identical to the amendment approved by the committee last year with the exception of a provision that was enacted into law to include in the annual report on standardization a list of items procured that were in noncompliance with standardization.

The amendment seeks to improve the prospects for standardization by declaring it to be the policy of the United States that equipment procured for U.S. forces stationed in Europe under the terms of the North Atlantic Treaty be standardized and interoperable with the equipment of our NATO allies. The Secretary of Defense is directed to develop and implement procurement procedures to achieve standardization to the maximum feasible extent.

This policy declaration sets a goal, but not a hard and fast requirement, since the committee recognizes that the Secretary of Defense may wish to propose, and the Congress may approve, procurement of nonstandard equipment in order to serve the broader military requirements of the United States.

The committee believes that section 2 of title III of the act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. 10a), the so-called "Buy America" Act, already contains sufficient latitude to enable the Secretary of Defense to purchase articles manufactured outside the United States when such purchase is in the public interest. Nevertheless, the committee wishes to make this authority explicit for the purpose of achieving standardization in NATO equipment, and this is done by paragraph (b) of this proposed section.

The committee hopes that this amendment will demonstrate the serious interest and concern of the United States in achieving greater standardization, and will encourage our NATO allies to join in this vital effort. The committee also expects the Defense Department to be energetic and creative in developing plans and programs for specialization, sharing of efforts, and coproduction arrangements to carry out this policy.

Section 803—Common NATO Requirements and Coproduction Amendment

The committee also adopted an amendment proposed by Senators Taft, Nunn and Culver which would urge the development of common NATO requirements, including a common definition of the threat, for all weapons systems being developed wholly or partially for deployment in Europe. The amendment would also require the Secretary of Defense to seek areas for cooperative arrangements for coproduction and licensing of production of military equipment among the NATO Allies. It also encourages the European Allies to accelerate their efforts to achieve European weapon cooperation. The Secretary of Defense is required to report on these matters in the annual report required by section 302(e) of Public Law 93–365, as amended.

Excerpt from House Conference Report 94-1305
and
Senate Conference Report 94-1004 on FY 1977
Defense Appropriation Authorization Act (P.L. 94-361)

(June 25, 1976)

Standardization

Section 802 of the Senate bill contained an amendment which would state the policy of the United States relating to certain actions and reports on the part of the Secretary of Defense to increase standardization and interoperability. The House conferees were concerned that standardization should not become a means of bypassing prudent considerations in the procurement process.

After extensive consideration, the conferees accepted an amendment which requires the Secretary of Defense to take into consideration in Defense procurement procedures the cost, function, quality and availability of the equipment to be procured while carrying out the policy of standardization.

In addition, the conferees accepted revisions suggested by the Department of Defense which would eliminate duplication in the reporting requirement related to standardization. This amendment requires that the Secretary of Defense report whenever he initiates procurement action on a new major system which is not standard or interoperable with equipment of other members of the North Atlantic Treaty Organization.

The House recedes with amendment.

In addition, the Senate amendment contained language in section 803 which would express the sense of Congress relating to future development of standardization and interoperability with the NATO Allies. The Department of Defense suggested an amendment which would eliminate part of the reporting requirement relating to justification of programs where a common NATO requirement is not defined.

The House recedes with an amendment.

Calendar No. 108

95TH CONGRESS
1st Session

SENATE

REPORT
No. 95-129

AUTHORIZING APPROPRIATIONS FOR FISCAL YEAR 1978 FOR MILITARY PROCUREMENT, RESEARCH AND DEVELOPMENT, ACTIVE DUTY, SELECTED RESERVE, AND CIVILIAN PERSONNEL STRENGTHS, CIVIL DEFENSE, AND FOR OTHER PURPOSES

REPORT

[To accompany H.R. 5970]

ON

AUTHORIZING APPROPRIATIONS FOR FISCAL YEAR 1978 FOR MILITARY PROCUREMENT, RESEARCH AND DEVELOPMENT, ACTIVE DUTY, SELECTED RESERVE AND CIVILIAN PERSONNEL STRENGTHS, CIVIL DEFENSE, AND FOR OTHER PURPOSES

TOGETHER WITH

ADDITIONAL VIEWS

COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

MAY 10 (legislative day, MAY 9), 1977.—Ordered to be printed

U.S. GOVERNMENT PRINTING OFFICE
86-482 O WASHINGTON : 1977

PERSPECTIVES ON MAJOR ISSUES

No nation should spend its resources for military hardware and personnel except as those expenditures are needed to protect its security and its vital interests throughout the world. The committee acts with full realization of America's key role in ensuring peace and of the very real threats to that peace facing us today. The committee also approaches its task mindful of the need to hold down spending on national defense where that is both practicable and prudent. For these purposes, the committee held special hearings and conducted special studies on a number of selected issues this year.

The committee concludes, after an analysis of the potential threats to our security and our ability to cope with those threats, that the present military capability of the United States is sufficient to deter aggression and to protect its vital interests. Last year the committee recognized the need to counter the downward drift of defense spending in the aftermath of the war in Southeast Asia. The fiscal year 1978 budget recommendations as outlined in this report continue a modest amount of real growth in defense spending necessary to preserve our strong military posture.

Soviet Defense Trends

Much has been written and said recently about the buildup of Soviet arms and personnel. The committee views with concern the undoubted increase in the commitment of national resources by the Soviet Union to defense purposes. The major trends are summarized in the following table showing Defense Department estimates of selected Soviet forces. One may disagree about the numbers of missiles and ships and tanks, but the overall trend to expand the Soviet defense establishment is plain. One may also argue as to the motives

that drive the expansion of Soviet power. What is clear, however, is that the United States cannot afford to ignore this development: it must maintain its deterrent power, both real and perceived. That is not to say that each particular Soviet weapon must be matched by the United States. The threats to each nation's security are different, as are their geopolitical settings. Their defense establishments will never be mirror images of each other. While recognizing that some Soviet weapons developments would not be necessary for our own security, we must carefully analyze the balance of forces in each area of critical importance so that we may remain strong.

TRENDS IN SELECTED SOVIET FORCES

	1971	1976
Strategic forces:		
ICBMs	1,500	1,550
SLBMs	450	800
Ballistic missile submarines	55	81
Long range bombers	140	190
General purpose forces:		
Land forces: Tanks	40,000	45,000
Tactical air forces: Combat aircraft	4,200	4,600
Naval forces:		
Attack and ASW carriers	0	1
Attack submarines (nuclear and diesel)	285	256
Amphibious ships	100	83
Other warships	215	234
Combat aircraft	830	1,000
Active duty military manpower	3,839,000	4,195,000

The Strategic Balance

The capability of vast destruction by strategic forces of the United States and the Soviet Union has been an important factor in preventing the use of nuclear weapons in the post-war period. That balance of strategic capability, in which neither side may use its nuclear arsenal without devastating retaliation, is vital to world security. The United States' policy has been based on the belief that strategic arms should be controlled and reduced by a fair mutual agreement, but that failing such agreement we must strive to develop and deploy such strategic weapons as will ensure the balance. The committee endorses the efforts of the administration to achieve an equitable SALT II agreement, but recognizes that if such an agreement is not reached we must be ready to counter Soviet developments in order to maintain our security.

The committee concludes, after careful study, that the United States has today sufficient strategic forces to maintain the vital deterrent balance. Its recommendations for fiscal year 1978 are aimed at maintaining that balance. To do so we must continue to rely on a strategic TRIAD—submarine-based missiles, land-based ICBMs and manned bombers. The committee recommendations are aimed at doing this, both now and in the future.

Naval Forces

One of the most difficult problems before the Congress this year has been the question of the future shape of the Navy.

Soviet Naval Threat.

The steady growth in capability of the Soviet Navy is a factor that must be taken into account. There is no denying the conclusion that

the Soviet Union is now a major naval power; in that as in other areas of defense planning, the United States must be in a position to maintain an essential balance in the future.

In general, the growth of the Soviet naval threat has been predictable. All agree that the Soviet naval threat has increased at a relatively steady rate; it has been characterized primarily by replacement of older ships and submarines with newer and more capable ones rather than an increase in the number of major combatants.

The Soviet naval threat in order of priority may be described as (1) submarine, (2) air including bombers and antiship missiles, and (3) surface combatants.

Submarines.—The current attack submarine forces number about 250, including about 80 nuclear (about half of these are cruise missile submarines) and 170 conventional submarines. The submarine force has been steadily declining from a high of about 350 submarines in 1965, and may decline by as much as 25 percent in the next 8 to 10 years. The current annual construction rate of about 2–4 nuclear and 1–2 conventional attack submarines is expected to increase somewhat, but not enough to hold the force at the current level. The new submarines are significantly more capable than those being replaced.

Air.—The main strength of Soviet Naval Aviation lies in aircraft capable of nuclear and conventional stand-off missile attack. The primary threat to U.S. naval forces rests in air-to-surface missile equipped Badger and the supersonic Backfire bombers. About 300 Badgers and a limited number of Backfire bombers are in Soviet naval aviation forces. The introduction of the new Kiev-class carriers with its VSTOL YAK–36 aircraft introduces a new element to the naval air threat. The intelligence community does not yet agree on the capabilities of the YAK–36 aircraft, and the degree of threat is, therefore, subject to debate.

Surface.—The Soviet surface force, except in a first preemptive strike scenario, does not constitute as great a threat as Soviet submarines and naval air forces. The basic surface threat is composed of about 225 major surface combatants. Over 100 of the Soviet major surface combatants are in the 1000–1500 ton class. In seakeeping and armament these small ships would be no match for U.S. major combatants and are, therefore, expected to be used primarily as coastal defense forces. The latest surface ships being constructed are increasingly capable, but construction rates are not sufficient to maintain current force levels, and some reduction in numbers is projected in subsequent years.

Navy Ship Forces and Programs

Naval power has traditionally been a strong element in our overall security. While we have been steadily adding to our fleet in recent years, the obsolescence of large numbers of World War II ships that occurred in the 1960s has greatly reduced the total number of ships in our Navy.

Defense witnesses on the fiscal year 1978 budget and authorization request are consistent in their view that today United States naval

forces are superior in those areas of vital concern to our nation. The 106 ships and submarines approved but not delivered at the end of fiscal year 1977 will result in an increase in Navy ship forces and should serve to maintain a margin of naval superiority through 1982.

U.S. NAVY SHIP FORCES

	1964	1976	1977 (plan)	1978 (plan)	1982 (plan)
Warships	436	295	296	303	352
Major surface combatants	305	172	170	179	203
Attack carriers	15	13	13	13	13
ASW carriers	9				
Cruisers	28	26	27	28	30
Destroyers	213	69	66	73	73
Frigates	40	64	64	65	87
Submarines	125	115	119	121	143
Ballistic missile	21	41	41	41	47
Attack	104	74	78	80	94
Minor surface combatants	6	8	7	3	6
Amphibious	133	62	63	63	66
Mine warfare	85	3	3	3	9
Auxiliaries	263	116	108	93	52
Total, active fleet ships	917	476	470	482	536

The committee recommends a significant increase in the commitment of funds to Navy shipbuilding, including several new initiatives. Several of these recommendations involve the common problem of the future of aviation at sea. The committee feels strongly that the Navy must push forward with concrete plans for the future of aircraft capable ships. There are several options available, and committee action on the fiscal year 1978 budget request was designed to keep them open for mature decision next year.

NATO Defense

The United States has a long-standing commitment to the security of Western Europe, and the strength of NATO is vital to maintaining that security. In the face of increases in Soviet and Warsaw Pact military power in the region, the ability of NATO forces to protect Western Europe is a matter of increasing concern. The committee examined carefully during the past year the ability of NATO to react to military threats, and found a number of shortcomings that must be corrected. Accordingly the recommended bill contains funds to improve the deterrent and fighting capabilities of the Alliance, without increasing the commitment of American ground forces.

While believing that there exists a rough parity, the committee is concerned because of what it sees as some serious deficiencies in the state of NATO forces:

(1) With its improved conventional and strategic strength, the Warsaw Pact now has the capability of launching an attack with short warning. Present plans may assume an unrealistically long warning time, and NATO planning and posture must take into account this important change in the balance in Europe.

(2) The readiness of U.S. and Allied forces should be improved to better meet the changing threat.

(3) The committee is concerned that there are serious problems in the deployments of both men and material in NATO. In order to implement NATO's forward defense strategy, units and their supplies must be deployed so as to permit waging a main defensive battle as far forward as possible.

(4) An improvement is needed in NATO's conventional firepower. This means improved weapons, more weapons and more ammunition stocks for available conventional weapons.

(5) New initiatives must be taken to improve both the prepositioning of equipment and the plans for airlift and sealift of reinforcements for both U.S. and Allied forces.

(6) Air defense capabilities should be improved and better integrated.

(7) The Department of Defense must be energetic and creative in implementing the policy of standardization and interoperability of weapons systems in NATO, both as a means of cost saving and of increasing capability on the battlefield.

(8) Finally, NATO command, control and communications systems must receive a greater measure of attention in order to achieve an effective network that can provide rapid and efficient coordination of forces in the event of attack.

The committee is also concerned that NATO ground forces be given an option other than use of theater nuclear weapons in the event of a European conflict. While those tactical weapons are an effective deterrent to attack, we must not allow them to be the only alternative on the battlefield.

Readiness

The committee is concerned about the current state of combat readiness of U.S. Armed Forces. Reports submitted to the committee indicate serious deficiencies and persistent problems, particularly in equipment availability and reliability. These problems are most evident in ships and in the relatively low operational readiness rates for many types of aircraft. High cannibalization rates, deferrals in scheduled maintenance, and the lack of spare parts all reduce combat-ready power. The committee believes that readiness improvements deserve a high priority in the plans and budget of the Defense Department, and that maintainability and reliability criteria require increased emphasis in the design and development of new weapon systems. The committee expects the Department to be able to demonstrate actual and future planned progress in defining and improving readiness in its fiscal year 1979 budget presentations.

All-Volunteer Force

The committee is concerned that the ability to sustain the all volunteer force faces serious problems in the years ahead. Some problems are already apparent. At the end of March, 1977, active duty military personnel were 17,600 below authorized strengths for fiscal year 1977. In the Army the percent of new recruits who are high school graduates has fallen from 62 percent to 47 percent in less then a year. At the end of February, 1977, selected reserve personnel strengths were 59,000 below authorized average strengths. The individual ready reserve, the primary source of trained individuals for replacement and

augmentation in an emergency, is 246,000 below mobilization levels for the Army alone.

The number of people in military age groups will decline substantially each year for the next 15 years. By 1985, the demand for male high school graduate recruits may exceed the supply of such recruits by over 80,000. In addition to the decline in population, the projected decline in unemployment and expected increases in military pay that are less than those of the past decade will create further problems for military recruiters.

If these problems are addressed only by increases in recruiting, advertising, pay and bonuses, defense manpower costs could increase by $15 billion a year in 4 years. These costs would provide the same manpower and forces as current levels, but questions must arise about whether such large increased costs for defense manpower are sustainable and about the huge manpower costs that would be associated with any future requirements for increases in force levels.

One of the principal assumptions in establishing the All Volunteer Force had been that turnover would decrease and consequently enlisted accession requirements would be about three-quarters of what they were in the previous mixed force of volunteers and draftees. In fact, turnover rates have significantly increased with the all volunteer force. Management actions to reduce attrition and enlisted turnover as well as specific programs to reduce manpower demand (e.g. reductions in support, increased civilianization) and increase manpower supply (e.g. increasing prior service accessions) are necessary, in the short term, to maintain current force levels without large increases in costs. However, the longer term problem of sustaining the all volunteer force must be addressed and specific plans and alternatives must be analyzed if our active and reserve force requirements are to be met.

95TH CONGRESS } HOUSE OF REPRESENTATIVES { REPORT
1st Session } { No. 95-446

DEPARTMENT OF DEFENSE APPROPRIATION AUTHORIZATION ACT, 1978

JUNE 20, 1977.—Ordered to be printed

Mr. PRICE, from the committee of conference, submitted the following

CONFERENCE REPORT

[To accompany H.R. 5970]

Roland Missile System

The House bill contained seven separate provisions regarding the Roland missile system. The Senate version did not contain similar provisions.

The conferees are concerned with two aspects of the Roland missile system. First the research and development costs have increased by over 100 percent since the start of the program and the procurement cost estimates for 17 batteries have increased by nearly 70 percent in one year. The second major concern is the international aspect of the Roland program. The Roland system is a French and German development and is being procured for the U.S. Army in an earnest effort to enhance standardization of NATO arms. The conferees support increased standardization but in the long run a program with excessive cost overruns and questionable performance would do more to delay standardization than to aid it. Therefore, it is crucial that the Roland system meet cost and performance goals.

The conferees support the continued development of the Roland system within the following guidelines:

(1) Development, test and evaluation can be completed for a total cost of $265,000,000.

(2) System performance specifications for the Roland missile system will not be degraded from any Department of Defense contract in effect on March 31, 1977, with respect to the Roland missile system.

(3) All Roland missile system engineering development models and equipment ordered in any Department of Defense contract in effect on March 31, 1977, for contractor use of delivery to the Department of Defense, shall continue to be ordered in the number of units specified in such contracts.

(4) There shall be test, evaluation, data reduction and analysis of the Roland missile system to determine the capability to meet contract specifications.

(5) The U.S. version of the Roland missile system shall contain not less than 350 field replaceable unit subsystems which shall be interchangeable with comparable subsystems of the European Roland II missile system.

The Secretary of the Army shall inform the Committees on Armed Services of the House and Senate within 60 days of the date of this report whether these conditions can be satisfied. When informing the committees, he shall also indicate the degree of variation from the contract specifications with recommendations on how to adjust the program accordingly.

The significant increase in procurement costs are also of concern and the Secretary of the Army should take appropriate steps to reduce procurement costs including—

(1) obtaining a complete technical data package, not later than October 1, 1979, for the missile, in sufficient detail to enable second source procurement;

(2) consideration of mounting of some of the fire units on towed or wheeled vehicles, particularly those units that would be assigned to rear area units; and

(3) other steps as the Secretary of the Army considers appropriate.

Consistent with the action taken by the conferees, the House recedes on the bill language.

XM–1 Tank Gun

The House bill contained language that precluded the use of research and development funds for any effort to put a 120 millimeter gun on any XM–1 tank until and unless: (1) the comparative tests of the 105 millimeter and competing 120 millimeter guns have been completed; (2) the comparative test results have been evaluated; (3) the Secretary of the Army has made a recommendation to the Congress consistent with the test results; and (4) 60 days of continuous session have elapsed from the data of that recommendation. The House intent was to insure that the Congress had an opportunity to review any decision to abandon the proven 105 millimeter gun and to insure that such a decision was made for military reasons. The House intended that any effort to install a 120 millimeter gun on any XM–1 tank would be initiated only after approval of a reprograming request or of a request for new legislative authority.

The Senate was concerned with any undue interference or delay in the efficient and effective management of an important weapons system and argued against any restrictive language. The Senate was also concerned with any reprograming requirements that could delay this program.

The Senate reluctantly receded with an amendment and with the understanding of all conferees that: (1) the comparative testing will be conducted as already scheduled and that the comparative testing will not be held up by any delay in the availability of any of the gun competitors. The conferees agreed that the absence of any competing

gun(s) from the comparative tests would not invalidate the results of such tests; (2) the Army's decision on gun selection will be made by December 31, 1977, on the basis of test data available to that date; and (3) the Secretary of the Army must make a recommendation on the gun selection for the XM–1 tank to the Congress no later than February 1, 1978.

It is the intention of the conferees that there be no further delays in this gun selection process for the XM–1 tank program.

XM–1 Back Up Engine

The House bill added $10 million to continue development of the AVCR 1360 diesel engine as an in-house project in the Tank Research and Development Command (TARADCUM). This reflected House concern that the Army might be taking an unnecessary risk in the XM–1 program by terminating development of diesel technology before the turbine has fully proven itself. The Senate amendment contained no such provision.

The Senate conferees stated that, in their view, authorizing funds in this bill for continued diesel development would set an unfortunate precedent of funding the losing contractor in a prototype development effort and would require unknown additional development costs for engine maturity. Senate conferees have confidence in the turbine engine and wish to support fully efforts aimed at achieving interoperability of tanks within NATO.

The Senate conferees were adamant in their opposition to the diesel engine. The House, therefore, reluctantly recedes, but urges the Army to find the necessary funds within the budget to continue development of the AVCR 1360 diesel engine until such time as the turbine has fully proven itself in development.

M60 Tank Improvement Program

The House recedes to the Senate position to initiate effort to adapt the improved technology of the XM–1 fire control system to the M60 series tanks as a cost effective improvement program. It is the view of the conferees, however, that this improved system would not be required for all M60 series tanks and would be considered for adoption only on such numbers of tanks as would be necessary to supplement the new XM–1 tank and support the NATO requirement.

The conferees further agree that the improved technology fire control system components should not be considered as an alternative to existing M60 fire control system components for new production tanks if it will result in significant delay in fielding M60 tanks in Europe with improved fire control capability.

Mechanized Infantry Combat Vehicle (MICV)

The House bill prohibited expenditure of further funds for improvement of the M139 gun as an interim weapons system on the MICV, directed acceleration of the program to provide for the initiation of production of MICV by December 31, 1980, and prohibited the expenditure of funds for integration of the tube launched, optical tracked, wire guided missile (TOW) system on the MICV until after the basic vehicle was in production. Then Senate amendment deleted this restrictive language.

The House bill reflected concern with the series of delays associated with the fielding of this important weapons system and reservations about the inclusion of the TOW missile.

The first of these reservations was partially satisfied when the Army accelerated its production schedule to provide for initial production of the MICV in May 1981 rather than May 1982.

The second House reservation about the MICV program—whether or not it should be equipped with the TOW missile—proved more difficult to reconcile since the Senate conferees' basic position is that, given the preponderance of Soviet armor and the shortage of U.S. anti-tank guided missile platforms, no major combat vehicle should be fielded without an integral anti-tank capability regardless of its primary mission.

The House conferees reluctantly agreed to a Senate amendment deleting the prohibition on the expenditure of funds to integrate TOW on the MICV prior to initial production.

However, the conferees agreed that there should be no slip in the Army's amended production schedule related to TOW integration.

The Senate recedes with an amendment to prohibit obligation of funds for the M–139 gun and to require structuring of the MICV program so production can begin not later than May 31, 1981.

Advanced Mechanized Infantry Combat Vehicle (MICV)

The Senate amendment included $5 million to explore designs for a follow-on to the MICV because of its concern about the silhouette, anti-tank capability, armor design and compatability with airlift of that vehicle, hence its survivability in the face of the rapidly improving armor and anti-armor capability of the Soviet Union. The House bill contained no similar provision.

The Senate stated that it had no intention of delaying deployment of the MICV, but advised the Army that it should look toward limiting procurement of the MICV to less than the planned program in view of the possibility of fielding an improved vehicle.

The House conferees are disturbed about the implications of initiating research on a follow-on vehicle while the current MICV is still in development and three years away from initial production. In the view of the House conferees, the history of Army research and development is replete with examples of programs which have been aborted or constrained because more promising systems were just over the horizon. This pattern of perpetual R. & D. is one of the major reasons why the U.S. Army now faces a quality gap in fielded equipment, vis-a-vis the Soviet Union.

After considerable discussion, the conferees agreed to authorize $5 million for a study to re-evaluate the specific requirement for and design of the MICV and to assess the need for a more survivable follow-on vehicle.

However, the conferees note that neither the House nor the Senate have called for limiting MICV production at this time, and that no such decision by the House or the Senate should be anticipated before a study of alternatives is made. The conferees recognize that the MICV will provide substantially improved capability over the M–113 armored personnel carrier, and the conferees have no intention to delay deployment of the MICV to the field.

Calendar No. 757

95TH CONGRESS 2d Session	SENATE	REPORT No. 95-826

AUTHORIZING APPROPRIATIONS FOR FISCAL YEAR 1979 FOR MILITARY PROCUREMENT, RESEARCH AND DEVELOPMENT, ACTIVE DUTY, SELECTED RESERVE, AND CIVILIAN PERSONNEL STRENGTHS, CIVIL DEFENSE, AND FOR OTHER PURPOSES

REPORT

[To accompany S. 2571]

ON

AUTHORIZING APPROPRIATIONS FOR FISCAL YEAR 1979 FOR MILITARY PROCUREMENT, RESEARCH AND DEVELOPMENT, ACTIVE DUTY, SELECTED RESERVE AND CIVILIAN PERSONNEL STRENGTHS, CIVIL DEFENSE, AND FOR OTHER PURPOSES

COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

MAY 15 (legislative day, APRIL 24), 1978.—Ordered to be printed

U.S. GOVERNMENT PRINTING OFFICE
27-101 O WASHINGTON : 1978

GLOBAL PERSPECTIVES

The need for maintenance of large military forces and the investment of financial resources for military procurement and research can only be understood in the context of international conditions that make them necessary. The threats facing the United States and its allies throughout the world, and the crucial role played by American forces in ensuring peace and stability since World War II, determine the size and composition of our defense budget. While the committee seeks to keep down the burden of defense spending on the American taxpayer, it cannot ignore the continuing threats to peace and security around the world that impose substantial military obligations on us.

As the committee noted in its report for fiscal year 1978, we are in a time when modest real growth in the Department of Defense budget is necessary to preserve our security and that of our allies and friends. While the committee is convinced that our present military forces—comprising strategic, general purpose and support forces—are sufficient to protect the United States and its worldwide interests, it finds that a prudent amount of increased spending is necessary to ensure that security for the future.

The Soviet Buildup

The large buildup of Soviet strategic and conventional forces noted in our report last year continues, according to all reliable estimates. This trend is apparent not only in the numbers of tanks and missiles, but also in technological innovation, the aspect of defense spending that most affects the future military balance between the two countries. The Soviets are without question devoting a larger proportion of their national wealth to defense needs than we are; the Department of Defense estimates that they are now spending between 20 percent and 40 percent more annually. Included in this increase are major efforts at modernization and innovation, especially in strategic forces. The committee continues to view with concern this increase in Soviet military capability. We must watch these trends closely, not to match each specific Soviet development with one of our own, but to ensure that taken together Soviet developments do not upset the delicate deterrent balance that has done so much to preserve peace between the major powers for the last 30 years. In this process of what the Secretary of Defense called a combination of competition and cooperation, we must always anticipate future developments, carefully analyze trends in each major area of defense effort, and ensure that our actions now are sufficient to protect the security of the United States five, ten, and twenty years hence.

The major trends in Soviet military strength are summarized in the following table:

TRENDS IN SELECTED SOVIET FORCES

	1971	1977
Stralegic forces:		
ICBM's	1,500	1,400
SLBM's	450	900
Ballistic missile submarines	55	91
Long-range bombers	140	140
General purpose forces:		
Land forces: Tanks	40,000	45–50,000
Tactical air forces: Combat aircraft	4,200	5,000
Naval forces:		
Attack and ASW carriers	0	1
Attack submarines (nuclear and diesel)	285	260
Amphibious ships	100	82
Other warships	216	233
Combat aircraft	800	1,125
Active duty military manpower	3,839,000	4,400,000

The Strategic Balance

Since last year's report on the Defense Authorization bill, the President has made a decision not to proceed with production of the B–1 bomber, and to place greater reliance on cruise missiles for the future of the bomber leg of the vital strategic TRIAD. While the committee continues to believe that our strategic deterrent is adequate to protect us from attack, it is concerned about long-term trends in strategic deterrence. A number of issues which will affect our deterrent capability in the next 10 to 20 years are now before the Nation, including the future of the manned bomber, cruise missile and cruise missile carrier development, the need for more survivable ICBMs such as MX, and the greatly escalating cost of the important Trident submarine program. The committee continues to view all three legs of the TRIAD—air breathing, submarine-launched and land-based—as vital to our security in that they force our adversaries to plan for three quite different and separate retaliatory threats in case of a strategic exchange.

Expanded Soviet investment in modernizing their strategic forces means that our own research and development effort assumes an even more important role in securing our future safety against attack. The committee strongly supports continued research and development in strategic weapons.

The committee continues to support the efforts to find limits on strategic arms which can lessen the burden on both the United States and the Soviet Union, but only if such arrangements preserve a real military balance which guarantees a stable balance of deterrence. As noted last year, however, the committee supports a strong strategic arms program which will deny the Soviets any illusion of superiority and thus create the greatest possible impetus for future arms control agreements.

Weapons Development and SALT

The committee is concerned that strategic or nuclear weapon programs authorized by this Act not be degraded in expectation of a concession or in anticipation of an agreement to limit arms without prior congressional consideration. Present legislation may not adequately provide for the degree of participation that the committee deems necessary to carry out its responsibilities.

The committee intends to review this question in the months ahead and encourages the administration to notify the Congress in advance of

changes which would degrade existing or future strategic or nuclear weapon programs or capabilities in anticipation or expectation of arms limitation agreements.

Naval Forces

As a maritime Nation whose major allies are separated from it by oceans in both directions, the United States must maintain a strong and flexible Navy, capable of performing a number of missions. Much attention has been given this year and last, in both the legislative and executive branches, to determining just what sort of Navy we should have and how best to achieve it. Studies directed by the committee last year have played a role in clarifying these issues, but the committee is still concerned that a full consensus has not yet been reached on the role of the Navy in the future.

Today's Navy is beset by a number of problems which affect long-range decisions about the shipbuilding program. Unresolved claims involving the Navy's major shipbuilders raise doubts about the ability to effectively manage shipbuilding programs. The rising unit cost of ships makes sizable increases in warship numbers extremely expensive. Civilian and military analysts are in disagreement regarding the future role of aircraft carriers and their embarked aircraft. Questions have even been raised by some about the future of the Navy's power projection role.

Our posture in the world will continue to demand that the United States have a strong, multi-mission Navy for the foreseeable future. The large Soviet naval buildup in the past 10 years has made it even more imperative that we retain general maritime superiority. Studies mandated by the committee last year have helped to focus the issues concerning various types of aircraft carriers and the future of V/STOL, but as it will be some time before many of these concepts can be turned into real ships and aircraft, these issues are by no means resolved. Consequently, the committee has attempted to provide a program for shipbuilding and conversion that looks both to the near future and the longer term and provides the Navy with 15 new ships. Navy ships take long to build and remain in the fleet for 20 to 30 years.

NATO

The commitment of the United States to the security of Europe, through the NATO alliance, is one of the bulwarks of American foreign and defense policy. For the past 5 years, the committee has been giving increasing attention to the status of our NATO forces, their readiness to carry out their assigned roles, and the Warsaw Pact forces opposing them. Many of the recommendations made by the committee have now been incorporated into the Defense Department budget for fiscal year 1979. Indeed, a large portion of the real increase in the budget proposed by the administration is related to improving the posture of U.S. forces related to NATO.

Nonetheless, problems remain with our NATO forces, and the massive buildup of conventional forces by the Warsaw Pact nations continues. The committee continues to be concerned about providing our NATO forces with viable options other than the use of theater nuclear weapons in the event of war. Efforts to improve readiness; to replenish prepositioned and war reserve stocks; to provide mean-

ingful airlift and sealift capability for reinforcement; to improve command, control and communications; and to encourage standardization and interoperability must continue. A short-term emphasis on NATO needs will not succeed in solving problems that have taken years to develop.

However, the committee believes that efforts to improve NATO readiness and overall capability should be borne by both the United States and its allies in Europe. The Soviet buildup of men, tanks and aircraft in Europe should not be matched by American men, tanks and aircraft on the ground in Europe. Western Europe cannot be defended by United States conventional forces alone. The NATO countries took an important step in May 1977 by pledging a 3 percent real growth in their spending on NATO. The committee believes that this is an important step which must be more than temporary if NATO is to remain an important deterrent force in Europe.

Asia and the Pacific

The United States also has vital security interests in the Pacific and on the continent of Asia, and maintains military forces forward deployed in that region. The committee is concerned that the United States does not have an integrated policy toward Asia and the Pacific in the post-Vietnam era. It is imperative that the United States make a realistic assessment of its interests, the possible threats to those interests, and the forces needed to protect them in the 1980's and 1990's.

As discussed in greater detail elsewhere in the report, the committee takes seriously the threat to South Korea from action by North Korea. The maintenance of American forces in South Korea has been a deterrent to aggression. The committee is concerned that possible risks to the current military balance of any further withdrawal of American ground forces particularly if it appeared to encourage aggression by North Korea.

Calendar No. 212

96TH CONGRESS, 1st Session } SENATE { REPORT No. 96-197

AUTHORIZING APPROPRIATIONS FOR FISCAL YEAR 1980 FOR MILITARY PROCUREMENT, RESEARCH AND DEVELOPMENT, ACTIVE DUTY, SELECTED RESERVE, AND CIVILIAN PERSONNEL STRENGTHS, CIVIL DEFENSE, AND FOR OTHER PURPOSES

REPORT

[To accompany S. 428]

ON

AUTHORIZING APPROPRIATIONS FOR FISCAL YEAR 1980 FOR MILITARY PROCUREMENT, RESEARCH AND DEVELOPMENT, ACTIVE DUTY, SELECTED RESERVE AND CIVILIAN PERSONNEL STRENGTHS, CIVIL DEFENSE, AND FOR OTHER PURPOSES

TOGETHER WITH

ADDITIONAL VIEWS

COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

MAY 31 (legislative day, MAY 21), 1979.—Ordered to be printed.
Filed under authority of the order of the Senate
MAY 24 (legislative day, MAY 21), 1979

U.S. GOVERNMENT PRINTING OFFICE
39-109 O WASHINGTON : 1979

GLOBAL PERSPECTIVES

Introduction

Under the Constitution of the United States, the Federal Government is given the responsibility to "provide for the common defense." If the future well-being of the Nation is to be assured, the Federal Government must be able to provide for the safety and security of the American people and to protect their worldwide interests. This basic fact should be foremost in the debate as resources are allocated to the various competing demands facing the Federal Government.

U.S. military forces still have an overall advantage compared to the forces of potential enemies; however, this margin of superiority has been substantially reduced in recent years. Moreover, trends in the worldwide military balance appear to be unfavorable to the United States and its allies.

The Free World continues to have serious strategic vulnerabilities; key among these is the dependence on imported oil. In general, the Free World is becoming increasingly dependent on the free movement of raw materials and goods to and from Third World nations. Political or military actions that disrupt or threaten to disrupt this flow of materials can have a serious impact on the economies of the industrialized nations and of the world as a whole.

In essence, world events are becoming more complex and interdependent. This growing interdependence has increased the potential harm to U.S. and allied interests that could be caused in many regions by the use or threat of use of relatively small military units equipped with sophisticated weapons. The United States needs to evaluate its ability to meet the military challenges of this more interdependent, changing world. This does not lessen the need to deter the much more militarily destructive forms of warfare such as a conventional attack in Western Europe and, in particular, a strategic nuclear conflict that would spell unparalleled disaster for all nations.

Growth in Soviet Military Strength

The Soviet Union continues to modernize its forces at an alarming rate. The Central Intelligence Agency has estimated that the Soviet defense budget has exceeded U.S. spending by an average of 10 percent per year over the past 10 years. Of particular concern is that Soviet military spending has recently begun to outrun U.S. spending by a substantial margin. In 1978, it is estimated that the Soviet Union outspent the United States by about 40 percent. Over the last 5 years, the disparity in annual U.S. and Soviet defense spending has been impressively large in two mission areas: Soviet spending for strategic forces exceeded that of the United States by 3 to 1 and for general purpose forces, by 1.75 to 1. During this period, Soviet military investment (procurement and construction) has been 50 to 80 percent above

U.S. levels, for a total of about $100 billion in 5 years. The United States must consider the possibility that the Soviets are intent on seriously challenging the United States throughout the world and on exploiting our vulnerabilities and those of our allies where it can.

While there has been some Soviet growth in the numbers of military units and quantities of equipment, there has been major improvement in the quality of weapons fielded by the Soviet Union. In the past, the United States had planned to offset Soviet quantitative advantages in weapons with technologically superior systems in the hands of U.S. forces. Massive defense expenditures have enabled the Soviet Union to narrow our technology lead and have provided the Soviets with superior weapons in several key areas. Of particular concern to the committee is the serious possibility of substantial Soviet technological innovations in the immediate future resulting from the heavy investments of the past several years. The committee continues to support a strong U.S. military research and development program to exploit our broad technological superiority.

While the Soviet Union has made improvements to its strategic forces, theater nuclear forces, and conventional forces in Eastern Europe, it has apparently placed significant emphasis on improving its projection forces which could intervene in Third World affairs. These include a blue water navy, modernized sealift, expanded and modernized airlift, together with airborne and marine combat units. The growth in Soviet intervention forces is particularly troublesome in light of the Free World's dependence on commerce with developing nations and the focus on NATO programs that has occupied recent U.S. defense efforts. While Soviet intervention forces are currently inferior to similar U.S. forces, U.S. forces are tied down by regional commitments, especially for NATO, and also suffer the disadvantage of having to deploy over greater distances to likely trouble spots (i.e., Persian Gulf and Korea) than would be the case for Soviet forces.

Defense Spending

The key question posed by defense spending trends unfavorable to the United States is how long will it take before our major military competitor realizes meaningful military and political advantages that will alter the worldwide balance of power.

Recognizing the seriousness of adverse spending trends, the United States Government agreed with our NATO allies to increase total defense spending by 3 percent in real terms beginning with fiscal year 1979. In its first year this commitment may go unfulfilled, depending on the rate of inflation that finally occurs, by seven NATO countries including the United States.

The Free World has the economic resources to compete on military terms with the Soviet Union; less certain is the political will to commit these resources to needed military programs. Trends in national economic resources and defense efforts are as follows. U.S. levels are used as the base in each year in order to show trends relative to the United States.

SOVIET, JAPANESE AND NATO GNP'S AND DEFENSE SPENDING AS A PERCENTAGE OF U.S. LEVELS

	1950		1960		1970		1978	
	GNP	Defense spending	GNP	Defense spending	GNP	Defense spending	GNP	Defense spending
United States	100	100	100	100	100	100	100	100
U.S.S.R.	30	NA	32	71	32	90	47	140
Japan	4	0.3	8	1	21	2	48	9
NATO (less United States)	50	57	64	34	80	34	102	70

Sources: Central Intelligence Agency, Department of Defense, and International Institute for Strategic Studies.

This chart shows the growth in Soviet defense spending. In 1970, the Soviet Union's defense expenditures were only 90 percent of the U.S. level; by 1978, the Soviets were outspending the United States by about 40 percent. In addition, major U.S. allies are making defense contributions significantly less than their economic resources should permit.

In general the committee believes that the United States should increase its defense spending in real terms for the next few years. At the same time, our allies in Europe and Asia must assume a greater share of their defense burdens.

The Strategic Balance and SALT

One of our key national security goals is maintaining essential equivalence in strategic forces with the Soviet Union. The committee is concerned about our long-term strategic deterrent and therefore the committee supports the development of a more survivable ICBM, such as MX, among other key strategic programs.

The committee continues to view the three legs of the Triad—air-breathing, submarine-launched, and land-based—as important to our deterrent in that they force our adversaries to plan for three quite different and separate retaliatory threats.

The committee plans to carefully review the SALT II Agreement with the Soviet Union, announced by Secretary Vance on May 9, 1979, in the context of the overall U.S.-USSR military balance.

The Maritime Balance

While equivalence with the Soviet Union may be our goal for strategic forces, it cannot be our goal for U.S. naval forces. The United States should be committed to maintaining a clear margin of maritime superiority.

The United States and the Free World depend extensively on the world's sea lanes for the movement of trade and critical raw materials. Several of these areas are located at great distances from both the United States and its allies (i.e., Indian Ocean and Persian Gulf). Furthermore, our key alliances are with countries that are also separated from us by vast oceans.

Our Navy must be able to protect the free movement of commerce and the waterborne reinforcement of our allies. This task is made considerably more difficult by geography—the great distances from the United States to these areas. Because the Soviet Union has no such dependence on the seas, it is significantly less vulnerable in this regard.

Moreover, the Soviet Union would have the advantage of selecting the place and timing of an attack on the vast, important waterways that we seek to defend. If the Soviet Union can equal our naval power, it could deny access to selected areas and thereby gain significant strategic leverage over the United States and its allies.

The shipbuilding claims problem that has plagued our maritime program for a number of years is now behind us. Also on a positive note, a consensus is emerging on the need for more ships for the U.S. Navy. Unfortunately, there is still little consensus on specific ship types or on starting a vigorous ship construction program. Another year has passed without starting on a naval modernization program. The committee is convinced that the shipbuilding program for 10 combatants recommended for fiscal year 1980 and the proposed 5-year shipbuilding plan are inadequate to provide our Navy with the ships needed for the maritime tasks of the future. A vigorous shipbuilding program should be developed that can command a broad base of support.

NATO

For the past 5 years, the committee has placed great emphasis on defense programs oriented to NATO. While improvements have been made by both the United States and other NATO countries, much still needs to be done to insure the continuing strength of the Alliance. First, the Alliance must increase its real defense spending at a rate that would permit it to modernize its forces sufficiently to meet the growing capabilities of the Warsaw Pact. Second, better ways to accomplish rationalization, standardization, and interoperability of NATO forces must be found. Last, the Southern Flank of NATO continues to need strengthening and cohesion.

U.S. defense expenditures have been heavily oriented to NATO since fiscal year 1974. During the period 1974–1980, U.S. expenditures for forces deployed in Europe together with early and later NATO reinforcements will have increased in real terms at an average annual rate of 3.3 percent. Moreover, the bulk of increases have gone to improving combat power for a NATO conflict. Investment in equipment and facilities for these NATO-oriented forces has increased in real terms at an annual rate of 6.4 percent since fiscal year 1974. Most importantly, real-term investment in equipment and facilities for our front-line, Europe-deployed forces has grown at an average of 11.0 percent each year since fiscal year 1976. Our NATO allies should be made aware of the substantially increased investments that the United States has made in its NATO-based forces.

The United States has paid a price for improvements in NATO warfighting capability. All other U.S. forces, including those for other contingencies, have had a lower total expenditure, averaging a 1.5 percent annual reduction, between 1974 and 1980. Continued deterioration of these other forces would be of concern especially in light of Soviet improvements in intervention forces and the increasing dependence of the Free World on Third World material resources. Real increases in total U.S. spending are necessary if we are to maintain the balanced forces needed to protect our worldwide interests.

While repeal of the Turkish arms embargo removed an impediment to improvements of the Alliance effort in the Eastern Mediterranean, the substantial economic problems of Turkey and the slow pace of international economic assistance to that country are of concern. These economic problems are challenging the stability of the Turkish Government. The role that Turkey plays in the security of the Western World has been heightened by the change of governments in Iran. For this reason, instability in Turkey would be a serious problem for NATO.

Middle East and Persian Gulf

This region is one of the world's most important and volatile areas. The peace treaty between Egypt and Israel is a significant start in the search for peace between Israel and its Arab neighbors. However, problems yet to be overcome are significant.

The overthrow of the Shah of Iran and other developments have heightened tensions throughout the region. In response, U.S. friends in the region are seriously questioning U.S. staying power. Moreover, this area may be a key target for the intervention forces that the Soviet Union is developing.

The recent need to send additional U.S. military units, particularly naval forces, to the Persian Gulf area has highlighted the extent to which our forces are already stretched thin. To provide this increased presence, drawdowns from other key world areas were required.

Asia and the Pacific

Despite full normalization of relations between the United States and the People's Republic of China, our relations with Japan remain the cornerstone of American security efforts in Asia. Japan is now the second ranking economic power in the world with a pivotal role in Asian affairs.

Diplomatic ties between the United States and China have greatly improved stability in Asia. However, Asia still contains one of the greatest trouble spots in the world: the Korean Peninsula. The committee remains concerned that the planned withdrawal of the U.S. 2nd Infantry Division from South Korea—temporarily suspended by the Administration—could increase tensions and the likelihood of hostilities on the peninsula.

[H.A.S.C. No. 95–101]

NATO STANDARDIZATION, INTEROPERABILITY AND READINESS

REPORT

OF THE

SPECIAL SUBCOMMITTEE ON NATO STANDARDIZATION, INTEROPERABILITY AND READINESS

OF THE

COMMITTEE ON ARMED SERVICES

HOUSE OF REPRESENTATIVES

WITH ADDITIONAL VIEWS

NINETY-FIFTH CONGRESS

SECOND SESSION

4

SPECIAL SUBCOMMITTEE ON NATO STANDARDIZATION, INTEROPERABILITY AND READINESS

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(II)

LETTER OF TRANSMITTAL

U.S. House of Representatives,
Committee on Armed Services,
Washington, D.C.

Hon. Melvin Price,
Chairman, Committee on Armed Services,
House of Representatives,
Washington, D.C.

Dear Chairman Price: Attached is the report of the Special Subcommittee on NATO Standardization, Interoperability and Readiness.

The special subcommittee conducted a comprehensive study of standardization, interoperability and readiness holding 26 hearings and 15 briefings. Additionally, a delegation from the special subcommittee visited five European NATO countries from July 3 to July 7, 1978.

The work which the special subcommittee performed was always directed by the guiding principle of identifying facts and eliminating vagaries. Accordingly, this report presents the facts contained in our record of the NATO initiatives currently being considered.

With kind regards and best wishes,

Very sincerely,

Dan Daniel,
Chairman, Special Subcommittee on NATO,
Standardization, Interoperability and Readiness.

Approved for printing
Melvin Price, *Chairman*

CONTENTS

FINDINGS AND CONCLUSIONS

Standardization, Interoperability and Arms Cooperation

1. The Department of Defense is unable to define clearly many of the terms it uses to explain standardization and interoperability concepts.

Standardization and interoperability have ambiguous definitions. These definitions have produced confusing and often conflicting guidance for translating policy into action. Rationalization is an incomprehensible term.

2. The basic rationale for arms cooperation is that it will reduce duplication and increase efficiency of defense expenditures. There are only vague estimates that support such a conclusion, while data derived from actual case experience seems to contradict it.

3. It is unlikely there will be significant cost savings realized from arms cooperation. Approximately $3 billion annually is available as *potential* savings if *all* duplication of effort is eliminated. This is less than two percent of the current alliance budgets. Thus cooperation while it does allow some potential savings, is certainly not the total answer to NATO's problems.

4. The potential savings are purely theoretical. No witness who appeared before the subcommittee suggested there would be any immediate savings as a result of arms cooperation. It is impossible to predict accurately whether cooperation will save or cost money, either in the near future or in the long run.

5. The "Culver-Nuun" Amendment to the Defense Appropriation Authorization Act of 1977 is subject to confusing interpretation by some in the Department of Defense, and that which is not understood cannot be implemented.

6. Arms cooperation as a concept does not necessarily imply that the policy of standardization and interoperability as passed in the "Culver-Nunn" amendment would be most effectively implemented.

7. European defense industries are growing and represent an important investment on the part of their governments in financial resources, jobs and national pride. Their expanding capabilities and importance, therefore, influence government defense planning and procurement decisions.

As European defense products proliferate, the only conceivably efficient and equitable mechanism to provide the best defense will be to select equipment competitively. This approach is universally supported in principle but also nearly universally ignored in practice.

8. Memoranda of Understanding (MOU) are being used to document understandings between national defense officials. However, since MOU's are not formally approved by Congress, they represent understandings and nothing more. Congressional approval will not be achieved until enactment of appropriations or other implementing legislation.

9. The Department of Defense does not have a single definition of the "two-way street."

There are two different ways to look at the present balance of trade on the "two-way street". The European approach is to limit the traffic count to arms trade which produces a balance heavily in favor of the United States. Using a broader definition of traffic that encompasses all defense-related goods and services produces a "two-way street" heavily balanced in Europe's favor.

10. The term "two-way street" as applied by Europeans and some U.S. defense officials is a political device to secure economic benefits for European industries and often has little or nothing to do with enhancing military effectiveness.

There is no compelling reason for acceptance of the narrow European definition of the "two-way street" and isolating the one segment of the transatlantic defense trade which produces a surplus for the United States. Nor does the subcommittee find any particular value in singling out defense trade as a special category of overall transatlantic trade.

However, European procurement of U.S. weapons systems is increasingly linked to the concept of a "two-way street" by insistence on reciprocal U.S. purchases to serve as economic offsets.

11. The Family of Weapons concept is formless and undefined. It is an approach to arms cooperation designed to eliminate competition by grouping "families" of weapons and dividing up the development work.

There is no consensus as to how the member nations would divide up the development responsibilities. And it is still to be demonstrated that NATO can eliminate competition without lowering technological standards.

12. Major segments of U.S. industry and labor are confused about the Department of Defense's concept of the Family of Weapons and arms cooperation. They, therefore, do not support this.

If some level of meaningful arms cooperation is to become a reality defense contractors and labor must be consulted and participate at an early stage in the process.

13. International arms cooperation encompasses political and economic considerations beyond the jurisdiction of the Department of Defense alone. Interagency coordination of procurement practices is the responsibility of the Office of Federal Procurement Policy. However, the Administrator for Federal Procurement Policy knows very little about programs which his office is supposed to coordinate.

NATO Readiness Requirements and Initiatives

1. NATO's present capability to conduct a successful conventional defense against an attack by the Warsaw Pact and to terminate such a conflict on terms favorable to NATO is extremely doubtful.

NATO's capability to fight a protracted war is almost nonexistent. NATO lacks the capability to fight for thirty days and present plans will not provide such a capability before 1983.

The European shortages of ammunition and replacement stocks are critical; evidence available to the subcommittee suggests that European forces will begin to run out of equipment and ammunition in a matter of days rather than weeks or months.

2. The NATO goal of 3 percent annual real growth in defense spending was a compromise between military requirements and what was political practicability. This increase will not be sufficient to reverse the unfavorable trends in the NATO-Warsaw Pact conventional forces balance.

When the United States agreed to the goal of 3 percent annual real growth, it was understood that the increase applied to the entire defense budget.

The United States has not honored its commitment since President Carter agreed to it.

3. The NATO Long Term Defense Plan (LTDP) will have little impact on NATO readiness until the 1990's. As an exercise in data gathering and coordination, the LTDP is a laudable accomplishment. As a blueprint for the time-phased correction of NATO's difficulties, it is of questionable value because it cannot be translated into national procurement plans, country-by-country, year-by-year, and item-by-item.

The Short Term Initiatives approved by NATO Defense Ministers represent a positive, if not wholly adequate, step toward the correction of specific alliance deficiencies in the near to mid-term. The short term initiatives are specific country-by-country commitments.

Legislative Proposals

1. The subcommittee reviewed H.R. 11607, a proposal to waive existing law for the formation of agreements with North Atlantic Treaty Organization countries for host nation support. The goal of H.R. 11607 is worth pursuing. The proposal as submitted, though, is far too sweeping in authority and should be redrafted.

2. The subcommittee reviewed a second legislative proposal, H.R. 12837, that would empower the Secretary of Defense unilaterally to establish both procurement practices and procedures for international purchases of property and services. The subcommittee finds the intent of H.R. 12837 too broad to merit support.

RECOMMENDATIONS

1. *Review of "Culver-Nunn" Amendment*

The "Culver-Nunn" Amendment should be examined in detail to determine whether modification is in order or whether basic changes should be made.

2. *Coordination of Procurement Procedures for Arms Cooperation by the Executive Branch*

Arms cooperation should be pursued to increase the capabilities of the alliance, but must comply in both letter and spirit with existing U.S. procurement law and procedures. Requests of the Congress to authorize modification of laws or policies should be made only after the Administrator of Federal Procurement Policy has coordinated consideration of all applicable issues by the appropriate executive agencies and reported his findings to Congress as required by law. (Public Law 93–400).

3. *Government-to-Government Agreements*

The use of government-to-government agreements should be minimized. Uniform guidelines should be provided to defense companies so that international industrial agreements can be made.

4. *Reporting on Memorandum of Understanding (MOU) Negotiations and Transmitting Agreements to Congress*

The subcommittee recommends that the Secretary of State be requested to transmit to the Committees on Armed Services of the Senate and the House of Representatives under guidelines of the Case Act (1 U.S.C. Sec. 112(b)) all international agreements other than treaties, between the United States and NATO allies related to national security. Further the Secretary of Defense should be requested to report periodically to the Committees on Armed Services all ongoing negotiations with NATO allies in the area of arms cooperation.

5. *Requirement for Increased Training*

In the recognition that no equipment related improvements can be effective without adequate, appropriately trained personnel, more attention should be given to combat and combat related training.

6. *Annual Reporting of NATO Readiness and Defense Budgets*

The subcommittee recommends that legislation be enacted requiring the Secretary of Defense to transmit an annual NATO readiness report to the Congress with the annual Defense budget submission. The report should: (a) identify specific alliance readiness deficiencies; (b) distinguish between those of the United States and alliance forces; (c) relate U.S. defense budget requests to planned correction of our own deficiencies; and (d) enumerate commitments of allied governments to correct identified deficiencies.

7. *Annual Authorization of Operations and Maintenance, and All Procurement Accounts*

The subcommittee's review of NATO readiness identified as major deficiencies ammunition stocks, communications equipment, support equipment (trucks, etc.) and the lack of adequate funding for military operations and training. These defense budget categories are not subject to annual authorization. For the Armed Services Committees to provide the necessary oversight to redress these major defense deficiencies, legislation should be enacted to require annual authorization of operations and maintenance, and all procurement accounts.

8. *Requirement for Legislation to Increase Host Nation Support*

To permit the more efficient formation of agreements with allied governments for services, the executive branch should submit legislation which:

(a) Authorizes the Secretary of Defense to enter into a well defined class of agreements for specific host nation support services;

(b) Identifies the specific existing laws that need to be waived and how the waivers are to be granted; and

(c) Provides the Congress with adequate notice of negotiations.

9. *Requirement to Continue Activities of Special Subcommittee*

It is recommended that the work of the Committee on Armed Services special subcommittee continue with an expanded charter.

INTRODUCTION

The Subcommittee Charter and Scope of Inquiry

In recent years, discussions about NATO have been dominated by two themes: The first, that the alliance suffers from severe military readiness deficiencies which can be supported to some degree by demonstrable facts and make it particularly vulnerable to a blitzkrieg-style attack by the Warsaw Pact; the second, which is based on theory and supposition is that the alliance squanders its defense expenditures through unnecessary duplication, lost economies of scale, and the loss of so-called force multipliers which would result from standardization and interoperability of doctrine and equipment.

On May 2, 1978, the Chairman of the House Armed Services Committee appointed a Special Subcommittee on NATO Standardization, Interoperability and Readiness. The subcommittee was directed to conduct a study of the present state of efforts at standardization and interoperability within the North Atlantic Treaty Organization (NATO) and to identify military readiness problems in the alliance stemming from a lack of joint procedures, doctrine or standard equipment. The subcommittee was further directed to identify those areas where standardization and interoperability might be most advantageously pursued and to consider the most feasible approach to achieving greater standardization and interoperability where it is determined that such would contribute to improved readiness. (See Appendix A for charter.)

The subcommittee held 26 hearings and received 15 briefings. It received testimony from a large and diverse group of witnesses representing the Departments of Defense, State and Commerce, industrial associations, and labor groups, and in addition talked to representatives of European governments and industry. A list of witnesses appears in Appendix B of this report.

From July 2 to July 8, 1978, a subcommittee delegation visited five European NATO countries. The delegation met with key military and political leaders in France, the United Kingdom, the Federal Republic of Germany, the Netherlands and Belgium to gain a better understanding of allied programs for arms cooperation. In addition, meetings were held with U.S. military leaders in Europe and key allied military officials in the NATO command structure to discuss alliance readiness problems. The delegation also met with a cross section of European industrial leadership.

8

The European Military Balance

The following general summary of the military balance trends in Europe, provided by the Joint Chiefs of Staff, serves as a useful frame of reference:

In the mid-sixties, the military balance in Europe was dominated by U.S. strategic nuclear superiority, although even then, Soviet trends in improving their strategic forces had begun.

At that time, NATO had an advantage in theater nuclear forces as well, and the conventional capability in NATO was comparatively less important.

In 1967, with the adoption of the current strategic concept for the defense of the NATO area, there was a NATO commitment to developing a solid conventional defense capability while maintaining a credible linkage to theater and strategic nuclear capabilities.

Throughout this period, major force modernization efforts by the Warsaw Pact, led by the Soviet Union, have more than offset NATO efforts to improve the comparative balance of conventional forces. Improvements in Soviet capabilities reflect continuing doctrinal emphasis on high speed conventional ground attack, more attention to offensive airpower, and an expanded out-of-area role for the Soviet Navy.

Only in the last few years, with the return of U.S. attention to Europe and the growing perception by allies of the Warsaw Pact conventional threat, has the situation begun to change as serious efforts were initiated in NATO to develop a solid, sustained conventional defense capability.[1]

[1] HASC 95–72, 12.

STANDARDIZATION AND INTEROPERABILITY

Terminology—Arms Cooperation and Common Sense

The subcommittee's record is filled with references to RSI, an acronym for rationalization, standardization and interoperability. This acronym is used to describe undefined concepts. It is, simultaneously, a philosophy, a policy and a practice, a military objective, a political mechanism and a macro-economic device.

NATO RSI has a jargon all its own and the subcommittee continually had to refer to glossaries of terms to find what various witnesses were trying to describe when they used words like "standardization," and "interoperability" and—best of all—"rationalization." However, referring to Defense Department supplied glossaries did not always help because the definitions are neither clear nor precise. And, in fact, the Defense Department cannot even define many of the terms it used. (See Appendix C for DOD glossary.)

Reviewing the whole host of subjects, initiatives, ideas, concepts, philosophy, policy, goals, objectives, programs, etc. which seem to be encompassed within the rubric of that catch-all term RSI it became apparent that RSI has so many potential meanings and that, in effect, it is a meaningless term.

What, then, is being considered and proposed? A goal—arms cooperation, and a guiding concept—the application of common sense. These are not mutually exclusive categories, but the subcommittee found them useful to understand what is being strived for and what is possible.

By arms cooperation the subcommittee means international industrial and government teaming and coordination in the development and production of military equipment.

As for the application of common sense there are only a few basic principles which need to be understood and complied with.

1. The proposal must be expected to result in a positive improvement of alliance military capability at a realistic cost in terms of budgets.

2. If the proposal will require the waiver of law, existing waiver processes should be exercised before requesting special exemptions from Congress.

3. If a required program is more costly than planned budgets will support or if existing law, regulations, or procedures will require modification, a timely request of Congress should be made on a case-by-case basis with specific supporting data.

The subcommittee believes professional military leadership in NATO can do much to produce the needed cooperation that will pay off on the battlefield. Structuring solutions to alliance problems at the working level, whenever possible is strongly supported. Over the course of its 8 month investigation, the subcommittee rediscovered a long-ignored truism: The application of common sense to the solu-

tion of a problem varies inversely with the number of organizations and individuals working on the solution.

Interoperability and/or Standardization

There are two sets of definitions for standardization and interoperability: The official definitions which are ignored; and the highly individualized intuitive definitions everyone uses. These intuitive definitions have produced confusing and often conflicting guidance for translating policy into action. They have also resulted in a division of labor. Standardization has emerged as the special province of civilian, industrial, and administrative military leadership, while interoperability has been the principal concern of military commanders.

The conceptions have resulted in vague assignments of priority and estimates of feasibility which have generally favored interoperability primarily because interoperability offers greater prospects for near term improvement in alliance military capabilities and will generally involve only modest expenditures. Further, stressing interoperability will have virtually no impact on equipment programs and therefore, minimal effect on future weapons development options. In essence, interoperability's greater attractiveness stems from its emphasis on improving the operational capabilities of existing equipment through the efforts of allied field commanders.

Attempts by the subcommittee to validate this prioritization failed. Without at least some understanding of benefits trade-offs between standardization and interoperability cannot be made.

Policy of the United States

The most authoritative statement of policy by any NATO ally regarding standardization and interoperability is the "Culver-Nunn" amendment to the Department of Defense Appropriation Authorization Act, 1977 (Public Law 94–361, Sections 802 and 803, July 14, 1976). This legislation is divided into two sections. One states the policy of the United States, the other states the sense of Congress.

The section on policy begins with the following:

> It is the policy of the United States that equipment procured for the use of personnel of the Armed Forces of the United States stationed in Europe * * * should be standardized or at least interoperable with equipment of other members of the North Atlantic Treaty Organization. (Public Law 94–361, Sec. 802 (a)(1)).

To implement this policy Section 802(a)(1) directs that:

> The Secretary of Defense shall, to the maximum feasible extent initiate and carry out procurement procedures that provide for the acquisition of equipment which is standardized or interoperable.

The limitations on procurement practices contained in the legislation are the following:

> Such [procurement] procedures shall also take into consideration the cost, functions, quality and availability of the equipment to be procured. (Public Law 94–361, Section 802(a)(1)).

These guidelines are stated as "considerations" not as being mandatory. The Secretary of Defense does not have to determine that the standardized equipment must be the most cost effective, the highest quality, or be the most readily available.

This legislation also authorizes the Secretary of Defense to waive the "Buy America" Act (47 Stat. 1520; 41 U.S.C. 10a) in order to procure standardized or interoperable equipment.

Finally, there is a reporting requirement to the Congress for programs which do not further the policy.

> In any case in which the Secretary of Defense initiates procurement action on a new system which is not standard or interoperable with equipment of other members of the North Atlantic Treaty Organization, he shall report that fact to the Congress . . . and the reasons for that choice. (Public Law 94–361, Section 802(a)(3)).

The sense of Congress statements are contained in Section 803. This section is divided into three subsections.

Section 803(a) states that it is the sense of Congress that weapon systems being developed for deployment in a NATO theater should "conform to a common North Atlantic Treaty Organization requirement." In order to achieve this goal the Secretary of Defense must coordinate with our allies to agree on common military requirements. To measure the success of such efforts the legislation requires that: "The Secretary of Defense shall * * * report on efforts to establish a regular procedure and mechanism within the North Atlantic Treaty Organization for determining common military requirements."

Section 803(b) of this sense of Congress legislation suggests approaches to be used: "expanded inter-Allied procurement would be facilitated by greater reliance on licensing and coproduction agreements." To utilize this approach of licensing production and coproduction, the Secretary of Defense is directed to attempt further coordination with our allies for national defense efforts.

> The Secretary of Defense, in conjunction with appropriate representatives of other members of the Alliance, shall attempt to the maximum extent feasible (1) to identify areas for such cooperative arrangements and (2) to negotiate such agreements pursuant to these ends. (Public Law 94–361, Section 802(b)(1)).

Section 803(c) contains a statement from Congress to our NATO allies. It concludes that without coordination of European arms programs, efforts by the United States to achieve alliance arms cooperations would be futile. Therefore, the legislation encourages the European governments to unify defense industrial efforts.

> It is the sense of the Congress that standardization of weapons and equipment within the North Atlantic Alliance on the basis of a "two-way street" concept of cooperation in defense procurement between Europe and North America could only work in a realistic sense if the European nations operated on a united and collective basis.

Though the "Culver-Nunn" amendment is permanent legislation and has been in force since 1976, it is not well understood or even acknowl-

edged as national policy. The most striking example of this finding is the many requests from executive branch officials for sense of Congress legislation that were made during the subcommittee's review.

The only request for such congressional action which included a specific suggestion (supplied later for the record) was that made by the Under Secretary of Defense for Research and Engineering. In his testimony on June 22, 1978, he stated that:

> [I]t would be useful, very useful, for the executive branch, in pursuing standardization programs, if the Congress were to state that it is their sense that we should endorse efforts for common doctrine, endorse efforts for rationalized requirements, for finding opportunities for arms cooperation and that you would endorse not only a need, but a desire to experiment on novel, innovative ways of meeting these problems.
>
> We are embarked on a program which implicitly assumes congressional support of those points. We could embark on it much more effectively, if we had that explicit endorsement because our position with our allies would be more credible. On the other hand, if the Congress does not support those positions, it would be well for us to know that too, because we would change many of the things we are doing.[2]

Though it was pointed out to the Under Secretary that "Culver-Nunn" appeared to embody in existing legislation the very request he was making, he still made the following specific request in a later submission for that record:

> *Proposed Addition to Public Law 94-361, Section 803(d).*—It is the sense of the Congress: (1) that more compatibility of doctrine and tactics should be pursued to provide a better basis for arriving at common NATO requirements; (2) that cooperation on the defense equipment programs must begin early in the R&D process before national solutions become established: and (3) that new concepts of defense equipment cooperation should be sought with our Allies with the objectives of improving NATO's military effectiveness, achieving efficient use of U.S. and Ally defense resources, and providing for equitable economic and industrial opportunities for all participants.[3]

In the opinion of the subcommittee this proposal would not modify "Culver-Nunn", but simply restate parts of it.

The Under Secretary, as late as November 16, 1978, in a prepared statement printed in the subcommittee's record of November 24, 1978, continued to make this request by stating that: "I believe that a broadly-stated sense of Congress resolution would be highly significant in underwriting our efforts to further strengthen the military effectiveness and cohesion of the North Atlantic Alliance."

When the Secretary of Defense testified before the subcommittee on September 21, 1978, he was asked about such requests for congressional action:

> Mr. WHITEHURST. Several of the previous witnesses have declared that it would be helpful if we had a sense of Congress resolution directing the President to begin negotiating with our NATO allies with a view to securing a comprehensive agreement on arms collaboration. And I would like to know what your own view on this is, and whether or not you think it will do any good, or just what you think it will accomplish?
>
> Secretary BROWN. In general, I think it is a good idea for the following three reasons: First, I think it will be a favorable signal to our allies; second, I think it will help me to apply pressure in this direction with the U.S. Government—the executive branch; and third, I think it will also have an effect within the Congress. . . . The whole Congress has to speak out on this matter in order for there to be a favorable outcome.[4]

[2] HASC 95-72, 944.
[3] HASC 95-72, 941.
[4] HASC 95-72, 1264.

Secretary of Defense Brown is wrong in his interpretation that the "Culver-Nunn" amendment constitutes an expansion from less than the "whole Congress". The purpose of "Culver-Nunn" was not to help the Secretary of Defense in the executive branch but rather to direct him in law to implement a policy that equipment procured for our forces should be standardized or at least interoperable with that of our European allies.

The last reason given by the Secretary of Defense appears to indicate that the executive branch is requesting the Congress to enter into a contract with the Department of Defense and the NATO allies whereby programs presented to the Congress as furthering alliance standardization and interoperability would be unquestioningly supported through appropriations and other necessary legislation. No subcommittee, committee, or Congress can draft or act on such a contract.

The basic reason why the "Culver-Nunn" legislation is not understood even by those executive branch officials charged with its implementation, is that it is drafted using terms for concepts that are not clearly defined. This lack of understanding extends far beyond interpreting legislation to a much more fundamental problem. That is evaluating the benefits and costs of such a policy.

At the time of its enactment, the purpose of the amendment was to highlight the need for alliance cooperation. That purpose has been well served. Now that the Defense Department's attention has been focused on the problem, the drafting weaknesses contained in the legislation hinder rather than guide government actions. The kinds of broad generalities contained in the amendment reflect the lack of information at the time of enactment and can reasonably be expected now to only retard progress. Today, congressional guidance should reflect a more precise understanding of what is feasible and what safeguards to protect and preserve national capabilities and procedures should be applied. All legislative action should be directed at eliminating broad generalities and providing specific guidance.

Benefits and Costs

The basic rationale for arms cooperation is that there will be a reduction in duplicative efforts and an increase in efficiency of defense expenditures. However, there are only vague estimates that support such a conclusion while most actual case experience seems to contradict it. The single quantitative estimate found was that made in 1976 by Thomas A. Callaghan.[5] His study estimated that the total loss of alliance resources due to duplicative research and development, inefficient use of production facilities, and separate duplicative national logistics systems is approximately $10 billion annually. The Callaghan figure was more useful for its stock value. The subcommittee was unable to determine what savings—if any—are attainable from arms cooperation.

The Defense Department is only now trying to develop methods to assess the economic cost of separate national production bases as op-

[5] Callaghan, Thomas A. "U.S./European Economic Cooperation in Military and Civil Technology," Washington, D.C.: The Center for Strategic and International Studies, Georgetown University, March 1976, p. 37.

posed to single production bases for the alliance. It is also attempting to determine what lessons have been learned from the European joint development and production efforts. These are the first serious attempts to provide basic information necessary for evaluation of specific programs. Even the national policy contained in the "Culver-Nunn" amendment should be evaluated against these data to assess the validity of the legislation.

At present, there is no acceptable way to measure the potential cost savings of arms cooperation. However, it is unlikely that there will be significant production cost savings realized by the United States. The currently proposed framework for trans-atlantic arms cooperation includes a triad of cooperative actions, one of which is "dual production in NATO countries." [6] In essence, this means both U.S. production and European production by individual countries or a consortium of countries. Dual production will not produce significant cost savings except, perhaps, on the European side.

Whatever savings there are will come primarily from the elimination of duplicative research and development. However, since some of those expenditures are for basic research efforts, that portion should also be excluded from consideration here. The continuation of all research efforts is mandatory to provide the new products needed in the future. The principle area of defense expenditures where efficiencies can be anticipated is military equipment development.

At present the United States spends $12 billion for research and development, and all of the European allies combined spend about $4 billion. This means that the maximum savings from elimination of duplication are on the order of $4 billion. However, basic research accounts for about 20–25 percent of that $4 billion which reduces the potential savings to something in the neighborhood of $3 billion annually—if *all* the allies do everything rationally. Three billion dollars represents less than 2 percent of the current alliance defense budgets. Obviously arms cooperation is not the total answer to NATO's problems.

The discussion of potential savings is mostly theoretical, however. No witness who appeared before the subcommittee suggested there would be any immediate savings as a result of arms cooperation. As of now, it is impossible to accurately predict whether arms cooperation will save or cost money, either in the near future or in the long run. This is not surprising since there is not even a consensus on how to interpret data on cooperative efforts to date. For example, there is no clear agreement as to whether the "Americanization" of the Roland Missile System has saved or wasted defense dollars.

This leaves significant questions. What are the economic benefits to be realized, and what costs are acceptable to achieve these benefits? What are the military benefits of implementing this policy? The question of what military benefits are achievable leads to an even broader question about whether immediate military benefit to U.S. Forces should be sacrificed for political solidarity.

The Secretary of Defense proposed the following criteria for measuring success in dealing with NATO's problems by proposing the

[6] HASC 95–72, 1362.

following criteria: "Does it cost-effectively strengthen NATO's capability to deter or defend against Warsaw Pact attack? Does it enhance or weaken NATO's political solidarity?" These two broad criteria must be balanced against other worldwide defense requirements of the United States.

The question of how the Congress can best provide for all of the defense requirements of the United States has to be answered annually and the lack of any meaningful measure of the benefits and costs of NATO standardization and interoperability complicates the process. The following testimony given by General Alexander M. Haig, Jr., Commander-in-Chief, U.S. European Command, states the problem and the only presently available criteria for the Congress:

> I, frankly, do not expect conflict in the near term in NATO Europe unless we make serious mistakes or leave untended those areas in trouble: on the flanks, in Africa and elsewhere where there is increasing Soviet activity. Each one of these decisions must be an anguishing and carefully worked out judgment of its own and a generalized formula will get you in trouble. It depends on the payoff and the deficiency you are filling and how urgent it is in the context of your broad strategic concerns.[7]

Near Term Requirements

Lt. Gen. Arnold W. Braswell, USAF, Director, Plans and Policy Directorate, Joint Chiefs of Staff, stated that:

> The Joint Chiefs of Staff have identified five high-priority categories of areas where they feel we need to focus attention, and in fact they have introduced these in the NATO arena where they have been adopted NATO-wide as standardization or interoperability policy from the military viewpoint. The five areas are command and control and information systems; cross servicing of aircraft; and greater interoperability in ammunitions; compatible battlefield surveillance and target designation and acquisition systems; standardization or interoperability of components and spare parts for various system and subsystems.[8]

The capability to cross-service equipment, and to exchange ammunition will enhance the potential for allied forces to provide support to each other. But when two armies have artillery that can fire each other's ammunition, enhanced military effectiveness does not result unless there is enough ammunition. In the final measure, sufficient supplies will determine the payoff of cross-servicing and interchangeable ammunition.

The Joint Chiefs of Staff list included a group of suggestions that require more than alliance attention. This group includes communications, command and control equipment; battlefield surveillance; and target designation and acquisition systems. Enhancing the compatibility of alliance systems is important and must be vigorously pursued, but not at the expense of meeting national military requirements. For example, the alliance could use the same or compatible communications equipment and this would result in apparent advantages. But, here again, it is the availability of equipment that establishes the true measure of success. Even though two forces use different communications equipment, transmission networks could be provided by exchanging some equipment or making minor modifications to existing equipment. So the subcommittee finds that communications, com-

[7] HASC 95–72, 317.
[8] HASC 95–72, 464.

mand and control equipment, and battlefield surveillance, target designation and acquisition systems require more than broad alliance attention. They demand national prioritization and increased procurements.

The last item on the list: "standardization or interoperability of components and spare parts for various systems and subsystems" exemplifies the vast majority of testimony taken by the subcommittee. What this entails is impossible even to estimate. The goals are not defined; no apparent organization was ever suggested to be responsible for implementation; no methods or programs were suggested. This suggestion is characteristic of what the subcommittee found during its entire review of standardization and interoperability—vague generalities that offer little opportunity for implementing the policy contained in "Culver-Nunn."

ARMS COOPERATION

Introduction

Arms cooperation is an appropriate term for efforts to consolidate NATO equipment development and procurement programs. As used in this report, arms cooperation describes both industrial and government procurement activities.

International arms cooperation on a case by case basis has little to do with the policy of military standardization and interoperability stated in the "Culver-Nunn" amendment. The main goals of arms cooperation are economic and political as opposed to military.

Arms cooperation entails multinational military equipment procurements as opposed to national procurements which raises unique international economic, political and security issues such as technology transfer, competitive procurement versus directed procurement, government subsidization of industry, and multinational industrial teaming. Each raises very different issues when considered individually, but all embody a class of issues that require broad attention. Such attention many times is dominated more by economic and political considerations than national defense. This emphasis on economics and politics cannot be ignored when programs are being reviewed by the Congress.

Development of European Defense Industries and Procurement Practices

During the last decade, a relatively new phenomenon has appeared in the NATO alliance, the establishment and growth of a vigorous European defense industrial base. This economic development has resulted in a political assessment which was reported to the subcommittee by the Advisor to the Secretary of Defense on NATO Affairs, Ambassador Komer, as follows:

> The Administration's effort to promote the two-way street is not a giveaway program. In fact, it's designed to protect our own export position, as well as to promote standardization/interoperability.
>
> I think we are kidding ourselves if we think Europe will keep buying as much from us if we don't buy more from them. The handwriting is on the wall as far as this problem is concerned.
>
> The British, the Germans, the Belgians, the Norwegians, the Canadians, and the Dutch have put us very clearly on notice . . .
>
> * * * Either we're going to give the allies a somewhat bigger share of our market or they're going to increasingly go for their own equipment, even if ours is better and cheaper. It's as simple as that, because we do the same thing.[9]

The subcommittee does not endorse this assessment as being completely accurate, but the statement is widely accepted. Only future European procurement decisions will provide the test. The statement is impossible to verify until a positive trend can be established.

[9] HASC 95–72, 494, 495.

What can be verified is the great momentum to develop national or at least European defense industrial capabilities. This is best demonstrated by the several joint European programs that have been formed to accomplish projects too large for individual nations to effectively support. The United Kingdom, the Federal Republic of Germany and the Italian joint program to develop the Multi-Role Combat Aircraft is an example of such European teaming. Other European teaming examples include programs for weapons systems ranging from army artillery to ships.

During the subcommittee's discussions in Europe with government and industrial leaders the great enthusiasm with which they foresee the development of national and European defense industries helped identify certain potential conflicts between the United States and our European NATO allies that will have to be resolved if a realistic arms cooperation environment is to be established. These conflicts are not the result of misunderstandings between nations but the simple fact that as European defense products proliferate the only conceivably efficient and equitable mechanism to provide the best defense will be to competitively select equipment. This approach is universally supported in principle but also nearly universally ignored in practice.

Primarily, national defense industries develop supplying a single customer, their own military forces. Only in the United States with its large defense expenditures, nearly $12 billion annually for military research and development alone, have multiple sources prospered and competed for government contracts. In fact not only do most European countries have a single or a very limited number of defense equipment suppliers but many governments control or hold significant ownership of their defense industries. This has not resulted in the United States being the only alliance government to use competitive procurement practices. European governments have utilized principles of competition to select internationally offered weapon systems. However, this situation has resulted in the United States being the foremost user of competitive procurement practices.

Presently, the European defense industries represent an important investment on the part of their governments in financial resources, jobs and national pride. Their expanding capabilities and importance, therefore, very naturally influence government defense planning and procurement decisions. These influences do not help to produce an environment where competitive procurement decisions can easily be made.

It is with this understanding that the subcommittee has identified as one of the most difficult and essential issues to be resolved, the establishment and implementation of alliance competitive procurement procedures. Neither universal formulas for establishing such procedures or even effective temporary approaches appear to warrant unquestioning support.

Memoranda of Understanding (MOU)

Increasingly, cooperative government-to-government arrangements on defense matters are being documented by Memorandum of Understanding (MOU). However, since such proposals are not formally approved through congressionally established mechanisms, they represent executive understandings and nothing more. They could create mistrust and confusion if the respective governments are unable to fulfill the terms of the understandings.

The possibility of MOU's not being implemented is obvious since there is no participation by the U.S. Congress in the formative stages, and congressional approval will not be achieved until enactment of appropriations or other implementing legislation. Earlier congressional endorsement is not feasible since individual members, subcommittees or committees cannot direct the enactment of specific future legislation.

A potentially dangerous result of these government-to-government MOU's is offset arrangements linking separate procurement decisions. When difficulties arise in a particular set of negotiations, it can be anticipated that other contemporary program decisions may be considered as providing offsets. That is an MOU may be contingent upon other programs.

During the subcommittee meetings with European leaders this concept of linkage or offsets was discussed and the European attitude can be characterized as endorsing this approach. However, under our system of congressional review and approval of defense budget requests on a program-by-program basis, there exist many considerations and forces which could rupture linkage understandings even if they were presented to the Congress with complete explanation of the consequences.

Realizing the serious consequences of probable situations and having been unable to identify any meaningful mechanism for congressional control and endorsement, the use of MOU's should be minimized.

American efforts to increase arms cooperation and strengthen relationships between allied nations will not be thwarted by reducing the use of government MOUs, for there is a reasonable alternative that should be vigorously pursued. The alternative is to encourage defense companies to establish agreements. The success of the industrial suppliers in organizing the activities of development and procurement, with government endorsement, will help to establish an environment in which customers—the government defense establishments—can utilize international competitive procurement practices.

By publicly stating both national and alliance requirements and establishing guidelines for international business practice, the same basic ingredients of the American competitive market system will be present; that is, wide public advertising with uniformly ap-

plied rules of business practice. Such an environment can only be complicated and frustrated by increasing numbers of government-to-government understandings, some of which are even classified. Therefore, if competitive international arms cooperation is ever to be a reality, the role of government will have to be that of a public purchaser and enforcer of uniform rules of business practice, and not as unilateral—and sometimes secret—negotiator mandating the application of industrial resources.

The "Two-Way Street"

1. *The European View*

During its meetings with European government and industrial leaders, the subcommittee found it virtually impossible to discuss arms cooperation without becoming involved in discussions of the need for a "two-way street" in the transatlantic arms trade. This is "NATO-ese" for saying that the United States is going to have to buy more European systems if it expects to continue to sell American systems to Europe. Other terms used in connection with—or often interchangeably with—the "two-way street" by Europeans include "offsets" and "quid-pro-quo."

The European application of these terms is often unrelated to enhancement of military effectiveness. Dr. Ellen Frost, Assistant Secretary of Defense for International Economic Affairs, described the European motivation in emphasizing the "two-way street" as follows:

> The Europeans want to emphasize the trade in arms and high technology systems. From their viewpoint, an increase in their sales of such items would provide 1) growth prospects for their relatively small scale arms industries, 2) concomitant political benefits via employment and enhanced prestige, 3) technology spin-offs in both civilian and military sectors, and 4) an improvement in their balance of payments.[10]

An illustration of the European view of the "two-way street" is West German participation in AWACS. As a condition of their initial and continued participation, the Federal Republic of Germany pressured the United States into adoption of the 120-mm tank gun, German equipment and labor for installation of a new U.S. European Telephone System, and purchase of German non-tactical vehicles. In all three cases, the U.S. adoption had little or nothing to do with standardization, and none have been shown to save the U.S. money. The U.S. decisions to buy were predominantly the result of political considerations rather than military or economic advantages. Doubt about the linkage of these systems to AWACS from the German perspective is dispelled by the Bundestag Defense Affairs Committee Resolution on AWACS which stated:

> The Defense Affairs Committee also assumes that the NATO–E–3A Project will mark the beginning of the two-way street with the USA. This presupposes an unrestricted fulfillment of the compensation which has been promised by the USA and which is contained in the text through the license agreement for the 120 mm tank gun, the purchase of German telephone equipment and the purchase of German non-tactical vehicles.
>
> The Defense Affairs Committee requests the Federal government to report on the negotiations results prior to the beginning of deliberations on the 1980 budget, and at the same time, to submit the contracts concluded.[11]

[10] HASC 95–72, 583.
[11] Message from American Embassy, Bonn, Federal Republic of Germany to the Secretary of State, Washington, D.C. November 29, 1978, p. 2–3.

It is difficult to fault the European's desire to increase their defense markets—as a goal for Europeans. However, that is a conspicuously non-military goal and there is no evidence to support the thesis that buying European is in the best interest of the United States which is, after all, an economic competitor of Europe as well as a military partner.

2. *The Current Balance on the "Two-Way Street"*

There are two very different ways to look at the present balance of trade on the "two-way street". One approach is to limit the traffic count to the arms trade between the United States and NATO Europe, a method which depicts a balance heavily in favor of the U.S. This, of course, is the approach taken by Europe in its arguments for trade on a "two-way street."

"TWO-WAY STREET" ARMS TRAOE WITH NATO EUROPE [12]

[In millions of current dollars]

	1974	1975	1976	1977
Foreign military sales*	550.1	649.3	680.5	704.4
U.S. commercial sales†	166.7	223.2	345 7.	478.7
Total sales	716.8	872.5	1,026.2	1,183.1
U.S. Department of Oefense procurement ‡	80.1	94.1	46.5	124.6
Sales/procurement ratio**	8.9:1	9.3:1	22:1	9.5:1

[12] HASC 95-72, 583.

*Foreign military sales delivery data from Oefense Security Assistance Agency OOO; minus construction, repair, training and services.

†Export data from Office of Munitions Control, Department of State.

‡Contract placement data from DOD Comptroller, minus construction, repair, supply, training and services.

**U.S. commercial military import data not available.

Source: Defense Oepartment data selected by International Security Affairs.

Another, quite different perspective of the "two-way street" results from looking at the total balance of trade in military and defense-related goods and services. If all defense transactions—including the arms trade—are taken into consideration, then the "two way street" is heavily balanced in Europe's favor with annual U.S. deficits averaging well in excess of $1 billion.

U.S. OEFENSE TRANSACTIONS WITH NATO EUROPEAN COUNTRIES [13]

[In millions of current dollars]

	1973	1974	1975	1976	1977
U.S. exports:					
Foreign military sales*	441.0	651.4	824.7	1,179.6	856.4
Commercial†	115.7	145.1	186.4	358.2	472.6
Total	556.7	796.5	1,011.1	1,537.8	1,329.0
U.S. imports: Oepartment of Oefense‡	2,180.5	2,319.9	2,522.7	2,455.0	2,687.0
Balance	−1,623.8	−1,523.4	−1,511.6	−917.2	−1,358.0

[13] HASC 95-72, 583.

*Oefense Security Assistance Agency foreign military sales deliveries excluding NATO special programs such as NATO maintenance and supply agency.

†Oelivery data from State Oepartment Munitions Control Office provided by Oefense Security Assistance Agency.

‡Oepartment of Oefense Comptroller expenditures account including personal consumption of U.S. servicemen overseas.

Although there have been some rather definite statements about the need for changes in the traffic pattern on the "two-way street", the subcommittee found that there is no agreement between U.S. executive departments as to what the facts are. The following table was provided by the Department of Commerce:

BALANCE OF TRAOE IN MILITARY ANO OEFENSE-RELATEO GOOOS ANO SERVICES BETWEEN THE UNITEO STATES ANO OTHER NATO COUNTRIES, 1967–77 [14]

Year	U.S. official sales of military goods and services to NATO countries	U.S. purchases of defense-related goods and services to NATO countries	Balance (sales minus purchases)
1967	$790	$1,772	−$982
1968	787	1,754	−964
1969	848	1,852	−1,003
1970	579	1,952	−1,373
1971	955	2,118	−1,160
1972	435	2,335	−1,901
1973	595	3,506	−1,915
1974	1,032	2,657	−1,627
1975	932	2,679	−1,745
1976	1,003	2,698	−1,697
1977	1,058	3,105	−2,047

[14] HASC 95–72, 170.

Note: Data exclude commercial trade in military equipment which is relatively minor and for which no reliable data are available.

These two tables provided by Defense and Commerce do not agree and are rarely within 10 percent of agreement. For example, in the case of U.S. defense-related purchases from NATO in 1973 the difference is almost $1.3 billion, or 40 percent.

There is no compelling reason for acceptance of the European definition of the "two-way street" as opposed to the broader definition of defense expenditures. Clearly, the United States is incurring a substantial annual deficit in defense transactions with Europe—a deficit now approaching $2 billion a year. The subcommittee sees no rational justification for isolating the one segment of the transatlantic defense trade which produces a surplus for the United States.

According to the Deputy Chief Economist of the Department of Commerce, William Cox, the $3 billion in U.S. defense purchases from Europe create more jobs in Europe than the $1 billion of European defense purchases create in the United States.[15]

3. *The Congressional View*

The "Culver-Nunn" amendment (section 803(c) of P.L. 94–361) states that the concept of the "two-way street" is a means of achieving standardization of weapons and equipment. The basic goal is military—not economic. Further, the "Culver-Nunn" amendment suggests that application of the "two-way street" concept is dependent upon collective European effort. Thus, congressional assessments concluded that alliance standardization would be fostered more by collective European efforts than by American bilateral understandings with individual European governments.

[15] HASC 95–72, 166–167.

4. *Presidential Guidance*

In May 1977, President Carter told NATO heads of state at a meeting of the North Atlantic Council that:

> the United States must be willing to promote a genuinely two-way transatlantic trade in defense equipment. *My Administration's decisions about the development, production and procurement of defense equipment will be taken with careful attention to the interests of all members of the Alliance.* I have instructed the Secretary of Defense to seek increased opportunities to buy European defense equipment where this would mean more efficient use of allied resources. I will work with the Congress of the United States to this end. (emphasis added) [16]

It is significant that the President pledged to European allies that U.S. defense procurement practices would be responsive to their interests as well as our own. No head of a European alliance government has made a similar pledge.

5. *Defense Department Views*

The subcommittee attempted to determine how the President's affirmative action directive is being factored into the weapons acquisition process. In particular, the subcommittee was interested in how the Defense Department makes judgments about what constitutes "more efficient use of allied resources" as opposed to more efficient use of *U.S.* resources which, presumably, had previously been the criterion for procurement decisions.

The comments of Defense Department witnesses on various aspects of the "two-way street" are informative:

What is the "two-way street"?

Mr. CARR. * * * To your mind, Dr. Frost, has the U.S. Government defined what we think the "two-way street" actually means?

Dr. FROST. That's a good question. It is one I thought a little about. The short answer is no. We have not defined "two-way street" in the ways that you suggested. We have not defined it in any particular narrow sense. It is a kind of term that we use to describe a great many kinds of changes in defense procurement.

I, for one, feel that we should look at the civilian side as well as at the military side. Regardless of what one has to say about the conditions of the sale of the Airbus, that is three-quarters of a billion dollar purchase of a high-technology Euopean product. I would like to see some of those purchases count.[17]

* * * * * * *

Mr. CARR. * * * Do we have a specific policy on how broad the two-way street is?

Dr. FROST. I wouldn't say that we have a specific policy. We have a broad policy.[18]

* * * * * * *

Mr. WHITE. What kind of purchases in your judgment count as traffic on this two-way street? * * *

Dr. MARTIN (Assistant Secretary of the Air Force, Rescarch, Development and Logistics) I do not have a definition of the two-way street. I think defense related material comes very close to the definition that I would, had I pondered it at some length, come up with. * * *

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[16] Weekly Compilation of Presidential Documents, NATO Ministerial Meeting, President's Remarks at the First Session, May 10, 1977, Vol. 13, Number 20, pp. 699, 700.
[17] HASC 95–72, 603–604.
[18] HASC 95–72, 605.

General FISH (Assistant Vice Chief of Staff, USAF). I fundamentally believe that it has to have some defense relationship, otherwise the European partners are not going to view it as traffic on the two-way street. However, I think that defense relationship is broader than just strictly weapons. If it is purchases like we are talking about now, these administrative vehicles for the Armed Forces, and they are deployed by our Armed Forces overseas—it goes beyond just schoolbuses, * * *, some of these vehicles are very essential for the operation of the forces.

JUSTUS WHITE. * * * If the Air Force buys Mercedes-Benz trucks or vehicles of any kind in the FRG and that counts as traffic on the two-way street, what is different about that from General Fish. Secretary Martin, myself and 2,000 other people buying Mercedes-Benzes in Philadelphia, Washington and Chicago?

General FISH. I think the difference is the one I alluded to earlier, that they were talking about things conuected with the serving forces. The point is that this is part of the defense budget and part of the defense requirement in Europe because they are for a specific purpose—for the forces serving there. We can then make the argument and I would be willing to so argue, that this is part of the "two-way street." * * *[19]

* * * * * * *

Why should the U.S. promote the two-way street?

Mr. KOMER. The Administration's effort to promote the two-way street is not a giveaway program. In fact, it's designed to protect our own export position, as well as to promote standardization/interoperability.

I think we are kidding ourselves if we think Europe will keep buying as much from us if we don't buy more from them. The handwriting is on the wall as far as this problem is concerned.

The British, the Germans, the Belgians, the Norwegians, the Canadians, and the Dutch have put us very clearly on notice. There is a debate going on right now in the Bundestag. In their defense committee they are saying, "Why should we subscribe to AWACS unless the Americans will buy more other equipment from us and give us offsets for our contribution to their program."

* * * Either we're going to give the allies a somewhat bigger share of our market or they're going to increasingly go for their own equipment, even if ours is better and cheaper. It's as simple as that, because we do the same thing. Therefore, either we're going to do a little more business with Europe or they're going to do a lot less with us, in which case we're going to lose a lot more jobs, we're going to lose a lot more profits than by buying and licensing some things from Europe where they are competitive their technology is up to snuff.[20]

How does the President's "two-way street" guidance affect Defense Acquisition policy?

JUSTUS WHITE. Has OSD given you any formal direction that tells you in the form of a policy statement or a definition exactly what the "two-way street" is, what the specific goals are, how the progress will be measured along the "two-way street," and what is counted as traffic?

Dr. LABERGE (Under Secretary of the Army). There is no explicit directive or statement as to how to implement a "two-way street" . . .

Dr. PIERRE (Assistant Secretary of the Army for Research Development and Acquisition): . . . we ask contractors to consider interoperability and standardization with allies. I know of no cases where we asked them to consider the "two-way street." The concern for the "two-way street" is one that is most expressed at a level higher than the Army.

* * * * * * *

Dr. PIERRE. We are not given operational directions to achieve any objective on the two-way street. We have gotten objectives to achieve interoperability. The two-way street is a DOD objective.[21]

Dr. PERRY (Under Secretary of Defense for Research and Engineering). It is a rhetorical device, but I would not argue that it is not useful to talk about it. I do not try to structure our research and development procurement programs around any specific objective, any "two-way street" objective. I not only don't

[19] HASC 95–72, 753, 754, 825, 826.
[20] HASC 95–72, 494, 495.
[21] HASC 95–72, 887–888.

do it, but I am very much opposed to doing that because I think it would give the services the wrong emphasis in decision-making.[22]

6. *Summary*

It is apparent that there is only a vague, understanding of what the "two-way street" is, and that there are no specifics as to what it is and what kind of trade it involves.

On the one hand, the Europeans wish to see it confined strictly to weapons systems. However, when it suits their purpose—as in the case of the German position on the AWACS sale—the definition is elastic enough to include commercial telephone equipment, school buses, sedans and fork lifts.

One Defense Department official suggested that we had to buy more European equipment in order to keep our NATO allies from boycotting U.S. hardware. Other officials, however, said that the "two-way street" was an exercise in sloganeering and that the concept had no relevance to sound procurement practices. The Subcommittee concurs with this view.

Technology Transfer

Coordination of defense industrial programs requires a free exchange of technical information in order to assure that duplicative work can be identified. Efforts to exchange technical information are most readily accomplished by government-to-government exchanges of weapons system development program objectives, and scientific and engineering symposia. Such exchanges are usually non-controversial and are fairly successful in achieving the goal of identifying duplicative work.

But to realize the benefit of efficient defense expenditures from multinational arms cooperation, more than program objectives and broad scientific and engineering information will have to be exchanged. Arms cooperation entails not only the identification but also elimination of duplicative efforts. Therefore, nations which agree to terminate certain work in the interest of the alliance have a need to acquire the information developed by those who continue the work. The question of exactly what information can and should be transferred is a thorny one for NATO since it goes beyond the interests and rights of governments alone.

In the broadest sense this information has been labeled intellectual property, which has been defined to include: "inventions, trademarks, industrial designs, copyrights and technical information including software, data, designs, technical know-how, manufacturing information and know-how, techniques, technical data packages, manufacturing data packages and trade secrets." [23]

A number of concerns were expressed by witnesses. The most consistently heard concern was first presented in prepared testimony by William A. Cox, Deputy Chief Economist, Department of Commerce:

> The most troublesome economic questions likely to arise in the implementation of NATO standardization policies will involve the transfer of advanced U.S. technological know-how—through licenses, including blueprints and other technical data and instructions—without which European allies will not be able to produce their shares of the "coproduction" hardware and other products up to the standards of U.S.-made counterparts. Unlike establishment of coproduction

[22] HASC 95–72, 949.

[23] Conference of National Armaments Directors—NATO Intellectual Property Group, Document AC/259–D627 and AC/94–D/278, February 20, 1978; Annex, para. 6.

shares, such technological know-how cannot be transferred fractionally but must be transferred in total to be of any use. In some cases effective coproduction arrangements might not only require initial transfer but also transfers of all the improvements in the technology in question with the passage of time.

* * * * * * *

The trouble is that much of the advanced technological know-how currently used in manufacture of military equipment also is usable in production of internationally traded technology-intensive "civilian" products, and the greater superiority we have in this technology the more products we can export.

* * * * * * *

Historically, technological superiority has been the principal force behind our exports of manufactured goods and has been critical to the health of our trade balance. . . . We have been losing this superiority gradually, in manufacturing technology for some time, and there is a danger that the transfers associated with the policy of standardization might accelerate these losses.

As far as we can see, the only way this danger can be avoided is by negotiation of coproduction arrangements so that the coproduction shares going to Europe would require mature and commercially available technology and thus minimize the transfers of technology that might hurt the United States commercially in the future.

Should we be unable to achieve this, some other means should be found to prevent the transfer of technology that is vital to the health of our balance of payments, and by this I mean I think contractual arrangements of the sort that are part of licensing arrangements in the commercial world to limit the dissemination of knowledge, possible to limit the dissemination of the resulting products, in any event, an attempt contractually to draw a fairly tight net around the technology that we transfer to our NATO partners for military purposes.[24]

This concern about repercussions in commercial exports was counterbalanced in testimony given by other government witnesses who expressed concern over potential alliance political repercussions if transfers of U.S. technological know-how are not increased. In fact technology transfer is where many of the conflicts between economic and political interests are centered, and where government officials appear to be relying on considerations of national defense to provide broad guidelines.

Attempts to counterbalance economic and political interests against national security considerations were discussed by George S. Vest, Assistant Secretary of State for European Affairs. He was questioned about the following statement that he had made in prepared testimony: "We are rethinking defense technology transfer, and are increasingly inclined toward sharing even our most critical technology where it will advance NATO standardization and the alliance military capability." [25]

He explained that:

I particularly would stress the words "increasingly inclined." There is a very hard distinction that has to be drawn there, which means that we are open minded. There was an inclination in earlier U.S. administrations to simply say, "If you say it's technology, everyone says 'OK. Forget it.'" The approach today is to say, "We are concerned about standardization as well. Let us look carefully at each issue and insure that we have not lost sight of the possibility." But there is no automaticity involved in the statement, sir, and, if I gave the impression of automaticity here, I misled you, and I regret it.[26]

There may not be a specific Administration policy for determining what particular technological know-how can and cannot be transferred but there is definitely an understanding by government officials

[24] HASC 95–72, 113.
[25] HASC 95–72, 198.
[26] HASC 95–72, 199.

that consideration of increasing alliance arms cooperation through transfer of technology should be made.

The subcommittee did not investigate this issue in detail but did identify concerns about over-emphasis of national security considerations when economic issues are also involved. In particular, no mechanisms appear to be functioning for objective review of decisions regarding transfer of technology. Presently, the most effective mechanisms available for protection of both individual and national interests are the laws, regulations and precedents for transferring intellectual property from private owners to government authorities. It is these protections and procedures which have been used to help develop our national technological position and should be complied with in both letter and spirit to assure that a recent prioritization of alliance trade not result in a migration of important national assets.

The Family of Weapons Concept

Proponents of arms cooperation have long recognized that cooperation between the alliance members would be enhanced if the members could agree in advance to complementary rather than competitive development of weapons systems. In recent years this concept has been merged with the argument that competition within the alliance that results in two or more systems instead of one is wasteful and militarily inefficient.

The Family of Weapons concept is an approach to arms cooperation which is designed to eliminate competition between member nations by a process of grouping "families" of weapons and then dividing up the work so that no two nations would develop weapons for the same mission area.

At present, the Family of Weapons concept is still formless and undefined. In fact, most Department of Defense witnesses just used the same type example to describe the concept:

> Mr. Komer. Americans and the Europeans could each take the lead in developing related systems. Say we develop the next generation long-range air-to-air missile, they develop the short-range air-to-air missile.[27]
>
> General Keith. One approach to the division of labor involved would be for the Advanced Heavy Anti-tank Missile System to constitute the United States part, the Advanced Medium Anti-tank Missile System the European part.[28]
>
> Dr. Perry. One could envision France, U.K. and West Germany taking the lead and organizing the European development of a short range ship-to-ship missile . . . and, in turn, we would fund and take the development lead for the long-range ship-to-ship missile, being cognizant of the requirements of our allies.[29]
>
> Secretary Brown. We might develop a medium-range anti-tank missile, and they might develop a long-range anti-tank missile, where otherwise each of us would have developed and produced both.[30]

Dr. Perry acknowledged that the Family of Weapons concept was still in the exploratory phase. Accordingly, the subcommittee cannot make judgments until this is more clearly defined. The following excerpts from testimony, however, make it clear that there are a number of questions to be answered before we enter the next phase:

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[27] HASC 95–72, 494.
[28] HASC 95–72, 894.
[29] HASC 95–72, 914.
[30] HASC 95–72, 1262.

How do we divide up the responsibility?

Mr. OLIVER BOILEAU. (President, Boeing Aerospace Company. Called as a witness in his capacity of Vice Chairman, Defense Science Board, 1978 Summer Study.) I don't think that we could think that we could implement the family of weapons by splitting up the functional world saying, "You take the short-range missile—we will take the long-range missile." That is not going to work because people will see through the fact we are giving up the short-range, and every long-range missile sure as heck is going to work at short-range.[31]

Will it save any money?

Dr. FROST. With respect to R. & D. I think the amounts of money in the research phase would be so minimal as compared to procurement of the developed product that the amount involved won't be that relevant.[32]

Dr. PERRY. Dual production is the second leg of the competitive triad. When one nation has completed development of a system which is useful to the alliance, that nation should make its system available for production by other countries or consortia of countries. This will eliminate unnecessary duplication in R. & D. while avoiding the trade and labor imbalance that would result from exclusive development and sales.[33]

Dr. Frost says the real savings would come in procurement, not R & D, and Dr. Perry says each nation can produce the system domestically, so whatever savings there are would have to come from R & D. Based upon these two statements the tentative conclusion would be that the U.S. will save little or no money.

Will the elimination of international competition result in inferior weapons systems?

Mr. KARL HARR. (President, Aerospace Industries of America, Inc.) * * * if by going that route you remove substantial competition from the process, then you guarantee a lowering of the technological standard you are going to achieve.

* * * * * * *

* * * we are uncertain about the degree to which our Government appreciates what can be lost if they do not keep in mind those two principles I mentioned—preserving competitiveness and retaining high technology capability in this country.[34]

Do labor and industry understand and support the concept?

Mr. WALTER EDGINGTON. (Chairman of the Export-Import Committee of the Government Division of the Electronic Industries Association). The example used by the administration is an agreement with NATO for one country to be selected, presumably by NATO bureaucrats meeting secretly behind closed doors, to develop a certain type of antitank missile while another country will be selected to develop a complementary missile. This seems to fit what can be described as political horsetrading, or as Ambassador Komer also put it, dividing the pie reasonably.

One is left with the uneasy feeling that the whole process is a total change in concept to the traditional free enterprise process and one in which this country would be the loser.

Mr. Chairman, this is a concept which must be totally rejected by the Congress. To permit the executive branch to conclude such memorandums of understanding could have a devastating effect upon our balance of trade, our commercial export markets, and jobs here at home.[35]

Mr. OSWALD. (Spokesman for the AFL–CIO). That is not healthy because that really denies us the ability to develop our own expertise in that area. Our relationships are very important with NATO, but they are not our sole relations.[36]

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[31] HASC 95–72, 1243.
[32] HASC 95–72, 610.
[33] HASC 95–72, 1362.
[34] HASC 95–72, 967.
[35] HASC 95–72, 1414.
[36] HASC 95–72, 984.

Who Coordinates Executive Procurement Policy?

International arms cooperation encompasses political and economic considerations beyond the jurisdiction of the Department of Defense alone. Because many of the cooperative initiatives currently under consideration in the Department fall into a fuzzy area where there are no precise jurisdictions and no clear precedents, the subcommittee solicited the views of the Administrator for Federal Procurement Policy.

The law which established the Office of Federal Procurement Policy (OFPP) stated that its purpose is:

To provide overall direction and forms for executive agencies in accordance with applicable laws.[37]

What Role Does the OFPP Play in RSI Activities?

Mr. Ichord. It looks to me like you are going to have to have a controlling agency someplace. . . . It looks to me like you are the logical agency to be the controlling agency.

Mr. Fettig. To the extent you get interagency conflicts and the broader incursion on our procurement practices: yes, and that is the case, and that is why as is apparent from my statement, we have been quite active in a number of facets. I will say, however, Culver-Nunn attaches to the DOD appropriation bill, not to any governmentwide statutes. So we constantly have this problem. Commerce gets a statute giving it a certain program authority and State gets another.[38]

* * * * * * *

Mr. Hahn. Is anyone in your office specifically assigned to the area of NATO arms cooperation, that is his task and his responsibility?

Mr. Fettig. No sir; no.[39]

Are Memoranda of Understanding consistent with federal procurement policies?

Mr. Fettig. To be quite frank with you, I don't know what legal status an MOU . . . enjoys, and I don't know whether there is a well-developed body of legal opinion.

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. . . [T]his is a very virgin area with a lot of unanswered questions. One of my opening remarks was to say that we too are looking into exactly how this show is supposed to operate, the variety of instruments like MOU's now. Should I regard that properly as a contract? To be frank with you, the issue has only been recently raised. Is it a treaty? Should it be submitted to the Senate for review? I don't feel too abashed by saying I don't have the answers to those questions, and I think the popularity of the MOU's has only come into being, I guess, in the last administration. They became quite prominent and more frequently negotiated.[40]

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Let me repeat very forcefully that there is a potential for a severe conflict if we start choosing items of equipment as the grounds for standardization. If anybody within our Government or theirs thinks that they can unilaterally pick, segregate systems and subsystems which will be delegated to different industries and companies for development and production, I think that would be a very severe undermining of all our beliefs in the benefits of a competitive cycle.[41]

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Justice White. Would you make it a point to review this specific memorandum of understanding between the United States and the Federal Republic of Germany

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[37] 41 USC 402(b).
[38] HASC 95–72, 1470.
[39] HASC 95–72, 1475.
[40] HASC 95–72, 1471.
[41] HASC 95–72, 1467.

[on the European Telephone System] and respond by letter to the chairman your view as to whether this violates existing U.S. procurement policy?

Mr. FETTIG. I would be pleased to, certainly.[42]

(NOTE. Mr. Fettig agreed on December 5, 1978, to submit his personal views to the chairman. As of January 25, 1979, Mr. Fettig's view was still being coordinated in the Executive branch.)

What is the role of industry in RSI?

Dr. PERRY. An industry view frequently expressed is that governments should not dictate the terms of license agreements, but that they should be left alone to work out licenses on a firm-to-firm basis. We feel that firm-to-firm agreements are an excellent means of achieving standardization through coproduction. But industry must recognize that NATO RSI is an objective of government, not private industry. Cooperative programs, therefore, will be initiated by governments and their boundaries and conditions perfected in government-to-government agreements. To some extent, these agreements will affect the terms of the license agreements which implement them.

The best answer to industry's concern is to keep them informed, and to the extent feasible, coordinate our government-to-government agreements with industry.[43]

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Mr. HAHN. Do you see an expanding role for U.S. industry in this area of arms cooperation?

Mr. FETTIG. I think yes, and I think the most natural way in the world to do it is through the marketplace mechanisms you just described. It may be difficult for governments to talk in terms of basic capabilities and mission need, but it can be done.

A lot of people think the Congress can't think in those terms either but only think of their personal districts. I don't believe that and I don't believe the governments can't go to the Alliance and say, "We have a need, we need a better theater air defense, we are going to let our companies and your companies get together and team and compete and provide all our forces with the best technology we can offer."

In a nutshell, that is what I would prefer to see happen.[44]

Is the Family of Weapons Concept consistent with federal procurement policies?

Justice WHITE. They have repeatedly cited the example to us of: "You take the long-range missile and we will take the medium-range missile." That has been their constant example of how Family of Weapons works; in fact, it is the only example of how the concept would work.

Mr. FETTIG. My understanding is that it should not proceed that way. As I have said many times now in this hearing, to arbitrarily pick particular products and assign them to countries, violates any number of principles you want to adhere to, including the No. 1 we are seeking, and that is overall NATO force efficiency.[45]

Based on Mr. Fettig's testimony it is apparent that no one within the executive branch is exercising overall coordination of RSI activities to insure that they are consistent with federal procurement policies. It is also apparent that the Family of Weapons Concept as articulated by the Defense Department and the use of Memoranda of Understanding by that department may be in fundamental conflict with existing procurement policies.

[42] HASC 95–72, 1472.
[43] HASC 95–72, 957.
[44] HASC 95–72, 1473–74.
[45] HASC 95–72, 1478.

NATO READINESS REQUIREMENTS AND INITIATIVES

NATO's Military Mission

The former chairman of the Joint Chiefs of Staff, the late General George Brown, USAF, summed up the basic readiness requirements and the mission of NATO's forces in his military posture statement for fiscal year 1979, when he said that "*NATO must attain and maintain a capability to engage and halt attacking forces, and to restore the pre-war boundaries.*" [46] The latter half of this statement is significant since it raises necessary questions for determining the adequacy of the current alliance force structure. This force structure is postured to meet the needs of a defensive alliance, and because classic military doctrine predicts that fewer troops are required to defend than to attack, it has become almost an article of faith in the West that NATO does not have to match the Soviets man for man and tank for tank. That, of course, presumes that forward defense along the present borders will be so successful that there will be little or no loss of territory, and thus no need for the alliance to launch a major counterattack which would require superior forces.

What Are the Estimates of NATO's Capabilities?

The subcommittee's assessment of the current state of alliance readiness, started with the fundamental question of whether or not NATO currently has the capability to successfully defend Western Europe and to terminate a war on favorable terms.

Earlier this year, General Donn Starry, Commanding General of the Army's Training and Doctrine Command appeared before the House Armed Services Committee to describe the relationship of the Army's fiscal year 1979 budget request to the concept of forward defense in Europe. General Starry described a battle environment in which NATO battalions would be called upon to destroy as many as 200 to 250 enemy targets in a 10–15 minute period, and to repeat that process three or four times a day in order to survive. He stated that the Warsaw Pact first echelon would be followed by a second and a third and that one purpose of forward defense was to buy time for "forces that are in the United States to fall in and take their place in that battle . . . so we can sustain the fight." Asked about the likelihood of a successful defense, General Starry avoided a direct answer by stating that, "With a little luck it could be done." [47]

Lt. Gen. Edward Meyer, the Deputy Chief of Staff of the Army for Operations and Plans made a similar response before the subcommittee when he said, "Can we defend that way? We can, in my judgment, defend that way if we do everything right during that early stage, and that's why I think we have to defend as far forward as possible

[46] HASC 95–56, Part I, 318.
[47] HASC 95–56, Part II, 76, 94–95.

so that we have the ability to start bringing in reinforcements." [48] Both Generals stop short of negativism, but they are far less than positive that alliance capabilities are adequate to the task.

Perhaps the most blunt assessment of NATO's conventional defense capabilities comes from Manfred Woerner, Chairman of the Defense Affairs Committee of the Bundestag of the Federal Republic of Germany who concluded that.

> It is impossible * * * under present circumstances to come up with a realistic scenario of conventional conflict in Central Europe that holds any prospect of a successful outcome for NATO—that is, the restoration of the *status quo ante*. Achievement of this potential through a genuine conventional balance in Europe is effectively foreclosed. No NATO country is today prepared, or in a position, to pay the financial—and, in the final analysis, political—costs that are entailed." [49]

NATO's Most Urgent Need Is Increased Capability

The major readiness deficiency of the NATO alliance is that it does not have enough military resources to provide a credible conventional defense. The words of Lt. Gen. Arnold Braswell of the Joint Chiefs of Staff say it all: "We are playing catch-up ball and it is a hard ball game." [50]

George Brown, in his farewell report to the Congress, lamented the lack of resources and resolve when he said:

> In looking back over my previous reports to you I am struck by the fact that in nearly every area of military strength there has been a relative decline over the years in relation to the Soviet Union, our principal potential adversary. This is not to suggest that there have been no improvements in our forces and capabilities . . . However, in light of the extensive growth in the military capabilities of the Soviet Union, it is questionable whether what has been done is enough to assure the security and well-being of our country in the coming years.[51]

General Brown went on to say that:

> A theater nuclear capability is an essential element of successful deterrence and defense. The conventional balance in Europe is such that if the Warsaw Pact forces mass rapidly and attack on a narrow front, NATO's ability to defend with conventional forces alone would be questionable.[52]

In this we see a confirmation of the Woerner thesis. The Chairman of the Joint Chiefs of Staff was openly acknowledging the almost certain escalation—at least to theater nuclear war—in the event of a Warsaw Pact attack, because NATO's conventional forces might not be able to do the job.

Secretary of Defense Harold Brown provided a useful measure of readiness in his fiscal year 1979 report to the Congress:

> I consider our forces to be ready when they are well trained, have modern unit equipment in good order, hold war reserve stocks on which they can draw for the early stages of any conflict and are capable of timely response to crisis. Unfortunately, I cannot report that our forces, by this definition, are as ready as I would like them to be.

Unfortunately, Secretary Brown did not follow up this assessment with a detailed discussion of real world requirements. Instead he

[48] HASC 95–72, 253.
[49] HASC 95–72, 561.
[50] HASC 95–72, 458.
[51] HASC 95–56, Part I, 306.
[52] HASC 95–56, Part I, 319.

added: "Although both of us are heavyweights, I am confident that we remain them more agile of the two." [53] It is difficult, considering the potential battlefields of Central Europe, to ascertain how Secretary Brown could conclude that the West would remain more agile.

Witness after witness testified before the subcommittee about the relentless growth of Warsaw Pact and Soviet military budgets. General Alexander Haig estimated it to be on the order of 4–5 percent real growth per year over the past 15 years.[54] Secretary Brown concurred with that estimate. This prolonged buildup has not been paralleled by an adequate response from the NATO alliance. After reviewing the public statements about the renewed commitment to NATO, the simple fact remains that the U.S. defense budgets presently planned for fiscal years 1978–1981 will be *at least $32.5 billion less* than the previous Administration had programed 2 years ago for the same period.[55]

The 3 Percent Growth Commitment—An Insufficient Response

NATO leaders have publicly endorsed a goal of 3 percent annual real growth in defense budgets as a collective demonstration of alliance determination to restore a satisfactory military balance. *But will this be sufficient?*

The subcommittee questioned why a goal of 3 percent was selected; what it relates to in the way of readiness deficiencies to be corrected; how equitable the burden of 3 percent is across the board; and what we can expect to get in the way of increased military capability for this 3 percent.

The figure of 3 percent was unrelated to specific military requirements. Rather, it represented a political sensing of the art of the possible. Secretary Brown acknowledged that the goal of 3 percent was "a compromised between what most of us felt was needed and what we thought was politically feasible." [56] Similarly, General Haig said 3 percent was "at the bottom edge of prudence in light of the continuing growth in Soviet power." [57]

Followup information provided by Secretary Brown on the rationale for the 3 percent growth is instructive. On the questions of why 3 percent and how adequate it is, Secretary Brown said:

> The three percent goal was adopted in May 1977 by NATO Defense Ministers after long discussions as a way to respond at least partially to the military buildup the Soviets have achieved through an annual increase in real defense spending of four percent or more over the last twenty years. It represented a compromise between security needs and political realities, as do most things in an alliance of sovereign democracies.[58]

So long as the Soviets continue to increase at 4 percent annually and the alliance *goal* is only 3 percent all that will be accomplished is that the rate at which the Warsaw Pact margin of superiority increases will be slowed. The basic trend will not be reversed.

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[53] HASC 95–56, Part I, 27.
[54] HASC 95–72, 286.
[55] Hon. Donald Rumsfeld, Secretary of Defense, "Department of Defense Annual Report, Fiscal Year 1978," page 4.
[56] HASC 95–72, 1270.
[57] HASC 95–72, 287.
[58] HASC 95–72, 1271, 1272.

Relative Burden Sharing Among the NATO Allies

As a part of its review of NATO readiness, the subcommittee examined the issue of burden sharing, asking why the United States should:

1. Provide nearly 2/3 of the alliance defense funds?
2. Devote nearly 50 percent more of its gross domestic product to defense than the average of NATO Europe?
3. Spend three times as much on military research and development as all its European allies combined?
4. Spend more than twice as much per capita on defense as the average of NATO Europe and 2/3 more than the next closest country?

The question of burden sharing is complex and no one set of indices will accurately reflect the total picture. However, so long as the U.S. provides the lion's share of the total defense budget, the question of whether or not our allies are carrying their fair share of the load will continue to be a matter of legitimate concern to Americans.

Recognizing the ambiguities in published budget data and the differences in the way budgets are structured, the subcommittee still found it ironic that the U.S. Government seems to know more—and certainly publishes more—about the Soviet budget than about the budgets of its allies.

Testimony on the subject of alliance burden sharing was not particularly enlightening. Ambassador Robert Komer, Special Advisor to the Secretary of Defense on NATO Affairs challenged the validity of the statistical indicators used by the subcommittee instead of addressing the larger issue of what the appropriate shares and goals should be.

He contended simultaneously that European allies were doing their fair share and that it would be appropriate for the United States to subsidize its allies by supplying them with the ammunition they have failed to buy. He stressed that the alliance commitment to 3 percent was a breakthrough and then pointed out that "real growth in defense spending by NATO Europe in the 1970's has increased on the average from 2 percent to 3 percent per year." [59] Obviously then, the alliance goal of 3 percent real growth per year represents nothing new in the way of a commitment by Europe since it is merely a continuation of what they have been doing for several years.

Finally, in defense of the European level of effort, Ambassador Komer stated that:

> * * * Who can contend that our allies are not bearing their fair share of the common defense burden? We are richer than they are, our rate of economic growth is higher, we pay our soldiers more than most of them. Besides, we posture for a far wider range of global needs whereas they posture mostly for NATO defense. Lastly, we seem to be spending a steadily declining percentage of our GNP for defense, while theirs has been steady if not increasing on the average.[60]

[59] HASC 95–72, 501.
[60] HASC 95–72, 503.

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The Long-Term Defense Program

In May 1978, the NATO heads of state agreed to a Long-Term Defense Program (LTDP) intended to coordinate NATO planning and procurement programs over a 10–15 year period. The LTDP represents a major improvement in the identification and collection of data on alliance defense requirements and equipment replacement schedules. However, its impact on near to mid-term readiness is questionable.

The subcommittee attempted to relate the LTDP to readiness but experienced extreme difficulty in getting any definitive information from the Department of Defense on allied readiness deficiencies and specific commitments on the part of individual countries to correct deficiencies over any given period of time.

In May 1978, the subcommittee requested copies of the LTDP along with copies of the major task force reports which supposedly comprised the basis for the LTDP. The LTDP material was not provided until November, delaying the subcommittee's work. The subcommittee found that there is little direct relationship between the individual task force reports enumerating the major deficiency areas within NATO and specific commitments on the part of individual countries.

In June Ambassador Komer testified that:

> NATO task forces also worked over a year to produce an innovative Long Term Defense Program (LTDP), which was just approved by all concerned at a second NATO Summit here in Washington on 30–31 May. Its accent is on an unprecedented degree of Alliance cooperation (NATO's term for rationalization), because only in this way can we Allies collectively overcome the deficiencies which prevent us from achieving high confidence deterrence/defense at a cost which is politically acceptable to our free societies.
>
> The reason I stress these collective Alliance initiatives is two-fold: first, because they stress heavily readiness, standardization and interoperability issues of concern to this subcommittee; and second, because they demonstrate that we are not being asked to defend Europe alone. Our efforts are being matched by those of our Allies who have joined fully in the initiatives just described.[61]

Two months later when the subcommittee had still not received a copy of the LTDP, Rep. Carr (D-Mich.) expressed frustration when he told Secretary Brown regarding the 3 percent defense budget goal and the LTDP:

> These items seem to have become symbols of alliance solidarity and no one really quarrels with that. But our problem is that we have difficulty separating the symbolism from the substance. And we don't really know how these two symbols translate into tangible increases in defense capability. Some of us are having real trouble separating the rhetoric from the substance. Perhaps some of the psychological and attitudinal frameworks are important but we want to see if there is anything behind that as well.
>
> * * * * * * *
>
> What specific commitments have we gotten in the Long-Term Defense Program, country-by-country, and year by year, item by item of equipment that our allies have obligated themselves to buy?[62]

Secretary Brown responded for the record,

> As all national inputs to some Long-Term Defense Program (LTDP) have not been fully worked out . . . it is not possible to lay out procurement plans by coun-

[61] HASC 95–72, 498.
[62] HASC 95–72, 1269, 1270.

try, year by year. The LTDP was only agreed to in May of 1978 by Ministers and approved at the NATO Summit, and implementing plans are being developed.[63]

It is clear that the LTDP does not yet constitute a measurable blueprint for anything. Until it is translated into specifics and those specifics are related to a comprehensive plan for correcting known readiness deficiences, it will be impossible to assess the potential impact of the LTDP on NATO readiness.

Whatever impact it may have on readiness will not really begin to be felt for another decade and possibly not even until the mid-1990's, because it is a long-term plan. For the near to mid-term, the LTDP will have little effect on the state of alliance readiness.

Short-Term Initiatives

In July 1977, the NATO Military Committee recommended a series of short term measures designed: to enhance the alliance anti-armor capabilities; to increase the holdings of war reserve stocks; to improve the capability for rapid reinforcement of in-place forces, and other specific programs to enhance readiness. These recommendations were supposedly developed in close consultation with national authorities and represented interim measures of the most urgent nature. The short term plan finally endorsed by the NATO Defense Ministers in February 1978 involves significant reductions in scope and delays in implementation from the plan recommended by the NATO Military Committee.

The pattern of program reduction has been so persistent throughout the history of NATO that the subcommittee believes it would be appropriate to monitor progress against the approved short term measures on a country by country basis to provide some indication of what credence should be attached to announcements of cooperative alliance intent. If it should prove difficult to collect data on the degree to which each country is implementing its commitment on something as easy to monitor as the short term measures, it will not augur well for the prospects of success on more elaborate, long term cooperative programs. However, it is encouraging that the short term initiatives represent a substantive step instead of sloganeering.

Proponents for increased standardization have stressed the fact that the alliance has eight different Anti-Tank Guided Missiles (ATGM). But in the opinion of the subcommittee, the major anti-armor deficiency of the alliance is not the existence of eight different missiles, but rather the lack of adequate inventories of ATGM's in NATO European units; seventy-five percent of all the ATGM's in the NATO inventory are found in U.S. units.

Selected Examples of Readiness Deficiencies Within the NATO Alliance

Since many details of readiness deficiencies are classified a review of specific alliance deficiencies cannot be documented in this report. The major areas of concern have been documented in classified studies such as the *Hollingsworth Report*.[64]

[63] HASC 95–72, 1272.
[64] LTG. James F. Hollingsworth. An Assessment on the Conventional War Fighting Capability and Potential of the U.S. Army in Central Europe, June 30, 1976 (Department of the Army) classified.

Some deficiencies, such as North-South and East-West maldeployment of NATO forces, are basically beyond solution although limited compensatory measures are being steadily implemented.

With respect to deficiencies, such as the lack of common doctrine, allied military leaders have made substantial progress in recent years.

However, certain deficiencies remain which can only be corrected if the allies commit to much more substantial increases in defense budgets than the announced 3 percent goal. Following are representatve examples of deficiencies which fall into this category.

1. *Chemical Warfare*

The Joint Chiefs of Staff summed up the NATO-Warsaw Pact balance in chemical warfare capabilities by saying: "Warsaw Pact divisions are better organized, equipped and trained than NATO to operate in a chemical warfare environment." [65]

There is simply no comparison. The Pact forces are equipped and trained to fight in a chemical environment, NATO forces are not.

The disparity between NATO and Warsaw Past capabilities in the area of chemical warfare is summed up by the following excerpts from subcommittee hearings:

Mr. ICHORD. General, could you give us a brief overview of the chemical warfare capability of the Warsaw Pact?

General MEYER. First of all, they have an offensive capability with their missiles and long-range artillery weapons.

In the defensive arena they have built into many of their weapon systems, their tanks and their personnel carriers, a collective protective system so that in the offense they can fire their chemicals and move into and through the chemicals that they fire. Their offensive development of the chemicals themselves and the delivery systems are consistent with the way in which they develop their equipment.

Additionally, they have protective overgarments, masks and decontamination capability available for the individual soldier. Starting right at the top of the army, they have a very large chemical element. This organization extends down throughout each of the fronts, divisions, and other units.[66]

A Joint Chiefs of Staff briefer described NATO capabilities in the following terms:

Chemical training is being included in NATO field training exercises, but protective equipment is generally in short supply and not available for extensive training use. NATO vehicles generally do not have collective protection capability. Stockpiles are limited.

At the present time, NATO air forces lack the capability to defend against the Pact chemical threat or operate in a chemical warfare contaminated environment.[67]

NATO forces are critically deficient in chemical warfare capabilities and the solution to this deficiency has little to do with standardizing NATO's doctrine on how to respond to a chemical attack.

The solution was identified by General Haig:

General HAIG. There is no question that they are preparing to be able to wage chemical warfare. It cannot be questioned in terms of the density of their capability in both the defensive and offensive realm. It is clear that, in terms of a preattack calculus on their part, they know our capabilities are far less than satisfactory in both our ability to defend and, more importantly, in our almost total lack of ability to respond in kind.

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Mr. ICHORD. Well, how could we respond now? We don't have the offensive capability and we don't even have defensive capability developed in Europe at the present time.

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[65] HASC 95–72, 36.
[66] HASC 95–72, 243.
[67] HASC 95–72, 37.

General HAIG. No, we don't and my answer to that is, it is time we got busy and provided ourselves with a retaliatory capability, a visible, acceptable, and eredible retaliatory capability.[68]

2. *War Reserve Stocks*

One of the most critical readiness deficiencies of the alliance is its lack of reserve stocks of ammunition and equipment. These stocks translate into staying power or sustainability in a war. Incredibly, after 30 years, NATO now hopes, by 1983, to develop a capability to fight for 30 days. War reserve stocks go to the very heart of the theory of force multiplier benefits that can be derived from increased emphasis on standardized or interoperable equipment. After all, what good is ammunition interoperability if nobody buys enough ammunition?

The following exchange is instructive since it raises fundamental questions both about alliance readiness and the value of arms cooperation as even a partial solution to the problem. The U.S.'s allies in NATO have serious deficiencies in terms of reserve stocks of ammunition and equipment, and the best the subcommittee could determine is that U.S. planners on the Joint Chiefs of Staff do not have reliable information on how serious the deficiencies are.

Mr. BEARD. General (Braswell), the United States maintains a computer inventory of pre-positioned U.S. war reserve stocks. What specific detailed information does the Joint Chiefs of Staff receive on allied war reserve stocks?

General BRASWELL. We don't get as much as we would like to have. Our NATO commanders do receive information from the allied nations. The amount of detail that is in that information, I am not prepared to answer. I don't know.

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General BRASWELL. We will do what we can to give you information. We have some difficulty getting detailed information on the reserve stocks of some of our allies.

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Mr. BEARD. Why is there an aura of secrecy between the allies about war reserve stock levels? It seems it would be a fundamental requirement for integrated alliance defense planning. What is it that is causing the secrecy?

General BRASWELL. It is centrally a matter of money. It costs a lot of money to stockpile ammunition and munitions. Going back to the days of the earlier strategy when the allies were depending principally upon the U.S. nuclear power to deter, they didn't consider it necessary or even useful to stockpile large stocks of ammunition. Now, we have adopted a new strategy (deleted) which is a strategy of improved conventional defense.

Mr. BEARD. Are they embarrassed to tell you they are so far behind?

Why shouldn't it be a requirement?

Here is an overall commander who wants to know what his troops have. If he is going to depend on the southern flank to be hanging in there for a certain period of time, he wants to go in and find out what is the status.

I understand the money aspect. What I want to know is, why won't they tell us that "we are in bad shape, we are hurting, or what is the status?"

General BRASWELL. To a limited extent they have said this. [Deleted] Our commanders do have information on the stocks. To the extent it is available in our headquarters, we should be able to have it here, but that information is provided by the nations so we have to take their word for it.[69]

3. *Command, Control and Communications*

The ability to coordinate and direct geographically distant activities such as those of land, sea and air forces is essential to effective military operations. Yet, the United States with its vast resources and technology has not been able to provide an adequate command, control and communications capability. The subcommittee found that major de-

[68] HASC 95–72, 312–313.
[69] HASC 95–72, 468–469.

ficiencies, which have direct application to our European forces, exist. The following deficiencies were identified by the House Armed Services Committee, Command, Control and Communications Panel in its report of February 18, 1977, and the subcommittee found that these are still unaddressed.

1. There is an urgent need for early deployment of improved voice security equipment throughout the military services. The procurement program proposed by the Department of Defense will not satisfy those requirements in a timely manner.

2. Most military command centers and their communications networks would not survive a nuclear attack directed against them.

3. The Soviet capability for communications jamming presents a serious threat to command and control. Present constraints placed on the electronic warfare training of U.S. forces preclude the realistic simulation of the effects of Soviet jamming.[70]

Most civilian and military leaders seem to understand that specific problems exist, but solutions are still in a formative stage. This presents a situation that is naturally unstable. Therefore, very susceptible to confusion created by considerations that do not address immediate requirements. One such consideration is alliance interoperability.

Communications within elements of national forces is important but an alliance requires that the communications systems for multinational military forces be interoperable. This can be done by various approaches which range from using the same equipment, to simply exchanging equipment. Though there are approaches which by their nature would appear more favorable, even those should not become so highly prioritized as to detract from the goal of improving our communications capability. This was brought out in testimony when General Haig discussed various approaches to interoperability. He began his discussion by considering the use of additional equipment to make radios compatible.

General HAIG. . . . They [additional equipment] are fairly costly and cumbersome, but they work. As noted before this committee in March, I have not even been able to wait for that and have insisted on the creation of liaison teams that permit cross communication at the brigade level.

* * * * * * *

But it is a costly solution in terms of manpower and additional sets. Some of our allies don't have them.

We are trying to encourage them to be able to reach at least that immediate capability.

Incidentally, there are other very promising improvements in the communications area.

Mr. WHITEHURST. Are you satisfied that, say, from a year ago that you are better off now?

General HAIG. Oh, by far. In the last year and a half we have made great improvements, first, in the provision of secure voice within the Alliance. And this year we will have our so-called Telegraph Automatic Relay Equipment under the * * * NATO Integrated Command and Control System.[71]

In the subcommittee's view, the alliance should give high priority to rapidly overhauling a communications network that today is essentially a peacetime system that is highly nationalized, vulnerable to physical and electronic attack, and is not secure.

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[70] HASC 94–72, 2, 3.
[71] HASC 95–72, 312.

4. *Training*

Numerous military witnesses discussed the strengths and weaknesses of the current NATO training programs. On the positive side is a recognition that training is receiving more emphasis than ever before. Accordingly, General George Blanchard, Commander in Chief, U.S. Army Forces, Europe his troops are better trained and in a higher state of readiness than they have ever been.

However, on the negative side and of most concern is the lack of training in realistic chemical and electronic warfare environments—two areas emphasized in Soviet doctrine and in which Warsaw Pact capabilities are clearly superior. Further, the training of allied aircrews is hampered by altitude restrictions and the lack of suitable target ranges in Europe.

NATO military commanders strongly support joint training exercises such as Reforger, Autumn Forge (ground forces), Crested Cap (air forces) and Display Determination (naval forces). Moreover, there is a consensus among NATO military commanders that such joint exercises are essential if the alliance is to harmonize doctrine, integrate operational procedures, and increase the interoperability of allied military equipment.

Conclusion

While it is necessary to examine every alternative which holds out the hope that the NATO alliance can be strengthened and improved, and while the effort devoted to study of the matter by this subcommittee has been instructive in many respects, the present shortfall in Western European defense demands unique solutions.

We cannot have an adequate deterrant or fighting capability on the cheap. For the present, the solution will not be found in less—it must be secured by more—more modern equipment, more efficient planning and training.

Our defense appears to be based more on hopes and wishes—if we have enough time, if we get enough cooperation, if everything goes according to plan—*our* plan—we can survive and ultimately restore the continent to its present balance.

We are deluding ourselves and the people who rely on us if we do not move out of our present dream-world, and into the world of reality.

LEGISLATIVE PROPOSALS

Background

The Department of Defense submitted two legislative proposals to the Congress to increase the Secretary of Defense's authority to enter into international agreements. These legislative proposals were introduced in the 95th Congress as H.R. 11607 and H.R. 12837 (see Appendix D for text of bills).

The first bill H.R. 11607 was drafted to facilitate agreements with North Atlantic Treaty Organization countries for host nation support. However, it would go far beyond host nation support by empowering the Secretary of Defense "*notwithstanding any other provision of law*" to enter into standardization agreements with appropriate authorities of North Atlantic Treaty Organization countries.

The other bill, H.R. 12837, proposed to expand the Secretary of Defense's authority to enter into agreements with friendly foreign governments and international organizations for purchase of property or services by exempting such agreements from all legal requirements for the formation of contracts. Neither "friendly foreign governments" nor "international organizations" are defined in the requested legislation.

According to the Department of Defense, such legislation is necessary because some allied governments object to signing agreements which contain clauses required by United States law. Their objection is premised on the concern that some of these clauses are intended for contractual relationships and not agreements between sovereign governments.

Both H.R. 11607 and H.R. 12837 were referred to the Committee on Armed Services, which submitted them to the Special Subcommittee on NATO Standardization, Interoperability and Readiness for review.

Subcommittee Findings

On August 16, 1978, the subcommittee received testimony on both legislative proposals from Department of Defense witnesses. This was the only formally scheduled hearing on the legislation. However, there was significant interest in the legislation, and the subcommittee received testimony on the subject from many sources throughout the eight month review.

Both H.R. 11607 and H.R. 12837 would give the Secretary of Defense excessive legal authority for the purchase of property and services from foreign sources. There are differences between the two bills, but the differences primarily center on intent rather than substance. For, if H.R. 12837 is enacted, it would authorize the Secretary of Defense to do more than was described as being the requirement for H.R. 11607.

There is a need to provide military commanders with more flexibility in negotiating agreements for host nation support. General George Blanchard, Commander in Chief, U.S. Army Forces in Europe presented this requirement as follows:

[T]he interchange of essential logistics support between the United States and its NATO allies has been frustrated by application of U.S. procurement laws (e.g., the Armed Services Procurement Act) and the Arms Export Control Act to international agreements calling for the acquisition, provision, or exchange of supplies and services. Generally speaking, procurement contracts with individual alliance nations and NATO organizations for provision of supplies and services to U.S. forces must conform to the same legal requirements as apply to DOD contracts with private firms.

Our host governments greatly resent proposals to accomplish mutual defense objectives on a commercial, buyer/seller basis. Certain clauses mandated by statute for inclusion in these contracts have caused especially hard feelings on the part of some of our host governments. Moreover, when U.S. Forces are in a position to provide allied units with logistics support, current law dictates the use of cumbersome foreign military sales procedures and prevents the implementation of reciprocal, offsetting arrangements whereby supplies and services could be interchanged on a short-term basis with replacement-in-kind. Alliance members cannot be expected to efficiently interoperate in wartime if they are prevented from establishing a responsive peacetime framework for exercising and testing this kind of mutual logistics support capability.[72]

The language in H.R. 11607 and H.R. 12837 does not provide specific relief for the problems so far identified. Instead it provides for a blank check without identified management or external controls. Questions which must be answered and issues that will have to be addressed before such legislation is implemented include the following:

1. How much has already been accomplished in the areas of operational cooperation and cross-servicing?
2. How are critical wartime support functions going to be provided? This becomes a concern when in peacetime these functions are performed or contracted for with non-military sources.
3. What cost, procurement procedure and size of program limitations can be included in the legislation to in some measure define the authority which would be granted?

The goal of H.R. 11607 is worth pursuing and the issues raised by the subcommittee are not impossible to answer. The proposal as submitted is simply far too sweeping in authority to warrant support.

However, it is not just the wording, it is the intent of H.R. 12837 which the subcommittee finds too broad to support.

H.R. 12837 would empower the Secretary of Defense unilaterally to establish both procurement practices and procedures for a class of purchases that involve much more than national security considerations. Our procurement process should not be modified in the interest of alliance cooperation without *thorough* identification of both political and economic benefits and costs. Because of the very nature of the Department of Defense such evaluations will have to be made from a broader base. Examples of such considerations include the following:

1. Preservation of the competitive procurement process.
2. Assurance of equitable treatment of American industry and labor.
3. Resolution of disparities between United States and allied arms transfer policies as much as possible.

The lack of any detailed understanding of the magnitude of the problem or the potential impact of the proposed legislation was dramatically presented to the subcommittee when Department of Defense officials could not identify specific existing law that required special waiver authority. Any redrafting of these proposals should capitalize on existing waiver authority. Since some waiver authority presently is available, it should be utilized.

[72] HASC 95–72, Appendix A.

ADDITIONAL VIEWS OF CONGRESSMAN BOB CARR

Overall, the subcommittee's report represents a good first effort. The subcommittee and in particular the chairman and the subcommittee staff are to be commended for their diligence, their thoroughness, and the atmosphere of cooperation which was extended to each and every member of the subcommittee. Unlike many subcommittees and reports on which I have participated, the atmosphere and the leadership direction given by the chairman substantially improved the quality of the subcommittee's work product.

Regarding the report at hand, I'm in general agreement with the major points of the subcommittee's findings and conclusions as they pertain to the subcommittee's charter: standardization, interoperability, and readiness.

The strongest point of this report is that it represents the first official thorough undertaking to understand the concepts of "standardization" and "interoperability" and their codification: the Culver-Nunn Amendment. In my judgment, overuse of these buzz words has violated common sense and defied human or national definition. I agree with the report that while Culver-Nunn may have been a good idea at the time, it no longer serves the purpose which it advocates. Rather than elucidating a principle and a policy, it has led to more confusion than clarity. Culver-Nunn must be rewritten in light of hearings and experience rather than good intentions. Indeed, it may be said that Culver-Nunn itself has caused inefficiency.

The subcommittee was designated by Chairman Price on May 2, 1978, as a Special Subcommittee on NATO Standardization, Interoperability and Readiness. Its life expired at the end of the 95th Congress. While I generally oppose committee proliferation or extension, I think it is clear that in spite of the diligence and thoroughness of the subcommittee and the staff, the subject matter with which we were charged with investigating proved to be too confusing, large, and cumbersome for a study of a mere 7 months. I am delighted that Chairman Price has announced his intention to continue the life of the subcommittee for the 96th Congress and I would hope that the subcommittee would proceed building upon its work product and its basis of information toward the complete rewriting of the Culver-Nunn Amendment to meet practical constraints which the environment demands.

My disagreement with the report is that it did not confine itself to standardization, interoperability, and readiness. The report produces findings and conclusions about the nature of the NATO threat and about budgetary and other types of responses to the assumed threat not strictly speaking part of "standardization," "interoperability," or "readiness."

I am in agreement with the chairman and the subcommittee that standardization, interoperability and readiness cannot be considered in isolation, and must be considered in the context of possible threat evaluations and threat response. But the subcommittee neither had the time nor the testimony to support firm findings about the nature of the threat, something which is argued greatly between experts, or the appropriateness of other kinds of responses outside the committee's purview. The weakness of the report here requires more work which hopefully will be done during the 96th Congress. Until that work is done, I respectfully withhold judgment or even possibly dissent.

For example, like the subcommittee, I am critical of the 3-percent "political" commitment. The subcommittee report takes great pains to point out how irrelevant the 3-percent figure is, but then concludes that the 3-percent figure is insufficient from a budgetary point of view. The subcommittee's report also discloses the difficulty in drawing an effort base line for the NATO countries, but apparently concludes that base line differentials should be ignored in the 3 percent applied. I see no reason to support a 3-percent increase in the NATO U.S. contribution at all, much less a 3-percent overall increase.

To state again, budget levels and overall capability, while important for perspective and for context, were not, strictly speaking, part of the charge of the subcommittee of short duration. Unlike the subcommittee's report, I either dissent or withhold judgment on those matters.

BOB CARR.

APPENDIX A

STATEMENT OF HON. MELVIN PRICE, CHAIRMAN, HOUSE COMMITTEE ON ARMED SERVICES

APPOINTMENT OF SPECIAL SUBCOMMITTEE ON NATO STANDARDIZATION, INTEROPERABILITY AND READINESS

Pursuant to the authorization of the Democratic committee caucus, and after consultation with the Ranking Minority Member, Mr. Wilson, I am hereby appointing a Special Subcommittee on NATO Standardization, Interoperability and Readiness.

The subcommittee shall be composed of the following members: Mr. Dan Daniel, Chairman, Mr. Kazen, Mr. Carr, Mr. Lloyd, Mr. Stump, Mr. Ichord, Mr. White, Mr. Dickinson, Mr. Whitehurst, and Mr. Beard.

The subcommittee is directed to conduct a detailed study of the present state of efforts at standardization and interoperability within the North Atlantic Treaty Organization and identify areas of readiness problems in the alliance which result from a lack of joint procedures, doctrine or standard equipment. The subcommittee shall identify those areas where standardization and interoperability might be most advantageously pursued and shall consider the most feasible approach to achieving greater standardization and interoperability where it is determined that such will contribute to improved readiness.

For the purpose of discharging its responsibilities, the subcommittee will be vested with the authority granted by Committee on Armed Services Rule 4(e). The subcommittee may, therefore, require by subpoena or otherwise, the attendance and testimony of such witnesses and production of such books, records, correspondence, memoranda, papers and documents as it deems necessary. Subpoenas may be issued by the chairman of the subcommittee with the approval of a majority of the members of the subcommittee.

The subcommittee is directed to begin its deliberations promptly and to report its findings and recommendations to the full committee not later than the close of the second session of the 95th Congress. The subcommittee will be dissolved upon submission of its report.

Mr. Hahn will be the counsel for the subcommittee, assisted by Mr. White and Mr. West of the committee staff.

APPENDIX B

WITNESSES AND CONTRIBUTORS

DEPARTMENT OF STATE

Hon. Warren Christopher, Under Secretary of State, Acting Secretary of State on October 10, 1978.
Hon. George S. Vest, Assistant Secretary of State for European Affairs.

DEPARTMENT OF DEFENSE

Hon. Harold Brown, Secretary of Defense.
Hon. William J. Perry, Under Secretary of Defense for Research and Engineering.
Hon. Robert W. Komer, Advisor to Secretary and Deputy Secretary on NATO Affairs.
Hon. Dale W. Church, Deputy Under Secretary of Defense, for Research and Engineering (Acquisition Policy).
Dr. Ellen L. Frost, Deputy Assistant Secretary for International Economic Affairs.
Maj. Gen. Richard C. Bowman, Director, European Region, Office of Assistant Secretary (International Security Affairs).
Mr. Peniel Moed, Office of Assistant General Counsel (Logistics).

OFFICE OF JOINT CHIEFS OF STAFF

Lt. Gen. A. W. Braswell, USAF, Director (J–5 Plans and Policy) Office of Joint Chiefs of Staff.
Lt. Gen. Arthur J. Gregg. Director for Logistics (J–4), Office of Joint Chiefs of Staff.
Rear Adm. Edward A. Burkhalter, Deputy Director for Operations (J–3), (Strategic and General Operations), Office of Joint Chiefs of Staff.
Col. W. D. Johnson, USA, European Division (J–5), Plans and Policy Directorate, Office of Joint Chiefs of Staff.
Lt. Col. Jim Blundell, USA, Office of Joint Chiefs of Staff.

U.S. EUROPEAN COMMAND

Lt. Gen. Rolland Heiser, USA (1 Jun 76), Chief of Staff, EUCOM.
Maj. Gen. Lincoln D. Faurer, USAF, Director, J–2.
Rear Adm. Eugene J. Carroll, USN, Director, J–3.
Maj. Gen. Edward A. Partain, USA, Director, J–4/7.
Maj. Gen. Richard B. Collins, USAF, Director, J–5.
Rear Adm. William Nivison, USN, Director, J–6.
Col. William E. Watts.
S/sg Robert R. Roth.

DEPARTMENT OF THE ARMY

Hon. Walter LaBerge, Under Secretary of the Army.
Hon. Percy A. Pierre, Assistant Secretary of the Army (Research, Development and Acquisition).
Lt. Gen. Edward C. Meyer, Deputy Chief of Staff for Operations and Plans.
Lt. Gen. Donald R. Keith, Deputy Chief of Staff for Research, Development and Acquisition.

DEPARTMENT OF THE NAVY

Adm. Isaac C. Kidd, Jr., Commander-in-Chief, Atlantic and U.S. Atlantic Fleet.
Hon. David E. Mann, Assistant Secretary of the Navy, for Research, Development, Test and Evaluation.
Vice Adm. Parker B. Armstrong, Director, Research, Test and Evaluation.
Lt. Gen. Andrew W. O'Donnell, Deputy Chief of Staff for Plans and Policies, United States Marine Corps.
Vice Adm. William J. Crowe, Jr., Deputy Chief of Naval Operations, for Plans, Policy and Operations.

EUROPE—MILITARY

Gen. Alexander M. Haig, Jr., Commander in Chief, U.S. European Command.
Gen. Franz-Joseph Schulze, Commander in Chief, Allied Forces, Central Europe.
Gen. Herman Zeiner Gundersen, Chairman, Military Committee, NATO.
Vice Adm. Joseph P. Moorer, Commander in Chief, U.S. Naval Forces, Europe, and U.S. Commander, Eastern Atlantic.
Vice Adm. Sir James G. Jungius, SACLANT Representative, Europe.
Gen. George Blanchard, USA, Commander in Chief, U.S. Army Forces Europe.
Lt. Gen. John W. Pauly, USAF, Vice Commander in Chief, U.S. Air Force Europe.

DEPARTMENT OF THE AIR FORCE

Hon. John J. Martin, Assistant Secretary of Air Force for Research, Development and Logistics.
Lt. Gen. H. M. Fish, Assistant Vice Chief of Staff, USAF.
Maj. Gen. T. I. Ahern, Assistant Deputy Chief of Staff (Research and Development).
Dr. Wallace C. Magathan, Jr., Defense Intelligence Office, Defense Intelligence Agency.
Lt. Col. Frederick Walker, Senior Military Analyst, Soviet Warsaw Pact Area, Defense Intelligence Agency.

DEPARTMENT OF COMMERCE

Mr. William A. Cox, Deputy Chief Economist.

OFFICE OF MANAGEMENT AND BUDGET

Hon. Lester A. Fettig, Administrator, Office of Federal Procurement Policy, Office of Management and Budget.

EUROPE—POLITICAL

France

Mr. Masson, Director of the Minister's Defense Cabinet.
Mr. Hibon, Deputy Director of the General Delegation for Armaments International Affairs.
Mr. Mournier, Assistant Director of the General Delegation of Armaments/Corporation.

Federal Republic of Germany

Dr. Karl Schnell, State Secretary for Armament Affairs.
Mr. Hans Eberhart, Director of Armaments.
Mr. Carl Damm, Member of Bundestag, Defense Committee.

Netherlands

Dr. William F. van Eekelen, State Secretary for Defense (Materiel).
Mr. Ad Ploeg, Vice Chairman of the Committee for Defense of the Second Chamber of the Netherlands Parliament.
Mr. W. A. M. Melis, Commissioner for Military Production, Ministry of Economic Affairs.

United Kingdom

Dr. John Gilbert, M. P., Minister of State for Defense.
Sir Clifford Cornford, Chief of Defense Procurement.

U.S. Representatives

Hon. Arthur A. Hartman, U.S. Ambassador to France.
Hon. W. Tapley Bennett, U.S. Ambassador to NATO.

EUROPE—INDUSTRIAL

France

Mr. Cauvin, President, Thompson CSF.
Mr. Ravaud, President et Secretaire General, SNECMA.

United Kingdom

Sir Peter Matthews, Managing Director and Chief Executive, Vickers Limited and Chairman of the Defence Industries Council.
The Rt. Hon. The Lord Beswick, P.C., Chairman, British Aerospace.
Admiral Sir Anthony Griffin, Chairman, British Shipbuilders.
Mr. R. F. Hunt, Chairman & Chief Executive, Dowth Group Limited, and Deputy President, Society of British Aerospace Companies.
Mr. R. H. Newham, Director, E.M.I. Limited; Deputy President, Electronic Engineering Association; and Head of U.K. Delegation to the NATO Industrial Advisory Group.
Mr. E. R. Sisson, Chairman Smiths Industries Limited and Treasurer, Society of British Aerospace Companies.
Marshal of the RAF Sir Denis Spotswood, Vice Chairman, Rolls Royce Limited and President, Society of British Aerospace Companies.
Sir Richard Smeeton, Secretary of the Defence Industries Council and Director, Society of British Aerospace Companies.
Sir Robert Telford, Managing Director, GEC-Marconi Electronics Limited.

OUTSIDE WITNESSES

Hon. Andrew J. Biemiller, Director, Department of Legislation, AFL-CIO.
Mr. Oliver Boileau, President, Boeing Aerospace Co.
Mr. Thomas Callaghan Jr., Director, Allied Interdependence Project, Center for Strategic and International Studies, Georgetown University.
Mr. Walter R. Edgington, Vice President and Chairman of Export/Import Committee of Government Division of Electronic Industries Association (EIA).
Mr. David J. Fitzmaurice, President, International Union of Electrical, Radio and Machine Workers.
Mr. Karl G. Harr, President, Aerospace Industries Association of America, Inc.
Dr. Helen M. Kramer, Assistant to the Director of International Affairs Department, International Association of Machinists and Aerospace Workers.
Dr. Mordechai E. Kreinin, Professor of Economics, Michigan State University.
Mr. David A. Leff, Executive Director, Joint Maritime Congress.
Mr. Walter B. O'Neil, Vice Chairman, Export/Import Committee of Electronic Industries Association.
Dr. Roger Shields, Vice President, International Unit of Economic Research Department, Chemical Bank of New York.
Mr. Robert B. Wood, Director of Research and Education Department, International Brotherhood of Electrical Workers.

APPENDIX C

DEPARTMENT OF DEFENSE GLOSSARY OF TERMS [1]

Term	*Definition*
Commonality	A quality which applies to materiel or systems possessing like and interchangeable characteristics enabling each to be utilized or operated and maintained by personnel trained on the others without additional specialized training; and/or having interchangeable repair parts and/or components; and applying to consumable items interchangeably equivalent without adjustment.
Compatibility	Capability of two or more items or components of equipment or materiel to exist or function in the same system or environment without mutual interference.
Harmonization	The process and/or results of adjusting differences or inconsistencies to bring significant features into agreement.
Interchangeability	A condition which exists when two or more items possess such functional and physical characteristics as to be equivalent in performance and durability, and are capable of being exchanged one for the other without alteration of the items themselves or of adjoining items, except for adjustment, and without selection for fit and performance.
Interconnection	The linking together of interoperable systems.
Interoperability	The ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together.
Rationalization	Any action that increased the effectiveness of Allied forces through more efficient or effective use of defense resources committed to the Alliance.
Specialization	An arrangement within an alliance wherein a member or group of members most suited by virtue of technical skills, location, or other qualifications assume(s) greater responsibility for a specific task or significant portion thereof for one or more members.
Standardization	The process by which member nations achieve the closest practicable cooperation among forces; the most efficient use of research, development, and production resources; and agree to adopt on the broadest possible basis the use of (a) common or compatible operational, administrative, and logistics procedures and criteria; (b) common or compatible technical procedures and criteria; (c) common, compatible, or interchangeable supplies, components, weapons, or equipment; and (d) common or compatible tactical doctrine with corresponding organizational compatibility.

[1] The definitions contained in this glossary have been approved by the Department of Defense.

In an effort to expand this glossary to incorporate a number of terms used by Defense witnesses in their testimony before the subcommittee a request was made to include the following in the Defense Department glossary:

Codevelopment.
Coproduction.
Dual production.
Family of weapons.
Memorandum of understanding.

As of the time this report was drafted, the Department of Defense had not provided definitions for the above terms.

APPENDIX D

95TH CONGRESS
2D SESSION

H. R. 11607

IN THE HOUSE OF REPRESENTATIVES

MARCH 16, 1978

Mr. PRICE (for himself and Mr. BOB WILSON) (by request) introduced the following bill; which was referred to the Committee on Armed Services

A BILL

To further the rationalization, standardization, interoperability, and effectiveness of the land, air, and naval forces of the North Atlantic Treaty Organization countries.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 814 of Public Law 94–106 (89 Stat. 540), as amended, is further amended by adding the following subsection at the end thereof:

"(d) (1) In order to carry out the policy expressed in subsection (a) of this section, the Secretary of Defense is authorized, notwithstanding any other provision of law and with the foreign policy guidance of the Secretary of State to enter into and carry out standardization agreements on

a bilateral or multilateral basis with appropriate authorities of North Atlantic Treaty Organization countries and North Atlantic Treaty Organization subsidiary bodies for operational cooperation and cross-servicing among the land, air, and naval forces of the North Atlantic Treaty countries deployed in Europe and its adjacent waters and North Atlantic Treaty Organization subsidiary bodies through the interchange of equipment, materials, goods, and other supplies (excluding aircraft, missiles, naval vessels, tracked combat vehicles, other weapons, or naval torpedoes) and services (including use of facilities). Such agreements or implementing technical arrangements thereunder, may provide for standard procedures and standard forms for such matters as intercountry requisitions, issues from inventory, transportation, accounting, billing, payment, risk of loss, and third-party liability claims. No requisition may be made or filled pursuant to this subsection by the Armed Forces of the United States until the Secretary of Defense has issued regulations implementing this subsection. In accordance with the provisions of such agreements, and of any implementing technical arrangements thereunder, and subject to the implementing regulations issued by the Secretary of Defense, and notwithstanding any other provision of law, requisitions by the land, air, and naval forces of other North Atlantic Treaty Organization countries deployed in Europe

and its adjacent waters, and requisitions by North Atlantic Treaty Organization subsidiary bodies, for equipment, materials, goods, and other supplies and services in the inventory, or otherwise under the jurisdiction and control, of the Armed Forces of the United States deployed in Europe and its adjacent waters may be filled, and the Armed Forces of the United States deployed in Europe and its adjacent waters may, subject to the availability of funds, requisition from the land, air, and naval forces of other North Atlantic Treaty countries, and from North Atlantic Treaty Organization subsidiary bodies, equipment, materials, goods, and other supplies and services whether from internal resources of such forces or bodies, or whether procured by such forces or bodies for the purpose of filling requisitions of the Armed Forces of the United States: *Provided*, That equipment, materials, goods, and other supplies transferred on other than a rent-free short-term loan basis not to exceed thirty days, and services rendered, may be provided by the Department of Defense only on an advance-of-funds or reimbursement basis.

"(2) Pricing of equipment, materials, goods, and other supplies and services provided by the Armed Forces of the United States pursuant to such agreement shall be in accordance with the provisions of the Arms Export Control Act: *Provided*, That pricing of services rendered by the Armed

Forces of the United States pursuant to such agreements may alternatively be in accordance with pricing principles established in such agreements, to the extent that such pricing principles are in accordance with those used under the Economy Act (31 U.S.C. 686) for filling orders for services between United States departments and agencies and are reciprocally applied by the other parties to the agreements.

"(3) Such agreements, or implementing technical arrangements thereunder, shall require, to the extent requisitions are not filled on an advance-of-funds basis, reimbursement of billings at least quarterly, and may provide for billings to be settled by any of the following methods: (A) direct payment by the requisitioning force or subsidiary body of each billing to the financial office specified in the billing of the supplying force or subsidiary body, without deduction for off-setting billings; (B) direct payment by the requisitioning force or subsidiary body of each billing to the financial office specified in the billing of the supplying force or subsidiary body, subject to deduction for off-setting billings against each such financial office; (C) bilateral aggregation of billings on a country-by-country and subsidiary body basis and settlement of bilateral off-setting balances by means of liquidating payments; and (D) centralized multilateral aggregation of billings and settlement of net off-setting balances by means of liquidating payments to creditors.

"(4) The regulations issued by the Secretary of Defense shall assure that no appropriation, account, or fund of the Department of Defense shall be augmented to the detriment of any other appropriation, account, or fund of the Department of Defense as a consequence of such standardization agreements. To this end, the dollar value of equipment, materials, goods, and other supplies and services furnished or received by the Armed Forces of the United States under such agreements shall be separately recorded on the books of each applicable appropriation, account, or fund of the Department of Defense, and, to the extent that billings are settled between the Department of Defense and other countries or subsidiary bodies by deduction of off-setting balances, appropriate reimbursement in the amount of such off-setting balances shall be made between appropriations, accounts, or funds of the Department of Defense. Any payments from other North Atlantic Treaty Organization countries or subsidiary bodies, including payments received in liquidation of off-setting balances, shall be credited to the currently applicable appropriation, account, or fund of the Department of Defense that is current at the time the reimbursement is earned, and shall, together with reimbursements between appropriations, accounts, or funds of the Departments of Defense, be available for any purpose for which monies in such appropriation, account, or fund may be used.

"(5) The United States Government shall be a self-insurer as to any liability accepted in such standardization agreements with respect to loss of or damage to, or damage caused by, equipment, materials, goods, or other supplies on temporary loan to the Armed Forces of the United States under such agreements.

"(6) The Secretary of Defense shall submit to the Congress annually, not later than January 31 of each year, commencing on January 31, 1979, a description of the standardization agreements entered into pursuant to this subsection which were effective during the preceding calendar year, a report of the dollar values of transactions, by military department, and by appropriation, account, or fund, which took place during such calendar year, and his recommendations for the improvement and extension of authorities contained in this subsection.

"(7) Nothing in this subsection is intended to modify or otherwise restrict any authority provided in other provisions of law which may be exercised to serve the purposes of this subsection.

"(8) For the purpose of this subsection, the term 'land, air, and naval forces of other North Atlantic Treaty Organization countries' includes both military and nonmilitary organizations, agencies, departments, and ministries of North Atlantic Treaty countries which perform service and supply

functions related to military purposes, and may include such civilian organizations, agencies, departments, and ministries, which are responsible for such governmental functions as construction, finance, labor, and general or special services.".

95TH CONGRESS
2D SESSION

H. R. 12837

IN THE HOUSE OF REPRESENTATIVES

MAY 23, 1978

Mr. PRICE (for himself and Mr. BOB WILSON) (by request) introduced the following bill; which was referred to the Committee on Armed Services

A BILL

To amend title 10, United States Code, to authorize waiver of application to certain laws in connection with the acquisition of property or services from friendly foreign governments and international organizations to facilitate cooperation relating to defense equipment, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That chapter 131 of subtitle A of title 10 of the United States Code, as amended, is further amended by adding after section 2211:

"§ 2212. Acquisition from other governments and international organizations

"(a) (1) The Congress reaffirms that it is the policy of the United States that the common defense be facilitated

through (A) arrangements entered into with friendly foreign governments and international organizations for programs and projects of cooperative exchange of data, research, development, production, procurement, and logistics support and (B) the procurement, for the use of personnel of the armed forces of the United States stationed in Europe under the North Atlantic Treaty, of equipment which is standardized or interoperable with equipment of other members of the North Atlantic Treaty Organization.

"(2) The Congress takes note, however, that difficulties have been encountered in giving effect to requirements of United States law in procurements by the United States from other governments and international organizations of property and services in furtherance of the foregoing policies. It is the sense of the Congress that the fostering and maintenance of the effective and mutually beneficial defense relationships needed for execution of these policies requires that the Secretary of Defense be enabled through the authority of this section to resolve such difficulties in a manner which will recognize the sovereign interests of other governments and international organizations and also safeguard the national interest of the United States.

"(b) The Secretary of Defense, or his delegate, may for any purchase of or contract (including any subcontract thereunder), or classes of purchases or contracts, for prop-

erty or services to be made from a foreign government (or agency thereof) or international organization (or subsidiary bodies thereof) waive the application of any provisions of law specifically prescribing procedures to be followed in the formation of contracts, terms and conditions to be included in contracts, requirements for or preferences to be given to goods grown, produced, or manufactured in the United States or in United States Government-owned facilities or for services to be performed in the United States, or regulating the performance of contracts, if he has determined that—

"(1) The purchase or contract to which the waiver relates will be in the furtherance of one or more of the policies stated in subsection (a) (1) of this section.

"(2) Consonant with subsection (a) (2) of this section, such waiver is desirable under principles of comity and reciprocity applicable to purchases and contracts among governments and international organizations.

"(3) The waiver will facilitate the accomplishment of the policies stated in subsection (a) (1) of this section and is otherwise in the public interest.

"(c) Notwithstanding any other provision of law, the authority of subsection (b) may not be delegated below the level of the Head of any agency within the Department of Defense.

"(d) Within sixty days after the end of each fiscal year, the Secretary of Defense shall report to the Congress on the waivers made during the fiscal year pursuant to the authority of subsection (b).

"(e) Nothing in this section is intended to modify or otherwise restrict any authority provided in other provisions of law which may be exercised to serve the purpose of this section.

"(f) No law hereafter enacted may be held, considered, or construed as amending any provision of this section, unless such law does so by specifically and explicitly amending or superseding a specific provision of this section.".

THE UNDER SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

RESEARCH AND
ENGINEERING

1 MAR 1979

Honorable Dan Daniel
Chairman, Special Subcommittee
on NATO, Standardization,
Interoperability, and Readiness
Committee on Armed Services
House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

I have reviewed the report of the NATO Subcommittee and was disappointed to find that much of the testimony offered by Department of Defense (DoD) witnesses--testimony central to your Subcommittee's line of inquiry--is not reflected in the report. Secretary Brown, Ambassador Komer, and I, as well as other DoD officials, gave extensive testimony, both verbal and written, to the Subcommittee in the belief that a clear view of the Department's plans was essential to your findings. Yet, I find that the report reflects an inaccurate and largely out-of-date view on our actual plans and programs for armament cooperation. These plans are stated concisely in my written statement submitted to the Subcommittee on 16 November 1978.

We recognize that many of our concepts of NATO cooperation are in the early formulative stage. For that reason, we have exerted special effort to develop these concepts in close association with the Military Services and our NATO Allies, and in consultation with industry. I believe that the criticism which the report levels at our efforts at this early stage is premature, and I am concerned over the unfavorable impact which the report could have on the credibility of these efforts before they have been given a fair chance.

We believe that the report would have been far more constructive were it to have pointed out that there are differing viewpoints on cooperative arms development, that many of our initiatives are exploratory in nature, and that our hope is for solutions to the questions raised by the hearings through the interest and cooperation of a concerned public. By leaving out a balanced view, the report not only sends negative signals to our Allies, but adds further confusion and divisiveness in an already complex area in which real progress is just beginning to be made.

I am enclosing more detailed comments on the findings, conclusions, and recommendations of the report. I sincerely hope that in the months to come, our relationship with your Subcommittee can be more productive.

Sincerely,

William J. Perry

Department of Defense Comments
on the
FINDINGS AND CONCLUSIONS
of the
DRAFT REPORT

Special Subcommittee on NATO Standardization,
Interoperability, and Readiness
of the
Committee on Armed Services
House of Representatives
95th Congress
Second Session

Standardization, Interoperability, and Arms Cooperation

Par. 1. DoD is unable to define clearly many terms it uses.

All definitions which the Subcommittee requested were furnished in a letter from Dr. Perry to Chairman Price on 13 February 1978. It is significant that a number of the newer terms have not as yet gone through the formal DoD definitional process of official terms. Many of the terms are used by DoD because they were first used by Congress in the Culver-Nunn legislation. They have since been defined in the annual report required by that legislation. All have become accepted terms in the NATO lexicon, and their utility in or out of DoD is not diminished because they have not as yet gone the full cycle of the official definitional process.

Par. 2. The basic rationale for arms cooperation is that it will reduce duplication and increase efficiency of defense expenditures.

The finding is not a correct statement of the basic rationale for arms cooperation. In his written statement of 16 November 1978 to the Subcommittee, Dr. Perry stated that "an improved program of cooperation in development and procurement . . . (has) the clear objective of improved combat force effectiveness . . .". Ambassador Komer, in his testimony

before the Subcommittee, said that Rationalization/Standardization/Interoperability "are, or ought to be, military issues first, and economic or political issues only second, because the military need is overriding." Reduced duplication and increased efficiency contribute to the military objective.

Par. 3. Significant cost savings are unlikely.

This $3 billion potential savings equates to about 20% of the Alliance R&D budgets. This is a significant potential savings in R&D alone. In addition, the Alliance will gain operational, production, and technology benefits.

Par. 4. No witness who appeared before the Subcommittee suggested there would be any immediate savings as a result of arms cooperation.

Dr. Perry testified before the Subcommittee on 22 June 1978 that approximately $250 million could be saved on the coordinated development of the anti-tank package alone (pp. 876-877, Transcript).

Par. 5. Culver-Nunn Amendment is "confusing."

The Department's NATO initiatives are keyed to the broad guidelines of the Culver-Nunn Amendment. Some of the provisions are broad, but the amendment addresses a subject that involves a complicated Alliance covering every conceivable operational, logistics, and acquisition function involved in the defense of the Alliance.

Par. 6. Arms cooperation as a concept does not necessarily imply that the policy of standardization and interoperability as passed in the "Culver-Nunn" amendment would be most effectively implemented.

We do not hold that arms cooperation is the only road to standardization and interoperability, but some measure of arms cooperation is necessary to achieve standardization and interoperability.

Par. 7. The only efficient and equitable mechanism will be to select equipment competitively.

Competition is a cornerstone of our acquisition policy. While we cannot impose our policy on other sovereign countries in an international

alliance, our programs are designed to encourage our Allies to compete. As Secretary Brown said in his statement to the Subcommittee on 21 September 1978, "Our goal is to maintain and strengthen our own competitive procurement system by allowing our Allies to participate and to increase the effectiveness of the Alliance as a whole by influencing our Allies in turn to open up their own national programs to U.S. participation."

Par. 8. MOU's are DoD/MOD understandings which do not bind Congress.

These MOU's are intended to facilitate the competitive procurement process in each country of the Alliance by reducing national restrictions. Purchases made under these MOU's utilize funds authorized and appropriated by the Congress.

Par. 9. DoD does not have a single definition of "the two-way street."

The term describes an evolving set of relationships and processes to vastly improve the Alliance arms cooperation. The desired traffic on this "street" will vary widely among countries and projects. The Committee prefers using total defense trade instead of defense equipment trade as a criterion, since the former favors us; but the former ignores the massive Host Nation Support the Allies give us free (probably on the order of $2 - 3 billion). Moreover, the total trade balance favors us, not Europe. Disruption in the two-way street effort would probably mean fewer European purchases of U.S. equipment, and less use of superior U.S. technology in the common defense.

Par. 10. The term "two-way street" is a political device to secure economic benefits, such as "economic offsets," for European industries.

Attributing this statement to "some U.S. defense officials," is inaccurate. It is not supported in the testimony cited nor in the report. Secretary Brown stated in his testimony before the Subcommittee that, "Our purpose is not to seek a 'two-way street' regardless of cost or capability, but rather to remove artificial barriers to rational defense procurement. There are no quotas on the two-way street . . .". Moreover, the statement in the report ignores the official DoD policy against offsets, as enunciated in Secretary Duncan's memorandum of 4 May 1978.

Par. 11. Family of Weapons is formless and undefined. It is designed to eliminate competition.

The Family of Weapons is an evolving concept. It does not lend itself to a neat and precise formula. Describing it in his statement before the Subcommittee on 16 November 1978, Dr. Perry said, "There are important details to be worked out before we can begin development under the Family of Weapons Concept." It is certainly not designed to eliminate competition. Dr. Perry went on to say, "We will select the U.S. prime contractors, subcontractors, and European subcontractors on a competitive basis to insure the best technology and lowest cost in the resulting system." (emphasis supplied)

Par. 12. U.S. industry and labor are confused about the Family of Weapons concept.

While the FOW concept is new, there is substantial and growing agreement on the broad concept, as well as the implementing guidelines and procedures. DoD representatives met with officials of other major NATO countries in Paris in December to negotiate initial guidelines currently in coordination in the countries. The Defense Science Board (DSB), with extensive industry participation, has recently concluded a study to formulate a model FOW/MOU and two MOU's related to specific families. Drafts of this effort are circulating among the countries involved and will be discussed with them in future meetings. Dr. Perry and other top OSD and Service officials have discussed the concept in detail in other industry fora, notably an ADPA sponsored day-long symposium in December. As a result of these efforts, the implementation of the concept is proceeding rapidly, and there is certainly no evidence from our discussions with industry that they are not supportive. We intend to continue such close interface with industry on the FOW as a concept.

Par. 13. International arms cooperation involves considerations beyond the jurisdiction of DoD alone.

Dod would not quarrel with that statement. Secretary Brown, in his testimony before the Subcommittee, said, "I pledge that the Department of Defense in turn will work closely with the Congress, and with the Chairman and members of this Committee, to describe the Alliance approaches we are taking, and to explain the results for your review."

Readiness Initiatives

Par. 1.

JCS, SACEUR, CINCCENT, etc., did not say that NATO's present conventional defense capability is "extremely doubtful." Nor did the Committee have time to really assess this complex question.

Par. 2.

We made 3% in real budget growth in our Defense budget for NATO in 1978, fell short in 1979, and have requested it for 1980.

Par. 3.

It is inaccurate to say the LTDP will have little impact on NATO readiness until the 1990's. Most of the 120 measures are to be carried out before the 1990's, many before 1985. It is also wrong to say that LTDP "cannot be translated into national procurement plans . . ." when precisely this process is actively under way right now. In his testimony before the Subcommittee, Secretary Brown said, "The LTDP has been put in motion, and NATO now is completing arrangements to monitor program performance." We know the LTDP has far to go. The long-term Defense Plan is, after all, a plan for the long term.

Legislative Proposals

The Committee should acknowledge that DoD has already agreed in its testimony to resubmit both H.R. 11607 and H.R. 12837 in more restrictive form.

Recommendations

Par. 1. Review of Culver-Nunn Amendment.

DoD has presented a "sense of Congress" resolution to the Subcommittee (completely different than that which appears in the body of the report) which would cover areas not covered by Culver-Nunn.

Par. 2. Coordination of Procurement Procedures for Arms Cooperation by the Executive Branch.

International arms cooperation is fundamentally a problem for Defense with assistance from the State Department. The Culver-Nunn Amendment to the FY 1976 and FY 1977 DoD Appropriation Authorization Acts is addressed to the Department of Defense. It recommends the Secretary of Defense take certain actions and grants him certain authority to enter into special acquisition arrangements peculiar to Defense. The various initiatives undertaken by Defense in the acquisition and contracting area for arms cooperation are peculiar to Defense within all applicable laws and regulations and are not programs which require detailed coordination or approval by the Administrator of Federal Procurement Policy.

Par. 3. Government-to-Government Agreements.

We agree such agreements should not be proliferated beyond what is essential; but military requirements, and hence cooperative weapons programs, are initiated by governments, not by private industry. Industry must work out firm-to-firm contracts and licenses within the framework of those agreements. DoD is working very hard in the NATO forum to develop guidelines to enable companies to conclude international industrial agreements. CNAD efforts in the area of intellectual property is one example of such efforts.

Par. 6. Annual Reporting of NATO Readiness and Defense Budgets.

A NATO readiness overview is contained in the Secretary of Defense Annual Report for FY 1980 and the annual DoD report to Congress dated January 1979 on Rationalization/Standardization Within NATO.

Par. 8. Requirement for Legislation to Increase Host-Nation Support.

As previously mentioned, a revised legislative proposal for host-nation support is being coordinated by OMB and will be forwarded to Congress shortly. The proposal and the forwarding letter spell out in detail how the legislation will work, including a requirement for a yearly report to Congress from the Secretary of Defense.

96TH CONGRESS
1st Session

HOUSE OF REPRESENTATIVES

REPORT
No. 96-450

DEPARTMENT OF DEFENSE APPROPRIATION BILL, 1980

REPORT

OF THE

COMMITTEE ON APPROPRIATIONS

together with

ADDITIONAL VIEWS

[To accompany H.R. 5359]

SEPTEMBER 20, 1979.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

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U.S. GOVERNMENT PRINTING OFFICE

51-443 O WASHINGTON : 1979

Foreign Collaborations in Weapons Systems Development/ Production

In December 1977, the Committee directed its Surveys and Investigations Staff to conduct a study of licensing agreements involving production of U.S. military equipment in foreign countries, the manufacture of foreign-developed weapons systems in the United States, and the problems inherent in these licensing arrangements. A report was submitted to the Committee on April 30, 1979. The Committee considers this report to be a very professional and objective expose of the many problems inherent in developing licensing agreements with foreign countries as the Department of Defense moves into the area of rationalization, standardization, and interoperability with our NATO allies. The essential elements of this report follow.

During the 30-year period immediately following World War II the United States furnished more than $21 billion in military assistance to NATO nations. This assistance not only allowed for the recovery of the industrial base in these nations, but had a secondary benefit of ensuring a partial standardization of NATO armaments.

As the economies of these nations recovered and our military assistance to them decreased, partial standardization continued through purchase of U.S. weapons and more recently through licensing arrangements. This evolution has been undertaken by the Europeans to increase their industrial base, stabilize their employment and to obtain new technology.

By the 1950's, the European industrial base had recovered sufficiently to permit joint development and production of exclusively European weapon systems. These endeavors have continued into the 1970's and have had an adverse effect on NATO standardization because not only has the United States not participated in these programs but often these programs have been limited to only two or three of the larger European countries. These collaborations were not driven by a desire for standardization, but by the high costs of weapons development and production.

Each European nation had its own national priorities, requirements and capabilities, and as a result NATO was faced with a proliferation of different weapons systems. This in turn has lead to an increased interest within NATO in rationalization, standardization and interoperability (RSI) of these systems. U.S. Government officials have long expressed the importance of these principles. This was underscored by the U.S. Congress in attaching the Culver-Nunn Amendment to the DOD Appropriation Authorization Act for fiscal year 1975 and requiring annual reports on the military and economic costs associated with nonstandardization. The DOD Appropriation Authorization Acts for fiscal year 1976 and fiscal year 1977 also contained provisions calling for the interoperability of equipment within NATO.

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THE TWO-WAY STREET

European countries have been applying more and more pressure on the United States to adopt what is referred to as the "two-way street." This concept has been advocated on both sides of the Atlantic but it has been ill-defined and minimal progress has been made in achieving it. In some minds a "two-way street" means equal sales traffic in both directions between the United States and Europe. DOD officials believe that the United States and Europe should buy military equipment from each other whenever it is needed to improve the combat effectiveness of NATO, and that the "two-way street" should not be based on offsets. Others limit the concept to include only defense related transactions while some apply it only to military hardware. Depending on which definition one chooses to endorse an inequity of sales favoring either Europe or the United States can be demonstrated. As an example, during the period 1974–1977 arms sales to Europe averaged $949.7 million per year whereas DOD procurement from NATO Europe during that period averaged only $86.3 million annually. In contrast, if all defense transactions (construction, repair, supply, training, services and personal consumption of U.S. servicemen) are included in the comparison the U.S. balance of defense trade reflects almost a $7 billion shortfall from 1973–1977.

To offset the quantitative superiority of the Warsaw Pact nations, NATO countries must maintain their qualitative advantage by obtaining maximum efficiency through reduction of needless duplication in development programs. NATO must pool the $12 billion U.S. research and development effort and the $4 to $5 billion European expenditure and realize $16 billion in combined, rather than duplicative, results.

FAMILY OF WEAPONS CONCEPT

One approach to this problem which is currently being advocated by the U.S. Government is the "family of weapons" concept. This approach calls for the NATO member nations to examine the weapons that they plan to develop in the next few years and to aggregate these weapons by application. When two or three systems are identified that perform similar missions, an agreement would be made to divide the responsibility, with one party developing a long range version and the other a mid- or short-range version. It is anticipated by DOD officials that such divisions will be made among the United States, Canada, and European consortia. When development is completed, each country would make their developments available to the other participants for licensed production or two-way purchase from each other to insure cost effective production runs.

NATIONALISTIC OBSTACLES

Although both President Ford and President Carter have addressed the importance of standardization and interoperability as a means of eliminating duplication and waste within NATO, the controlling motivations which have brought about arms collaborations have had little to do with these objectives. A lack of consensus within NATO on common requirements and an inability to develop an equitable dis-

tribution of the workload are two of the major nationalistic obstacles which inhibit elimination of this duplication of effort.

The United States has a well-established policy of maintaining within this country, the capability to produce all of the components of its weapons systems when this is considered necessary by the Secretary of the Military Department involved. The statutory authority for this policy is 10 USC 2304(a)(16) which forms the basis for Defense Acquisition Regulation sections 3-216 and 1-2207.2, 3, and 4. France also has a policy which is aimed at keeping that country independent and free from outside pressures.

This insistence upon an independent defense capability can be afforded only by the more industrially developed countries and the less developed a country is in this regard, the more receptive it is to dividing up the work of providing for the defense of NATO and its own country through collaboration with the other members of the Alliance. The smaller countries which cannot afford an independent defense industry want to collaborate in order to maintain the capabilities which they have and possibly improve upon them. National pride and a desire to keep the work force employed prompt all of the European countries in the Alliance to choose the weapons which are produced in their homeland even if they are not the best available systems. The Investigative Staff was told throughout the survey both in the United States and Europe that a greater priority to the Europeans, than the elimination of duplication and the savings to the NATO Alliance, is their concern to keep their work force employed without causing any drastic fluctuations in its size.

COLLABORATION IN PRODUCTION

Production collaborations between the United States and Europe achieve the limited advantage that the participating countries, but not necessarily all of NATO, end up with substantially the same weapons systems. This type of collaboration does little to procure for the NATO Alliance the strongest possible defense force for the total funds available. On the contrary, this type of production collaboration actually costs the NATO countries substantially more than if they had purchased the systems directly from the producing nations. These additional costs, primarily incurred in establishing duplicate production facilities, tooling, test equipment, and training employees for the production work along with the additional time lost in setting up the production capabilities, seems to be inherent in all cases of this type of collaboration. This is true whether the system is developed in the United States or is European made. Numerous illustrations regarding the Sparrow, Hawk, NATO AWACS, Stinger, F-16, Harrier AV-8A, Roland, and F-5 are provided.

It is important to note that in cases where few duplicate production lines serve a large number of procuring countries, the share of the R&D costs to be assumed by each country is substantially reduced and the number of items produced by each production line is substantially increased. As a result, the cost per unit for each country is also reduced. The Investigative Staff has been told that coproduction increases the total costs to about 150 percent of the total costs of procuring the total

number of units from a single production line. Under the coproduction arrangement, however, the cost of each country becomes about 75 percent of independent production in its own country.

COLLABORATION IN DEVELOPMENT

NATO countries are not only interested in maintaining and strengthening their production capabilities but they are also vitally interested in developing their design and R&D capabilities. This has lead to a European emphasis on expanding collaboration to include the development phase. In cases where the United States has not shown an interest in including the Europeans in the development phase, many times these countries have elected to develop a competing system of their own and RSI has suffered. Allowing the European countries to participate in the development phase has the dual advantage of providing a smoother program transition into the production phase and also assures better compatibility of the system with related systems already existing in these countries. Once again it must be emphasized that in order to reap these benefits the countries involved must come to an agreement on common requirements.

Codevelopment projects also greatly increase the costs and lengthen the schedule over programs in which development is conducted unilaterally by one country. This fact was substantiated in numerous interviews both in the United States and in Europe. If it is assumed, however, that the program will involve coproduction at some future date then several officials contacted are of the opinion that advantages in cost and transition into production are achieved by extending the collaboration to the development phase.

PREREQUISITES TO SUCCESSFUL JOINT DEVELOPMENT

Two prerequisites cited which are necessary to achieve a successful joint development program are establishment of joint military requirements and avoidance of programs where decisionmaking at the contractor level is done by committee or on a co-prime contractor basis. The point was emphasized that it is absolutely necessary that one contractor be chosen who is clearly in charge and who can make decisions without having to attain unanimous consensus. In establishing common requirements, the countries involved must come to an agreement both on what capabilities the system must have and when it will be needed.

SECURITY AND PROTECTION OF PROPRIETARY RIGHTS

The protection of the technology involved in the development and production of weapons systems is maintained to prevent this information from coming into the possession of a country's enemies. This protection may also be used to further the political, policy and economic objectives of the country, and to protect the technology developed and owned by the country's industries from wrongful use by others.

The maintenance of such security, regardless of the objective for which it is being maintained, presents problems which make collaboration in the acquisition of weapons systems difficult. Experiences

of some European contractors with the security precautions of the United States have caused frustration and embitterment in some cases and have tended to discourage collaboration with the United States.

U.S. contractors complain that it is difficult, if not impossible, to limit the transfer of technology to specific companies or countries when you are dealing with the Europeans because of the maze of cross-ownership arrangements which exist in Europe and which extend beyond national borders in many cases. Some U.S. Government officials felt that the United States should not export a system to any foreign country for which we do not have a defense in our own arsenal. U.S. contractors' concerns are not as all encompassing, however, and deal more with insuring that they are rightfully compensated for the technology exchanged.

U.S. contractors pointed out a distinction between protecting technical data involved in production and those which are involved in research and development. Many feel that once a system has reached the production stage it is "old technology" and it is not harmful to U.S. interests to offer it for export. This is true, they maintain, because in giving away this technology the United States should be working on new techniques to replace this "old technology," and this is the information which should be protected. This is the principal reason that U.S. contractors, if they can avoid it, do not want to become involved in collaboration during the R&D phase. This reluctance on the part of the United States is driving Europeans to enter into R&D ventures of their own, thus causing duplication of effort and minimizing standardization.

CONFLICTING ECONOMIC INTERESTS

Another major problem which hinders collaboration is the conflicting economic interests of the NATO Alliance countries as they compete for a share of the world market in arms sales. Arms exports are absolutely essential to European countries in order to make these ventures profitable. Although all NATO nations have some restriction on what countries are eligible to buy weapons, the regulations of the United States are the most stringent. Because of their absolute dependence on third country sales, European nations are reluctant to collaborate with the United States on systems when these sales will be severely restricted.

In cases where NATO European nations are the recipient of U.S. technology, they want to know early in the program to whom they will be able to sell the system. In cases where the technology is coming to the United States, the Europeans are not too concerned about the production which takes place in the United States to satisfy its own requirement. However, Europe is painfully aware that U.S. production techniques are far more economical than those found in Europe and by transferring technology to the United States they may be creating a competitor for third country sales.

The extended production runs which reduce unit prices, the recent changes in the exchange rate of the dollar, the broad technological base, the large number of contractors available to compete, and the higher European labor costs contribute to this competitive advantage

of the United States. U.S. industry is naturally concerned with maintaining its position in the world market, and complaints have been received by the Investigative Staff that the U.S. Government, in its all-out effort to establish collaborations with its NATO Allies, has not given adequate consideration to the legitimate interests of U.S. industry.

One of the major problems which the United States faces in its efforts to enhance collaboration with NATO Europe is insuring that competition remains an integral part of arms transactions. An equal flow of arms sales between Europe and the United States (one version of the "two-way street") ignores considerations of reduced costs and elimination of wasteful duplication which are the primary objectives of standardization. In other words, the restraints on trade and competition which are necessary to insure an equal flow of trade can lead to lower quality and higher prices. Rather than trying to guarantee such an equal flow, the United States appears to be following a policy of improving the opportunities for the European countries to compete with U.S. industry.

OBSTACLES TO COMPETITION

As previously noted several obstacles exist which prevent achievement of this competition. The "technology gap" between Europe and the United States, the labor costs in Europe, the employee working conditions which must be maintained there, and the economies which are realized from the much larger production base in the United States are the more notable of these obstacles. These, when coupled with security restrictions and procurement regulations, strongly inhibit the ability of Europe to compete with American industry.

MEMORANDA OF UNDERSTANDING

The United States has entered into a number of Memoranda of Understanding (MOUs) in an effort to improve European opportunities. DOD officials emphasized that these MOUs create a climate for transatlantic industrial cooperation which can improve both U.S. and European opportunities to enhance the "two-way street" concept. Under these MOUs certain requirements of U.S. law and regulations are waived or made more flexible in application to European countries with which the agreements have been made. The MOUs do not relax the security restrictions of the DOD and the requirements of the International Traffic in Arms Regulations, but they do provide that under no circumstances will unusual technical or security requirements be imposed solely for the purpose of precluding the procurement of defense items from the foreign country. These MOUs were negotiated separately but all contain substantially the same provisions. They are currently in effect with the United Kingdom (1975), Norway, Italy, the Netherlands, France, and the Federal Republic of Germany (all 1978), and Portugal (1979).

Many officials contacted by the Investigative Staff were not optimistic about the success which would be derived from these MOUs. Members of the Defense Science Board 1978 Summer Study felt that

these MOUs would not make competitors out of European industry and would only give the Europeans false hopes and expectations. In this regard they felt the MOUs would do more harm than good. Other officials commented upon security restrictions as major impediments to competition and since these MOUs do not address this problem they do not expect the situation to improve.

EUROPEAN SOLE SOURCE CONTRACTS INEFFECTIVE

Some European officials went so far as to say that if standardization of weapons systems is important enough, then the United States should be willing to give up its insistence upon competition in procurement and be willing to negotiate a share of its procurements from European sole sources. This appears to be tantamount to saying that if the United States is interested in saving money in equipping NATO, then it must reconcile itself to using more costly procedures. A more sensible approach for the Europeans to follow, if they desire to sell weapons systems in the United States, is to confine their efforts to systems which U.S. contractors cannot offer. If such a system has already been developed by a European country, and numerous examples have been pointed out to the Investigative Staff, then it should be able to save the United States substantial R&D expenditures and thereby make it price competitive with that of U.S. contractors proposing to develop such a system.

OBSTACLES TO EUROPEAN COMPETITION

Europeans feel the reasons that the United States has shown little inclination to save money by filling gaps in its weapons systems inventory by procuring already developed systems of other countries are twofold: first, the impression exists within the United States that high technology means only American technology; second, the continuing debate of whether it is more beneficial to select a matured or almost mature system or whether R&D promising an improved system at some future date should be initiated.

OMB CIRCULAR—A–109 CONFLICTS WITH EUROPEAN ACQUISITION PROCEDURES

A new policy was propounded in April 1976 by the Director, Office of Management and Budget (OMB) relating primarily to the R&D stage of the acquisition of major weapons systems. Under OMB Circular A–109 emphasis is placed on "front end" planning including the establishment of the need for a new system and the consideration of all possible alternatives in existence or requiring development to meet the need. This policy is discussed solely as it pertains to the problems of collaboration between the United States and its NATO Allies. The policy emphasizes that the selection of a weapons system should be based primarily upon technical criteria. Solicitations are first sent to a broad base of qualified firms for alternative system design concepts to satisfy the mission need. A wide range of alternatives, including foreign technology and equipment, is recommended.

Parallel short-term contracts are awarded for those concepts selected for further exploration to expand the concepts and reduce the risk. From the information developed in these parallel short-term contracts, the most promising system design concepts are selected for competitive demonstrations to verify that the concepts are sound and should perform in an operational environment. Such demonstrations normally involve some type of prototype. The contractor with the winning concept under these prototype demonstration contracts then enters into a full-scale engineering development (FSED), most likely on a sole-source basis, but competition can even be extended into a FSED whenever it is economically beneficial to do so. A formal evaluation of the estimated acquisition and ownership costs of the system are made at this point in the program.

The entire acquisition cycle under this new procedure, from the establishment of the mission need to initial operational capability of the weapon system, has been estimated at 16 years, with almost 7 years required before the program enters FSED.

This procedure conflicts with the acquisition procedures of the European countries. Having five or six or even two or three companies under contracts to submit competing system design concepts to meet a mission need is regarded as unfeasible in any European country for the simple reason that there are not enough contractors available for such competition. In most major weapon system programs consortia are formed, made up of several contractors which, in many cases, are from different countries.

European officials have stated to the Investigative Staff that they have no objection to the United States picking the contractor to be their U.S. partner in an R&D collaboration through a competitive process before the collaboration begins. They point out, however, that in order for the collaboration to be effective it must begin prior to the system design phase. Under the A–109 procedures, as outlined above, competition may continue through the FSED. If the European contractor waited until that time to enter the program, there would be little in the way of design, research, and development left for him to contribute. A–109 also creates problems with regard to establishing procedures to implement the "family of weapons" concept.

EUROPEAN LICENSING OF THE U.S. GOVERNMENT OF U.S. CONTRACTORS

Another problem involves achieving competition in situations in which the European countries have developed the system and have issued a license to a U.S. contractor to produce the system in the United States. This situation assumes that a need has been established for a weapon system to carry out a particular mission and all alternative systems have been explored and through competitive demonstrations of these alternatives, a specific system already developed by a European country is chosen as the system which will answer the need. It is further assumed that rather than procure the hardware directly from the foreign developer, the decision has been made to have the system produced in the United States under a license from the European developer. The question is how best to achieve competition in such further development as may be required and in the production of the system.

The following three alternative solutions are discussed with advantages and disadvantages.

(a) Encourage U.S. contractors to enter into exclusive license agreements with the foreign developers and then negotiate a sole-source contract with the U.S. licensee for the entire program.

(b) Introduce competition for FSED of a foreign system after it has been chosen as the best system to meet the Government's mission need. The competition is made possible either through the U.S. Government acquisition of the license or by insisting upon the U.S. contractor licensee and the foreign licensor agreeing to the competitive procedure.

(c) Encourage U.S. contractors to enter into license agreements with the understanding from the beginning with both the licensor and the licensee that the full-scale production contract will be competed.

UNITED STATES LICENSING NATO CONTRACTORS

The final major area where achieving competition becomes difficult is the situation where a system is developed in the United States and a license is granted to a European contractor for production in that country. This situation incorporates all of the difficulties where Europeans are attempting to win a U.S. procurement bid where price is a controlling factor or where technical criteria are most important for deciding upon the contract award. Coproduction in Europe of weapons systems developed in the United States is beset by the difficulties in both of these categories—inability of the Europeans to compete with the U.S. contractors and their inability to achieve realistic competition among themselves.

There are innumerable other problems which have been cited to the Investigative Staff that make collaborations between the United States and Europe difficult. Most of these are problems which are either (1) common to doing business within the United States, (2) for which relief can be obtained through procedures available or through negotiations, or (3) can be solved by changes in operations or attitudes within the United States without involving negotiations with the other countries.

OFFSET PROBLEMS

A problem that was often cited to the Investigative Staff is that of industrial offsets. In connection with the need of the European countries to maintain their employment levels as well as their industrial capability, the main desire of some of the smaller countries is to place greater emphasis on the procurement of common weapons from an outside source with offsets to counteract the loss of employment which actually or theoretically occurs by not producing the weapon system. These offsets also assist in maintaining a favorable balance of payments. Offsets have an advantage to the economy of the purchasing country in that a certain percentage of the amount of their purchase is placed in contracts within that country. These percentages are negotiated at the outset of the program and have been a constant source of dissatisfaction, bickering and friction between the Allies, especially when specified goals are not met or even approached.

Even if all of the difficulties created by offsets were solved, the fact remains that such arrangements are, in effect, "non-tariff distortions to trade. They consequently tend to reduce the efficiency of resource use within the Alliance as a whole." As has been pointed out throughout this report, such a result is counterproductive to the objective of standardization.

DIFFERENCES IN NATO COUNTRIES' METHODS OF OPERATION

Differences in the methods of operation within the NATO countries also have impeded collaboration. These include capital intensive versus labor intensive industries and differences in contractor responsibilities, testing and testing schedules. There are also differences relating to contractor relationships, language, measurement, and currency.

DIFFERENCES IN NATO COUNTRIES' LAWS AND REGULATIONS

Differences in the laws and regulations between the NATO countries were cited frequently as being a hindrance to collaboration. Emphasis was made by officials and contractors in the European countries about the close governmental supervision used to control prices of weapons systems. The foreign contractors are familiar, however, with the restrictions placed upon them by their own countries. Their complaints, primarily to U.S. contractors, dealt with the maze of U.S. laws and regulations which they must master to operate or do business with the United States. It is sufficient to say that these laws and regulations apply also to U.S. contractors, and having them apply only to domestic contractors would offer foreign industry an unfair advantage in competition.

In addition there are other laws and regulations which provide preference for domestic products. These include the Buy American Act, Balance of Payments Program, Specialty Metals Act, the prohibitions in the Appropriations Acts in regard to construction of Naval vessels or components, and restrictions on the use of foreign textiles. Most of the problems caused by these laws are not insurmountable and many of these restrictions have been waived for NATO countries.

In the past many problems have arisen as a result of a U.S. requirement to audit foreign records concerning the use of U.S. funds involved in a collaborative effort. Insistence upon such audits in foreign countries has met with vigorous opposition from the foreign governments as not being compatible with their national sovereignty. Steps have been recently taken to resolve this problem.

The International Traffic in Arms Regulations under the Arms Export Control Act provide for issuance of export licenses by the Office of Munitions Control of the State Department. U.S. and foreign contractors and foreign government officials were critical of the unreasonable delays in processing and issuing these licenses regardless of the subject matter involved in the applications. These same officials pointed to the lack of an authoritative focal point within the U.S. Government as a major reason why license applications are not only handled slowly but with little or no degree of consistency.

UNITED STATES LACKS FOCAL POINT WITH AUTHORITY TO EXECUTE POLICY

The fact that the United States has been unable to establish a focal point with sufficient authority to see that the high-level policy is carried out expeditiously down through the various bureaucratic levels has made it possible for what one U.S. contractor described as a military middle-management attitude to exist. This attitude is evidenced by a very conservative position on the release of technical data, a dislike for any weapon system not invented in the United States, and the tendency on the part of middle management to drag their feet in implementing high-level policy. This tendency has led to a conflict between stated U.S. policy and its actual application. There are several examples, notably the competitive testing of the XM–1 versus the Leopard II tank, which demonstrate the European frustrations and the feeling among officials there that it is impossible to deal with the United States.

OBSERVATIONS

All of the problems which are presented in this report, many of them seemingly unsolvable, and the small amount of progress that has been made toward standardization raise two questions which the Investigative Staff believes should be answered in the negative.

First, are the increased total costs to the NATO Alliance resulting from coproduction, licensing, and other forms of collaboration justified by the standardization achieved?

Second, do the evidently sincere efforts of the high-level policy makers in the U.S. Government, in espousing such general ill-defined and poorly thought-out principles as the "two way street" concept accomplish enough toward achieving standardization to overcome the harm done by the false hopes and frustration that result? The "family of weapons" concept also is often misunderstood and needs further definition and clarification.

In regard to the first question, while the Investigative Staff believes that the costs involved in these collaborations are not warranted from the standpoint of achieving standardization, there are other benefits. The Investigative Staff in its interviews received from many officials of government and industry enumerations of benfiets from these NATO Alliance collaborations. These benefits can be broken down into those that benefit the contractors (which may, of course, also benefit their countries) and those of benefit to the individual countries but not from the standpoint of achieving the benefits of standardization for the NATO Alliance.

The benefits identified in these categories are listed briefly as follows:

BENEFITS TO CONTRACTORS

Provides a means of satisfying offset agreements.

Provides a vehicle for exchange of technology.

Provides somewhat of an obstacle to cancellation of the program by the Government.

Provides a source of profit from the sale of components and spares to the licensee or coproducer.

Provides a source of royalties.

Provides a means for reaching foreign markets not otherwise available.

Provides a source of profit from the sale of technical assistance.

BENEFITS TO COUNTRIES

Enhances relationships among participating NATO Allies in successful collaborations.

While the total costs of the weapons systems may be higher to the NATO Alliance, the costs are usually lower for the individual participating countries than the cost of producing the system by each country separately. The larger procurement reduces costs and the sharing of the R&D costs also reduces costs to each country.

Encourages a politically stable and economically strong Western Europe.

Coproduction of a sophisticated system provides some control of events to a country that must be relied upon to provide components, maintenance, and training.

If the United States is interested in achieving standardization, and this is usually the objective cited by the U.S. Government for collaborations, then the way to economize on the NATO defense (and this, after all, is the basic purpose of standardization) is for each country, the United States included, to agree to procure the hardware needed from the country that produces it, rather than insisting upon reinventing the wheel. This procedure, on insistence from the House Appropriations Committee, worked well in the procurement by the United States of the Harrier AV–8A. Of course, political consideration may well dictate that a licensing arrangement for production in the procuring country, which is a more expensive method of procurement, may be justified by the benefits to be derived from such production.

If the other advantages enumerated above are more important than standardization, then other forms of collaboration, although more costly, should be considered. It is noted that a qualification was placed upon the enhancement of relationships among NATO Allies to be derived from such collaborations: i.e., the collaborations must be successful.

RECOMMENDATIONS

To initiate and carry out successful collaborations, the Investigative Staff recommends the Committee require that the Secretary of Defense and the department secretaries use greater diligence to see that the following guidelines are used in future cooperative programs:

(1) The Government agencies to be involved in the collaboration, rather than just the high-level policy makers, must have a will to succeed rather than a desire to rely on created difficulties to defeat the collaboration.

(2) Choose carefully a few pilot programs with the best chances of success for such collaboration and provide for these programs the authority for national rules and regulations to be modified as necessary to eliminate obstacles and to provide a means for learning as the program progresses.

(3) In choosing the program, the weapon system should conform to the doctrine, requirements, and specifications of the participating countries. The time phasing of the acquisition both from a budgetary standpoint and as to when the initial operational capability is required should be closely similar for the participating countries.

(4) In choosing the contractors, for each of the participating countries, they should represent industries of comparable size and with equal or compatible technological capabilities so that an atmosphere of mutual trust and respect will exist rather than the feeling of one or more that the others are seeking to capitalize on the former's capabilities.

(5) To avoid the problems arising from different methods of source selection in the United States and Europe, the MOU could provide that each country designate the contractor or contractors to represent it as one of the partners in the collaboration.

(6) These designations could be made at the very beginning of the program before the concept is developed and before design, research, and development. This presents quite a problem for the United States with its A–109 acquisition procedures. It will be equally as difficult to obtain the endorsement of U.S. industry on this point because of their desire to restrict development to a unilateral effort on their part and follow this up with subsequent coproduction arrangements which include NATO countries.

(7) Competition for the full-scale production could be introduced as desired by the countries in which production is to take place.

(8) Whenever it is the policy of the U.S. Government that production contracts are subject to competition regardless of previous license agreements between contractors, then this should be clearly stated in a DOD regulation so that all parties to a license agreement will be on notice prior to negotiating these agreements.

To assure clarity and compliance with U.S. procurement guidance, the Investigative Staff recommends the Committee require that the Secretary of Defense impose upon the Undersecretary of Defense for Research and Engineering the responsibility for providing to NATO industry and government representatives advice and guidance regarding the maze of U.S. procurement regulations and procedures and how to comply with them.

To assure prompt processing of licensing requests, the Investigative Staff recommends the Committee require that the Secretary of State provide to the Office of Munitions Control, U.S. Department of State the authority to respond to license requests in a timely fashion. To do this, a quasi-judicial proceeding could be provided for under which all interested agencies are given the opportunity to object to the issuance of a license by a specific reasonable date. In contested cases, a subsequent reasonable date could be set for a hearing of all positions concerning the license application. A decision would then be handed down by the Office of Munitions Control with a final appeal available only to the President or his appointed designee. In this connection, the Committee believes that the newly created Deputy Undersecretary of Defense for International Programs and Technology should be provided with adequate resources to facilitate the timely processing of munitions cases within the DOD.

The Investigative Staff further recommends that the Committee consider the need for the Congress to enact legislation that would establish an overall framework for the U.S. Government applicable to NATO countries concerning the application of U.S. funds under contract with industries of these countries whereby the Comptroller General will utilize the audit agencies of foreign countries when examining their financial records. (This recommendation is outside the jurisdiction of the Committee. The Department of Defense may wish to recommend legislation to the appropriate committees of Congress to carry out this recommendation.)

No additional Government organizations are needed to carry out this program nor to implement these recommendations. There are many such organizations in existence at the present time with responsibility to foster collaboration among the NATO countries, but unfortunately success has not been achieved. It is not, therefore, for the want of organizations that collaborations fail.

The Investigative Staff report has been provided to the Department of Defense for its assistance and guidance. The Office of the Secretary of Defense is requested to thoroughly review the report contents and advise the Committee what action it intends to take with request to the Investigative Staff recommendations contained therein. The Committee does not consider that a critique of the report is either necessary or desirable. The overall thrust of the report is clear and factual, and the Department's comments as to affirmative action it plans to initiate on the recommendations should be provided to the Committee in January 1980.

AMERICAN DEFENSE PREPAREDNESS ASSOCIATION

NATO RSI REFERENCE BOOK

SECTION 5

MEMORANDA OF UNDERSTANDING

THE GENERAL PROCUREMENT MEMORANDA OF UNDERSTANDING BETWEEN THE U.S. AND CERTAIN NATO AND OTHER NATIONS DEALING WITH COOPERATION IN RESEARCH, DEVELOPMENT, PRODUCTION AND PROCUREMENT OF DEFENSE EQUIPMENT

(THE FRENCH MOU IS CLASSIFIED AND HAS NOT BEEN INCLUDED.)

July 28, 1960
NUMBER 2035.1

ASD(ISA)

Department of Defense Directive

SUBJECT Defense Economic Cooperation with Canada

References:
(a) DoD Directive 2035.1, "Defense Economic Cooperation with Canada," April 5, 1956 (hereby canceled)
(b) DoD Directive 4105.40, "Procurement of Military Equipment with Canada," April 13, 1956 (hereby canceled)
(c) DoD Instruction 5220.22, "Department of Defense Industrial Security Program"
(d) AR 380-130/OPNAV Instruction 5540.8A/AFR 205-4, "Armed Forces Industrial Security Regulation," September, 1956
(e) DoD Directive S-5230.11, "Procedures for Making Classified Military Information Available to Foreign Nationals and Foreign Governments" (U)

5

I. PURPOSE

This Directive continues the principle of economic cooperation with Canada in the interests of continental defense, and stipulates the policy of maximum production and development program integration in support of closely integrated military planning between the United States and Canada. References (a) and (b) are reaffirmed, expanded, and consolidated in a single document.

II. CANCELLATION

This Directive supersedes and cancels references (a) and (b).

III. BACKGROUND

Positive steps have been taken by the United States and

Canada during and since World War II to coordinate their economic efforts in the common defense. Joint actions taken have included the establishment of a joint United States-Canada Industrial Mobilization Committee, the reciprocal military purchasing arrangement, and other measures in keeping with the "Statement of Principles for Economic Cooperation" (attached) approved by the President as the basis for joint economic cooperation with Canada.

IV. POLICY

A. The above-mentioned actions have facilitated economic cooperation between the two countries. In view of the unsettled world situation and the mutual interest of the United States and Canada in the defense of North America, due to their close geographical proximity, United States defense economic cooperation with Canada must not only continue, but be expanded so as to achieve the following objectives:

1. Greater integration of United States and Canadian military development and production.

2. Greater standardization of military equipment.

3. Wider dispersal of production facilities.

4. Establishment of supplemental sources of supply.

5. Removal of obstacles to the implementation of the United States-Canada Production and Development Sharing Program and the flow of defense supplies and equipment between the two countries.

6. The development of channels for the exchange of information between appropriate United States and Canadian Government agencies on defense economic matters.

7. The determination of Canadian production facilities available for the supply of United States current and mobilization requirements, and the furnishing of planned mobilization follow-up schedules to Canadian contractors producing for the United States as guidance in the event of full mobilization.

8. Insure the most economical use of defense funds.

9. Accord equal consideration to the business communities of both countries.

B. Accordingly, it is the policy of the Department of Defense to seek the best possible coordination of the materiel programs

of Canada and the United States, including actual integration insofar as practicable of the industrial mobilization efforts of the two countries. As a corollary, it is the policy of the Department of Defense to assure Canada a fair opportunity to share in the production of military equipment and materiel involving programs of mutual interest to Canada and the United States and in the research and development connected therewith. Implementation of these policies requires the alleviation of the restrictions of the Buy American Act and the use of duty free certificates for certain Canadian supplies. The foregoing will be accomplished in accordance with the provisions of the Armed Services Procurement Regulation (Section VI, Parts 1 and 5).

V. SECURITY

Defense economic cooperation with Canada requires the utmost in collaboration between the Governments of the United States and Canada. Accordingly, there shall be comprehensive interchange of general information and access to detailed information between the two countries relating to production sharing arrangements and research and development activities associated therewith. Security procedure will be governed by References (c) and (d). Disclosure of classified military information will be in accordance with Reference (e).

VI. IMPLEMENTATION

A. The Assistant Secretary of Defense (International Security Affairs) will be responsible for over-all coordination within the Department of Defense for defense economic cooperation with Canada. The Assistant Secretary of Defense (Supply and Logistics) will be the Defense member on the Joint United States-Canada Industrial Mobilization Committee, and will be responsible within the Department of Defense for industrial mobilization activities between the two countries. The Assistant Secretary of the Air Force (Materiel) will be the Defense representative in the joint United States-Canada production-development sharing arrangements, and will be responsible within the DoD for a coordinated position on such matters under discussion between the two nations. The various agencies of the Office of the Secretary of Defense involved, and the military departments, will collaborate in the implementation of the foregoing policies and stated objectives of defense economic cooperation with Canada.

B. It is requested that each of the military departments forward two copies of their implementing regulations to the Assistant Secretary of Defense (ISA) within ninety (90) days after the effective date of this Directive.

VII. REPORTS

Each of the military departments will prepare a quarterly report showing the categories and dollar values of prime contracts placed in Canada in excess of $10,000 during the preceding quarter. The quarterly report will be submitted to the Assistant Secretary of Defense (International Security Affairs) in original and one copy, within thirty (30) days after the end of the quarter reported. Report Control Symbol DD-ISA(Q)63 is hereby assigned to this report.

VIII. EFFECTIVE DATE

This Directive is effective immediately.

Robert S. McNamara

Secretary of Defense

Inclosure - 1

STATEMENT OF PRINCIPLES FOR ECONOMIC COOPERATION
(As approved by the President on 20 September 1950)

The United States and Canada have achieved a high degree of cooperation in the field of industrial mobilization during and since World War II through the operation of the principles embodied in the Hyde Park Agreement of 1941, through the extension of its concepts in the postwar period and more recently through the work of the Joint Industrial Mobilization Planning Committee. In the interests of mutual security and to assist both Governments to discharge their obligations under the United Nations Charter and the North Atlantic Treaty, it is believed that this field of common action should be further extended. It is agreed, therefore, that our two Governments shall cooperate in all respects practicable, and to the extent of their respective executive powers, to the end that the economic efforts of the two countries be coordinated for the common defense and that the production and resources of both countries be used for the best combined results.

The following principles are established for the purpose of facilitating these objectives:

1. In order to achieve an optimum production of goods essential for the common defense, the two countries shall develop a coordinated program of requirements, production, and procurement.

2. To this end, the two countries shall, as it becomes necessary, institute coordinated controls over the distribution of scarce raw materials and supplies.

3. Such United States and Canadian emergency controls shall be mutually consistent in their objectives, and shall be so designed and administered as to achieve comparable effects in each country. To the extent possible, there shall be consultation to this end prior to the institution of any system of controls in either country which affects the other.

4. In order to facilitate essential production, the technical knowledge and productive skills involved in such production within both countries shall, where feasible, be freely exchanged.

5. Barriers which impede the flow between Canada and the United States of goods essential for the common defense effort should be removed as far as possible.

6. The two Governments, through their appropriate agencies, will consult concerning any financial or foreign exchange problem which may arise as a result of the implementation of this agreement.

DEPARTMENT OF DEFENSE
DIRECTIVES SYSTEM TRANSMITTAL

NUMBER	DATE	DISTRIBUTION
2035.1 - Ch 1	February 10, 1961	2000

ATTACHMENTS
None

INSTRUCTIONS FOR RECIPIENTS

The following pen change to Department of Defense Directive 2035.1, "Defense Economic Cooperation with Canada," dated July 28, 1960, has been authorized:

PEN CHANGE

Page 3, Section VI. A. -

Revise Lines 4 through 8 to read -

"Assistant Secretary of Defense (Installations and Logistics) will be the Defense member on the Joint United States-Canada Industrial Mobilization Committee, and will be responsible within the Department of Defense for industrial mobilization activities between the two countries. The Assistant Secretary of Defense (Installations and Logistics)....."

Portion modified by this change is underscored.

Maurice W. Roche
MAURICE W. ROCHE
Administrative Secretary

WHEN PRESCRIBED ACTION HAS BEEN TAKEN, THIS TRANSMITTAL SHOULD BE DESTROYED.

SD FORM 1 JUL 56 106-1 PREVIOUS EDITIONS ARE OBSOLETE

DEPARTMENT OF DEFENSE
DIRECTIVES SYSTEM TRANSMITTAL

NUMBER	DATE	DISTRIBUTION
2035.1 - Ch 2	September 29, 1966	2000 series

ATTACHMENTS

None

INSTRUCTIONS FOR RECIPIENTS

The following pen change to DoD Directive 2035.1, "Defense Economic Cooperation with Canada," dated July 28, 1960, has been authorized, effective immediately:

PEN CHANGE

Page 4 - Delete ALL of section VII. REPORTS.

CANCELLATION

Report Control Symbol DD-ISA(Q)63 is hereby cancelled.

Maurice W. Roche

MAURICE W. ROCHE
Director, Correspondence and Directives Division
OASD(Administration)

WHEN PRESCRIBED ACTION HAS BEEN TAKEN, THIS TRANSMITTAL SHOULD BE FILED WITH THE BASIC DOCUMENT

SD FORM 1 MAR 62 106-1 PREVIOUS EDITIONS ARE OBSOLETE

DEPARTMENT OF DEFENSE
DIRECTIVES SYSTEM TRANSMITTAL

NUMBER	DATE	DISTRIBUTION
2035.1 - Ch 3	May 23, 1968	2000 series

ATTACHMENTS

None

INSTRUCTIONS FOR RECIPIENTS

The following pen changes to DoD Directive 2035.1, "Defense Economic Cooperation with Canada," dated July 28, 1960, have been authorized, effective immediately:

PEN CHANGES

1. Change reference (d) to read: DoD 5220.22-R, "Industrial Security Regulation," July 1, 1966

2. Change reference (e) to read: DoD Directive 5230.11, "Disclosure of Classified Military Information to Foreign Nationals and International Organizations," April 7, 1967

Maurice W. Roche

MAURICE W. ROCHE
Director, Correspondence and Directives Division
OASD(Administration)

WHEN PRESCRIBED ACTION HAS BEEN TAKEN, THIS TRANSMITTAL SHOULD BE FILED WITH THE BASIC DOCUMENT

SD FORM 1 MAR 62 106-1 PREVIOUS EDITIONS ARE OBSOLETE

bids or proposals by individual Canadian companies, the Canadian Commercial Corporation issues a letter supporting the Canadian bid proposal with the following information contained therein: name of the Canadian bidder; confirmation and endorsement of the bid in the name of the Canadian Commercial Corporation; a statement that prices for listed items are exclusive of United States import duties (see 6-103.5); a statement as to whether the prices for unlisted items include or exclude United States import duties; and a statement that the Corporation shall subcontract 100% with the bidder.

(2) When a Canadian bid or proposal cannot be processed through the Canadian Commercial Corporation in time to meet the bid opening requirement, the Corporation is authorized to permit Canadian firms to submit bids or proposals directly, *provided* the Canadian bid or proposal and the Canadian Commercial Corporation endorsement are both received by the purchasing office prior to bid opening.

(3) All formal competitive bids shall be submitted by the Canadian Commercial Corporation in terms of United States currency. Contracts placed as a result of such formal competitive bidding shall not be subject to adjustment for losses or gains resulting from fluctuation in exchange rates.

(4) All proposals and quotations submitted by the Canadian Commercial Corporation, except those in which competition is obtained, shall be in terms of Canadian currency. However, the Corporation may, at the time of submitting the proposal or quotation, elect to quote and receive payment in terms of United States currency; in which event contracts arising therefrom shall provide for payment in United States currency and shall not be subject to adjustment for losses or gains resulting from fluctuation in exchange rates. (See 6-506.)

6-504.2 *Contracting Procedures.*

(a) Individual contracts covering purchases from suppliers located in Canada, except as noted in (b) below, shall be made with the Canadian Commercial Corporation, which has offices located at 70 Lyon Street, Ottawa, Ontario, Canada, K1A0S6 and 2450 Massachusetts Avenue, N.W., Washington, D.C. 20008. Contracts normally should be awarded to and administered through the Head Office of the Canadian Commercial Corporation in Ottawa, and all payments under such contracts awarded to the Canadian Commercial Corporation shall be made to its Ottawa Office. Under contracts with the Canadian Commercial Corporation, direct communication with the Canadian supplier is authorized and encouraged in connection with all technical aspects of the contract, *provided*, however, that the approval of the Corporation shall be obtained on any matters involving changes to the contract.

(b) The general policy in (a) above need not be followed for (i) purchases negotiated for experimental, developmental, or research work under 3-205 or 3-211, unless the contract is for a project under the Defense Development Sharing Program, as outlined in 6-507; (ii) purchases negotiated under 3-202 for public exigency; (iii) purchases negotiated under 3-203 for small purchases; or (iv) purchases made by Defense activities located in the Dominion of Canada.

6-504.3 *Termination Procedures.* The Canadian Commercial Corporation will continue to administer contracts that may be terminated by the United States contracting officer and settle all Canadian subcontracts in accordance with the

policies, practices, and procedures of the Canadian Government in the termination and settlement of Department of Defence Production (Canada) contracts (See 8-216). The United States agency administering the contract with the Canadian Commercial Corporation shall render such services as are required by the Canadian Commercial Corporation with respect to settlement of any subcontracts placed in the United States, including disposal of inventory. The settlement of such United States subcontracts shall be in accordance with this Regulation.

6-504.4 *Acceptance of Canadian Supplies.* Under f.o.b. origin contracts with the Canadian Commercial Corporation where inspection has been performed by the Department of National Defence (Canada), pursuant to paragraph 6 of the Letter of Agreement (6-506), acceptance of supplies or services which are in accordance with the terms of the contract, shall be made by the Department of National Defence (Canada) on behalf of the United States Military Departments or the Defense Logistics Agency. Signing of the acceptance certificate on the applicable United States Department of Defense inspection and acceptance form shall be considered satisfactory evidence for payment purposes.

6-504.5 *Industrial Security.* Required procedures designed to safeguard classified defense information which may be necessary for the performance of contracts awarded directly to Canadian suppliers or through the Canadian Commercial Corporation are set forth in the DoD Industrial Security Regulation, DoD 5220.22-R (Implemented for the Army by AR 380-131; for the Navy by OPNAV Instruction 5540.8E; for the Air Force by AFR 205-4; for the Defense Logistics Agency by DLAM 8500.1; for the Defense Communications Agency by DCA Inst. 240-50-7; and for the Defense Mapping Agency by DMA Inst. 5220.22). the basis for these procedures is the United States-Canada Industrial Security Agreement of 31 March 1952, as amended.

6-505 Contract Administration.

(a) When services are requested from the Defense Contract Administration Services on contracts to be performed in Canada, the request shall be directed to:

Defence Supply Agency, DCASMA, Ottawa,
6th Floor, Canadian Building
219 Laurier Avenue, West
Ottawa, Ontario, Canada (K1A0S5)

(b) When contract administration is performed in Canada by Defense Contract Administration Services, the paying office activity to be named in the contract for disbursement of DoD funds (DoD Department Code: 17-Navy; 21-Army; 57-Air Force; 97-For all other DoD components) whether payment is in Canadian or United States dollars shall be:

Disbursing Office, DCASR, Cleveland
A. J. Celebrezze Federal Building
1240 East Ninth Street
Cleveland, Ohio 44199

6-506 Letter of Agreement.

LETTER OF AGREEMENT

1. This agreement applies to all contracts placed, on or after October 1, 1956, by any of the Military Departments with the Corporation. It shall remain in force from year to year until ter-

minated by mutual consent; however, it can be terminated on the 31st day of December or the 30th day of June in any year by either party *provided* that six months notice of termination has been given in writing. In addition, this agreement provides for certain reciprocal arrangements facilitating procurement by each of the parties in the country of the other.

2. (a) The Corporation agrees that it will cause all first-tier subcontracts under contracts covered by this agreement to be placed in accordance with the practices, policies and procedures of the Government of Canada covering procurement for defence purposes, and agrees that if the aggregate profit realized under such subcontracts by any first-tier subcontractor exceeds that which is allowed by the Government of Canada under the above mentioned practices, policies, and procedures, the amount of such excess will be refunded by the Corporation to the Military Departments. There shall also be refunded profits on any subcontract in excess of amounts which the Minister of Defence Production (Canada) in the exercise of said practices, policies and procedures considers to be fair and reasonable, recovered by the Minister pursuant to Section 21 of the Defence Production Act (Canada) from any individual subcontractor of any tier. It is recognized that the practices, policies and procedures of the Government of Canada referred to above permit varying rates of profit not exceeding in the case of cost reimbursement type contracts 7 - 1 / 2 percent of estimated cost plus, in certain cases, a bonus where cost savings have been demonstrated, and not exceeding in the case of negotiated fixed price contracts 10 percent of estimated cost. For the purpose of this paragraph, the Corporation will cause to be conducted such audits in accordance with the Costing Memorandum DDP-31 of the Department of Defence Production (Canada) and such verifications of cost as are in accordance with the said practices, policies and procedures. The Corporation will render to the Military Departments its certificate that the provisions of this paragraph have been observed.

(b) Contracts for communication and transportation services, and the supply of power, water, gas and other utilities shall be excepted from the provisions of subparagraph (a) above, provided the rates or charges for such services or utilities are fixed by public regulatory bodies; and provided further the Military Departments are accorded any special rates that may be available to the Canadian Government with respect to such contracts.

(c) The Canadian Government, its Departments and Agencies, including but not limited to the Corporation and Canadian Arsenals Limited, a Crown Company wholly owned by the Canadian Government, shall not be entitled to any profit on any contract or contracts covered by this agreement. Any profits which may be realized shall be returned to the Military Departments except as hereinafter provided: Before refunding profits realized from the following sources:

(i) net profits of the Canadian Government, its Departments and Agencies, as defined above, with respect to contracts and subcontracts covered by this agreement.

(ii) excess profits referred to in paragraph (a) above, and

(iii) renegotiation recoveries from subcontracts of any tier under contracts covered by this agreement, which recoveries the Military Departments would otherwise be entitled to receive in accordance with the provisions of subparagraph (a) above;

the Corporation shall be entitled to deduct any losses it may sustain with respect to contracts covered by this agreement.

(d) Interim adjustments and refunds under this paragraph 2 shall be made at such time or times as may be mutually agreed upon but at least once a year as of June 30th. Such interim adjustments shall apply only to completed contracts. The final adjustment and refund shall be made as soon as practicable after the expiration of this agreement.

(e) The profit and loss provisions of this paragraph 2 shall not apply to contracts awarded to the Corporation as the result of formal competitive bidding (initiated by Invitation for Bids).

3. (a) All contracts placed by the Military Departments with the Corporation, except those placed as the result of formal competitive bidding, shall provide for prices or cost reimbursement, as the case may be, in terms of Canadian currency, and for payment to be made in such currency. Therefore, quotations and invoices shall be submitted by the Corporation to the Military Departments in terms of Canadian currency, and such cost data, vouchers, etc., as the contracts require shall also be submitted in terms of Canadian currency. However, the Corporation may elect in respect of any of such contracts to quote, submit the said cost data, vouchers, etc., and receive payment in United States currency, in which event such contracts shall provide for payment in United States currency and shall not be subject to adjustment for losses or gains resulting from fluctuations in exchange rates.

FOREIGN PURCHASES

(b) All formal competitive bids shall be submitted by the Corporation in terms of United States currency and contracts placed as a result of such formal competitive bidding shall not be subject to adjustment for losses or gains resulting from fluctuation in exchange rates.

4. The Military Departments and the Corporation shall avoid, to the extent consistent with the declared policies of the Military Departments and the Canadian Government, the making of any surcharges covering administration costs with respect to contracts placed with the Corporation by any of the Military Departments and contracts placed by the Military Departments in the United States for the Canadian Government.

5. To the extent that contracts placed with the Corporation by the Military Departments provide for the audit of costs and profits, such audit will be made without charge to the Military Departments by the Cost Inspection and Audit Division of the Treasury of Canada in accordance with Costing Memorandum Form DDP-31 of the Department of Defence Production, Canada.

6. The Canadian Government shall arrange for inspection personnel of the Department of National Defence (Canada) to act on behalf of the Military Departments with respect to contracts placed by the Military Departments with the Corporation and with respect to subcontracts placed in Canada by United States contractors which are performing contracts for the Military Departments, and for the use of inspection facilities of the Department of National Defence (Canada) for such purposes, such personnel and facilities to be provided without cost to the Military Departments. The Military Departments shall provide and make no charge for inspection services and inspection facilities in connection with contracts placed in the United States by the Military Departments for the Canadian Government and with respect to subcontracts placed in the United States by Canadian contractors which are performing contracts for the Department of Defence Production (Canada). The Department of National Defence (Canada) or any Military Department may provide liaison with the other's inspection personnel in connection with the foregoing. It is understood that either the Department of National Defence (Canada) or any Military Department may in appropriate cases arrange for inspection by its own inspection organization in the other's country.

7. Because of the varying arrangements made by the Canadian Government and the Military Departments in furnishing Government-owned facilities (including buildings and machine tools) to contractors, it is recognized that the matter of inclusion in contract prices of charges, through amortization or otherwise, for use of such facilities will be determined in the negotiation of individual contracts. However, there shall be avoided, to the extent consistent with the policies of the Canadian Government and Military Departments, any such charges for use of Government-furnished facilities.

8. (a) The Corporation agrees that the prices set out in fixed-price type contracts covered by this Agreement will not include any taxes with respect to first-tier subcontracts; nor shall prices include custom duties to the extent refundable in accordance with Canadian law, paid upon the import of any materials, parts, or components incorporated or to be incorporated in the supplies, with respect to first-tier subcontracts.

(b) The Corporation agrees that under cost-reimbursement type contracts the Corporation shall, to the extent practicable with respect to first-tier subcontracts, exclude from its claims all taxes and to the extent refundable in accordance with Canadian Law, customs duties, paid upon the import of any materials, parts or components, incorporated or to be incorporated in the supplies and that any amounts included in such claims representing such taxes and duties shall be refunded or credited to the Military Departments.

(c) The Corporation agrees that to the extent that such taxes and duties can be reasonably and economically identified it will use its best endeavors to cause such taxes and duties to be excluded from all subcontracts below the first tier and if found to be included to be recoverable and credited to the Military Departments.

9. The Corporation recognizes that existing law of the United States prohibits the use of the cost-plus-a-percentage-of-cost system of contracting.

10. Each contract covered by this agreement shall be deemed to include the provisions required by (i) Public Law 245, 82nd Congress of the United States (65 Stat. 700; 41 USC 153(c)) and (ii) Section 719 of Public Law 458, 83rd Congress of the United States (68 Stat. 353) or similar provisions that may be required by subsequent legislation.

(End of Agreement)

6–507 Cooperative Agreement.

MEMORANDUM OF UNDERSTANDING IN THE FIELD OF COOPERATIVE DEVELOPMENT BETWEEN THE UNITED STATES DEPARTMENT OF DEFENSE AND THE CANADIAN DEPARTMENT OF DEFENCE PRODUCTION

This Memorandum of Understanding complements the U.S. — Canadian Defence Production Sharing Program by establishing a cooperative program in defense research and development between the United States Department of Defense (DoD) and the Canadian Department of Defence Production (CDDP), called the Defense Development Sharing Program.

1. *Objectives:*

The principal objectives of the Defense Development Sharing Program are:

a. To assist in maintaining the Defense Production Sharing Program at a high level by making it possible for Canadian firms to perform research and development work undertaken to meet the requirements of U.S. armed forces.

b. To utilize better the industrial scientific and technical resources of the United States and Canada in the interests of mutual defense.

c. To make possible the standardization and interchangeability of a larger amount of the equipment necessary for the defense of the United States and Canada.

2. *Description of the Program:*

a. The Defense Development Sharing Program will consist of research and development projects (such program projects being hereinafter referred to as "projects"):

(1) which are performed by Canadian prime contractors;

(2) which are designed to meet specific DoD research and development requirements;

(3) in which the Military Department of DoD which is the United States party to the project agreement acts as the design authority; and

(4) which are jointly funded by DoD and CDDP, (Where DoD undertakes the research and development of a weapons system composed of several components, work funded by CDDP on one or more of such components will be considered to be jointly funded).

b. The Defense Development Sharing Program will not include efforts referred to in paragraph 13.

3. *Funding:*

The financial contribution of DoD in each project will not be less than 25 percent of the costs incurred subsequent to the date of the project agreement provided that in the case of work referred to in the parenthetical sentence of paragraph 2.a(4), the financial arrangements shall be as agreed to by DoD and CDDP in the project agreement.

4. *Selection of Projects:*

A proposal to initiate a project may be made by CDDP to any of the Military Departments of DoD or by any of the Military Departments of DoD to CDDP. Each proposal will contain a complete and detailed description of the scope of the project and work to be performed and of the suggested cost sharing arrangement. Projects will be selected by mutual agreement of CDDP and the Military Department of DoD concerned.

5. *Project Agreements:*

The specific terms and conditions of each project will be governed by a project agreement between a Military Department of DoD and CDDP. The project agreement will *inter alia* set forth the scope of the projects, the work to be performed, types of reports to be submitted, the time and funding schedules, and the cost sharing arrangements.

6. *Selection of Prime Contractors:*

The selection of prime contractors for work to be performed under a project shall be subject to mutual agreement.

7. *Contract Clauses for Projects:*

The Canadian Government agencies responsible for placing and administering research and development contracts with Canadian firms, will insert suitable provisions in such contracts obtaining for DoD the same production rights, data, and information that DoD would obtain for itself if DoD were solely funding and placing the contract under its Armed Services Procurement Regulation.

FOREIGN PURCHASES

8. *Competitive Research and Development:*

DoD will not engage in research and development which duplicate the work being carried out under any project unless DoD considers such research and development to be in the United States national interest. The appropriate DoD agency will notify CDDP before undertaking such duplicative research and development and will, if requested by CDDP, promptly enter into consultations with CDDP.

9. *DoD Procurement of Project Developed Items:*

Procurement by DoD from Canadian firms of items developed in a project will be made under the Defense Production Sharing Program and in accordance with the DoD Armed Services Procurement Regulation. Pursuant to that Regulation, procurement of items developed by Canadian firms under the Defense Development Sharing Program will not be "set aside" for small business or for labor surplus areas.

10. *Security:*

a. Information and materials developed within projects will be considered to be jointly developed, and classification and declassification thereof will be determined jointly.

b. Classified information and materials exchanged in connection with or developed within projects will be safeguarded in accordance with the United States—Canadian Security Agreement of January 30, 1962, and the United States—Canadian Industrial Security Agreement effected by an exchange of letters dated February 6 and March 31, 1952, as amended.

11. *Disclosure of Classified Information:*

a. Classified information and materials received by either Government under the Defense Development Sharing Program but not developed within a project will not be disclosed or transferred to third countries, or nationals of third countries, without the consent of the originating Government.

b. Jointly developed classified information and materials will not be transferred or disclosed to any third party by either Government or nationals thereof without the consent of the other Government.

12. *Sales:*

a. Sales or transfers to any third party of items developed in a project containing classified information or materials will be subject to the provisions of paragraph 11.

b. Sales or transfers to NATO, Commonwealth, and SEATO countries, or nationals thereof, of jointly developed unclassified items may be made in accordance with any applicable arrangements between Canada and the United States regarding munitions control. Sales or transfers to any other third party of jointly developed unclassified items will not be made without the consent of both parties to this agreement.

c. Sales or transfers to any third party of jointly developed unclassified rights, information, or data necessary for the production of an item developed in a project will not be made without the consent of both parties to this agreement.

13. *Other Research and Development Efforts Not in Defense Development Sharing Program:*

a. Consistent with normal DoD source selection procedures, Canadian firms may bid for DoD research and development contracts which are to be funded solely by the United States. DoD will evaluate proposals from qualified Canadian firms on a parity with proposals received from United States firms. CDDP undertakes to ensure that Canadian firms comply with DoD procurement procedures.

b. CDDP may award and solely fund research and development contracts to Canadian firms for the purpose of satisfying existing or anticipated DoD requirements. DoD and its Military Departments will not act as Design Authority for such contracts. In the event that the results of any such contract become of sufficient interest to DoD to warrant joint funding, the contract work may, upon mutual agreement, be made the subject of a Defense Development Sharing Program project.

14. *Canadian Access to United States Information:*

Subject to United States legislation and national policy, the Government of Canada will have access to information on the future requirements of DoD research and development programs and Canadian firms will have the same access to DoD research and development program information as United States firms.

15. *Supersession of Prior Arrangements:*

FOREIGN PURCHASES

This Memorandum of Understanding supersedes the memoranda between CDDP and the United States Departments of the Army, and Air Force, respectively, dated July 26, 1960 and December 22, 1961, except with respect to projects already entered into thereunder.

16. *Effect and Duration:*

This Memorandum of Understanding will remain in force indefinitely, subject to modification or termination at any time by mutual agreement or to termination six months after receipt by either party of written notice of the intention of the other party to terminate it.

Signed: Charles M. Drury
Charles M. Drury
Minister of Defence Production
Date: 21 November 1963

Signed: Robert S. McNamara
Robert S. McNamara
Secretary of Defense
Date: 16 November 1963

MEMORANDUM OF UNDERSTANDING

BETWEEN

THE GOVERNMENT OF THE UNITED STATES

AND

THE GOVERNMENT OF THE UNITED KINGDOM

OF GREAT BRITAIN AND NORTHERN IRELAND

RELATING TO

THE PRINCIPLES GOVERNING COOPERATION IN

P&D, PRODUCTION, AND PROCUREMENT OF DEFENSE EQUIPMENT

The Government of the United States (USG) and the Government of the United Kingdom of Great Britain and Northern Ireland (HMG), hereinafter referred to as the Governments, are developing high technology weapons systems and other advanced items of defense equipment and are seeking to achieve greater cooperation in research, development, production and procurement in these areas in order to make the most rational use of their respective industrial, economic and technological resources, to achieve the greatest attainable military capability at the lowest possible cost, and to achieve greater standardization and interoperability of their weapons systems.

The Governments already have an Arrangement dated May 1963 for Joint Military Development and the USG has certain offset arrangements with HMG against purchases by HMG of major weapons systems and items of defense equipment.

In order to further the above aims, the Governments have decided to enter into an understanding and this Memorandum sets out the guiding principles governing mutual cooperation in defense equipment production and purchasing and associated offset arrangements. This Memorandum is intended to fit into the broader context of NATO Rationalization/ Standardization and to be compatible with any NATO arrangement that might subsequently be negotiated.

SECTION A: PRINCIPLES GOVERNING RECIPROCAL DEFENSE PURCHASING

1. Each Government has established its policies for strengthening the mechanisms essential to increasing cooperation in research, development, and production and procurement of military systems. In keeping with these policies, and in the interests of enhancing their mutual security and to assist the Governments in discharging better their mutual defense obligations, it is understood that the Governments will cooperate in all respects practicable, to the end that defense equipment production and procurement efforts of the two countries be administered so as to assure the maintenance of a long term and equitable balance in reciprocal purchasing of defense equipment. This balance will be at levels to be mutually determined.

2. The following principles to facilitate these objectives have been decided upon by the Governments:

a. Both Governments will provide appropriate policy guidance and administrative procedures within their respective Defense procurement organizations to achieve and maintain the agreed-upon balance of reciprocal Defense purchases.

b. The Governments will identify and nominate for consideration by each other items of defense equipment believed suitable to satisfy their respective requirements. The Governments will decide between them, to which items of defense equipment purchases this Memorandum of Understanding (MOU) will apply and whether the items may be procured on a Government-to-Government or Government-to-Industry basis.

c. The detailed implementing procedures to be arranged will incorporate the following:

(i) Offers will be evaluated without applying price differentials under Buy-National laws and regulations consistent with national laws and regulations.

(ii) Offers will be evaluated without the cost of import duties, and provision will be made for duty free entry certificates and related documentation.

(iii) Full consideration will be given to all qualified sources in each other's country in accordance with the policies and criteria of the purchasing office.

(iv) Offers will be required to satisfy requirements for performance, quality, delivery, and cost.

d. To facilitate production programs set up in implementation of this MOU, the Governments understand that subject to their established policies, procedures, regulations and subject to privately owned proprietary rights, each Government will, so far as it is able, without incurring obligations to others, arrange for release to the other and to its agents of information and technology necessary for the purposes of such facilitation.

e. The Governments, through their appropriate representative, will consult concerning any problems which may inhibit the efficient operation of this arrangement. Such consultations will be conducted on the basis of SECTION B of this MOU.

SECTION B: IMPLEMENTATION MACHINERY

1. Both Governments understand that detailed implementing procedures need to be considered and decided upon in order to carry out the provisions of this MOU. Representatives of the Governments will be appointed to develop a coordinated program of such implementing procedures, and to discuss procurement and production needs of the Governments These representatives will meet as required.

2. The Director, Defense Security Assistance Agency, under the policy guidance of the Assistant Secretary of Defense (International Security Affairs), and in coordination with the Director, Defense Research and Engineering, the Assistant Secretary of Defense (Installations and Logistics) and other DOD offices will be the focal point in the US Government for the development of an overall coordinated program of implementing procedures under this MOU. The Director, Defense Research and Engineering will be responsible for matters under this MOU touching upon research, development, test and evaluation as they relate to bilateral arrangements for joint military development. The Assistant Secretary of Defense (Installations and Logistics) will be responsible for managing procurement and production matters under this MOU on a continuing basis, in coordination with OASD(ISA), DSAA and other appropriate DOD offices.

3. The Head of Defence Sales, MOD, under the policy guidance of the Minister of State for Defence, and in consultation, as appropriate with the Chairman and members of the MOD Defence Equipment Policy Committee, will be responsible on the UK side for the development of an overall coordinated program of implementing procedures under this Memorandum of Understanding.

SECTION C: INDUSTRIAL PARTICIPATION

1. Each Government will be responsible for bringing to the attention of the defense industries within its country, the basic understanding of this MOU, together with appropriate guidance on its implementation.

2. Implementation of this MOU will involve full industrial participation. Accordingly, the Governments will arrange that their respective procurement and requirements offices will be made familiar with the principles and objectives of this MOU. Notwithstanding the governmental procedures to facilitate implementation, it will be the basic responsibility of industry in each country to isolate, identify, and advise its Government of capabilities and to carry out the supporting actions to bring industrial participation to consummation.

SECTION D: TERMINATION

1. This MOU will be terminated on 1 January 1985 unless the Governments mutually decide otherwise.

2. If, however, either Government considers it necessary for compelling national reasons to discontinue its participation under this MOU before 1 January 1985, any proposal for termination will be the subject of immediate consultation with the other Government to enable the Governments fully to evaluate the consequences of such termination.

SECTION E: FURTHER COOPERATION

Annexes subsequently negotiated by the responsible offices and endorsed by appropriate Governmental authorities will form an integral part of this Memorandum of Understanding.

SECTION F: EFFECTIVE DATE

This Memorandum of Understanding will come into operation upon signature by the Governments.

Signed in duplicate at London this 24th day of September 1975

James R. Schlesinger
For the Government of the United States

Ron Mason.
For the Government of the United Kingdom of Great Britain and Northern Ireland

ANNEX I

Implementing Procedures for the "Memorandum of Understanding between the Government of the United States and the Government of Great Britain and Northern Ireland Relating to the Principles Governing Cooperation in R&D, Production and Procurement of Defense Equipment" of 24 September 1975.

I INTRODUCTION

On 24 September 1975 the Governments of the United States (US) and the United Kingdom (UK) signed a Memorandum of Understanding (MOU) relating to "The Principles Governing Cooperation in R&D, Production and Procurement of Defense Equipment". The purpose of this document is to set forth the agreed implementing procedures for carrying out the MOU.

II MAJOR PRINCIPLES

A. Both the US and the UK will consider for their defense requirements qualified defense items (and associated services included in a procurement contract) developed and produced in the other country. It will be the responsibility of government and/or industry representatives in each country to obtain information concerning the other country's proposed developments and purchases and to respond to requests for proposals in accordance with the prescribed procurement procedures and regulations. However, the responsible governmental purchasing agencies in each country will assist sources in the other country to obtain information concerning proposed purchases, necessary qualifications and appropriate documentation. The responsible governmental purchasing agencies in each country will seek to inform themselves of the defense items which might be available from the other country to meet specific requirements.

B. Offers will be evaluated without applying price differentials under Buy-National laws and regulations.

C. Offers will be evaluated without consideration of the cost of import duties, and provision will be made for duty free entry certificates and related documentation.

D. Full consideration will be given to all qualified industrial and/or Government sources in both the US and UK consistent with the policies and criteria of the respective purchasing agencies.

E. Offers will be required to satisfy requirements for performance, quality, delivery, continued logistic support, and cost. In preparing Invitations for Bids and Requests for Proposals, and in evaluating Offers, where applicable and consistent with national laws and regulations full consideration will be given to potential NATO savings and/or increased NATO combat capability expected to result from the procurement of items that are standardized or interoperable with those of the Allies.

III ACTION

In implementing the MOU both countries will review and, where considered necessary, revise defense policies, procedures and regulations to ensure

that the principles and objectives of this MOU, which are intended to be compatible with the broad aims of NATO Rationalization/Standardization are taken into account. In addition both countries will:

A. Ensure that their respective requirement offices are familiar with the principles and objectives of this MOU.

B. Ensure that their respective research and development offices are familiar with the principles and objectives of this MOU, which are complemented by the "Arrangements for Joint Military Development by the US and the UK" of 1963.

C. Ensure that their respective procurement offices are familiar with the principles and objectives of this MOU.

D. Ensure wide dissemination of the basic understanding of this MOU to the respective defense industries.

E. Assist industries in their respective countries to identify and advise the other government of their capabilities and assist industries in carrying out the supporting actions to maximize industrial participation.

F. Review defense items submitted as candidates for respective requirements. Indicate requirements and proposed purchases in a timely fashion to ensure adequate time for their respective industries to qualify for eligibility.

G. Make best efforts to assist in negotiating licenses, royalties and technical information exchanges with their respective industries.

H. Ensure that those items excluded from consideration under this MOU for reasons of protecting National requirements (for the maintenance of a defense mobilization base) are limited to a small percentage of total annual defense procurement spending. It is intended that such defense items, as well as those items which would not be qualified as a defense item under this MOU because of legally imposed restrictions on procurement from nonnational sources, should be identified as soon as possible in lists drawn up by MOD and OSD for their respective countries, and that the position should be kept under review at this level.

I. Ensure that the balance of reciprocal purchasing within the areas of this MOU takes into consideration the levels of technology involved, as well as the contractual value.

IV. COUNTING PROCEDURES

The US and UK Governments will decide between them to which items of defense equipment this MOU will apply but in principle all defense items (and associated services included in a procurement contract) purchased by either country will be counted against the goals of this MOU as long as they meet the following criteria:

A. Direct purchases by either Government from the other, including its Agencies;

B. Direct purchases by either Government from the industry of the other country;

C. Purchases by Industry from the Government or Industry of the other country in aid of Government defense contracts;

D. Purchases by a third country government from either US or UK Government or industrial sources as a direct result of effort of the other (non-supplying) country.

E. Purchases resulting from common funded projects to which the US and/or UK are contributors, to be credited in proportion to each country's financial contribution to the project, and to work carried out in each country. The applicability of such purchases to this MOU will be agreed between MOD/OSD in each case.

F. License fees, royalties and other associated income resulting from orders placed by Industry and/or Government with a licensed company in the other country.

V. ADMINISTRATION

A. Each country will designate points of contact at the Ministry of Defense level and in each purchasing service/agency.

B. Country representatives will meet at agreed intervals to review progress in implementing the MOU. They will discuss development, production and procurement needs of each country and the likely areas of cooperation; agree to the basis of, and keep under review, the financial statement referred to below; and consider any other matters relevant to the MOU.

C. An annual US/UK Statement of the current balance, and long term trends, of purchases between the two countries will be prepared on a basis to be mutually agreed. Such statement will take account of any US-UK Offset agreements in force when the MOU was signed, and will be reviewed during the meetings referred to in B above.

Howard M Fish

For the Government of the United States

2 April 1976

Date

R. Anderson

For the Government of the United Kingdom of Great Britain and Northern Ireland

2nd April 1976

Date

ANNEX II TO THE "MEMORANDUM OF UNDERSTANDING BETWEEN THE GOVERNMENT OF THE UNITED STATES AND THE GOVERNMENT OF THE UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND RELATING TO THE PRINCIPLES GOVERNING COOPERATION IN R&D, PRODUCTION AND PROCUREMENT OF DEFENSE EQUIPMENT" OF 24 SEPTEMBER 1975

MUTUAL ACCEPTANCE OF TEST AND EVALUATION

INTRODUCTION

1. In furtherance of the principles governing reciprocal Defence purchasing, as defined in the subject Memorandum of Understanding (MOU) and in accordance with the Implementing Procedures for the MOU (Annex I thereto), representatives of the US Department of Defense (DoD) and the UK Ministry of Defence (MOD) have engaged in discussions and presentations on Test and Evaluation (T&E) in Defence procurement. The discussions were aimed at facilitating the implementation of the MOU by:

a. Bringing about a thorough, mutual understanding of the two governments' policies, organisations and procedures for T&E.

b. Identifying the main differences between the two governments' organisations and procedures for T&E.

c. Determining the actions required to overcome any difficulties arising from the identified differences, in order to assure complete mutual acceptability of T&E procedures.

2. The purpose of this Annex, drawn up in accordance with Section E of the MOU, is to record the concurrence reached by the two governments concerning the mutual acceptability of their respective T&E procedures for those systems that are developed in one country and are candidates for procurement by the other. Two categories of Defence systems are considered:

a. Those still under development.

b. Those for which development is complete.

POINTS OF CONCURRENCE

3. The objective is to avoid redundant testing. Neither government will duplicate tests where acceptable data is available from the other government's official test programme.

4. Existing T&E organisations and procedures of both governments are adequate to satisfy the purposes of the MOU. Differences are not such as to justify changes being made to the present procedures of either government.

5. To achieve a more widespread understanding of the two governments' T&E organisations and procedures in the US DoD, in the UK MOD, and in the Industries of both countries, the two governments will produce guidance information necessary to meet the purpose of this Annex, including:

a. The relationship between their respective T&E organisations and procedures.

b. A US DoD-UK MOD communications matrix for initial contacts.

6. The focal point for all T&E aspects of procurement relating to development testing will be the US Programme Manager or the UK Project Manager for the equipment being offered. For operational testing aspects, it will be the applicable US Services' independent operational test agency and in the UK, the Project Manager.

MUTUAL ACCEPTANCE PROCEDURES

7. All proposals for consideration of equipment of one country for procurement by the other will require a review of T&E data reflecting test conditions, test results and succes criteria on a case-by-case basis. The following procedures will therefore be observed in all procurement considerations:

a. To facilitate the exchange of T&E data, a common documentation format will be adopted. This format will be similar to the US Navy's Test and Evaluation Master Plan (TEMP) as outlined in OPNAV Instruction 3960.10.

b. For systems under development, the offering government will invite participation by the other early in the T&E programme. Should the other government not choose to participate in the testing, the offering Government, subject to its laws, established policies, procedures and regulations, and subject to privately owned proprietary rights, will arrange for the release to the other of information necessary for the purposes of such T&E.

c. For systems for which development is complete, the offering government will ensure, subject to its laws, established policies, procedures and regulations, and subject to privately owned proprietary rights, that all pertinent T&E data is made available to the other.

d. Should one government adjudge the T&E which has been completed or planned by the other to be inadequate for its procurement procedures, the two governments will decide by mutual agreement on any additional testing to be carried out. Such additional testing may be conducted by either country as mutually agreed. In addition, before such additional testing commences, concurrence will be reached by the two governments regarding payment of costs, allocation of resources, scheduling and the evaluation criteria which will apply.

e. When either government releases T&E data to the other, it is understood that, in the absence of any specific agreement to the contrary, such data is made available in confidence to the receiving government for the purpose of information and evaluation within such government and for no other use.

f. Each government will mark data transmitted to the other with a legend that will indicate the country of origin and the conditions of release, that the data relates to this MOU, and that it is furnished in confidence. Where appropriate the security classification will be shown. Corresponding arrangements will be made for records of data transmitted orally.

g. Each government will make its best effort to protect data submitted in confidence by the other government. In the event of any request under domestic legislation to make available to the public such data furnished by the other government, the recipient government will take all legal steps available to it to withhold the data from disclosure.

8. In any case where agreement cannot be reached between the focal points or their Service superiors concerning the acceptability of T&E, or when it is felt that adequate data and information on T&E have not been provided, the matter will be referred to the appropriate higher authority. For the US this will be the Director Defense Test and Evaluation and for the UK this will be the appropriate Systems Controller.

William J. Perry
For the Government of the United States

9 Oct. '78

For the Government of the United Kingdom of Great Britain and Northern Ireland

9th October 1978

ANNEX III to the "Memorandum of Understanding Between the Government of the United States and the Government of the United Kingdom of Great Britain and Northern Ireland Relating to the Principles Governing Cooperation in R&D, Production and Procurement of Defense Equipment"

RECIPROCAL AUDITS OF CONTRACTS AND SUBCONTRACTS

I. GENERAL

The US/UK Memorandum of Understanding on Co-operation Arrangements envisages the need for detailed implementing proceaures to be decided upon. This Annex deals with reciprocity in the handling of auditing activity related to contracts and sub-contracts falling within the scope of the MOU.

The participating Governments recognize the mutual benefit of undertaking reciprocally for each other in their respective countries price proposal audits and contract cost audits in connection with the acquisition of defence equipment. As used in this Annex the term "audit" may include, but is not limited to, the following services including Field Pricing Support as appropriate to the contract or sub-contract concerned:

- Survey of contractor's capability;
- Pre-contract audit;
- Audit during contract performance;
- Audit after contract performance, e.g. termination, before payment of final price in respect of fixed price contract or cost type contract;
- Verification of compliance with requirements set forth by the purchasing government for accounting of contract costs or pricing;
- Verification after contract award of the currency, accuracy and completeness of data supporting a contractor's price proposal.

II. PURPOSE AND SCOPE OF AUDITS

The purpose of these audits will be to examine proposed or incurred costs and supporting data in sufficient detail to enable the cognizant contracting officer to determine their acceptability during negotiations with the relevant contractor or sub-contractor.

Audits performed under the provisions of this Annex will cover all elements of cost and identify profit amounts. The auditors will use to the fullest extent possible previously available data pertinent to the intended or actual contract or sub-contract.

III. AUDIT AGENCIES

The audits will be performed pursuant to the provisions of this Annex by the following agencies:

- For audits in the United States when requested by the United Kingdom Government, the Defense Contract Audit Agency (DCAA).

- For audits in the United Kingdom when requested by the United States Government, the Accountancy Services (AS(PE)) of the Ministry of Defence.

IV. AUDIT REQUEST PROCEDURES

Requests for audits will be transmitted as follows:

Requests by the United Kingdom Government:

- Cognizant Procuring Contracting Office for Acquisitions under U.S. Foreign Military Sales (FMS) procedures.
- The Director of Defense Contract Audit Agency, Cameron Station, Alexandria, Virginia 22314, for all other acquisitions.

Requests by the United States Government:

- Head of Contracts Policy, Procurement Executive, Ministry of Defence.

These requests will be transmitted with all the supporting documents and required format of the audit report.

V. OPERATING RULES

Before any relevant contract action commences, representatives of each Government will consult with one another as necessary to define the goals and the scope of the audits required.

The audits will pay regard to the Government accounting conventions applicable to the supplier's business and be performed in accordance with the terms of the contract or sub-contract as required by the law and policy of the purchasing Government.

Each Government will accept auditing services performed on its behalf by the other as if it had performed those services itself as long as these reflect the particular or specific interest of the purchasing authority.

Each Government will make available to the other data pertinent to the relevant contract or sub-contract, including that associated with disclosed accounting practices, in support of the contracting officer's negotiation activity.

Applicable contracts or sub-contracts will invoke the provisions of this Annex.

Each audit report will respond to the questions contained in the request for audit and will detail any problems encountered during the audit. The report should enable the contracting officer to evaluate independently the acceptability of the price proposals or costs.

Upon request of the contracting officer, additional information, supporting data, and explanations or clarifications will be provided to him or to his duly authorized representatives. The contracting officer will have

the final authority to determine when adequate audit information has been provided for negotiation purposes.

Each Government will endeavour that in all possible cases its agencies will perform audits under the provisions of this Annex. If, due to extraordinary circumstances, a Government is unable to perform an audit, or to perform it in a reasonable time, the contracting country's agencies would have a right to perform the audit themselves.

VI. PROTECTION OF INFORMATION

Each audit report will be prepared by the audit agency and submitted in confidence. No report, or data therein, will be disclosed to third parties unless the cognizant authorities of both parties and the audited supplier deem this to be appropriate. However, the contracting officer will normally release the final results of audits of sub-contractors to higher tier contractors for negotiation purposes. Specific information or extracts from the report may only be given to higher tier contractors in accordance with any directions or qualifications contained in the audit report.

Data obtained through the implementation of this Annex will receive the same protection against unauthorized disclosure as such data would normally receive under the laws and rules of the country which receives it.

VII. NATIONAL SECURITY

Access to classified information involving the national security of each country will be governed by the provisions of the MOU.

5

William Scott

United States

21 June 1979
(date)

United Kingdom

21st June 1979.
(date)

THE SECRETARY OF DEFENSE
WASHINGTON D C. 20301

16 May 1977

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
DIRECTOR OF DEFENSE RESEARCH & ENGINEERING
ASSISTANT SECRETARIES OF DEFENSE
DIRECTOR, PLANNING AND EVALUATION
DIRECTOR, DEFENSE COMMUNICATIONS AGENCY
DIRECTOR, DEFENSE LOGISTICS AGENCY
DIRECTOR, DEFENSE SECURITY ASSISTANCE AGENCY

SUBJECT: US-UK MOU on Reciprocal Defense Procurement

On 24 September 1975 the US and the United Kingdom (UK) entered into a reciprocal defense procurement Memorandum of Understanding (MOU) (Enclosure 1, attached), with the objective of providing for a long term "equitable balance" in defense trade. The primary purpose of this agreement is to promote greater US-UK cooperation in R&D production and procurement in order to enhance NATO rationalization and standardization, and thereby to achieve the greatest NATO capability at the lowest possible cost. Annex I to this MOU, executed on 2 April 1976 (Enclosure 2, attached), contains certain agreed upon implementation procedures for carrying out the MOU. The purpose of this memorandum is to provide initial guidance to facilitate the implementation of this agreement. For its part, the UK will be taking necessary steps within its own procurement framework to ensure reciprocal US access to the UK defense market, in keeping with the purposes of the MOU.

Applicability

Except where restricted by (1) provisions of US National Disclosure Policy (NDP); (2) US laws or regulations; or (3) US Defense Mobilization Base Requirements; and subject to US Industrial Security Requirements; all as further discussed herein; this guidance shall apply to all procurements of defense items and related services (to include components, subsystems, and major systems at all technology levels, and at any phase of the procurement cycle from concept definition through production).

Responsibility for Implementation

The MOU provides that it is principally the responsibility of the industry of each country to seek a market for its products; however, DoD personnel will, whenever possible, take positive action to facilitate this effort.

UK sources are to be provided every opportunity to compete on a fair and equal basis with US sources for both R&D and production contracts, consistent with National Disclosure Policy.

Security

The US and the UK entered into a Security Agreement in 1961, followed by an Industrial Security Agreement which was revised and accepted in 1973. Both agreements cover aspects and details concerning protection of US and UK classified information exchanged between both countries. The Industrial Security Agreement details the security procedures regarding performance of US classified contracts in the UK as well as performance of UK classified contracts in the US. The primary document which implements procedures for safeguarding classified information within industry under such bilateral agreements is Section VIII of the Industrial Security Regulation (DoD 5220.22-R). This section, entitled "International Security Program," also includes detailed requirements concerning security of foreign classified contracts or subcontracts in the US (para. 8-103), and security of US classified contracts or subcontracts awarded to a foreign contractor (para. 8-104).

All recipients are reminded that the Directorate for Industrial Security, Headquarters, Defense Logistics Agency, must be informed whenever a US contractor is authorized to place a US classified contract in a foreign country involving disclosure of US classified information to the foreign country (para. 8-104c).

Foreign Licenses and Technical Assistance Agreements

Technical assistance in the form of data, foreign patent rights, manufacturing aids, etc., necessary to enable UK sources to produce supplies or perform services may be exported by means of Foreign Licenses and Technical Assistance Agreements using either Foreign Military Sales (FMS) or International Traffic in Arms Regulations (ITAR) procedures. The cognizant DoD Component will insure that proper coordination and approvals are obtained. Such coordination should be done expeditiously to enable timely teaming relationships between US and UK firms. The objective should be to better the existing 20 working day DoD processing time requirement for such munition licenses (reference DoD 5030.28).

For major programs where exports of large amounts of data would be involved, creation of a "US Government Approved Project" (reference 22CFR 125.11(a)(10)) should be considered as a potential mechanism for simplifying the Governmental approval process for information release. In cases where this mechanism is determined to be appropriate, as well as in cases involving sensitive design and manufacturing technologies, technology release guidelines will be prepared to provide necessary guidance to the US project office or other implementing activity. Such guidelines must be coordinated with ODDR&E, OASD(MRA&L), and OASD(ISA). It should be noted that the provisions of the National Disclosure Policy apply to the export of US classified military information through direct commercial channels (ITAR), as well as under FMS procedures. Specific guidance is provided in the Industrial Security Regulation DoD 5220.22-R; ASPR Section IX, Part 3; DoD Directive 5230.11; and 22CFR 121-128 (ITAR) as implemented by DoD Directive 5030.28.

Issuance and Evaluation of Solicitations

When UK sources are provided copies of Requests for Proposals (RFP) or are included on Bidders Lists, Procurement Offices will ensure that a reasonable period is permitted for all sources to respond to solicitations.

Where the possibility of competition from UK sources exists, notification shall be given to all potential competitors by the inclusion of an appropriate clause in the solicitation document. A sample clause entitled "Notice of Potential Foreign Source Competition" is attached as a guide (Enclosure 3), until such time as an approved clause is published in the ASPR.

UK sources competing for DoD requirements must be responsive to all normal terms and conditions of DoD solicitations (e.g., quality, performance, delivery, logistic support, etc.). If unusual technical or security requirements would preclude the procurement of otherwise cost effective UK defense items, the need for such requirements should be specifically reviewed. Under no circumstances will unusual technical or security requirements be imposed solely for the purpose of precluding the procurement of UK defense items.

In addition, UK sources will not be automatically excluded from submitting bids or proposals because their defense items have not been tested and evaluated by a US DoD Component. Components who find it necessary to limit solicitations to sources whose items have been service tested and evaluated by the Component, should make provision for considering UK items which have been tested and accepted by the UK for service use,

subject to US confirmatory tests if necessary. Where it appears that these provisions might adversely delay Service programs, the concurrence of the DoD Acquisition Executive will be obtained prior to the exclusion of the UK item from consideration. Sufficiency of UK service testing should be considered on a case-by-case basis. When US confirmatory tests are deemed necessary by the Component, US test and evaluation standards, policies, and procedures will apply.

In furtherance of the objectives set forth in the attached MOU and Annex I thereto, it has been determined pursuant to section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520;41 U.S.C. § 10a, Buy American Act) that it would be inconsistent with the public interest to apply the restrictions of that Act with respect to certain items of UK produced or manufactured Defense equipment procured to meet US DoD requirements (see Enclosure 4). Accordingly, bids or proposals submitted by UK sources with respect to these items of Defense equipment shall be evaluated without the application of the price differentials normally applied pursuant to the Buy American Act requirements contained in Section VI of the Armed Services Procurement Regulation (ASPR). In addition, bids and proposals shall be evaluated without the application of the price differential normally applied pursuant to the Balance of Payments requirements contained in Section VI of the ASPR. In those instances susceptible to issuance of a duty-free entry certificate, as provided in Section VI, part 6 of the ASPR, bids or proposals submitted by UK sources shall be evaluated without application of duty. If, when evaluated in accordance with the above, a UK source is determined to be the lowest, responsive, responsible bidder or offeror, the cognizant Procurement Office shall normally proceed to make award to that source.

Nothing contained herein and in the determination (Enclosure 4) pursuant to section 2 of title III of the Act of March 3, 1933 shall affect the authority or responsibility of the cognizant Service Secretary or head of a Defense Agency to reject an otherwise acceptable UK bid or proposal in those instances where such rejection is considered necessary for reasons of the national interest. In instances where such a rejection of a UK bid or proposal is contemplated, a copy of the proposed decision shall be forwarded to the OASD(MRA&L)PP, ten working days in advance of issuance.

In those instances where award is to be made to a UK source and where a duty-free entry certificate is susceptible to issuance, the contract shall provide for duty-free entry by inclusion of the appropriate clause(s) referenced in ASPR 6-603.3.

Utilization of UK Sources

In furtherance of the MOU, each DoD Component is requested to (1) publicize the existence of the MOU among its prime contractors and request that they consider UK sources for subcontracting opportunities; (2) permit attendance by UK industry (subject to the provisions of the paragraph above entitled, "Applicability") at symposia, program briefings, pre-solicitation and pre-award conferences which address US defense equipment needs and requirements (notifications/invitations should be addressed to Counsellor, (Defence Supply) British Embassy, Washington, D. C. 20008); and (3) in connection with the review of prime contractor subcontracting procedures, assure that UK sources are not precluded from obtaining subcontracts for reasons that would contravene the MOU.

Restrictions on UK Participation

Except where the quantity being procured is greater than that required to maintain the US defense mobilization base, UK sources shall be excluded from consideration for (1) participation in the production of items for which contracts are negotiated pursuant to the authority of ASPR 3-216, and (2) the restricted items set forth in ASPR 1-2207. In accordance with paragraph III H of Annex I to the MOU, a list of such items has been developed. The list will be periodically reviewed with representatives of the UK Ministry of Defence (MOD) in order to apprise them of those procurements for which UK sources will normally be excluded. From time to time new items may be identified for inclusion in this list and items already included may be deleted. All proposals for additions and deletions shall be coordinated through OASD(MRA&L)WP. Procurements of the items noted above are the only ones for which UK sources shall be prohibited from participation on the basis of protecting the defense mobilization base.

UK sources may also be excluded from participating in the procurement of other items which do not qualify as "defense items" within the meaning of this MOU because of legally imposed restrictions on their purchase from non-national sources. This category of items includes, but is not necessarily limited to, the items contained in ASPR Section VI, Part 3, and the DoD Appropriation Act prohibitions concerning the construction of Naval vessels or major components of the hull or super-structure thereof.

National Disclosure Policy may necessitate additional exclusions applicable to design, technology, or systems. Such exclusions will be determined in accordance with the technology release guidelines developed pursuant to the paragraph above entitled, "Foreign Licenses and Technical Assistance Agreements."

UK sources shall not be excluded from participating in the procurement of any items where such participation would be permitted by existing exceptions.

Implementation by DoD Components

This memorandum cancels and supersedes the previous memorandum on this subject, dated 24 November 1976.

The guidance contained in this memorandum will be incorporated in the ASPR as soon as possible. In the interim, it is requested that each addressee give broad distribution to this memorandum within his Component, as well as to major prime contractors; and take any additional action considered necessary to ensure that the spirit and intent of this agreement is fulfilled. It is further requested that information copies of Departmental instructions promulgating this guidance within your respective Components be forwarded to OASD(MRA&L)PP within 45 days from the date of this memorandum.

5

Harold Brown

Enclosures (4)
As Stated

Determination and Findings

Exception to the Buy American Act

I hereby make, as department head, the following findings and determination regarding the application of the restrictions of section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. §10a; Buy American Act) to the items of Defense equipment and other Defense items described below.

Findings

1. Section 814(a) of the Department of Defense Appropriation Authorization Act, 1976 (89 Stat. 544), as amended by section 802 of the Department of Defense Appropriation Authorization Act, 1977 (P.L. 94-361), provides that "[i]t is the policy of the United States that equipment procured for the use of personnel of the Armed Forces of the United States stationed in Europe under the terms of the North Atlantic Treaty should be standardized or at least interoperable with equipment of other members of the North Atlantic Treaty Organization." The Act provides that ". . . the Secretary of Defense shall, to the maximum feasible extent, initiate and carry out procurement procedures . . ." to carry out that policy. The Act further provides that "[w]henever the Secretary of Defense determines that it is necessary, in order to carry out [this] policy . . . to procure equipment manufactured outside the United States, he is authorized to determine, for the purpose of section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. §10a), that the acquisition of such equipment manufactured in the United States is inconsistent with the public interest."

2. The United States Government (US) and the Government of the United Kingdom of Great Britain and Northern Ireland (UK) are developing high technology weapons systems and other advanced items of Defense equipment and are seeking to achieve greater cooperation in research, development, production and procurement in these areas in order to make the most rational use of their respective industrial, economic and technological resources, to achieve the greatest attainable military capability at the lowest possible cost, and to achieve greater standardization and interoperability of their weapons systems. In order to further these aims, the US and the UK, on September 24, 1975, entered into a Memorandum of Understanding (MOU), titled "Cooperation Arrangement," which sets out the guiding principles governing mutual cooperation in Defense equipment production and purchasing and associated offset arrangements.

3. The MOU provides that the US and UK each have established policies for strengthening the mechanism essential to increasing cooperation in research, development, and production and procurement of military systems. In keeping with these policies, and in the interest of enhancing their mutual security obligations, the MOU provides that the US and UK agree to cooperate in all respects practicable, to the end that Defense equipment production and procurement efforts of the two countries be administered so as to assure the maintenance of a long-term and equitable balance, at mutually determined levels, in reciprocal purchasing of Defense equipment.

4. Among the agreed principles set forth in the MOU to facilitate the objectives of the agreement is the development by the US and UK of detailed implementation procedures, insofar as concerns reciprocal Defense purchasing, which provide for offers to be evaluated without applying price differentials under "Buy-National" laws and regulations, consistent with national laws and regulations.

5. This Determination and Findings covers all items of UK produced or manufactured Defense equipment other than those items which have been excluded from consideration under the MOU for reasons of protecting National requirements, such as for the maintenance of a Defense mobilization base, and those items subject to legally imposed restrictions on procurement from non-national sources.

Determination

Pursuant to section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. §10a; Buy American Act), I hereby determine that for the class of items described herein, it is inconsistent with the public interest to apply the restrictions of the Buy American Act.

Nothing herein shall affect the authority or responsibility of the Secretary of a Military Department or head of a Defense Agency to reject any bid or offer when he considers such rejection necessary for reasons of the national interest.

NOTICE OF POTENTIAL FOREIGN SOURCE COMPETITION

Bids or proposals for this procurement are being solicited from sources in the United Kingdom of Great Britain and Northern Ireland (UK).

It has been determined by the Secretary of Defense that the restrictions of section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. § 10a; Buy American Act) shall not apply to items of Defense equipment described in this solicitation when produced or manufactured by UK sources.

Enclosure 3

OFFICE OF THE UNDER SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

RESEARCH AND
ENGINEERING

2 AUG 1979

MEMORANDUM FOR Assistant Secretary of the Army (RDA)
Assistant Secretary of the Navy (MRA&L)
Assistant Secretary of the Air Force (RD&L)
Director, Defense Communications Agency
Director, Defense Contract Audit Agency
Director, Defense Logistics Agency
Director, Defense Mapping Agency
Director, Defense Nuclear Agency

SUBJECT: U.S./UK MOU on Reciprocal Defense Procurement

Annex I to the subject MOU, covering Implementing Procedures, was disseminated by the Secretary of Defense on 16 May 1977 to Department of Defense (DoD) Components and Agencies, together with initial guidance. Annex II to the MOU covered Mutual Acceptance of Test and Evaluation. A third Annex (enclosure) has now been signed entitled, "Reciprocal Audits of Contracts and Subcontracts." Essentially, this Annex constitutes an agreement whereby the British Ministry of Defense (MOD) will provide audit services for DoD activities contracting with British firms, and the Defense Contract Audit Agency (DCAA) will provide audit services for MOD procurement in the United States. As spelled out in the Annex, the agreement is intended to cover a broad range of audit services.

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The Annex is self-explanatory, and is effective immediately. Pending publication in the Defense Acquisition Regulation (DAR), contracting officers desiring audit services in connection with procurements from British firms should address their requests to:

Head of Contracts Policy
Procurement Executive
Ministry of Defense
St. George's Court
14 New Oxford Street
London, WCIA IEJ

Requests for audit services should specify, as a minimum, the purpose of the audit, any special requirements for information, and the office to which the audit report is to be submitted. DCAA will provide advice as necessary to contracting officers in the preparation of audit requests, and in the interpretation of audit reports received from the MOD.

Legislation is now pending before the Congress that would permit exchange of these services among NATO governments on a reciprocal no/charge basis. Pending the enactment of such legislation and consumation of implementing agreements, the United States must be compensated for the full cost of performing audit services requested by the MOD. In the event compensation is sought by the MOD for audits of British contractors, separate contracts or purchase orders for such services should be entered into for that purpose.

This Annex does not interfere with the audit prerogatives of the U.S. General Accounting Office, and does not constitute authority to delete the Examination of Records by Comptroller General clause.

R. F. Trimble

ROBERT F. TRIMBLE
Acting Deputy Under Secretary
(Acquisition Policy)

Enclosure
a/s

Memorandum of Understanding

between the

Government of Norway

and the

Government of the United States of America

concerning the

Principles Governing Mutual Cooperation

in the

Research and Development, Production and Procurement of Defense Equipment

Enclosure 1

PREAMBLE

The Government of the United States of America and the Government of Norway hereinafter referred to as the Governments:

- o Intending to increase their respective defense capabilities through more efficient cooperation in the field of research and development, production and procurement of defense equipment, in order to:
  - Make the most cost-effective and rational use of the funds allocated to defense to the extent permitted by their national policies; and
  - Promote the widest possible use of standard or interoperable equipment; and
  - Develop and maintain an advanced technological capability for the North Atlantic Alliance, and particularly with respect to the parties to this Agreement;
- o Noting that no general agreement covers harmonization of mutual procurements, although specific offset agreements have existed between them in the past; and
- o Seeking to improve the present situation and to strengthen their military capability and economic position through the further acquisition of standard or interoperable equipment

have entered into this Memorandum of Understanding in order to achieve the above aims.

This Memorandum of Understanding (MOU) sets out the guiding principles government mutual cooperation in defense equipment research and development, production and procurement.

The Government of the United States of America and the Government of Norway conclude this Memorandum of Understanding to strengthen the North Atlantic Alliance. In so doing, the Governments are fully aware that the Independent European Program Group (IEPG) wants to enhance equipment collaboration by more comprehensive and systematic arrangements among the individual member nations.

The two Governments agree that this Memorandum of Understanding should be incorporated in the larger context of the cooperation between Europe and North America within the Alliance.

All agreements or the relevant provisions of such agreements between the Independent European Program Group (IEPG) and the United States of America shall take precedence over this Memorandum of Understanding, assuming Norway is a party to such agreements.

ARTICLE I

Principles Governing Reciprocal Defense Cooperation

1. Both Governments intend to achieve and maintain a long-term equitable balance in their exchanges, in terms of the value of contracts and technological levels, to the maximum practicable extent consistent with their national policies. Equitable balance, in principle, shall be achieved when the two Governments have exhausted all means at their disposal to maximize defense R&D cooperation and reciprocal procurement to the extent permitted by the size and nature of each country's technological and industrial base.

2. This agreement is intended to cover areas in which possible bilateral cooperation could be achieved in conventional defense equipment research and development, production and procurement, complementing the work of the Conference of National Armament Directors (CNAD) and the Independent European Program Group (IEPG).

3. The two Governments will, consistent with the laws, regulations, and practices having the force of law of each Government, give full consideration to all requests for cooperative R&D, and to all requests for production and procurement which are intended to maximize Alliance standardization and/or interoperability.

4. The two Governments shall, in the spirit of cooperation, mutually determine the counting procedures that will apply to all items under this agreement (and associated services included in a contract) purchased either directly by the two Governments or through their relevant industries.

5. In the interests of standardization and the effective utilization of scarce resources, the two Governments shall, if possible, select qualified defense items that have been developed and produced in the other country to meet their requirements in accordance with the procedures of paragraph 9 below.

6. Each Government may propose to the other any particular item of equipment that might be suitable for use by the other Government. Indicative lists are provided in the annexes.

7. Both Governments will provide appropriate policy guidance and administrative procedures within their respective defense procurement organizations to facilitate achievement of the aims described in paragraph 5.

8. Barriers to procurement or coproduction of an item of defense equipment that has been developed in the other country shall be removed, insofar as laws and regulations permit. This includes the removal of customs duties and other discriminatory levies as well as the waiver of protectionist provisions.

9. Normal competitive contracting procedures shall be used in acquiring items of conventional defense equipment developed in each other's country for use by either country's defense establishment.

10. Full consideration will be given to all qualified industrial and/or Government sources in each other's country consistent with the national procurement policy and criteria. It is therefore understood that items offered shall satisfy requirements for performance, quality, delivery and cost.

11. Both Governments will review items submitted as candidates for respective requirements. They will indicate requirements and proposed purchases in a timely fashion to ensure adequate time for their respective industries to qualify for eligibility and submit a bid or proposal.

12. Each Government will ensure that the technical data packages (TDPs) made available under this MOU are not used for any purpose other than for the purpose of bidding on, and performing, a prospective defense contract without the prior agreement with those owning or controlling proprietary rights and that full protection shall be given to such proprietary rights, or to any privileged, protected, or classified data and information they contain. In no event shall the TDPs be transferred to any third country or any other transferee without the prior written consent of the originating Government.

13. Both Governments will use their best efforts to assist in negotiating licenses, royalties and technical information exchanges with their respective industries.

14. Arrangements and procedures will be established concerning follow-on logistic support for items of defense equipment covered by this Memorandum of Understanding. Both Governments will make their defense logistic systems and resources available for this purpose as required and mutually agreed.

ARTICLE II

Implementing Procedures

1. Representatives of the two Governments will be appointed to determine in detail the procedures for implementing this Memorandum of Understanding. Terms of reference will be proposed for a Norwegian-American Committee for Reciprocal Procurement, including rules governing its work. The implementing procedures under this Memorandum of Understanding shall be an integral part thereof.

2. The Under Secretary of Defense for Research and Engineering, in coordination with the Assistant Secretary of Defense for International Security Affairs, the Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics, the Director, Defense Security Assistance Agency, and other appropriate Department of Defense officials, will be the responsible authority in the United States Government for the development of implementing procedures under this Memorandum of Understanding.

3. The Director General of Armaments in the Ministry of Defense will be the responsible authority of the Government of Norway for any matter relating to the procedures for implementing this Memorandum of Understanding.

ARTICLE III

Industry Participation

1. Each Government will be responsible for calling to the attention of the relevant industries within its country the basic understanding of this Memorandum of Understanding, together with appropriate implementing guidance. Both Governments will take all necessary steps so that the industries comply with the regulations pertaining to security and to safeguarding classified information.

2. Implementation of this Memorandum of Understanding will involve full industrial participation. Accordingly, the Governments will arrange to inform their respective procurement and requirements offices concerning the principles and objectives of this Memorandum of Understanding. However, primary responsibility for finding business opportunities in areas of research and development and production shall rest with the industrial participants of each country.

ARTICLE IV

Security

1. To the extent that any items, plans, specifications or information furnished in connection with the specific implementation of this Memorandum of Understanding are classified by either Government for security purposes, the other Government shall maintain a similar classification and employ measures necessary to preserve such security equivalent to those measures employed by the classifying Government throughout the period during which the classifying Government may maintain such classification.

2. The operating procedures for the implementation of the General Security of Information Agreement dated 26 February 1970 between the United States Department of Defense and the Norwegian Ministry of Defense apply to activities under this Memorandum of Understanding.

ARTICLE V

Duration

1. This agreement will remain in effect for a ten-year period following its signing, unless otherwise agreed by both Governments.

2. If, however, either Government considers it necessary for compelling national reasons to discontinue its participation under this Memorandum of Understanding before the end of the ten-year period, written notification of its intention will be given to the other Government six months in advance of the effective date of discontinuance. Such notification of intent would be a matter of immediate consultation with the other Government to enable the Governments fully to evaluate the consequences of such termination and, in the spirit of cooperation, to take such actions as necessary to alleviate problems that may result from the termination. In this connection, although the Memorandum of Understanding may be terminated by the parties, any contract entered into consistent with the terms of this agreement shall continue in effect, unless the contract is terminated in accordance with its own terms.

ARTICLE VI

Administration

1. Each Government will designate points of contract at the Ministry of Defense level and in each purchasing service/agency.

2. Government representatives will meet as agreed or at the request of either Government to review progress in implementing the Memorandum of Understanding. They will discuss development, production and procurement needs of each country and the likely areas of cooperation; agree to the basis of, and keep under review, the financial statement referred to below; and consider any other matters relevant to the Memorandum of Understanding.

3. An annual United States/Norway Statement of the current balance, and long-term trends, of R&D cooperation and purchases between the two countries will be prepared on a basis to be mutually agreed. Such statement will take account of any United States-Norway offset agreements in force when the Memorandum of Understanding was signed, and will be reviewed during the meetings referred to in paragraph 2 above.

ARTICLE VII

Annexes

Annexes negotiated by the responsible offices and approved by the appropriate Government authorities will be incorporated in this Memorandum of Understanding and made an integral part thereof.

ARTICLE VIII

Implementation

1. The arrangements contained in this Memorandum of Understanding represent the understanding reached between the Government of the United States of America and the Government of Norway upon the matters referred to herein. Each Government must mutually agree to any amendment of this Memorandum of Understanding.

2. This agreement, in two original texts in the Norwegian and English languages, both texts being equally authentic, will come into effect at the date signed by both Governments.

For the Government of Norway
The Minister of Defense

Date MAY 19 1978

For the United States Government
The Secretary of Defense

ANNEX I

to

Memorandum of Understanding between the Government of Norway and the Government of the United States of America concerning the Principles Governing Mutual Cooperation in the Research and Development, Production and Procurement of Defense Equipment, signed at Brussels on 19 May 1978.

Implementing Procedures for the "Memorandum of Understanding between the Government of the United States and the Government of Norway Relating to the Principles Governing Cooperation in R&D, Production and Procurement of Defense Equipment" of 19 May 1978.

I. INTRODUCTION

On 19 May 1978 the Governments of the United States (US) and Norway signed a Memorandum of Understanding (MOU) relating to "The Principles Governing Cooperation in R&D, Production and Procurement of Defense Equipment." The purpose of this document is to set forth the agreed implementing procedures for carrying out the MOU.

II. MAJOR PRINCIPLES

A. The US Department of Defense (DoD) and the Ministry of Defense of Norway (MOD) will each consider for their defense requirements qualified defense items (and associated services included in a procurement contract) developed or produced in the other country. (See also Paragraph III of this Annex). MOD and DoD will also identify to one another, as soon as possible, those practices of their respective countries having the force of law that may potentially restrict the fulfillment of the Memorandum of Understanding and this Annex.

B. It will be the responsibility of government and/or industry

representatives in each country to obtain information concerning the other country's proposed developments and purchases and to respond to requests for proposals. However, the responsible governmental purchasing agencies in each country will assist sources in the other country to obtain information concerning proposed purchases, necessary qualifications and appropriate documentation.

III. ACTION

In implementing the MOU, DoD and MOD will review and, where considered necessary revise policies, procedures and regulations to ensure that the principles and objectives of this MOU, which are intended to be compatible with the broad aims of NATO Rationalization/Standardization, are taken into account. The DoD and the MOD agree that having taken the measures listed below, they will have fulfilled their obligation under Paragraph 1, Article I, of the MOU, to exhaust all means at their disposal to maximize defense R&D cooperation and reciprocal procurement. These measures will be utilized in a reasonable manner recognizing among other factors, delivery date requirements for supplies, the interest of security and the timely conduct of the procurement process, and requirements attendant to ensuring free and full competition for the award of contracts.

A. Ensure that their respective requirements offices are familiar with the principles and objectives of this MOU.

B. Ensure that their respective research and development offices are familiar with the principles and objectives of this MOU.

C. Ensure that their respective procurement offices are familiar with the principles and objectives of this MOU.

D. Ensure wide dissemination of the basic understanding of this MOU to the respective defense industries.

E. Ensure that, consistently with national laws and regulations, offers of defense items produced in the other country will be evaluated without applying to such offers, either price differentials under buy-national laws and regulations or the cost of import duties. Provisions will be made for duty free entry certificates and related documentation.

F. Assist industries in their respective countries to identify and advise the other government of their capabilities and assit such industries in carrying out the supporting actions to maximize industrial participation.

G. Review defense items submitted as candidates for respective requirements. Identify requirements and proposed purchases in a timely fashion to ensure adequate time for their respective industries to participate in the development or production procurement process.

H. Make best efforts to assist in negotiating licenses, royalties, and technical information exchanges with their respective industries.

I. Ensure that those items excluded from consideration under this MOU for reasons of protecting National requirements such as the maintenance of a defense mobilization base are limited to a small percentage of total annual defense procurement spending. It is intended that such defense items, as well as those items which would not be qualified as a defense item under this MOU because of legally imposed restrictions on procurement from non-national sources, should be identified as soon as possible in lists drawn up by MOD and OSD for their respective countries, and that the position should be kept under review at this level.

J. Ensure that the balance of reciprocal purchasing within the areas of this MOU takes into consideration the levels of technology involved, as well as the contractual value.

K. Both DoD and MOD will from time to time arrange visits by relevant personnel to the other country in order to actively explore possibilities for R&D cooperation and procurement.

IV. COUNTING PROCEDURES

The purchases to be counted against the goals of the MOU will be identified jointly by DoD and MOD. In principle (1) all items procured by the overseas Base Exchanges and Commissary Operations for resale overseas shall be counted and (2) all defense items (and associated services included in a procurement contract) purchased by DoD and MOD from the other country will be counted against the goals of the MOU as long as such purchases meet the following criteria:

A. Direct purchases by the MOD or DoD, including their respective agencies, from one another.

B. Direct purchases by either the MOD or DoD from the industry of the other country.

C. Purchases by industry from the government or industry of the other country in aid of government defense contracts.

D. Purchases by a third country government from the governments of the United States or of Norway or from industries of the two countries as a direct result of effort of the other (non-supplying) country.

E. Purchases resulting from common funded defense projects to which the United States and/or Norway are contributors, to be credited in proportion to each country's financial contribution to the project, and to work carried out in each country. The extent to which such

purchases will be counted against the goals of the MOU will be agreed between MOD and DoD in each case.

F. License fees, royalties and other associated income resulting from orders placed by industry and/or DoD or MOD with a licensed company in the other country.

V. ADMINISTRATION

A. Each country will designate points of contact at the Ministry of Defense level and in each purchasing service/agency.

B. Country representatives will meet at agreed intervals to review progress in implementing the MOU. They will discuss development, production and procurement needs of each country and the likely area of cooperation; agree to the basis of, and keep under review, the financial statement referred to below; and consider any other matters relevant to the MOU.

C. An annual United States/Norway Statement of the current balance, and long-term trends, of purchases between the two countries will be prepared on a basis to be mutually agreed. Such statement will take account of any United States-Norway Offset agreements in force when the MOU was signed, and will be reviewed during the meetings referred to in B. above.

D. Quality Assurance procedures outlines in STANAG 4107 and 4108 will apply unless other provisions are mutually agreed to on any specific contract. Reimbursement for services provided shall be afforded in accordance with the National laws and regulations of each country.

ANNEX 2

to

Memorandum of Understanding between the Government of Norway and the Government of the United States of America concerning the Principles Governing Mutual Cooperation in the Research and Development, Production and Procurement of Defense Equipment, signed in Brussels on 19 May 1978.

Indicative Products List (Norway).

The product areas listed below are indicative of Norwegian industry capability and interest.

The list shall not be considered limitative - and does not preclude Norwegian participation in United States Department of Defense evaluation and/or research and development programs.

This list is subject to updating from time to time as agreed.

In some instances Norwegian participation could take the form of delivery of components.

For co-operative research and development purposes Norwegian interest includes complete systems.

Army.

Artillery including Fire Control

- Fire Control Systems
- Radar Chronograph
- Mortar Fire Control Systems
- Anti-tank Missile Systems
- Army Air Defense Systems (Guns and Missiles)

Ammunition

Multi-purpose Ammunition

- Mortar Bombs (81 mm)
- Smoke Systems - Instantaneous Smoke
- Special Explosives
- Proximity Fuzes

Communication Equipment

- Command Control and Information Systems
- SHF-Radio Link

NBC Protective Equipment

- Protective Clothing
- NBC Decontamination Equipment

Combat Vehicles/Transport Vehicles

- Laser Sensors

Miscellaneous

- Fire Alarm Systems
- Electric and other Cables

Navy.

- Ship-to-Ship Missile Systems
- Air-to-Ship Missile Systems
- Shipborne Air Defense and Anti-Ship Missile Defense Systems (Guns and Missiles)
- Inertial Navigation Systems
- Fire Control Systems
- Command, Control and Information Systems

} For small and medium sized surface vessels and submarines

Air Force.

- Air Defense Missile and Gun Systems
- Control and Reporting Systems
- Air-to-Air Missile Systems

- Air-to-Ground Missile Systems
- Pneumatic Jet Starter

Miscellaneous.

- Ships Gear (Hydraulic Pumps, Steering Gear, Winches, Welding Equipment, etc.)
- Steel Wire and Nylon Rope
- Special Purpose Computers
- Special Forgings.

THE SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301

OCT 2 1 1978

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
UNDER SECRETARY OF DEFENSE FOR POLICY
UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING
ASSISTANT SECRETARIES OF DEFENSE
DIRECTOR, DEFENSE COMMUNICATIONS AGENCY
DIRECTOR, DEFENSE LOGISTICS AGENCY
DIRECTOR, DEFENSE SECURITY ASSISTANCE AGENCY

SUBJECT: U.S.-Norway MOU on Reciprocal Defense Procurement

On May 19, 1978 the U.S. and the Government of Norway entered into a reciprocal defense procurement Memorandum of Understanding (MOU) (Enclosure 1) with the objective of providing for a long term "equitable balance" in defense trade. The primary purpose of this agreement is to promote greater U.S.-Norwegian cooperation in research and development (R&D), production and procurement in order to enhance NATO rationalization and standardization, and thereby to achieve the greatest NATO capability at the lowest possible cost. Annexes I and II to this MOU contain procedures for carrying out the MOU. The purpose of this memorandum is to provide initial guidance on the implementation of the MOU. Norway will in turn take necessary steps within its own acquisition framework to ensure that U.S. contractors have access to the Norwegian defense market, in keeping with the purposes of the MOU.

Applicability

This guidance shall apply to all acquisitions of defense items and related services (to include components, subsystems, and major systems at all technology levels, and at any phase of the acquisition cycle from concept definition through production), except where restricted by (1) provisions of U.S. National Disclosure Policy (NDP); (2) U.S. laws or regulations; or (3) U.S. defense mobilization base requirements and subject to U.S. Industrial Security Requirements all as further discussed herein.

Responsibility for Implementation

The MOU states that it is principally the responsibility of the industry of each country to seek a market for its products. Department of Defense (DoD) personnel shall nonetheless, whenever possible, take positive action to facilitate this effort. Norwegian

sources are to be provided every opportunity to compete on a fair and equal basis with U.S. sources for both R&D and production contracts, consistent with National Disclosure Policy and legal or regulatory restrictions.

Security

The U.S and Norway entered into a general Security of Information Agreement on 26 February 1970. The agreement covers aspects and details concerning protection of U.S. and Norwegian classified information exchanged between both countries. The primary document which implements procedures for safeguarding classified information within industry under bilateral agreements is Section VIII of the Industrial Security Regulation (DoD 5220.22-R). This section, entitled, "International Security Program," also includes detailed requirements concerning security of foreign classified contracts or subcontracts in the U.S. (para. 8-103), and security of U.S. classified contracts or subcontracts awarded to a foreign contractor (para. 8-104).

All recipients are reminded that the Directorate of Industrial Security, Headquarters, Defense Logistics Agency, must be informed whenever a U.S. contractor is authorized to place a U.S. classified contract in a foreign country involving disclosure of U.S. classified information to the foreign country (para. 8-104c).

Foreign Licenses and Technical Assistance Agreements

Technical assistance in the form of data, foreign patent rights, manufacturing aids, etc., necessary to enable Norwegian sources to produce supplies or perform services may be exported by means of Foreign Licenses and Technical Assistance Agreements using either Foreign Military Sales (FMS) or International Traffic in Arms Regulations (ITAR) procedures. The cognizant DoD Component will insure that proper coordination and approvals are obtained. Such coordination should be done expeditiously to enable timely teaming relationships between U.S. and Norway firms. (Reference DoD 5030.28).

For major programs where exports of large amounts of data would be involved, creation of a "U.S. Government Approved Project" (reference 22 CFR § 125.11 (a) (10)) should be considered for proposal to the Department of State as a potential mechanism for simplifying the Governmental approval process for information released. In cases where this mechanism is determined to be appropriate, as well as in

cases involving sensitive design and manufacturing technologies, technology release guidelines will be prepared to provide necessary guidance to the U.S. project office or other implementing activity. Such guidelines must be coordinated with OUSDRE, OASD(MRA&L), and OASD(ISA) which in turn will coordinate with the Department of State. It should be noted that the provisions of the National Disclosure Policy apply to the export of U.S. classified military information through direct commercial channels (ITAR) as well as under FMS procedures. Specific guidance is provided in the Industrial Security Regulation DoD 5220.22R; DAR Section IX, Part 3; DoD Directive 5230.11; and 22 CFR 121-128 (ITAR) as implemented by DoD Directive 5030.28.

Issuance and Evaluation of Solicitations

When Norwegian sources are provided copies of Requests for Proposals (RFP) or Invitations for Bid (IFB), procurement offices will ensure that a reasonable period is permitted for all sources to respond to solicitations.

Where the possibility of competition from Norwegian sources exists, notification shall be given to all potential competitors by the inclusion of an appropriate clause in the solicitation document. A sample clause entitled, "Notice of Potential Foreign Source Competition" is attached as a guide (Enclosure 2) until such time as an approved clause is published in the DAR.

Norwegian sources competing for DoD requirements must be responsible to all normal terms and conditions of DoD solicitations (e.g., quality, performance, delivery, logistic support, etc.). If unusual technical or security requirements would preclude the acquisition of otherwise cost effective Norwegian defense items, the need for such requirements should be specifically reviewed. Under no circumstances will unusual technical or security requirements be imposed for the purpose of precluding the acquisition of Norwegian defense items.

In addition, Norwegian sources will not be automatically excluded from submitting bids or proposals because their defense items have not been tested and evaluated by a U.S. DoD Component. Components which find it necessary to limit solicitations to sources whose items have been service tested and evaluated by the Component, should make provisions for considering Norwegian items which have been tested and accepted by Norway for service use, subject to U.S. confimatory tests if necessary. Where it appears that these provisions might adversely delay Service programs, the concurrence of the DoD Acquisition Executive will be obtained prior to the exclusion of the Norwegian items from consideration. Sufficiency of Norwegian service testing should be considered on a case-by-case basis. When U.S. confirmatory

tests are deemed necessary by the Component, U.S. test and evaluation standards, policies, and procedures will apply.

In furtherance of the objectives set forth in the attached MOU and Annexes I and II thereto, it has been determined (Enclosure 3) pursuant to section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. § 10a, Buy American Act) that it would be inconsistent with the public interest to apply the restrictions of that Act with respect to any defense items of Norwegian origin or manufacture procured to meet DoD requirements, unless specifically restricted. Accordingly, bids or proposals submitted by Norwegian sources shall be evaluated without the application of the price differentials normally applied pursuant to the Buy American Act requirements contained in Section VI of the DAR. In addition, these bids and proposals shall be evaluated without the application of the price differential normally applied pursuant to the Balance of Payments requirements contained in Section VI, parts 1 and 8 of the DAR. In those instances susceptible to issuance of a duty-free entry certificate, as provided in Section VI, part 6 of the DAR, bids and proposals submitted by Norwegian sources shall be evaluated without application of duty. If, when evaluated in accordance with the above, a Norwegian source is determined to be the lowest, responsive, responsible bidder or offeror, or submits the best technical proposal in accordance with the factors outlined in the solicitation, the cognizant Procurement Office shall normally proceed to make award to that source.

Nothing contained herein and in the Determination and Findings (D&F) (Enclosure 3) pursuant to the Buy American Act, 41 U.S.C. § 10a (1970), shall affect the authority or responsibility of the cognizant Military Department Secretary or head of a Defense Agency to reject an otherwise acceptable Norwegian bid or proposal in those instances where such rejection is considered necessary for reasons of the national interest. In instances where such a rejection of a Norwegian bid or proposal is contemplated, a copy of the proposed decision shall be forwarded to the DUSD(AP), ten working days in advance of issuance. In those instances where award is to be made to a Norwegian source and where a duty-free entry certificate is susceptible to issuance, the contract shall provide for duty-free entry by inclusion of the appropriate clause(s) referenced in DAR 6-603.3.

Utilization of Norwegian Sources

In furtherance of the MOU, each DoD Component is requested to (1) publicize the existence of the MOU among its prime contractors and request that they consider Norwegian sources for subcontracting opportunities;

(2) permit attendance by Norwegian industry (subject to the provisions of the paragraph above entitled, "Applicability") at symposia, program briefings, pre-solicitation and pre-award conferences which address U.S. defense equipment needs and requirements; and (3) in connection with the review of prime contractor subcontracting procedures, assure that Norwegian sources are not precluded from obtaining subcontracts for reasons that would contravene the MOU (see Enclosure 4 for a sample of items produced by Norwegian Industry.)

Restrictions on Norwegian Participation

Except where the quantity being procured is greater than that required to maintain the U.S. defense mobilization base, Norwegian sources shall be excluded from consideration for (1) participation in the production of items for which contracts are negotiated pursuant to the authority of DAR 3-216, and (2) the restricted items set forth in DAR 1-2207. In accordance with paragraph III of Annex I to the MOU, a list of such items has been developed (see Enclosure 5). The list will be periodically reviewed with representatives of the Norwegian Ministry of Defense (MOD) in order to apprise them of those procurements for which Norwegian sources will normally be excluded. From time to time new items may be identified for inclusion in this list and items already included may be deleted. All proposals for additions and deletions shall be coordinated through DUSD(AP). Acquisition of the items noted above are the only ones for which Norwegian sources shall be prohibited from participation on the basis of protecting the defense mobilization base.

Norwegian sources may also be excluded from participating in the acquisition of other items because of restrictions imposed by law on their purchase from non-national sources. This category of items includes, but is not necessarily limited to, the items contained in DAR Section VI, Part 3, and the DoD Appropriation Act prohibitions concerning the construction of Naval vessels or major components of the hull or super-structure thereof.

Applicable exclusions will be determined in accordance with the technology release guidelines developed pursuant to the paragraph above entitled, "Foreign Licenses and Technical Assistance Agreements."

Norwegian sources shall not be excluded from participating in the acquisition of any items where such participation would be permitted by existing exceptions.

Implementation by DoD Components

The guidance contained in this memorandum shall be incorporated in the Defense Acquisition Regulation (DAR) as soon as possible. In the interim, it is requested that each addressee give broad distribution to this memorandum within his component, as well as to major prime contractors; and take any additional action considered necessary to ensure that the spirit and intent of this agreement is fulfilled. It is further requested that information copies of Departmental instructions promulgating this guidance within your respective Components be forwarded to DUSD(AP) within 45 days from the date of this memorandum.

Harold Brown

Enclosures 5
a/s

Determination and Findings
Exception to the Buy American Act

I hereby make, as department head, the following findings and determination regarding the application of the restrictions of the Buy American Act, 41 U.S.C. § 10a (1970) to the items of defense equipment described below.

Findings

1. Section 814(a) of the Department of Defense Appropriation Authorization Act, 1976, Pub. L. No. 94-106, 89 Stat. 544 (1975), as amended by section 802 of the Department of Defense Appropriation Authorization Act, 1977, Pub. L. No. 94-361, 90 Stat. 930 (1976), provides that "it is the policy of the United States that equipment procured for the use of personnel of the Armed Forces of the United States stationed in Europe under the terms of the North Atlantic Treaty should be standardized or at least interoperable with equipment of other members of the North Atlantic Treaty Organization." The Act provides that "... the Secretary of Defense shall, to the maximum feasible extent, initiate and carry out procurement procedures..." to carry out that policy. The Act further provides that "whenever the Secretary of Defense determines that it is necessary, in order to carry out this policy... to procure equipment manufactured outside the United States, he is authorized to determine, for the purpose of section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. 10a), that the acquisition of such equipment manufactured in the United States is inconsistent with the public interest."

2. The United States Government (U.S.) and the Government of Norway are seeking to achieve greater cooperation in research, development, production and procurement of defense equipment in order to make the most rational use of their respective industrial, economic and technological resources, to achieve the greatest attainable military capability at the lowest possible cost, and to achieve greater standardization and interoperability of their weapons systems. In order to further these aims, the U.S. and the Government of Norway entered into a Memorandum of Understanding (MOU) relating to mutual cooperation in the research and development, production and procurement of defense equipment.

3. In furtherance of the MOU, the U.S. and the Government of Norway each have established policies for increasing cooperation in research, development, and production and procurement of military systems. In keeping with these policies and in the interest of enhancing their mutual security obligations, the U.S. and the Government of Norway intend to cooperate in all respects practicable, to the end that defense equipment production and procurement efforts of the two

countries be administered so as to assure the maintenance of a long-term and equitable balance, at mutually determined levels, in reciprocal purchasing of defense equipment.

4. In order to facilitate the objectives of the agreement the U.S. and the Government of Norway have agreed that, consistent with national laws and regulations, each government will evaluate offers of defense equipment produced in the other country without applying price differentials under the "Buy National" laws and regulations.

5. This Determination and Findings covers all items of Norwegian produced or manufactured defense equipment other than those items that have been excluded from consideration under the MOU for reasons of protecting national requirements, such as for the maintenance of a defense mobilization base, and those items subject to restrictions imposed by law on procurement from non-national sources.

Determination

Pursuant to 41 U.S.C. § 10a (1970), I hereby determine that it is inconsistent with the public interest to apply the restrictions of the Buy American Act to the acquisition of those items of Norwegian produced or manufactured defense equipment that are covered by this Determination and Findings.

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Date OCT 2 1 1978

Harold Brown

NOTICE OF POTENTIAL FOREIGN SOURCE COMPETITION

Bids or proposals for this procurement are being solicited from sources in Norway. Furthermore, U.S. bidders may propose end items of Norwegian manufacture.

It has been determined by the Secretary of Defense that the restric-
of section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. §§ 10a; Buy American Act) shall not apply to items of Defense equipment described in this solicitation when produced or manufactured by Norwegian sources.

Enclosure 2

DoD LIST OF RESTRICTED DEFENSE ITEMS UNDER MOU FOR RECIPROCAL DEFENSE PROCUREMENT

Section I - Items Procured Pursuant to ASPR 3-216

Navy

Fuzes, Safe and Arm Devices, and Similar Items

MK-13 Safe and Arm Device
MK-13 Triggering Device
MK-17 Safe and Arm Device
MK-33 Safe and Arm Device
MK-330 Fuze
MK-334 Fuze
MK-404 Fuze
MK-407 Fuze
FMU-109 Fuze

Missiles and Missile Components

AIM-7F Sparrow Missile
- Guidance and Controls Section
- MK-58 Rocket Motors
- MK-71 Warhead Metal Parts

AIM-9L Sidewinder Missile
- Guidance and Control Section
- MK-36 Rocket Motors
- DSU-15 Target Detector
- AN/WDU-17 Warhead

Trident I (C-4) Missile System
- Guidance and Control System
- MK-5 Electronic Assemblies (EA)
- MK-5 Inertial Measurement Unit Electronics (IMUE)
- Backfit of Poseidon (C-3) SSBNs

Flares

MK-46 Flares, Infrared Decoy

Sonobuoys and Components

AN/SSQ-36
AN/SSQ-41B
AN/SSQ-47B
AN/SSQ-53A
AN/SSQ-57A
AN/SSQ-62

Military Sealift Cargo

Ocean Transportation and Services

Air Force

MAC Commercial Airlift
GAU-8/A and 30mm Ammo

Defense Logistics Agency

Textiles - Worsted

Army

L.A.P., Manufacturing & testing of projectiles (5.56mm through 8 inch), mines, dispensers, sockets, pyrotechnic devices, grenades, demolition charges, small arms ammunition and components, fuzes and components containing mech. timing devices

TOW Missile and Launcher
2.75 Rocket Items

LAP Motor	Igniter
Fin & Nozzle Assy	Motor Tube
Stabilizer Rod	Seal Rings
Felt Washer	Disc Charge Support
Ring Charge Support	Spacer Charge Support
O Ring	Lockwire
Metal Spacer	Launcher
Intervelometer	Fin Blades

Projectile Metal Parts for Cartridge 105mm (Beehive)
Projectile M406, M107 - 155mm
Projectile M509 - 8"
155mm Cannister, XM625, XM626:
Projectile Metal Parts for Cartridge 90mm
Cartridge Case M118, M14B4
Fuze Time M84A1
Fuze Grenade M213, M219E1, M42/M46
Fuze Bomb Nose M904E3, M19
Fuze Rocket M423, M565, M564
Fuze M494/M571
Head Assy M525 Fuze
Casing Burster Warhead, M156
Fin Assy M158, M170
Adapter Booster - M147, M148
Body Assy and Base Plug, M404
Bomb, M117A1E1
Laumcher Rocket 2AU 68A/A
Warhead Flechets WDU 4A/A
M18 Mine Program
Blasting Cap, Firing Device, Metal Parts, Test Sets
Laser Range Finder VVG-2 and XM21 for Solid State Balistic Computer for M60 Series Tank
Limited Light Sight
MX-9644 Image Intensifier Tube 25mm

MX-7845 Image Intensifier Tube (1st generation)
MX-8501 Image Intensifier Tube (1st generation)
BA-4386 Battery
AN/PVS-4 Night Vision Sights
AN/PVS-5 Night Vision Goggles
AN/PVS-5A Night Vision Goggles
AN/VVS-2 Viewer
AN/VSS-3 Searchlight
Common Module Program (thermal Imaging System)
  Tactical night vision systems -
    AN/TAS-4 AN/TAS-6
    AN/TAS-5 GLLD/TAS-4
Maintenance of idle portions of 21 GOCO facilities
Consolidated Facilities Scranton AAP

Section II Items Procured Pursuant to referenced ASPR requirement

ASPR 1-2207.2 - Jewel Bearings & Related Items
ASPR 1-2207.3 - Miniature & Instrument Ball Bearings
ASPR 1-2207.4 - Precision Components for Mechanical Time Devices

AMBASSADE VAN HET KONINKRIJK DER NEDERLANDEN
4200 Linnean Avenue, N.W.
Washington D.C. 20008.
Tel.: (202) 244-5300 ext.254.

ROYAL NETHERLANDS
EMBASSY

OFFICE OF THE DEFENSE ATTACHE.

No.DA/16/82. Washington D.C., 6 September

Subject: Memorandum of Understanding.

Enclosures: 1.

Dr. George R. Crossman
Chief, Management Division
Directorate for Operations
Office of the Defense Security Assistance
Agency
Department of Defense
Room 4E671, The Pentagon
Washington D.C. 20301.

Dear Mr. Crossman,

Please, find attached the Memorandum of Understanding (MOU) between the Governments of the United Sta of America and the Kingdom of the Netherlands, duly sign by the Netherlands Minister of Defense, Mr. Willem Schol on 24 August 1978.

I thank you very much for your assistance and cooperation in executing this MOU in such an expeditious manner.

Sincerely,

J.J. BURGDIJK.
Rear Admiral, RNLN
Defense Attache.

PREAMBLE

The Government of the United States of America and the Government of the Kingdom of the Netherlands, duly represented by their Ministers of Defense:

Intending to increase their respective defense capabilities through more efficient cooperation in the fields of research and development, production and procurement in order to:

- Make the most cost-effective and rational use of the resources available for defense,

- Ensure the widest possible use of standard or interoperable equipment,

- Develop and maintain an advanced industrial and technological capability for the North Atlantic Alliance, and particularly with respect to the parties to this Memorandum of Understanding (MOU), and

Seeking to improve the present situation and to strengthen their military capability and economic position through the further acquisition of standard or interoperable equipment, and

Recalling that they had agreed, as members of the Alliance, to maximum cooperation in procurement as set forth in Annex A to NATO Document C-M(75)51 (revised), dated 20 August 1975,

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Have entered into this Memorandum of Understanding in order to achieve the above aims.

This Memorandum of Understanding sets out the guiding principles governing mutual cooperation in research and development, production and procurement of conventional defense equipment.

The two Governments conclude this MOU to strengthen the North Atlantic Alliance. In so doing, the Governments are fully aware that the Independent European Program Group (IEPG) wants to enhance equipment collaboration by more comprehensive and systematic arrangements. They therefore agree that in the event of a possible conflict between agreements entered into between the IEPG and the Government of the United States, and this MOU, the parties hereto will consult with a view to amending this MOU.

The two Governments further agree that this MOU should be viewed in the larger context of the cooperation between Europe and North America within the Alliance and that this cooperation will be carried out pursuant to the Mutual Defense Assistance Agreement between the Government of the United States of America and the Government of the Kingdom of the Netherlands, signed 27 January 1950.

ARTICLE I

Principles Governing Reciprocal Defense Cooperation

1. Both Governments intend to facilitate the mutual flow of defense procurement, taking into consideration relative technological levels of such procurement, and consistent with their national policies. This facilitation shall be sought through the provision of opportunities to compete for procurements of defense equipment and services as well as through the coproduction of defense equipment and defense R&D cooperation.

2. This MOU is intended to cover areas in which possible bilateral cooperation could be achieved in research and development, production and procurement of conventional defense equipment, complementing the work of the Conference of National Armament Directors (CNAD) and the Independent European Program Group (IEPG).

3. The two Governments will, consistent with their relevant laws and regulations, give the fullest consideration to all requests for cooperative R&D, and to all requests for production and procurement which are intended to enhance standardization and/or interoperability within the Alliance.

4. In the interests of standardization and the effective utilization of scarce resources, the two Governments shall, to the extent possible, adopt qualified defense items that have been developed or produced in the other country to meet their requirements. Defense items or services are those items or services which may be procured utilizing appropriated funds of the U.S. Department of Defense or budgeted funds of the Netherlands Ministry of Defense.

5. The two Governments shall mutually determine the counting procedures to be laid down in an Annex to this MOU that will apply to all defense items and defense services purchased by them directly or through their relevant industries under this MOU.

6. Each Government shall from time to time notify the other Government of defense items that may not be acquired by the notifying Government from other than domestic sources, as well as those defense items that may be particularly suitable for acquisition by the other Government.

7. Both Governments will provide appropriate policy guidance and administrative procedures within their respective defense acquisition organizations to facilitate achievement of the aims of this MOU.

8. Competitive contracting procedures shall normally be used in acquiring items of defense equipment developed or produced in each other's country for use by either country's defense establishment.

9. The detailed implementing procedures, to be agreed, will, consistent with and to the extent permitted by national laws and regulations, incorporate the following:

a. Offers or proposals will be evaluated without applying price differentials under buy national laws and regulations and without applying the costs of import duties;

b. Full consideration will be given to all qualified industrial and/or governmental resources in each other's country;

c. Offers or proposals will be required to satisfy requirements of the purchasing Government for performance, quality, delivery and costs.

10. Both Governments will review items submitted as candidates for respective requirements. They will indicate requirements and proposed purchases in a timely fashion to ensure adequate time for their respective industries to qualify for eligibility and submit a bid or proposal.

11. Each Government will ensure that the technical data packages (TDP's) made available under this MOU are not used for any purpose other than for the purpose of bidding on, and performing, a prospective defense contract without the prior agreement of those owning or controlling proprietary rights and that full protection shall be given to such proprietary rights, or to any privileged, protected, or classified data and information they contain. In no event shall the TDP's be transferred to any third country or any other transferee without the prior written consent of the originating Government.

12. Both Governments will use their best efforts to assist in negotiating licenses, royalties and technical information exchanges with their respective industries or other owners of such rights.

13. Arrangements and procedures will, at the request of the purchasing government, be established concerning follow-on logistic support for items of defense equipment, purchased pursuant to this MOU. Both Governments will make their defense logistic systems and resources available for this purpose as required and mutually agreed.

ARTICLE II

Implementing Procedures

1. Representatives of the two Governments will be appointed to determine in detail the procedures for implementing this MOU and the terms of reference for a Netherlands-U.S. Committee for Procurement Cooperation.

2. The Under Secretary of Defense for Research and Engineering, in cooperation with the Assistant Secretary of Defense for International Security Affairs, the Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics, the Director, Defense Security Assistance Agency, and other appropriate Department of Defense officials, will be the responsible authority in the United States Government for the development of implementing procedures under this MOU.

3. The Director General for Materiel in the Ministry of Defense, in cooperation with other appropriate government authorities, will be the responsible authority of the Government of the Netherlands for the development of the implementing procedures under this MOU.

ARTICLE III

Industry Participation

1. Each Government will be responsible for calling to the attention of the relevant industries within its territory the basic understanding of this MOU, together with appropriate implementing guidance. Both Governments will take all necessary steps so that the industries comply with the regulations pertaining to security and to safeguarding classified information.

2. Implementation of this MOU will involve full industrial participation. Accordingly, the Governments will arrange to inform their respective procurement and requirements offices concerning the principles and objectives of this MOU. However, primary responsibility for finding business opportunities in areas of research and development and production shall rest with the industries in each nation.

ARTICLE IV

Security

To the extent that any items, plans, specifications or information furnished in connection with the specific implementation of this MOU are classified by either Government for security purposes, the other Government shall maintain a similar classification and employ all measures necessary to preserve such security equivalent to those measures employed by the classifying Government throughout the period during which the classifying Government may maintain such classifications.

ARTICLE V

Administration

1. The Netherlands-U.S. Committee for Procurement Cooperation, referred to in Article II above, will meet as agreed or at the request of either Government to review progress in implementing the MOU. They will discuss research and development, production and procurement needs of each nation and the likely areas of cooperation; agree to the basis of, and keep under review, the financial statement referred to below; and consider any other matters relevant to the MOU.

2. Each Government will designate points of contact at the Ministry of Defens level and in each purchasing service/agency under the Ministries of Defense.

3. An annual United States-Netherlands statement of the current balance, and long-term trends, of R&D cooperation and purchases between the two nations will be prepared on a basis to be mutually agreed. Such statement will take account of United States-Netherlands purchases of defense equipment and services and related offset agreements effected in the years from 1975 onwards and will be periodically reviewed.

ARTICLE VI

Annexes

Annexes negotiated by the responsible officials and approved by the appropriate Government authorities will be incorporated in this MOU.

ARTICLE VII

Duration

1. This MOU will remain in effect for a ten-year period and will be extended for successive five-year periods, unless the Governments mutually decide otherwise.

2. If, however, either Government considers it necessary for compelling national reasons to terminate its participation under this MOU before the end of the ten-year period, or any extension thereof, written notification of its intention will be given to the other Government six months in advance of the effective date of termination. Such notification of intent shall become a matter of immediate consultation with the other Government to enable the Governments fully to evaluate the consequences of such termination and, in the spirit of cooperation, to take such actions as necessary to alleviate problems that may result from the termination. In this connection, although the MOU may be terminated by the Parties, any contract entered into consistent with the terms of this MOU shall continue in effect, unless the contract is terminated in accordance with its own terms.

3. The Parties hereto agree that, for the purposes of this MOU, references to the Kingdom of the Netherlands shall apply only to its territory in Europe.

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ARTICLE VIII

Implementation

This MOU will come into effect on the date of the last signature.

For the Government of the Kingdom of the Netherlands
The Minister of Defense

Date 24 AUG 1978

For the Government of the United States of America
The Secretary of Defense

Harold Brown

Date JUL 25 1978

ANNEX I

TO

Memorandum of Understanding between the Government of the Kingdom of the Netherlands and the Government of the United States of America Concerning the Principles Governing Mutual Cooperation in the Research and Development, Production and Procurement of Defense Equipment, dated 24 August 1978.

PRINCIPLES GOVERNING IMPLEMENTATION

1. INTRODUCTION

On 24 August 1978, the Governments of the United States and the Kingdom of the Netherlands signed a Memorandum of Understanding (MoU) relating to the principles governing mutual cooperation in research and development, production and procurement of defense equipment. This document sets forth the agreed implementing procedures for carrying out the MoU.

2. MAJOR PRINCIPLES

A. The U.S. Department of Defense (DoD) and the Ministry of Defense of the Netherlands (MoD) will consider for their defense requirements qualified defense items and services developed or produced in the other country.

B. It will be the responsibility of government and/or industry representatives in each country to acquire information concerning the other country's proposed research, developments, and purchases and to respond to requests for proposals in accordance with the prescribed procurement procedures and regulations. However, the responsible government agencies in each country will assist sources in the other country to obtain information concerning, intended research and development, proposed purchases, necessary qualifications and appropriate documentation.

3. ACTION

DoD and MoD will review and, where considered necessary, revise policies, procedures and regulations to ensure that the principles and objectives of this MoU, which are inetended to be compatible with the broad aims of NATO Rationalization/Standardization, are taken into account. DoD and MoD agree that the following measures shall be taken, recognizing that among other factors, delivery date requirements for supplies, the interest of security and the timely conduct of the procurement process, are considerations related to insure free and full competition for the award of contracts:

A. Ensure that their respective requirements offices are familiar with the principles and objectives of this MoU.

B. Ensure that their respective research and development offices and institutes are familiar with the principles and objectives of this MoU.

C. Ensure that their respective procurement offices are familiar with the principles and objectives of this MoU.

D. Ensure wide dissemination of the basic understanding of this MoU to their respective industries producing and/or developing defense items and/or services.

E. Ensure that, consistent with national laws and regulations, offers of defense items produced in the other country will be evaluated without applying to such offers, either price differentials under buy-national laws and regulations, or the cost of import duties. Full consideration will be given to all qualified industrial and/or governmental sources in each other's country. Provisions will be made for duty-free entry certificates and related documentation to the extent that existing laws and regulations permit.

F. Assist industries in their respective countries to identify and advise the other government of their production capabilities and assist such industries in carrying out the supporting actions to maximize industrial participation.

G. Review defense items and requests for services submitted by the other country as candidates for respective requirements. Identify requirements and proposed purchases to the other country in a timely fashion to ensure that the industries of such country are afforded adequate time to be able to participate in the research and development production and procurement processes.

H. Use best efforts to assist in negotiating licenses, royalties, and technical information exchanges among their respective industries, and research and development institutes.

I. Ensure that those items and services excluded from considereation under this MoU for reasons of protecting national requirements, such as the maintenance of a defense mobilization base, (Appendix 3, Annex I), are limited to a small percentage of total annual defense procurement spending. It is intended that such defense items and services, as well as those items and services that must be excluded from consideration under this MoU because of legally imposed restrictions on procurement from non-national sources, be identified as soon as possible by the MoD and the DoD, and that such defense items and services be kept under review at this level.

J. Insure that the balance of reciprocal purchases takes into consideration the levels of technology involved, as well as the monetary value of purchases hereunder.

K. DoD and MoD will from time to time arrange visits in order to actively explore possibilitis for cooperation on research and development, procurement, and logistical support.

4. COUNTING PROCEDURES

The following purchases, to be identified jointly by DoD and MoD will be included in the counting procedures:

A. Purchases of items and services funded from appropriate funds of the U.S. Department of Defense or budgeted funds of the Netherlands Ministry of Defense and which, either/are:

(1) directly purchased by the MoD or DoD from one another;

or

(2) directly purchased by the MoD or DoD from the industry of the other country; or

(3) purchased by the industry of one country from the Government or industry of the other country; or

(4) purchased as a result of jointly funded defense projects to which the United States and the Netherlands are the only

contributors, to be credited in proportion to each other country's financial contribution to the project, and to work carried out in each country. The extent to which such purchases will be counted against the goals of the MoU will be agreed upon between MoD and DoD in each case;

(5) license fees, royalties and other associated income, when separately contracted, by industry and/or DoD or MoD with a licensor in the other country.

B. Purchases by the MoD or DoD from the industry of the other country, on behalf of other governmental departments and agencies.

C. Purchases by a third country government from the MoD or DoD or from industries of these two countries as direct result of the efforts of the government of the other country.

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5. ADMINISTRATION

A. Each government will designate points of contact (procurement and logistics) at the Ministry of Defense level and in each purchasing service/agency and major acquisition activity.

B. Quality Assurance procedures outlined in STANAG 4107 and 4108 (subject to the USG reserve concerning reimbursement) will

apply, unless other provisions are mutually agreed to on any specific contract. Reimbursement of services provided shall be afforded in accordance with the national laws and regulations of each country.

C. The terms of reference of the Netherlands/United States Committee of Procurement Cooperation is contained in Annex III.

For the Government of the United States of America

Date 21 DEC 1976

For the Government of the Netherlands

Date 21 DEC 1976

Appendices
1. Indicative Products List
2. Research and Development
3. DoD List of Restricted Defense Items

APPENDIX 1, Annex 1
to

Memorandum of Understanding between the Government of The Netherlands and the Government of the United States of America concerning the Principles Governing Mutual Cooperation in the Research and Development, Production and Procurement of Defense Equipment, signed on the 24th of August 1978.

Indicative Products List (The Netherlands)

The product areas listed below are indicative of The Netherlands industry capability.
The list shall not be considered limitative and is subject to up-dating from time to time as agreed.
In some cases the Netherlands'participation could take the form of production of components or sub-assemblies.

1. Aircraft/Aircraft systems
   a. Maritime/Fishery Patrol Aircraft
   b. Feeder line/Executive transport Aircraft
   c. Aircraft sub-assemblies
   d. Accessory Test-benches for aero-engines
   e. Test equipment (incl.depot)for avionic and electronic systems
   f. Laboratory test equipment
   g. Aerospace ground Equipment

2. Electronics
   a. Military and civil (automatic) telecommunications systems and equipment
   b. Automatic Air Traffic Control Systems
   c. Tactical display consoles
   d. Integrated command and fire control systems
   e. Radar-systems (e.g. navigation-, fire control-, 3D multi-tracing-, shipping control radar systems)
   f. Crypto systems
   g. Computers and data handling systems
   h. Digital video processing systems

i. Electronic security systems
j. Navigation systems
k. Transponders
l. Paging systems
m. Self propelled air defence systems
n. Automatic message switching systeme

3. Electro-optical equipment
a. (far) Infra-red equipment
b. Airborne passive IR day and night photo recce systems
c. Passive night vision goggles
d. Passive night viewing systems
e. Night vision systems (drivers and fire control) passive a thermal infra-red
f. Laser rangefinders

4. Vehicles
a. Military trucks and trailers
b. Aircraft and other Fuel tankers
c. Fire fighting vehicles - crash tenders
d. Truck-transportable containers/shelters
e. Tank transporting vehicles

5. Shipbuilding
a. Frigates
b. Mine countermeasure vessels (polyesther)
c. Submarines
d. Pilot tenders
e. Hydrographic survey vesses
} including des and engineerin services.
g. Gearboxes
h. Ships propellers (fixed and variable pitch)
i. Generators
j. Electrical installations (incl. switch boards)

6. Ammunition and explosives

a. o.50 ammunition
b. 25, 35 and 40 mm caliber ammunitions
c. 105 mm tank ammunition FS/APDS
d. 105 mm tank training rounds
e. 105 mm heat (improved)
f. 155 mm artillery ammunition
g. Proximity Fuses
h. Gunpowder
i. Smoke signals
j. Dummy ammunition
k. Ammunition boxes
l. Shackles for ammuntion belts
m. NATO Seasparrow ancillaries (existing coproduction)
n. River Mines

7. Maintenance

a. Industry level maintenance,of military and civil aircraft, aircraft systems and missile systems, including structural repair of aircraft
b. Depot and industry level repair and maintenance of aircraft engines
c. Depot maintenance on communication-radar-sonar and firecontrol equipment
d. Industry and depot shipconstruction, repair and maintenance.

Appendix 2 Annex 1

to

Memorandum of Understanding between the Government of The Netherlands and the Government of the United States of America concerning the Principles Governing Mutual Cooperation in the Research and Development, Production and Procurement of Defense Equipment, signed on the 24th of August 1978.

Research and Development

1. National Devence Research Organization (NDRO)-TNO.

   Address: 21 Koningin Marialaan, THE HAGUE.

   Laboratories:

   - Physics Laboratory, The Hague.

     Fields of work: physics;
     - radio communications;
     - signal processing;
     - microwaves;
     - datahandling;
     - digital computing techniques;
     - acoustics;
     - mine countermeasures;
     - mathematics/operations research.

   - Laboratory for Electronic Developments of the Armed Forces, Degstgeest

     Fields of work: electronic warfare and radar;
     - signal processing;
     - microwaves;
     - datahandling;
     - underwater detection;
     - systems control techniques.

   - Prins Maurits Laboratory for Chemical and Technological Research, Rijswijk.

Fields of work chemical research: determination of characteristics properties of toxic substances, in particular chemical warfare agents;

- study of mechanism of action of toxic substances, in particular chemical warfare agents;
- development of detection and alarming systems for atmospheric contamination;
- evaluation and development of means and equipment for protection to be used in a contaminated environment;
- desinfection and purification of material and equipment contaminated with toxic substances, in particular chemical warfare agents;
- research as regards chemical problems related to environmental hygiene.

Fields of work technological research: investigations into the factors governing the decomposition processes of propellants in connection with the ballistic and chemical stability, in particular in view of the surveillance of military supplies;

- study of the ignition sensitivity of propellants for fire-arms and rockets and the ignition capability of ignition systems;
- developments of pyrotechnic compositions;
- research on the physical and chemical properties of rocket propellants and on the functioning of rocket motors;
- study of detonations and of shock waves in air and water;
- research and development in the field of fuzes, shaped charges and ammunition;
- investigations into the explosion hazards of industrial products during manufacturing, storage, transport and use.

2. Civil laboratories of the Netherlands Organization for Applied Scientific Research TNO, performing defence (or defence related) R&D:

- Institute for Mechanical Constructions TNO, Delft.

  Fields of work: a.o. - tensions, vibrations, shock;
  - manoeuvring.

- Institute of Applied Physics TNO-TH, Delft.

  Fields of work: a.o. - sound, optics.

- Metal Research Institute TNO, Apeldoorn.
- Paint Research Institute TNO, Delft.
- Plastics and Rubber Institute TNO, Delft.
- Central Institute for Nutrition and Food Research TNO, Zeist.
- Medical Biological Laboratory TNO, Rijswijk.

  Fields of work: radiation damage in the human body;
  - microbial infections;
  - intoxication with chemical warfare agents.

3. Institutes of Maritime Research, performing defence and defence-related R&D:

- Netherlands Ship Model Basin (NSMB), Wageningen; (see attached Table).

  Fields of work: ship powering (a.o. depressurized towing tank for advanced research in hydrodynamics);
  - ocean engineering;
  - ship handling (a.o. manoeuvring simulator).

- Netherlands Maritime Institute (NMI), Rotterdam.

  Fields of work: nautical, economic and social research in the field of shipping and shipbuilding.

4. National Aerospace Laboratory (NLR), Amsterdam.

Fields of work: windtunnel testing, especially in transsonic flow;
- research on supercritical wings;
- research on coatings on aircraft engine components
- operations research on air traffic control;
- operations evaluation of ground based air defence systems;

Central point of contact for defence research in the Netherlands:

Co-ordinator Defence Research
Ministry of Defence
4 Plein,
Room C-138
The Hague
Netherlands
tel. 070-721478.

Table 1 List of the various wave testing facilities

Name of facility	Dimensions in metres	Type of tests
1 Deep water basin	252 × 10.5 × 5.5	Resistance, propulsion, vibratory forces, etc.
2a Large cavitation tunnel	8.9 × 8.9 (test section)	Cavitation tests with propellers, profiles etc., in various types of flows; fluctuating pressures on hull.
2b Cavitation tunnel with flow regulator	0.4 circular test section	Cavitation tests with propellers in simulated axial wake.
2c High speed cavitation tunnel	0.04 circular test section	For fundamental cavitation study.
3 Computer centre (1 x IBM computer, 2 paper tape drawing machines)		Hydrostatic, stability, trim, etc. calculations. Scale drawings for optical-following flame cutters. Design of ships, including economic calculations.
4 Seakeeping laboratory	100 × 24.5 × 2.5	Ship motion measurements; necessary power increase to maintain speed; bottom and deck pressures; water shipment and screw racing; wave-induced shear forces, bending and torsional moments; measurements on semi-submersibles etc. All in regular and irregular waves.
5 Shallow water basin	216 × 15.75 × 1.25 (waterdepth is variable)	Resistance and propulsion in shallow water; squat and trim measurements; transverse forces, yawing moment and rudder torque on captive model; resistance and performance in waves; ship motions in regular and irregular waves; motions, mooring and anchorline forces of semi-submersibles or moored structures; oscillating tests; manoeuvring tests, etc.
6 Wave and current laboratory	60 × 40 × 1.20 (waterdepth is variable)	Determination of feasibility of vessel configurations, with respect to waves, current and wind; motion and force measurements; spiral and turning circle tests; tests in harbour models, etc.
7 High speed towing tank	220 × 4 × 4	Testing planing hulls; high speed propulsion devices; ice breaking studies in simulated ice fields.
8 Manoeuvring simulator (hybrid computer)		Training in ship handling; development of navigational aids; design of harbour entrances; development of criteria for manoeuvring, etc.
9 Depressurized towing tank	240 × 18 × 8	Resistance, propulsion and propeller cavitation tests; flow visualization tests; wave breaking phenomena at the bow; wake surveys; propeller-induced vibratory forces in shaft and on hull; acoustical measurements; etc.

DoD LIST OF RESTRICTED DEFENSE ITEMS UNDER MOU FOR RECIPROCAL DEFENSE PROCUREMENT

Section I - Items Procured Pursuant to ASPR 3-216

Navy

Fuzes, Safe and Arm Devices, and Similar Items

MK-13 Safe and Arm Device
MK-13 Triggering Device
MK-17 Safe and Arm Device
MK-33 Safe and Arm Device
MK-330 Fuze
MK-334 Fuze
MK-404 Fuze
MK-407 Fuze
FMU-109 Fuze

Missiles and Missile Components

AIM-7F Sparrow Missile
- Guidance and Controls Section
- MK-58 Rocket Motors
- MK-71 Warhead Metal Parts

AIM-9L Sidewinder Missile
- Guidance and Control Section
- MK-36 Rocket Motors
- DSU-15 Target Detector
- AN/WDU-17 Warhead

Trident I (C-4) Missile System
- Guidance and Control System
- MK-5 Electronic Assemblies (EA)
- MK-5 Inertial Measurement Unit Electronics (IMUE)
- Backfit of Poseidon (C-3) SSBNs

Flares

MK-46 Flares, Infrared Decoy

Sonobuoys and Components

AN/SSQ-36
AN/SSQ-41B
AN/SSQ-47B
AN/SSQ-53A
AN/SSQ-57A
AN/SSQ-62

Military Sealift Cargo

Ocean Transportation and Services

Air Force

MAC Commercial Airlift
GAU-8/A and 30mm Ammo

Defense Logistics Agency

Textiles - Worsted

Army

L.A.P., Manufacturing & testing of projectiles (5.56mm through 8 inch), mines, dispensars, sockets, pyrotechnic devices, grenades, demolition charges, small arms ammunition and components, fuzes and components containing mech. timing devices

TOW Missile and Launcher
2.75 Rocket Items

LAP Motor	Igniter
Fin & Nozzle Assy	Motor Tube
Stabilizer Rod	Seal Rings
Felt Washer	Disc Charge Support
Ring Charge Support	Spacer Charge Support
O Ring	Lockwire
Metal Spacer	Launcher
Intervelometer	Fin Blades

Projectile Metal Parts for Cartridge 105mm (Beehive)
Projectile M406, M107 - 155mm
Projectile M509 - 8"
155mm Cannister, XM625, XM626:
Projectile Metal Parts for Cartridge 90mm
Cartridge Case M118, M14B4
Fuze Time M84A1
Fuze Grenade M213, M219E1, M42/M46
Fuze Bomb Nose M904E3, M19
Fuze Rocket M423, M565, M564
Fuze M494/M571
Head Assy M525 Fuze
Casing Burster Warhead, M156
Fin Assy M158, M170
Adapter Boostar - M147, M148
Body Assy and Base Plug, M404
Bomb, M117A1E1
Launcher Rocket 2AU 68A/A
Warhead Flechets WDU 4A/A
M18 Mine Program
Blasting Cap, Firing Device, Metal Parts, Test Sets
Laser Range Finder VVG-2 and XM21 for Solid State Ballistic Computer for M60 Series Tank
Limited Light Sight
MX-9644 Image Intensifier Tube 25mm

MX-'845 Image Intensifier Tube (1st generation)
MX-8501 Image Intensifier Tube (1st generation)
BA-4386 Battery
AN/PVS-4 Night Vision Sights
AN/PVS-5 Night Vision Goggles
AN/PVS-5A Night Vision Goggles
AN/VVS-2 Viewer
AN/VSS-2 Searchlight
Common Module Program (thermal Imaging System)
  Tactical night vision systems -
    AN/TAS-4 AN/TAS-6
    AN/TAS-5 GLLD/TAS-4
Maintenance of idle portions of 21 GOCO facilities
Consolidated Facilities Scranton AAP

Section II Items Procured Pursuant to referenced ASPR requirement

ASPR 1-2207.2 - Jewel Bearings & Related Items
ASPR 1-2207.3 - Miniature & Instrument Ball Bearings
ASPR 1-2207.4 - Precision Components for Mechanical Time Devices

ANNEX II

TO

Memorandum of Understanding between the Government of the Netherlands and the Government of the United States of America concerning the Principles Governing Mutual Cooperation in the Research and Development, Production, and Procurement of Defense Equipment, signed on the 24th of August 1978.

Principles Governing Logistic Support of Common Equipment

In implementing article I, para 13, of the MoU, the two Parties shall be governed by the following:

1. When developing or procuring defense equipment, both Parties will agree upon the basis for joint follow-on logistic support in areas such as configuration control, interchangeability of spare parts/components, maintenance, conversion, storage, and spare parts provisioning, etc.

2. Arrangements and procedures will be established concerning follow-on logistic support and other forms of logistic cooperation, e.g., joint utilization of facilities.

3. In the contracting procedure for logistic support, paragraph 9 of Article I of the MoU shall spply.

4. Both Psrties will issue directives snd guidelines to their respective armament snd logistics sgencies to schieve the described goals of this MoU.

For the Government of the United States of America

Date 21 DEC 1978

For the Government of the Netherlands

Date 21 DEC 1978

5

ANNEX III

TO

Memorandum of Understanding between the Government of the Kingdom of the Netherlands and the Government of the United States of America Concerning the Principles Governing Mutual Cooperation in the Research and Development, Production and Procurement of Defense Equipment, dated 24 August 1978.

TERMS OF REFERENCES

1. The Netherlands/U.S. Committee for Procurement Cooperation (hereafter to be called "the Committee") will serve, under the direct responsibility of the authorities, listed in Article II sub 2 and 3 of the MoU respectively, as the main body in charge of the adequate implementation of the MoU.

2. In particular, the Committee will be responsible for ensuring that the guiding principles of the MoU governing the mutual cooperation in research and development, production, procurement and logistic support of conventional defense equipment are being implemented to facilitate a mutual flow of defense equipment. To this end the Committee will meet as required, but not less than annually, to review progress in implementing the MoU. In this review:

A. They will discuss research, development, production, procurement and logistic support needs of such country and the likely areas of cooperation including joint activities in those fields.

B. They will exchange information as to the way the stipulations of the MoU have been carried out and, if need be, prepare proposals for amendments of the MoU and/or its annexes.

C. They will agree to the financial statement of the current balance, give guidance for its yearly preparation and formulate conclusions from it, such conclusions to include any long term trends which may be established.

D. They will consider any other matters relevant to the MoU.

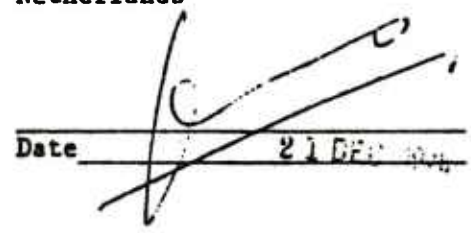
E. They will report after each meeting and advise as appropriate.

F. The Committee will alternately meet in the United States and in the Netherlands. The country in which a particular meeting will take place will provide the Chairman and the secretariat for that meeting.

For the Government of the United States of America

Date 21 Dec 1978

For the Government of the Netherlands



Date 21 Dec 1978

THE SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

APR 10 1979

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
UNDER SECRETARY OF DEFENSE FOR POLICY
UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING
ASSISTANT SECRETARIES OF DEFENSE
DIRECTOR, DEFENSE COMMUNICATIONS AGENCY
DIRECTOR, DEFENSE LOGISTICS AGENCY
DIRECTOR, DEFENSE SECURITY ASSISTANCE AGENCY

SUBJECT: U.S. - Netherlands MOU on Reciprocal Defense Procurement

On 24 Aug 1978 the U.S. and the Government of the Kingdom of The Netherlands entered into a reciprocal defense procurement Memorandum of Understanding (MOU) (Enclosure 1) with the objective of facilitating the mutual flow of defense procurements . The primary purpose of this agreement is to promote greater U.S.-Netherlands cooperation in research and development (R&D), production and procurement in order to enhance NATO rationalization and standardization, and thereby to achieve the greatest NATO capability at the lowest possible cost. Annexes I, II, and III to this MOU (enclosure 2), contain procedures for carrying out the MOU. The purpose of this memorandum is to provide initial guidance on the implementation of the MOU. The Netherlands will in turn take necessary steps within its own acquisition framework to ensure that U.S. contractors have access to the Netherlands defense market, in keeping with the purposes of the MOU.

Applicability

This guidance shall apply to all acquisitions of defense items and related services (to include components, subsystems, and major systems at all technology levels, and at any phase of the acquisition cycle from concept definition through production), except where restricted by (1) provisions of U.S. National Disclosure Policy (NDP); (2) U.S. laws or regulations; or (3) U.S. defense mobilization base requirements and subject to U.S. industrial Security Requirements all as further discussed herein.

Responsibility for Implementation

The MOU states that it is principally the responsibility of the industry of each country to seek a market for its products. Department of Defense (DoD) personnel shall nonetheless, whenever possible, take positive action to facilitate this effort. Netherlands sources are to be provided every opportunity to compete on a fair and equal basis with U.S. sources for both R&D and production contracts, consistent with National Disclosure Policy and legal or regulatory restrictions.

Security

The U.S. and the Netherlands entered into a general Security of Information Agreement on 8 Sept 1960 and an Industrial Security agreement on 3 April 1969. The agreements cover aspects and details concerning protection of U.S. and Netherlands classified information exchanged between both countries. The primary document which implements procedures for safeguarding classified information within industry under bilateral agreements is Section VIII of the Industrial Security Regulation (DoD 5220.22-R). This section, entitled, "International Security Program," also includes detailed requirements concerning security of foreign classified contracts or subcontracts in the U.S. (para. 8-103), and security of U.S. classified contracts or subcontracts awarded to a foreign contractor (para. 8-104).

All recipients are reminded that the Directorate of Industrial Security, Headquarters, Defense Logistics Agency, must be informed whenever a U.S. contractor is authorized to place a U.S. classified contract in a foreign country involving disclosure of U.S. classified information to the foreign country (para. 8-104c).

Foreign Licenses and Technical Assistance Agreements

Technical assistance in the form of data, foreign patent rights, manufacturing aids, etc., necessary to enable Netherlands sources to produce supplies or perform services may be exported by means of Foreign Licenses and Technical Assistance Agreements using either Foreign Military Sales (FMS) or International Traffic in Arms Regulations (ITAR) procedures. The cognizant DoD Component will insure that proper coordination and approvals are obtained. Such coordination should be done expeditiously to enable timely teaming relationships between U.S. and Netherlands firms. (Reference DoD 5030.28).

For major programs where exports of large amounts of data would be involved, creation of a "U.S. Government Approved Project" (reference 22 CFR 125.11 (a) (10) should be considered for proposal to the Department of State as a potential mechanism for simplifying the Governmental approval process for information released. In cases where this mechanism is determined to be appropriate, as well as in cases involving sensitive design and manufacturing technologies, technology release guidelines will be prepared to provide necessary guidance to the U.S. project office or other implementing activity. Such guidelines must be coordinated with OUSDRE, OASD(MRA&L), and OASD(ISA) which in turn will coordinate with the Department of State. It should be noted that the provisions of the National Disclosure Policy apply to the export of U.S. classified military information through direct commercial channels (ITAR) as well as under FMS procedures. Specific guidance is provided in the Industrial Security Regulation DoD 5220.22R; DAR Section IX, Part 3; DoD Directive 5230.11; and 22 CFR 121-128 (ITAR) as implemented by DoD Directive 5030.28.

Issuance and Evaluation of Solicitations

When Netherlands sources are provided copies of Requests for Proposals (RFP) or Invitations for Bid (IFB), Procurement Offices will ensure that a reasonable period is permitted for all sources to respond to solicitations.

Where the possibility of competition from Netherland sources exists, notification shall be given to all potential competitors by the inclusion of an appropriate clause in the solicitation document. A sample clause entitled "Notice of Potential Foreign Source Competition" is attached as a guide (Enclosure 3), until such time as an approved clause is published in the DAR.

Netherlands sources competing for DoD requirements must be responsive to all normal terms and conditions of DoD solicitations (e.g., quality, performance, delivery, logistic support, etc.). If unusual technical or security requirements would preclude the acquisition of otherwise cost effective Netherlands defense items, the need for such requirements should be specifically reviewed. Under no circumstances will unusual technical or security requirements be imposed for the purpose of precluding the acquisition of Netherlands defense items.

In addition, Netherlands sources will not be automatically excluded from submitting bids or proposals because their defense items have not been tested and evaluated by a U.S. DoD Component. Components which find it necessary to limit solicitations to sources whose items have been service tested and evaluated by the Component, should make provisions for considering Netherlands items which have been tested and accepted by Netherlands for service use, subject to U.S. confirmatory tests if necessary. Where it appears that these provisions might adversely delay Service programs, the concurrence of the DoD Acquisition Executive will be obtained prior to the exclusion of Netherlands items from consideration. Sufficiency of Netherlands service testing should be considered on a case-by-case basis. When U.S. confirmatory tests are deemed necessary by the Component, U.S. test and evaluation standards, policies, and procedures will apply.

In furtherance of the objectives set forth in the attached MOU and Annexes I, II, and III thereto, it has been determined (see enclosure 4) pursuant to section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. §10a, Buy American Act) that it would be inconsistent with the public interest to apply the restrictions of that Act with respect to any defense items of Netherlands origin or manufacture procured to meet U.S. DoD requirements, unless specifically restricted. Accordingly, bids or proposals submitted by Netherlands sources shall be evaluated without the application of the price differentials normally applied pursuant to the Buy American Act requirements contained in Section VI of the DAR. In addition, these bids and proposals shall be evaluated without the application of the price differential normally applied pursuant to the Balance of Payments requirements contained in Section VI,

parts 1 and 8 of the DAR. In those instances susceptible to issuance of a duty-free entry certificate, as provided in Section VI, part 6 of the DAR, bids and proposals submitted by Netherlands sources shall be evaluated without application of duty. If, when evaluated in accordance with the above, a Netherlands source is determined to be the lowest, responsive, responsible bidder or offeror, or submits the best technical proposal in accordance with the factors outlined in the solicitation, the cognizant Procurement Office shall normally proceed to make award to that source.

Nothing contained herein and in the Determination and Findings (D&F) (Enclosure 4) pursuant to the Buy American Act, 41 U.S.C. §10a (1970), shall affect the authority or responsibility of the cognizant Military Department Secretary or head of a Defense Agency to reject an otherwise acceptable Netherlands bid or proposal in those instances where such rejection is considered necessary for reasons of the national interest. In instances where such a rejection of a Netherlands bid or proposal is contemplated, a copy of the proposed decision shall be forwarded to the DUSD(AP), ten working days in advance of issuance. In those instances where award is to be made to the Netherlands source and where a duty-free entry certificate is susceptible to issuance, the contract shall provide for duty-free entry by inclusion of the appropriate clause(s) referenced in DAR 6-603.3.

Utilization of Netherlands Sources

In furtherance of the MOU, each DoD Component is requested to (1) publicize the existence of the MOU among its prime contractors and request that they consider Netherlands sources for subcontracting opportunities; (2) permit attendance by Netherlands industry (subject to the provisions of the paragraph above entitled, "Applicability") at symposia, program briefings, pre-solicitation and pre-award conferences which address U.S. defense equipment needs and requirements; and (3) in connection with the review of prime contractor subcontracting procedures, assure that Netherlands sources are not precluded from obtaining subcontracts for reasons that would contravene the MOU. (See Enclosure 2 appendix 1 and 2 to Annex 1 for a sample of items produced by The Nethelands Industry.)

Restrictions on Netherlands Participation

Except where the quantity being procured is greater than that required to maintain the U.S. defense mobilization base, the Netherlands sources shall be excluded from consideration for (1) participation in the production of items for which contracts are negotiated pursuant to the authority of DAR 3-216, and (2) the restricted items set forth in DAR 1-2207. In accordance with paragraph III of Annex I to the MOU, a list of such items has been developed (see enclosure 2 appendix 3, annex 1). The list will be periodically reviewed with representatives of Netherlands Ministry of Defense (MOD) in order to apprise them of those procurements for which

Netherlands sources will normally be excluded. From time to time new items may be identified for inclusion in this list and items already included may be deleted. All proposals for additions and deletions shall be coordinated through DUSD(AP). Acquisition of the items noted above are the only ones for which Netherlands sources shall be prohibited from participation on the basis of protecting the defense mobilization base.

Netherlands sources may also be excluded from participating in the acquisition of other items because of legally imposed restrictions on their purchase from non-national sources. This category of items includes, but is not necessarily limited to, the items contained in DAR Section VI, Part 3, and the DoD Appropriation Act prohibitions concerning the construction of Naval vessels or major components of the hull or super-structure thereof.

Applicable exclusions will be determined in accordance with the technology release guidelines developed pursuant to the paragraph above entitled, "Foreign Licenses and Technical Assistance Agreements."

Netherlands sources shall not be excluded from participating in the acquisition of any items where such participation would be permitted by existing exceptions.

Implementation by DoD Components

The guidance contained in this memorandum will be incorporated in the Defense Acquisition Regulation (DAR) as soon as possible. In the interim, it is requested that each addressee give broad distribution to this memorandum within his component, as well as to major prime contractors; and take any additional action considered necessary to ensure that the spirit and intent of this agreement is fulfilled. It is further requested that information copies of departmental instructions promulgating this guidance within your respective components be forwarded to DUSD(AP) within 45 days from the date of this memorandum.

Harold Brown

ENCLOSURES (4)
a/s

NOTICE OF POTENTIAL FOREIGN SOURCE COMPETITION

Bids or proposals for this procurement are being solicited from sources in the Netherlands. Furthermore, U.S. bidders may propose end items of the Netherland manufacture.

It has been determined by the Secretary of Defense that the restrictions of section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. 10a; Buy American Act) shall not apply to items of Defense equipment described in this solicitation when produced or manufactured by the Netherland sources.

Enclosure 3

Determination and Findings
Exception to the Buy American Act

I hereby make, as department head, the following findings and determination regarding the application of the restrictions of the Buy American Act, 41 U.S.C. Section 10a (1970) to the items of defense equipment described below.

Findings

1. Section 814(a) of the Department of Defense Appropriation Authorization Act, 1976, Pub. L. No. 94-106, 89 Stat. 544 (1975), as amended by section 802 of the Department of Defense appropriation Authorization Act, 1977, Pub. L. No. 94-361, 90 Stat. 930 (1976), provides that "it is the policy of the United States that equipment procured for the use of personnel of the Armed Forces of the United States stationed in Europe under the terms of the North Atlantic Treaty should be standardized or at least interoperable with equipment of other members of the North Atlantic Treaty Organization." The Act provides that "... the Secretary of Defense shall, to the maximum feasible extent, initiate and carry out procurement procedures..." to carry out that ploicy. The Act further provides that "whenever the Sectetary of Defense determines that it is necessary, in order to carry out this policy... to procure equipment manufactured outside the United States, he is authorized to determine, for the purpose of section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. 10a), that the acquisition of such equipment manufactured in the United States is inconsistent with the public interest."

2. The United States Government (U.S.) and the Government of the Kingdom of the Netherlands are seeking to achieve greater cooperation in research, development, production and procurement of defense equipment in order to make the most rational use of their respective industrial, economic and technological resources, to achieve the greatest attainable military capability at the lowest possible cost, and to achieve greater standardization and interoperability of their weapons systems. In order to further these aims, the U.S. and the Government of the Kingdom of the Netherlands entered into a Memorandum of Understanding (MOU) relating to mutual cooperation in the research and development, production and procurement of defense equipment.

3. In furtherance of the MOU, the U.S. and the Government of the Kingdom of the Netherlands each have established policies for increasing cooperation in research, development, and productionand procurement of military systems. In keeping with these policies and in the interest of enhancing their mutual security obligations, the U.S. and the Government of the Kingdom of the Netherlands intend to cooperate in all respects practicable, to the end that defense equipment production and procurement efforts of the two countries by administered so as to facilitate a mutual flow of defense procurement, at mutually determined levels.

Enclosure 4

4. In order to facilitate the objectives of agreement, the U.S. and the Government of the Kingdom of the Netherlands have agreed that, consistent with national laws and regulations, each government will evaluate offers of defense equipment produced in the other country without applying price differentials under the "Buy National" laws and regulations.

5. This Determination and Findings covers all items of Netherlands produced or manufactured defense equipment other than: (a) those items that have been excluded from consideration under the MOU and annexes thereto for reasons of protecting national requierments, such as for the maintenance of a defense mobilization base; and (b) those items that are subject to restrictions imposed by law on procurement from non-national sources.

Determination

Pursuant to 41 U.S.C. §§ 10a (1970), I hereby determine that it is inconsistent with the public interest to apply the restrictions of the Buy American Act to the acquisition of those items of Netherlands produced or manufactured defense equipment that are covered by this Determination and Findings.

Date 10 April 1979. Harold Brown

PREAMBLE

The Government of the United States of America and the Government of Italy, hereinafter referred to as "the Governments":

Intending to increase their respective defense capabilities through more efficient cooperation in the field of research and development, production, procurement, and logistic support of defense equipment, in order to:

- Make the most cost-effective and rational use of the funds allocated to defense to the extent permitted by their national policies, assuring the most satisfactory level of reciprocal balance; and

- Promote the widest possible use of standard or interoperable equipment; and

- Develop and maintain an advanced technological capability for the North Atlantic Alliance, and particularly with respect to the parties to this Agreement;

Noting that no agreement covers harmonization of mutual procurements, although specific offset agreements have existed between them in the past, and

Seeking to improve their defensive capability through greater standardization and interoperability of equipment which would maximize cost effectiveness

have entered into this Memorandum of Understanding in order to achieve the above aims.

This Memorandum of Understanding (MOU) sets out the guiding principles governing mutual cooperation in defense equipment research and development, production, procurement and logistic support.

The Government of the United States of America and the Government of Italy conclude this Memorandum of Understanding to strengthen the North Atlantic Alliance.

The two Governments agree that this Memorandum of Understanding should be incorporated in the larger context of the cooperation between Europe and North America within the Alliance.

All agreements, or the relevant provisions contained therein, between the Independent European Program Group (IEPG) and the United States of America, shall take precedence over this Memorandum of Understanding, provided that Italy is a party to the specific agreement.

ARTICLE I

PRINCIPLES GOVERNING MUTUAL DEFENSE COOPERATION

1. Both Governments will take immediate steps to achieve and maintain an equitable balance in their exchanges, in terms of the value of contracts and technological levels, to the maximum practicable extent consistent with their national policies. An equitable balance, in principle, shall be achieved when the two Governments have implemented all practicable means at their disposal to maximize defense R&D cooperation and reciprocal procurement to the extent compatible with the nature of each country's technological and industrial base. Items procured under offset agreements by either Government with an industry of the other will apply to the achievement of the balance contemplated by this agreement.

2. This agreement is intended to cover areas in which possible bilateral cooperation could be achieved in conventional defense equipment research and development, production, procurement, and logistic support complementing the work of the Conference of National Armament Directors (CNAD), Senior NATO Logisticians Conference (SNLC) and the Independent European Program Group (IEPG).

3. The two Governments will, consistent with their laws and regulations, give full consideration to all requests for cooperative R&D and to all requests for production and procurement which are intended to maximize Alliance standardization and/or interoperability.

4. The two Governments shall, in the spirit of cooperation, mutually determine the counting procedures that will apply to all items under this agreement (and associated services included in a contract) purchased either directly by the two Governments or through their defense industries.

5. In the interests of standardization and the effective utilization of scarce resources the two Governments shall, if possible, select qualified defense items that have been developed and produced in the other country to meet their requirements in accordance with the procedures of paragraph 9 below.

6. Each Government may propose to the other any particular item of defense equipment that might be suitable for use by the other Government.

7. Both Governments will provide appropriate policy guidance and administrative procedures within their respective defense procurement organizations to facilitate achievement of the aims described in paragraph 5.

8. Barriers to procurement or coproduction of an item of defense equipment that has been developed in the other country, such as customs duties

and other discriminatory levies and any other protectionist provisions, shall be removed or waived in accordance with existing laws and procedures, in evaluating bids submitted in accordance with this MOU. Defense items or services are those items or services which may be procured utilizing appropriated funds of the US Department of Defense or budgeted funds of the Italian Ministry of Defense.

9. Competitive contracting procedures normally shall be used in acquiring items of conventional defense equipment developed in each other's country.

10. Full consideration will be given to all qualified industrial and/or Government sources in each other's country consistent with the national procurement policy and criteria. It is therefore understood that items offered shall satisfy requirements for performance, quality, delivery and cost.

11. Both Governments will review items submitted as candidates for respective requirements. They will indicate requirements and proposed purchases in a timely fashion to ensure adequate time for their respective industries to qualify for eligibility and submit a bid or proposal.

12. Third party transfers of defense articles or technical data made available under this MOU, and of articles produced with such data, will be subject to the agreement of the Government that made available the defense articles or technical data, except as otherwise provided in particular arrangements between the two Governments. Each Government will base its decisions regarding requests by the other for agreement to third party transfers on its laws, regulations, and arms transfer policy. Each Government will use the same criteria for proposed transfers by the other as it uses for itself, and will not reject, solely in the pursuit of its own national commercial advantage, a request from the other for a third country transfer of such defense articles or technical data. Consistent with the above, in carrying out its own transfers to third countries, each Government shall take into consideration the extent to which a proposed transfer may damage or infringe upon licensing arrangements whereby commercial firms in the US or Italy have granted to firms in the other country licenses for the manufacture of the articles proposed to be transferred to a third-country.

13. Each Government will ensure that the technical data packages (TDPs) made available under this MOU are not used for any purpose other than for the purpose of bidding on, and performing a prospective defense contract without the prior agreement with those owning or controlling proprietary rights and that full protection shall be given to such proprietary rights, or to any privileged, protected, or classified data and information they contain. In no event shall the TDPs be transferred to any third country or any other transferees without the prior written consent of the originating Government.

14. Both Governments will undertake their best efforts to assist in negotiating licenses, royalties and technical information exchanges with their respective industries.

15. Arrangements and procedures will be established concerning follow-on logistic support for items of defense equipment covered by this Memorandum of Understanding. Both Governments will make their defense logistic systems and resources available for this purpose as required and mutually agreed.

ARTICLE II

IMPLEMENTING PROCEDURES

1. Representatives of the two Governments will be appointed to determine in detail the procedures for implementing this Memorandum of Understanding. Terms of reference will be proposed for an Italian-American Committee for Mutual Cooperation, including rules governing its work. The implementing procedures under this Memorandum of Understanding shall be an integral part thereof.

2. The Under Secretary of Defense for Research and Engineering, in coordination with the Assistant Secretary of Defense for International Security Affairs, the Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics, the Director, Defense Security Assistance Agency, and other appropriate Department of Defense officials, will be responsible in the United States Government for the development of implementing procedures under this Memorandum of Understanding.

3. The National Armament Director in the Ministry of Defense, in coordination with the other appropriate governmental bodies, will be the responsible authority of the Government of Italy for the development of implementing procedures under this Memorandum of Understanding.

ARTICLE III

INDUSTRY PARTICIPATION

1. Each Government will be responsible for calling to the attention of the defense industries within its country the basic understanding of this Memorandum of Understanding, together with appropriate implementing guidance. Both Governments will take all necessary steps so that the defense industries comply with the regulations pertaining to security and to safeguarding classified information.

2. Implementation of this Memorandum of Understanding will involve full industrial participation. Accordingly, the Governments will arrange to familiarize their respective procurement and requirements offices with the principles and objectives of this Memorandum of Understanding.

However, primary responsibility for finding business opportunities in areas of research and development and production shall rest with the industrial participants of each country.

ARTICLE IV

SECURITY

1. To the extent that any items, plans, specifications or information furnished in connection with the specific implementation of this Memorandum of Understanding are classified by either Government for security purposes, the other Government shall maintain a similar classification and employ all measures necessary to preserve such security equivalent to those measures employed by the classifying Government throughout the period during which the classifying Government may maintain such classification.

2. The operating procedures between the United States Department of Defense and the Italian Ministry of Defence for the implementation of the General Security of Information Agreement dated 4 August 1964 apply to activities under this Memorandum of Understanding.

3. Information that has been provided by the GOI to the United States in confidence, or produced by the United States pursuant to a written joint arrangement with the GOI requiring confidentiality, shall either retain its original classification designation or be assigned a United States classification designation that shall ensure a degree of protection against disclosure equivalent to that required by the GOI. To assist in providing the desired protection, the GOI will mark such information furnished to the US Government with a legend indicating that the information is of Italian Government origin, that the information relates to this MOU, and that the information is furnished in confidence.

ARTICLE V

DURATION

1. This Agreement will remain in effect for a ten-year period following its signing. Unless otherwise agreed by both Governments, the duration will be extended for another ten years.

2. If, however, either Government considers it necessary for compelling national reasons to discontinue its participation under this Memorandum of Understanding before the end of the ten-year period, or any extension thereof, written notification of its intention will be given to the other Government six months in advance of the effective date of discontinuance. Such notification of intent would be a matter of immediate consultation

with the other Government to enable the Government fully to evaluate the consequences of such termination and in the spirit of cooperation, to take such actions as necessary to alleviate problems that may result from the termination. In this connection, although the Memorandum of Understanding may be terminated by the parties, any contract entered into consistent with the terms of this agreement shall continue in effect, unless the contract is terminated in accordance with its own terms.

ARTICLE VI

ADMINISTRATION

1. Each Government will designate points of contact at the Ministry of Defense level and in each purchasing service/agency.

2. Government representatives will meet as agreed or at the request of either Government to review progress in implementing the Memorandum of Understanding. They will discuss development, production and procurement needs of each country and the likely areas of cooperation; agree to the basis of, and keep under review and promoting any correction step, the financial statement referred to below; and consider any other matters relevant to the Memorandum of Understanding.

3. An annual United States/Italy statement of the current balance, and long-term trends of R&D cooperation and purchases between the two countries will be prepared on a basis to be mutually agreed. Such statement will take account of any United States/Italy offset agreements in force when the Memorandum of Understanding was signed, and will be reviewed during the meetings referred to in paragraph 2 above.

ARTICLE VII

ANNEXES

Annexes negotiated by the responsible offices and approved by the appropriate Government authorities will be incorporated in this agreement and made an integral part thereof.

ARTICLE VIII

IMPLEMENTATION

1. The arrangements contained in this Memorandum of Understanding represent the understanding reached between the Government of the United States of America and the Government of Italy upon the matters referred to herein. Each Government must mutually agree to any amendment of this Memorandum of Understanding.

2. This agreement, in two original texts in the Italian and English languages, both texts being equally authentic, will come into effect at the date signed by both Governments.

For the United States Government	For the Government of the Italian Republic
Harold Brown	
Date 11 SEP 1978	11 SEP 1978

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ANNEX I

TO THE MEMORANDUM OF UNDERSTANDING BETWEEN THE GOVERNMENT OF THE UNIT D STATES OF AMERICA AND THE GOVERNMENT OF ITALY CONCERNING MUTUAL COOPER .TION IN DEFENSE EQUIPMENT RESEARCH AND DEVELOPMENT, PRODUCTION AND PROCUREMENT, DATED 11 SEPTEMBER 1978.

PRINCIPLES GOVERNING IMPLEMENTATION

1. FOREWORD

On 11 September 1978 the Governments of the United States and Italy signed a Memorandum of Understanding (MOU) relating to the principles governing mutual cooperation in the Research, Development, Production, Procurement, and Logistic Support of Defense Equipment. This annex sets forth mutually agreed implementing procedures for carrying out the MOU.

2. BASIC PRINCIPLES

With the aim already expressed in the text of the MOU to achieve the greatest practicable degree of standardization/interoperability in defense equipment, the two Governments shall cooperate in the field of Research, Development, Production, Procurement, and Logistic Support in order to implement programs of common interest and to strengthen their respective industrial defense efforts. This goal can be attained through both the joint participation in mutually agreed research, development and production programs, through an interchange of studies, materials and services, as well as through offset agreements between governments and industries.

The US Department of Defense (DoD) and the Italian Ministry of Defense (MoD) will each consider for procurement for their defense requirements qualified defense items (and associated services) developed or produced in the other country. (See also Paragraph 3 of this Annex). MoD and DoD will also identify to one another, as soon as possible, those practices of their respective countries having the force of law that may potentially restrict the fulfillment of the MOU and this Annex. It will be the responsibility of government and/or industry representatives in each country to obtain timely information concerning the other country's proposed developments and purchases and to respond to requests for proposals. However, the responsible governmental purchasing agencies in each country will assist sources in the other country to obtain timely information concerning proposed purchases, necessary qualifications and appropriate documentation.

3. ACTION

A. In implementing the foregoing, the two Governments shall in accordance with mutual laws and regulations consider the following:

1. Cooperation in R&D for specified projects. Said cooperation may take place also in the framework of projects already undertaken by both countries.

2. Co-production of defense equipment both for the requirements of the two countries and for export.

3. Supply of logistic and administrative materials and facilities.

4. Maintenance and overhauling of items of military equipment, including supply of spares.

B. DoD and MoD will individually review and, where considered necessary, revise their respective internal policies, procedures and regulations to ensure that the principles and objectives of this MOU, which are intended to be compatible with the broad aims of NATO Rationalization/Standardization, are taken into account. The DoD and MoD agree that, upon respectively taking the measures listed below, they will have fulfilled their obligation under paragraph 1, Article I of the MOU, to implement all practical means at their disposal to optimize defense R&D cooperation and procurement. These measures will be undertaken in a reasonable manner, recognizing, among other factors, delivery date requirements for supplies, the interest of security, the timely conduct of the procurement process, and requirements attendant to ensuring free and full competition for the award of contracts.

1. Ensure that their respective requirements offices are familiar with the principles and objectives of this MOU.

2. Ensure that their respective research and development offices are familiar with the principles and objectives of this MOU.

3. Ensure that their respective procurement offices are familiar with the principles and objectives of this MOU.

4. Ensure wide dissemination of the basic understanding of this MOU to their respective defense industries.

5. Ensure that to the extent permitted by national laws and regulations, offers of defense items produced in the other country will be evaluated without applying to such offers, either price differentials under buy-national laws and regulations or the cost of import duties. Provisions will be made for duty free certificates and related documentation to the extent consistent with national laws and procedures.

6. Assist industries in their respective countries to identify and advise the other government of their capabilities and assist such industries in carrying out the support actions to maximize industrial participation.

7. Review defense items submitted as candidates for respective requirements. Identify requirements and proposed purchases in a timely fashion to ensure adequate time for their respective industries to participate in the development of production procurement processes.

8. Make best efforts to assist in negotiating licenses, royalties, and technical information exchanges with their respective industries.

9. Permit the sales of equipment produced under license to allied countries and to appropriate third countries, subject to the policy outlined in Article 1, paragraph 12 of the basic MOU.

10. Ensure that those items excluded from consideration under this MOU for reasons of protecting overriding national interests, such as the maintenance of a defense mobilization base, are limited to a small percentage of total annual defense procurement spending. It is intended that such defense items as well as those items which would not be qualified as a defense item under this MOU because of legally imposed restrictions on procurement from non-national sources, should be identified as soon as possible in lists drawn up by MoD and DoD for their respective countries, and that the lists should be kept under review at this level.

11. Ensure that the balance of reciprocal purchasing within the areas of this MOU takes into consideration the levels of technology involved, as well as the contractual value, in accordance with the policy outlined in Article 1, paragraph 1 of the basic MOU.

12. Arrange visits between appropriate government personnel from time to time in order actively to explore possibilities for R&D cooperation, procurement, and logistic support.

4. COUNTING PROCEDURES

A. The purchases to be counted against the goals of the MOU will be identified jointly by DoD and MoD. In principle all defense items or components thereof, as defined in the basic MOU, (and associated services included in a procurement contract) purchased by MoD and DoD from the other country will be counted against the goals of the MOU as long as such purchases meet the following criteria:

1. Direct purchases by the MoD and DoD, including their respective agencies, one from the other.

2. Direct purchases by either the MoD or DoD from the industry of the other country.

3. Purchases by industry from the Government or industry of the other country in the framework of Government defense contracts.

4. Purchases by a Third Country Government from either US or Italian Governments or industrial sources as a direct result of commercial efforts of the other, non-supplying Country.

5. Procurements by either country of defense items resulting from common funded projects to which the US and Italy are contributors, to be credited in proportion to each country's financial contribution to the project, and to work carried out in each country. The extent to which such procurements will be counted against the goals of this MOU will be, at the time of procurement, mutually agreed between MoD and DoD on a case by case basis.

6. License fees, royalties and other associated income resulting from orders placed by DoD or MoD and/or industry in one country with a licensed company in the other country; or in MoD-DoD transactions.

B. The following non-defense items also will be counted against the goals of the MOU:

1. Purchases by the MoD or DoD from the industry of the other country, on behalf of other governmental departments and agencies.

2. Purchases by a Third Country Government from the MoD or DoD or from industries of these two countries as a direct result of the efforts of the MoD/DoD of the other country.

5. ADMINISTRATION

A. Each country will designate points of contact at the Ministry of Defense level.

B. MoD and DoD representatives will meet periodically, alternatively in each country, to review the projects undertaken in implementing the MOU. They will discuss development, production, procurement, and logistic support needs of each country and the likely areas of cooperation; they will update the financial statement referred to in Paragraph C below as a means of judging the progress of activity in the period under review; and they will consider other matters relevant to this MOU. Specific tasks of the representatives are:

1. Review of the status of the exchanges on the basis of the data, in comparable terms, to be agreed upon by the other party.

2. Consider additional steps necessary to facilitate the actions called for in paragraph 3.

C. An annual US/Italy statement consolidating the current balance of defense equipment research, development, production, procurement, and logistic support between the two countries, as well as the long term trends, will be prepared on a basis to be mutually agreed. Such statement shall take account of any US/Italy offset agreements in force at the time this MOU is signed, and shall be reviewed during the meetings referred to in Paragraph 5B above.

D. Quality assurance procedures outlined in STANAG 4107 and 4108 (subject to the USG reserve concerning US reimbursement) will apply unless other provisions are mutually agreed to on any specific contract. Reimbursement for services provided shall be in accordance with National laws and regulations of each country.

E. This annex, in two original texts in the Italian and English languages, both texts being equally authentic, will come into effect at the date signed by both Governments.

For the United States Government

Date 2 JAN 1979

For the Government of Italy

2 - GEN. 1979

ANNEX II

TO THE MEMORANDUM OF UNDERSTANDING BETWEEN THE GOVERNMENT OF THE UNITED STATES OF AMERICA AND THE GOVERNMENT OF ITALY CONCERNING MUTUAL COOPERATION IN DEFENSE EQUIPMENT RESEARCH AND DEVELOPMENT, PRODUCTION AND PROCUREMENT, DATED 11 SEPTEMBER 1978.

PRINCIPLES GOVERNING LOGISTIC SUPPORT OF COMMON EQUIPMENT

In implementing Article 1, paragraph 15 of the MOU, the two Parties shall be governed by the following:

1. When developing or procuring defense equipment, both Parties will agree upon the basis for joint follow-on logistic support in areas such as configuration control, interchangeability of assemblies, components and spare parts, maintenance, conversion, storage, and spare parts provisioning, etc.

2. Arrangements and procedures will be established concerning follow-on logistic support and other forms of logistic cooperation, e.g., joint utilization of facilities.

3. In the contracting procedures for logistic support, paragraph 9, Article 1 of the MOU normally shall apply. Coproduction, licensed production, or jointly developed equipment may be excluded from this policy at the option of the contracting Party or Parties.

4. Both Parties will issue directives and guidelines to their respective armaments and logistics agencies to achieve the described goals of this MOU.

5. This annex, in two original texts in the Italian and English languages, both texts being equally authentic, will come into effect at the date signed by both Governments.

For the United States Government

William J. Perry

Date 2 JAN 1979

For the Government of Italy

Falco Mazza

2 - GEN. 1979

THE SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

MAY 12 1979

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
UNDER SECRETARY OF DEFENSE FOR POLICY
UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING
ASSISTANT SECRETARIES OF DEFENSE
DIRECTOR, DEFENSE COMMUNICATIONS AGENCY
DIRECTOR, DEFENSE LOGISTICS AGENCY
DIRECTOR, DEFENSE SECURITY ASSISTANCE AGENCY

SUBJECT: U.S. - Italy MOU on Reciprocal Defense Procurement

On Sept 11, 1978 the U.S. and the Government of Italy entered into a reciprocal defense procurement Memorandum of Understanding (MOU) (Enclosure 1) with the objective of providing for an "equitable balance" in defense trade. The primary purpose of this agreement is to promote greater U.S. Italian cooperation in research and development (R&D), production and procurement in order to enhance NATO rationalization and standardization, and thereby to achieve the greatest NATO capability at the lowest possible cost. Annexes I and II, to this MOU, contain procedures for carrying out the MOU. The purpose of this memorandum is to provide initial guidance on the implementation of the MOU. Italy will in turn take necessary steps within its own acquisition framework to ensure that U.S. contractors have access to the Italian defense market, in keeping with the purposes of the MOU.

Applicability

This guidance shall apply to all acquisitions of defense items and related services (to include components, subsystems, and major systems at all technology levels, and at any phase of the acquisition cycle from concept definition through production), except where restricted by (1) provisions of U.S. National Disclosure Policy (NDP); (2) U.S. laws or regulations; or (3) U.S. defense mobilization base requirements and subject to U.S. industrial Security Requirements all as further discussed herein.

Responsibility for Implementation

The MOU states that it is principally the responsibility of the industry of each country to seek a market for its products. Department of Defense (DoD) personnel shall nonetheless, whenever possible, take positive action to facilitate this effort. Italian sources are to be provided every opportunity to compete on a fair and equal basis with U.S. sources for both R&D and production contracts, consistent with National Disclosure Policy and legal or regulatory restrictions.

Security

The U.S. and Italy entered into a general Security of Information Agreement on 4 August 1964. The agreements cover aspects and details concerning protection of U.S. and Italian classified information exchanged between both countries. The primary document which implements procedures for safeguarding classified information within industry under bilateral agreements is Section VIII of the Industrial Security Regulation (DoD 5220.22-R). This section, entitled, "International Security Program," also includes detailed requirements concerning security of foreign classified contracts or subcontracts in the U.S. (para. 8-103), and security of U.S. classified contracts or subcontracts awarded to a foreign contractor (para. 8-104).

All recipients are reminded that the Directorate of Industrial Security, Headquarters, Defense Logistics Agency, must be informed whenever a U.S. contractor is authorized to place a U.S. classified contract in a foreign country involving disclosure of U.S. classified information to the foreign country (para. 8-104c).

Foreign Licenses and Technical Assistance Agreements

Technical assistance in the form of data, foreign patent rights, manufacturing aids, etc., necessary to enable Italian sources to produce supplies or perform services may be exported by means of Foreign Licenses and Technical Assistance Agreements using either Foreign Military Sales (FMS) or International Traffic in Arms Regulations (ITAR) procedures. The cognizant DoD Component will insure that proper coordination and approvals are obtained. Such coordination should be done expeditiously to enable timely teaming relationships between U.S. and Italian firms. (Reference DoD 5030.28).

For major programs where exports of large amounts of data would be involved, creation of a "U.S. Government Approved Project" (reference 22 CFR 125.11 (a) (10) should be considered for proposal to the Department of State as a potential mechanism for simplifying the Governmental approval process for information released. In cases where this mechanism is determined to be appropriate, as well as in cases involving sensitive design and manufacturing technologies, technology release guidelines will be prepared to provide necessary guidance to the U.S. project office or other implementing activity. Such guidelines must be coordinated with OUSDRE, OASD(MRA&L), and OASD(ISA) which in turn will coordinate with the Department of State. It should be noted that the provisions of the National Disclosure Policy apply to the export of U.S. classified military information through direct commercial channels (ITAR) as well as under FMS procedures. Specific guidance is provided in the Industrial Security Regulation DoD 5220.22R; DAR Section IX, Part 3; DoD Directive 5230.11; and 22 CFR 121-128 (ITAR) as implemented by DoD Directive 5030.28.

Issuance and Evaluation of Solicitations

When Italian sources are provided copies of Requests for Proposals (RFP) or Invitations for Bid (IFB), Procurement Offices will ensure that a reasonable period is permitted for all sources to respond to solicitations.

Where the possibility of competition from sources exists, notification shall be given to all potential competitors by the inclusion of an appropriate clause in the solicitation document. A sample clause entitled "Notice of Potential Foreign Source Competition" is attached as a guide (Enclosure 2), until such time as an approved clause is published in the DAR.

Italian sources competing for DoD requirements must be responsive to all normal terms and conditions of DoD solicitations (e.g., quality, performance, delivery, logistic support, etc.). If unusual technical or security requirements would preclude the acquisition of otherwise cost effective Italian defense items, the need for such requirements should be specifically reviewed. Under no circumstances will unusual technical or security requirements be imposed for the purpose of precluding the acquisition of Italian defense items.

In addition, Italian sources will not be automatically excluded from submitting bids or proposals because their defense items have not been tested and evaluated by a U.S. DoD Component. Components which find it necessary to limit solicitations to sources whose items have been service tested and evaluated by the Component, should make provisions for considering Italian items which have been tested and accepted by Italy for service use, subject to U.S. confirmatory tests if necessary. Where it appears that these provisions might adversely delay Service programs, the concurrence of the DoD Acquisition Executive will be obtained prior to the exclusion of Italian items from consideration. Sufficiency of Italian service testing should be considered on a case-by-case basis. When U.S. confirmatory tests are deemed necessary by the Component, U.S. test and evaluation standards, policies, and procedures will apply.

In furtherance of the objectives set forth in the attached MOU and Annexes I and II thereto, it has been determined pursuant to section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. §10a, Buy American Act) that it would be inconsistent with the public interest to apply the restrictions of that Act with respect to any defense items of Italian origin or manufacture procured to meet U.S. DoD requirements, unless specifically restricted. Accordingly, bids or proposals submitted by Italian sources shall be evaluated without the application of the price differentials normally applied pursuant to the Buy American Act requirements contained in Section VI of the DAR. In addition, these bids and proposals shall be evaluated without the application of the price differential normally applied pursuant to the Balance of Payments requirements contained in Section VI, parts 1 and 8 of the

DAR. In those instances susceptible to issuance of a duty-free entry certificate, as provided in Section VI, part 6 of the DAR, bids and proposals submitted by Italian sources shall be evaluated without application of duty. If, when evaluated in accordance with the above, an Italian source is determined to be the lowest, responsive, responsible bidder or offeror, or submits the best technical proposal in accordance with the factors outlined in the solicitation, the cognizant Procurement Office shall normally proceed to make award to that source.

Nothing contained herein and in the Determination and Findings (D&F) (Enclosure 3) pursuant to the Buy American Act, 41 U.S.C. §10a (1970), shall affect the authority or responsibility of the cognizant Military Department Secretary or head of a Defense Agency to reject an otherwise acceptable Italian bid or proposal in those instances where such rejection is considered necessary for reasons of the national interest. In instances where such a rejection of an Italian bid or proposal is contemplated, a copy of the proposed decision shall be forwarded to the DUSD(AP), ten working days in advance of issuance. In those instances where award is to be made to the Italian source and where a duty-free entry certificate is susceptible to issuance, the contract shall provide for duty-free entry by inclusion of the appropriate clause(s) referenced in DAR 6-603.3.

Utilization of Italian Sources

In furtherance of the MOU, each DoD Component is requested to (1) publicize the existence of the MOU among its prime contractors and request that they consider Italian sources for subcontracting opportunities; (2) permit attendance by Italian industry (subject to the provisions of the paragraph above entitled, "Applicability") at symposia, program briefings, pre-solicitation and pre-award conferences which address U.S. defense equipment needs and requirements; and (3) in connection with the review of prime contractor subcontracting procedures, assure that Italian sources are not precluded from obtaining subcontracts for reasons that would contravene the MOU.

Restrictions on Italian Participation

Except where the quantity being procured is greater than that required to maintain the U.S. defense mobilization base, the Italian sources shall be excluded from consideration for (1) participation in the production of items for which contracts are negotiated pursuant to the authority of DAR 3-216, and (2) the restricted items set forth in DAR 1-2207. Acquisition of the items noted above are the only ones for which Italian sources shall be prohibited from participation on the basis of protecting the defense mobilization base.

Italian sources may also be excluded from participating in the acquisition of other items because of legally imposed restrictions on their purchase from non-national sources. This category of items includes, but is not necessarily limited to, the items contained in DAR

Section VI, Part 3, and the DoD Appropriation Act prohibitions concerning the construction of Naval vessels or major components of the hull or super-structure thereof.

Applicable exclusions will be determined in accordance with the technology release guidelines developed pursuant to the paragraph above entitled, "Foreign Licenses and Technical Assistance Agreements."

Italian sources shall not be excluded from participating in the acquisition of any items where such participation would be permitted by existing exceptions.

Implementation by DoD Components

The guidance contained in this memorandum will be incorporated in the Defense Acquisition Regulation (DAR) as soon as possible. In the interim, it is requested that each addressee give broad distribution to this memorandum within his component, as well as to major prime contractors; and take any additional action considered necessary to ensure that the spirit and intent of this agreement is fulfilled. It is further requested that information copies of departmental instructions promulgating this guidance within your respective components be forwarded to DUSD(AP) within 45 days from the date of this memorandum.

Harold Brown

ENCLOSURES (3)
a/s

NOTICE OF POTENTIAL FOREIGN SOURCE COMPETITION

Bids or proposals for this procurement are being solicited from sources in Italy. Furthermore, U.S. bidders may propose end items of Italian manufacture.

It has been determined by the Secretary of Defense that the restrictions of section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. §10a; Buy American Act) shall not apply to items of Defense equipment described in this solicitation when produced or manufactured by Italian sources.

Determination and Findings

Exception to the Buy American Act

I hereby make, as department head, the following findings and determination regarding the application of the restrictions of the Buy American Act, 41 U.S.C. Section 10a (1970) to the items of defense equipment described below.

Findings

1. Section 814(a) of the Department of Defense Appropriation Authorization Act, 1976, Pub. L. No. 94-106, 89 Stat. 544 (1975), as amended by section 802 of the Department of Defense Appropriation Authorization Act, 1977, Pub. L. No. 94-361, 90 Stat. 930 (1976), provides that "it is the policy of the United States that equipment procured for the use of personnel of the Armed Forces of the United States stationed in Europe under the terms of the North Atlantic Treaty should be standardized or at least interoperable with equipment of other members of the North Atlantic Treaty Organization." The Act provides that "... the Secretary of Defense shall, to the maximum feasible extent, initiate and carry out procurement procedures..." to carry out that policy. The Act further provides that "whenever the Secretary of Defense determines that it is necessary, in order to carry out this policy... to procure equipment manufactured outside the United States, he is authorized to determine, for the purpose of section 2 of title III of the Act of March 3, 1933

(47 Stat. 1520; 41 U.S.C. 10a), that the acquisition of such equipment manufactured in the United States is inconsistent with the public interest."

2. The United States Government (U.S.) and the Government of Italy are seeking to achieve greater cooperation in research, development, production and procurement of defense equipment in order to make the most rational use of their respective industrial, economic and technological resources, to achieve the greatest attainable military capability at the lowest possible cost, and to achieve greater standardization and interoperability of their weapons systems. In order to further these aims, the U.S. and the Government of Italy entered into a Memorandum of Understanding (MOU) relating to mutual cooperation in the research and development, production and procurement of defense equipment.

3. In furtherance of the MOU, the U.S. and the Government of Italy each have established policies for increasing cooperation in research, development, and production and procurement of military systems. In keeping with these policies and in the interest of enhancing their mutual security obligations, the U.S. and the Government of Italy intend to cooperate in all respects practicable, to the end that defense equipment production and procurement efforts of the two countries be administered so as to assure the maintenance of an equitable balance, at mutually determined levels, in reciprocal defense purchases.

4. In order to facilitate the objectives of the agreement, the U.S. and the Government of Italy have agreed that, consistent with national laws and regulations, each government will evaluate offers of defense equipment produced in the other country without applying price differentials under the "Buy National" laws and regulations.

5. This Determination and Findings covers all items of Italian produced or manufactured defense equipment other than: (a) those items that have been excluded from consideration under the MOU and annexes thereto for reasons of protecting national requirements, such as for the maintenance of a defense mobilization base; and (b) those items that are subject to restrictions imposed by law on procurement from non-national sources.

Determination

Pursuant to 41 U.S.C. 10a (1970), I hereby determine that it is inconsistent with the public interest to apply the restrictions of the Buy American Act to the acquisition of those items of Italian produced or manufactured defense equipment that are covered by this Determination and Findings.

Date MAY 12 1979

Harold Brown

Memorandum of Understanding

between the

Federal Minister of Defense of the Federal Republic of Germany

and the

Secretary of Defense of the United States of America

concerning the

Principles Governing Mutual Cooperation

in the

Research and Development, Production, Procurement and

Logistic Support of Defense Equipment

PREAMBLE

The Secretary of Defense of the United States of America and the Federal Minister of Defense of the Federal Republic of Germany:

- o Intending to increase their respective defense capabilities through more efficient cooperation in the field of research and development, production, procurement and logistic support of defense equipment, in order to:
  - Make the most cost-effective and rational use of the resources allocated to defense; and
  - Promote the widest possible use of standard or interoperable equipment; and
  - Develop and maintain an advanced technology capability for the North Atlantic Alliance, and particularly with respect to the Parties to this Memorandum of Understanding; and
- o Seeking to improve the present situation and to strengthen their military capability and economic position through the further acquisition of standard or interoperable equipment

have entered into this Memorandum of Understanding in order to achieve the above aims.

This Memorandum of Understanding sets out the guiding principles governing mutual cooperation in conventional defense equipment research and development, production, procurement and logistic support.

The Parties hereto conclude this Memorandum of Understanding to strengthen the North Atlantic Alliance. In so doing, the Parties are fully aware that the Independent European Program Group (IEPG) wants to enhance equipment collaboration by more comprehensive and systematic arrangements among the individual member nations. They therefore agree that in the event of a possible conflict between understandings entered into between the IEPG and the Government of the United States, and this Memorandum of Understanding, the Parties hereto will consult with a view to amending this Memorandum of Understanding.

The Parties further agree that this Memorandum of Understanding should be viewed in the larger context of the cooperation between Europe and North America within the Alliance.

ARTICLE I

Principles Governing Mutual Defense Cooperation

1.1 Both parties intend to facilitate the mutual flow of defense procurement, taking into consideration relative technological levels of such procurement, and consistent with their national policies. This facilitation shall be sought through the provision of opportunities to compete for procurements of defense equipment and services as well as through the coproduction of defense equipment and defense R&D cooperation.

1.2 This Memorandum of Understanding is intended to cover areas in which, in the view of both Parties to the Agreement, bilateral cooperation could be achieved in conventional defense equipment research and development, production, procurement and logistic support. This cooperation is intended to complement the work of the Conference of National Armament Directors (CNAD) and the Independent European Program Group (IEPG).

1.3 Each Party may propose to the other any particular project that might be suitable for cooperation or for use by the other Party.

1.4 Both Parties will, consistent with their relevant laws and regulations, give the fullest consideration to all requests for cooperative R&D, and to all requests for production, procurement and logistic support which are intended to optimize Alliance standardization and/or interoperability.

1.5 In the interests of standardization within the Alliance and the effective utilization of scarce resources, both Parties shall, to the extent possible, select qualified defense items that have been developed and produced in the other country to meet their requirements. Necessary decisions should be taken on the basis of joint comparative trials according to criteria to be jointly established.

1.6 Both Parties will review items submitted as candidates for respective requirements. They will indicate requirements and proposed purchases in a timely fashion to ensure adequate time for their respective industries to qualify for eligibility and to submit a bid or proposal.

1.7 Both Parties will provide appropriate policy guidance and administrative procedures within their respective defense procurement organizations to facilitate achievement of the aims described herein.

1.8 The detailed implementing procedures, to be agreed, will, consistent with and to the extent permitted by national laws and regulations, incorporate the following:

a. Offers or proposals will be evaluated without applying price differentials under buy national laws and regulations;

b. Full consideration will be given to all qualified industrial and/or governmental resources in each other's country;

c. Offers or proposals will be required to satisfy requirements of the purchasing Party for performance, quality, delivery and costs.

1.9 Competitive contracting procedures shall normally be used in acquiring items of conventional defense equipment developed or produced in each other's country for use by either country's defense establishment.

1.10 Both Parties will ensure that the technical data packages (TDPs) made available under this Memorandum of Understanding are not used for any purpose other than for the purpose of bidding on, and performing, a prospective defense contract without the prior agreement with those owning or controlling proprietary rights and that full protection shall be given to such proprietary rights, or to any privileged, protected, or classified data and information they contain. In no event shall the TDPs be transferred to any third country or any other transferee without the prior written consent of the originating Party.

1.11 Both Parties will undertake their best efforts to assist in negotiating licenses, royalties and technical information exchanges with their respective industries or other owners of such rights. The two contracting parties will mutually make available to each other, to the extent possible, all information and proprietary rights required to implement cooperation under this agreement. The two contracting parties will, to the extent feasible, seek appropriate agreement with their industries that in the interest of standardization and armaments cooperation, proprietary rights in defense-relevant information and data can be transferred by appropriate arrangements, between the industries of the two countries.

1.12 Third party transfers of defense articles or technical data made available under this MOU, and of articles produced with such data, will be subject to the agreement of the Party that made available the defense articles or technical data, except as otherwise provided in particular arrangements between the two Parties.

1.13 Arrangements and procedures will, at the request of the purchasing Party, be established concerning follow-on logistic support for items of defense equipment acquired pursuant to this Memorandum of Understanding. Both Parties will make their defense logistic systems and resources available for this purpose as required and mutually agreed.

ARTICLE II

Implementing Procedures

2.1 The DoD and MoD will appoint representatives to determine in detail the procedures for implementing this Memorandum of Understanding and the terms of reference for a German-American Committee for Mutual Cooperation.

2.2 The Under Secretary of Defense for Research and Engineering will be the responsible authority of the United States Department of Defense for the development of implementing procedures under this Memorandum of Understanding.

2.3 The Director General of Armaments in the Ministry of Defense will be the responsible authority of the Ministry of Defense of Germany for the development of implementing procedures under this Memorandum of Understanding.

ARTICLE III

Industry Participation

3.1 Implementation of this Memorandum of Understanding will involve full industrial participation. Primary responsibility for finding business opportunities shall rest with the industries of each country.

3.2 Each Party will be responsible for calling to the attention of the relevant industries within its country the basic understanding of this Memorandum of Understanding, together with appropriate implementing guidance. Both Parties will take all necessary steps so that the industries comply with the regulations pertaining to security and to safeguarding classified information.

3.3 Also, the Parties will arrange to familiarize their respective procurement and requirements offices with the principles and objectives enunciated herein.

ARTICLE IV

Security

4.1 The operating procedures for the implementation of the General Security Information Agreement dated 23 December 1960 between the two Governments, with particular reference to industrial security, apply to activities under this Memorandum of Understanding.

4.2 To the extent that any items, plans, specifications or information furnished in connection with the specific implementation of this Memorandum of Understanding are classified by either Party for security purposes, the other Party shall maintain a similar classification and employ all measures necessary to preserve such security equivalent to those measures employed by the classifying Party throughout the period during which the classifying Party may maintain such classification.

4.3 Information that has been provided by either of the Parties to the other on condition that it remain confidential shall either retain its original classification designation, or be assigned a classification

designation, that shall ensure a degree of protection against disclosure equivalent to that required by the other Government. To assist in providing the desired protection, each Party will mark such information furnished with a legend indicating the origin of information, that the information relates to the Memorandum of Understanding and Annexes thereto, and that the information is furnished in confidence.

ARTICLE V

Administration

5.1 Each Party will designate points of contact at the Ministry of Defense level and in each purchasing service/agency.

5.2 The German-American Committee for Mutual Cooperation, referred to in Article II above, will meet as agreed or at the request of either Party to review progress in implementing the Memorandum of Understanding. It will discuss development, production, procurement and logistic support needs of each country and the likely areas of cooperation; agree to the basis of, and keep under review, the financial statement referred to below; and consider any other matters relevant to this Memorandum of Understanding.

5.3 An annual United States/Federal Republic of Germany Statement of the current balance, and long-term trends, of research and development, production, procurement, and maintenance and logistic support of defense equipment between the two countries will be prepared on a basis to be mutually agreed.

ARTICLE VI

Duration

6.1 This Memorandum of Understanding will remain in effect for a six-year period following its signing. Unless otherwise agreed by both Parties, the duration will be extended for another six years.

6.2 If, however, either Party considers it necessary for compelling national reasons to discontinue its participation under this Memorandum of Understanding before the end of the six-year period, or any extension thereof, written notification of its intention will be given to the other Party six months in advance of the effective date of discontinuance. Such notification of intent would be a matter of immediate consultation with the other Party to enable the Parties fully to evaluate the consequences of such termination and, in the spirit of cooperation, to take such actions as necessary to alleviate problems that may result from the termination. In this connection, although the Memorandum of Understanding may be terminated by the Parties, any contract entered into consistent with the terms of this Memorandum of Understanding shall continue in effect, unless the contract is terminated in accordance with its own terms.

ARTICLE VII

Implementation

7.1 Each Party must agree in writing to any amendment of this Memorandum of Understanding.

7.2 Details pertaining to implementation of the principles set forth herein will be set out in annexes to this Memorandum of Understanding.

7.3 Any differences of opinion over the interpretation and implementation of this Agreement and its Annexes shall be resolved by consultation between the DoD and MoD.

7.4 This Memorandum of Understanding, in two original texts in the German and English languages, both texts being equally authentic, will come into effect on the date of the last signature.

The Secretary of Defense
of the United States of America

Harold Brown

Date 17 OCT 1973

The Federal Minister of Defense
of the Federal Republic of
Germany

5

Determination and Findings
Exception to the Buy American Act

I hereby make, as department head, the following findings and determination regarding the application of the restrictions of the Buy American Act, 41 U.S.C. Section 10a (1970) to the items of defense equipment described below.

Findings

1. Section 814(a) of the Department of Defense Appropriation Authorization Act, 1976, Pub. L. No. 94-106, 89 Stat. 544 (1975), as amended by section 802 of the Department of Defense Appropriation Authorization Act, 1977, Pub. L. No. 94-361, 90 Stat. 930 (1976), provides that "it is the policy of the United States that equipment procured for the use of personnel of the Armed Forces of the United States stationed in Europe under the terms of the North Atlantic Treaty should be standardized or at least interoperable with equipment of other members of the North Atlantic Treaty Organization." The Act provides that "... the Secretary of Defense shall, to the maximum feasible extent, initiate and carry out procurement procedures..." to carry out that policy. The Act further provides that "whenever the Secretary of Defense determines that it is necessary, in order to carry out this policy... to procure equipment manufactured outside the United States, he is authorized to determine, for the purpose of section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. 10a), that the acquisition of such equipment manufactured in the United States is inconsistent with the public interest."

2. The United States Government (U.S.) and the Government of the Federal Republic of Germany (FRG) are seeking to achieve greater cooperation in research, development, production and procurement of defense equipment in order to make the most rational use of their respective industrial, economic and technological resources, to achieve the greatest attainable military capability at the lowest possible cost, and to achieve greater standardization and interoperability of their weapons systems. In order to further these aims, the U.S. and the FRG entered into a Memorandum of Understanding (MOU) relating to mutual cooperation in the research and development, production and procurement of defense equipment.

3. In furtherance of the MOU, the U.S. and the FRG each have established policies for increasing cooperation in research, development, and production and procurement of military systems. In keeping with these policies and in the interest of enhancing their mutual security obligations, the U.S. and the FRG intend to cooperate in all respects practicable, to the end that defense equipment production and procurement efforts of the two countries be administered so as to assure the maintenance of an equitable balance, of mutually determined levels in reciprocal defense purchases.

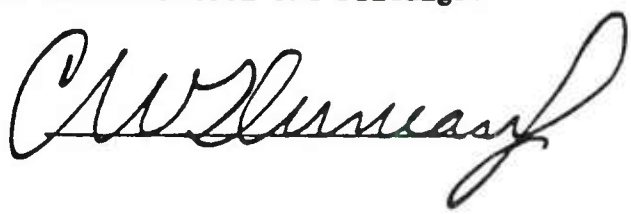
4. In order to facilitate the objectives of the agreement, the U.S. and the FRG have agreed that, consistent with national laws and regulations, each government will evaluate offers of defense equipment produced in the other country without applying price differentials under the "Buy National" laws and regulations.

5. This Determination and Findings covers all items of FRG produced or manufactured defense equipment other than: (a) those items that have been excluded from consideration under the MOU for reasons of protecting national requirements, such as for the maintenance of a defense mobilization base; and (b) those items that are subject to restrictions imposed by law on procurement from non-national sources.

Determination

Pursuant to 41 U.S.C. 10a (1970), I hereby determine that it is inconsistent with the public interest to apply the restrictions of the Buy American Act to the acquisition of defense equipment produced or manufactured by the FRG that are covered by this Determination and Findings.

Date 5/31/79



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MEMORANDUM OF UNDERSTANDING

BETWEEN THE

GOVERNMENT OF PORTUGAL

AND THE

GOVERNMENT OF THE UNITED STATES OF AMERICA

CONCERNING THE PRINCIPLES GOVERNING MUTUAL COOPERATION

IN THE RESEARCH, DEVELOPMENT, PRODUCTION, PROCUREMENT AND LOGISTIC SUPPORT

OF DEFENSE EQUIPMENT

PREAMBLE

The Government of the United States of America and the Government of Portugal, duly represented by their Ministers of Defense:

Intending to increase their respective defense capabilities through more efficient cooperation in the fields of research, development, production, procurement and logistic support in order to:

- Make the most cost-effective and rational use of the resources available for defense,

- Ensure the widest possible use of standard or interoperable equipment,

- Develop and maintain an advanced industrial and technological capability for the North Atlantic Alliance, and particularly with respect to the parties to this Memorandum of Understanding (MOU), and

Seeking to improve the present situation and to strengthen their military capability and economic position through the further acquisition of standard or interoperable equipment,

Have entered into this Memorandum of Understanding in order to achieve the above aims.

This Memorandum of Understanding sets out the guiding principles governing mutual cooperation in research, development, production, procurement and logistic support of conventional defense equipment.

The two Governments conclude this MOU to strengthen the North Atlantic Alliance. In so doing, the Governments are fully aware that the Independent European Program Group (IEPG) wants to enhance equipment collaboration by more comprehensive and systematic arrangements. They therefore agree that in the event of a possible conflict between agreements entered into between the IEPG and the Government of the United States, and this MOU, the parties hereto will consult with a view to amending this MOU.

The two Governments further agree that this MOU should be viewed in the larger context of the cooperation between Europe and North America within the Alliance.

ARTICLE I

Principles Governing Mutual Defense Cooperation

1. Both Governments intend to facilitate the mutual flow of defense procurement, taking into consideration relative technological levels of such procurement, and consistent with their national policies.
This facilitation shall be sought through the provision of opportunities to compete for procurements of defense equipment and services as well as through the coproduction of defense equipment and defense R&D cooperation.

2. This MOU is intended to cover areas in which possible bilateral cooperation could be achieved in research, development, production, procurement and logistic support of conventional defense equipment, complementing the work of the Conference of National Armament Directors (CNAD), the Independent European Program Group (IEPG), and the Senior NATO Logisticians Conference (SNLC).

3. The two Governments will, consistent with their relevant laws and regulations, give the fullest consideration to all requests for cooperative R&D, and to all requests for production and procurement which are intended to enhance standardization and/or interoperability within the Alliance.

4. In the interests of standardization and the effective utilization of scarce resources, the two Governments shall, to the extent possible, adopt qualified defense items that have been developed or produced in the other country to meet their requirements.

5. The two Governments shall mutually determine the counting procedures to be laid down in an Annex to this MOU that will apply to all defense items and defense services purchased by them directly or through their relevant industries under this MOU.

6. Each Government shall from time to time notify the other Government of defense items that may not be acquired by the

notifying Government from other than domestic sources, as well as those defense items that may be particularly suitable for acquisition by the other Government.

7. Both Governments will provide appropriate policy guidance and administrative procedures within their respective defense acquisition organizations to facilitate achievement of the aims of this MOU.

8. Competitive contracting procedures shall normally be used in acquiring items of defense equipment developed or produced in each other's country for use by either country's defense establishment.

9. The detailed implementing procedures, to be agreed, will, consistent with and to the extent permitted by national laws and regulations, incorporate the following:

a. Offers or proposals will be evaluated without applying price differentials under buy national laws and regulations and without applying the costs of import duties;

b. Full consideration will be given to all qualified industrial and/or governmental resources in each other's country;

c. Offers or proposals will be required to satisfy requirements of the purchasing Government for performance, quality, delivery, and costs.

10. Both Governments will review items submitted as candidates for respective requirements. They will indicate requirements and proposed purchases in a timely fashion to ensure adequate time for their respective industries to qualify for eligibility and submit a bid or proposal.

11. Each Government will ensure that the technical data packages (TDP's) made available under this MOU are not used for any purpose other than for the purpose of bidding on and performing a prospective defense contract, without the prior agreement of those owning or controlling proprietary rights and that full protection shall be given to such proprietary rights, or to any privileged, protected, or classified data and information they contain. In no event shall the TDP's be transferred to any third country or any other

transferee without the prior written consent of the originating Government.

12. Third party transfers of defense articles or technical data made available under this MOU, and of articles produced with such data, will be subject to the agreement of the Government that made available the defense articles or technical data, except as otherwise provided in particular arrangements between the two Governments.

13. Both Governments will use their best efforts to assist in negotiating licenses, royalties and technical information exchanges with their respective industries or other owners of such rights.

14. Arrangements and procedures will, at the request of the purchasing government, be established concerning follow-on logistic support for items of defense equipment, purchased pursuant to this MOU. Both Governments will make their defense logistic systems and resources available for this purpose as required and mutually agreed.

ARTICLE II

Implementing Procedures

1. Representatives of the two Governments will be appointed to determine in detail the procedures for implementing this MOU and the terms of reference for a Portugal-U.S. Committee for Mutual Cooperation.

2. The Under Secretary of Defense for Research and Engineering will be the responsible authority in the United States Government for the development of implementing procedures under this MOU.

3. The Director General of Armaments and the Secretary of State for Light Industry will be the responsible authorities of the Government of Portugal for the development of the implementing procedures under this MOU.

ARTICLE III

Industry Participation

1. Each Government will be responsible for calling to the attention of the relevant industries within its territory the basic understanding of this MOU, together with appropriate implementing guidance. Both Governments will take all necessary steps so that the industries comply with the regulations pertaining to security and to safeguarding classified information.

2. Implementation of this MOU will involve full industrial participation. Accordingly, the Governments will arrange to inform their respective procurement and requirements offices concerning the principles and objectives of this MOU. However, primary responsibility for finding business opportunities in areas of research and development and production shall rest with the industries in each nation.

ARTICLE IV

Security

1. To the extent that any items, plans, specifications or information furnished in connection with the specific implementation of this Memorandum of Understanding are classified by the furnishing Government for security purposes, the other Government shall maintain a similar classification and employ all measures necessary to preserve such security equivalent to those measures employed by the classifying Government throughout the period during which the classifying Government may maintain such classifications.

2. Information that has been provided by the Government of Portugal to the United States in confidence, or produced by the United States pursuant to a written joint arrangement with the Government of Portugal requiring confidentiality, shall either retain its original classification designation, or be assigned a United States classification designation that shall ensure a degree of protection against disclosure equivalent to that required by the Government of

Portugal. To assist in providing the desired protection, the Government of Portugal will mark such information furnished to the U.S. Government with a legend indicating that the information is of Portuguese Government origin, that the information relates to the MOU and that the information is furnished in confidence.

ARTICLE V

Administration

1. The Portugal-U.S. Committee for Mutual Cooperation, referred to in Article II above, will meet as agreed or at the request of either Government to review progress in implementing the MOU. They will discuss research and development, production and procurement needs of each nation and the likely areas of cooperation; agree to the basis of and keep under review, the financial statement referred to below; and consider any other matters relevant to this MOU.

2. Each Government will designate points of contact at the Ministry of Defense level and in each purchasing service/agency under the Ministries of Defense.

3. An annual United States-Portugal statement of the current balance, and long-term trends, of R&D cooperation and purchases between the two nations will be prepared on a basis to be mutually agreed.

ARTICLE VI

Annexes

Annexes negotiated by the responsible officials and approved by the appropriate Government authorities will be incorporated in this MOU.

ARTICLE VII

Duration

1. This MOU will remain in effect for a ten-year period and will be extended for successive five-year periods, unless the Governments mutually decide otherwise.

2. If, however, either Government considers it necessary for compelling national reasons to terminate its participation under this MOU before the end of the ten-year period, or any extension thereof, written notification of its intention will be given to the other Government six months in advance of the effective date of termination. Such notification of intent shall become a matter of immediate consultation with the other Government to enable the Governments fully to evaluate the consequences of such termination and, in the spirit of cooperation, to take such actions as necessary to alleviate problems that may result from the termination. In this connection, although the MOU may be terminated by the Parties, any contract entered into consistent with the terms of this MOU shall continue in effect, unless the contract is terminated in accordance with its own terms.

ARTICLE VIII

Implementation

This MOU will come into effect on the date of the last signature.

For the Government of the United States of America
The Secretary of Defense

Harold Brown

Date 28 March 1979

For the Government of Portugal

The Minister of Defense

Date 11 de Julho

Determination and Findings
Exception to the Buy American Act

I hereby make, as department head, the following findings and determination regarding the application of the restrictions of the Buy American Act, 41 U.S.C. Section 10a (1970) to the items of defense equipment described below.

Findings

1. Section 814(a) of the Department of Defense Appropriation Authorization Act, 1976, Pub. L. No. 94-106, 89 Stat. 544 (1975), as amended by section 802 of the Department of Defense Appropriation Authorization Act, 1977, Pub. L. No. 94-361, 90 Stat. 930 (1976), provides that "it is the policy of the United States that equipment procured for the use of personnel of the Armed Forces of the United States stationed in Europe under the terms of the North Atlantic Treaty should be standardized or at least interoperable with equipment of other members of the North Atlantic Treaty Organization." The Act provides that "... the Secretary of Defense shall, to the maximum feasible extent, initiate and carry out procurement procedures..." to carry out that policy. The Act further provides that "whenever the Secretary of Defense determines that it is necessary, in order to carry out this policy... to procure equipment manufactured outside the United States, he is authorized to determine, for the purpose of section 2 of title III of the Act of March 3, 1933 (47 Stat. 1520; 41 U.S.C. 10a), that the acquisition of such equipment manufactured in the United States is inconsistent with the public interest."

2. The United States Government (U.S.) and the Government of Portugal are seeking to achieve greater cooperation in research, development, production and procurement of defense equipment in order to make the most rational use of their respective industrial, economic and technological resources, to achieve the greatest attainable military capability at the lowest possible cost, and to achieve greater standardization and interoperability of their weapons systems. In order to further these aims, the U.S. and the Government of Portugal entered into a Memorandum of Understanding (MOU) relating to mutual cooperation in the research and development, production and procurement of defense equipment.

3. In furtherance of the MOU, the U.S. and the Government of Portugal each have established policies for increasing cooperation in research, development, and production and procurement of military systems. In keeping with these policies and in the interest of enhancing their mutual security obligations, the U.S. and the Government of Portugal intend to cooperate in all respects practicable, to the end that defense equipment production and procurement efforts of the two countries be administered so as to assure the maintenance of an equitable balance, of mutually determined levels in reciprocal defense purchases. •

4. In order to facilitate the objectives of the agreement, the U.S. and the Government of Portugal have agreed that, consistent with national laws and regulations, each government will evaluate offers of defense equipment produced in the other country without applying price differentials under the "Buy National" laws and regulations.

5. This Determination and Findings covers all items of Portuguese produced or manufactured defense equipment other than: (a) those items that have been excluded from consideration under the MOU for reasons of protecting national requirements, such as for the maintenance of a defense mobilization base; and (b) those items that are subject to restrictions imposed by law on procurement from non-national sources.

Determination

Pursuant to 41 U.S.C. 10a (1970), I hereby determine that it is inconsistent with the public interest to apply the restrictions of the Buy American Act to the acquisition of defense equipment produced or manufactured by Portugal that are covered by this Determination and Findings.

Date 5/31/79

5

MEMORANDUM OF UNDERSTANDING (MOU)

BETWEEN THE GOVERNMENT OF BELGIUM AND THE GOVERNMENT

OF THE UNITED STATES CONCERNING IMPROVED HAWK PROGRAM

Memorandum of Understanding (MOU)
between the Government of BELGIUM and the Government
of the UNITED STATES concerning Improved HAWK program

1. The Government of BELGIUM, acting through the Ministry of Defense (hereinafter called the MOD) intends to purchase the Improved HAWK Missile system, with associated supporting defense articles and services, mainly from U.S. sources.

2. The objective of this Memorandum of Understanding (MOU) is to promote through the waiving of Buy American and other U.S. price differentials on defense purchases, and other measures as set forth in this MOU, a flow of defense equipment and services to include components, subsystems and major systems at all technology levels, from BELGIUM to the U.S. (including U.S. Forces in EUROPE) in an amount equal to the net dollar amount flowing to the U.S. as a result of the purchase by the Belgian Government of the missile system, supporting equipment and services set out in paragraph 1. In this regard, the Government of BELGIUM will monitor the bidding activities of the Belgian industry, as described in paragraph 7 below, with a view to maintaining an appropriate technology level. To this end, the U.S. and Belgian Governments will undertake those actions set forth below.

3. The RAYTHEON corporation, in a separate agreement with the Government of BELGIUM, is committed to seek opportunities to place orders with the Belgian industries.

4. The U.S. Department of Defense (hereinafter called the DOD) will simultaneously supplement U.S. industry efforts, in order to achieve the objective of this MOU as set forth in paragraph 2 above, by offering to Belgian industry the opportunity to provide defense equipment and services under its solicitation procedures in accordance with paragraph 6 below.

5. In order to achieve the objective of this MOU, the DOD, contingent on the purchase of the above system by the Government of BELGIUM, further agrees to use its best efforts to have RAYTHEON and other U.S. companies associated with the Improved HAWK program provide Belgian industry with the opportunity to compete for defense sub-contracts. Where, consistent with U.S. laws and regulations, a duty-free entry certificate is susceptible to issuance, the DOD will provide for duty-free entry by inclusion of the appropriate clause(s) in DOD contracts.

6. The DOD for its part agrees that, commencing on the date on which the procurement contract is signed with the RAYTHEON corporation for the purchase of the above system, it will :

   a. evaluate offers from Belgian industry without applying price differentials resulting from U.S. Buy National laws or regulations.

   b. consistent with U.S. laws and regulations waive applicable customs duties or other restrictions.

   c. release all information and technical data, in which the DOD has rights, necessary for the production of items in BELGIUM on contracts which have been awarded to Belgian industry. To the extent costs are involved, these will be the same as those for U.S. sources.

   d. in the case of privately owned rights in technical data, use its best efforts to provide to Belgian contractors, on a reasonable cost basis, technical data required for production.

   e. facilitate the necessary export licenses required for the provision of bid packages and related technical data to accomplish the above.

   f. provide to Belgian sources every opportunity to compete on a fair and equal basis with U.S. sources for both research and development, and production contracts, consistent with U.S. law and National Disclosure Policy.

   The purpose of the above stated articles is to insure a fair comparison between the offers of U.S. and Belgian sources, and the DOD will take all the necessary measures to accomplish this.

7. The Belgian MOD and its organizations will use their good offices and authority to provide :

   a. direction to Belgian industry on steps to be taken by Belgian industrial firms to make known their capabilities and products which might qualify for competitive procurement by U.S. industry and, to the extent necessary, by the DOD.

   b. assistance to Belgian industry in meeting handling requirements for classified U.S. information.

   c. necessary protection of technical data provided by the DOD to Belgian industry to insure that it is used solely for the purposes of this agreement and that no other use is made of this data except with the prior written agreement of the U.S. Government.

8. U.S. technical data conveyed to Belgian industry in furtherance of this arrangement will be handled in accordance with the basic security principles for the protection of U.S. classified information contained in the General Security of Information Agreement effected by the U.S. Department of State and the Government of BELGIUM on 9 August 1960.

9. The MOD and the DOD will appoint project officers to monitor progress under this MOU. These project officers will meet periodically but not less than annually, to review and approve the progress of this understanding and recommend to the MOD and the DOD respectively such action as may appear necessary.

10. Both RAYTHEON and the DOD will keep records of those purchases made from Belgian sources in furtherance of this agreement. The MOD will keep similar records. Such information will be exchanged between the DOD and the MOD prior to the periodic reviews called for under paragraph 9.

11. This MOU is effective on the date of the last signature hereto and, subject to the respective laws of the governments of Belgium and the United States, shall remain in effect until the total dollar value of DOD purchases from Belgian production sources equals the net dollar amount flowing to the U.S. as a result of the purchase of the improved Hawk system taking into account the purchases made from Belgian production sources by RAYTHEON and other companies in the U.S. as described in paragraph 5. The DOD and the MOD shall do everything possible within their respective laws and regulations to facilitate reaching this objective within a period of five years at an average rate of 20 % per year, recognizing that the yearly rate of performance will probably increase progressively over the period. The DOD and the MOD will consult each year to determine what actions should be taken by both sides to attain the objective. If the total objective is not reached within a period of five years, release of production licenses for defense equipment in which the DOD has rights will be given by DOD, subject to approval by competent U.S. authorities. The then dollar value of the quantity of such defense equipment which is approved by the U.S. Government for production by the Belgians and produced by Belgian industry will be applied to any outstanding shortfall against the objective of this MOU.

For the Government of the United States of America

Harold Brown

JUL 9 1979

For the Government of Belgium

P. VANDEN BOEYNANTS
Minister of Defense

ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

8 MAY 1973

INSTALLATIONS AND LOGISTICS

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (I&L)
ASSISTANT SECRETARY OF THE NAVY (I&L)
ASSISTANT SECRETARY OF THE AIR FORCE (I&L)
DIRECTOR, DEFENSE SUPPLY AGENCY

SUBJECT: U.S./Australian Offset Arrangement

As you know, we recently concluded a series of discussions with Australian officials and DoD. Two significant actions resulted from those meetings, i.e., (a) a Government-to-Government offset understanding which was approved by the Deputy Secretary of Defense, and (b) an implementation/execution arrangement for Australian industrial participation in connection with FMS purchases made by Australia from the USA. (A copy of each document is attached.)

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These two documents set forth the basic form of the offset objective and our approach to implementation. It is our best estimate now that Australia will purchase about $700 million in U.S. weapon systems over the next several years. Generally, our efforts to accomplish the offset objective should be viewed in the long term, five years or more. However, there are several weapon systems in which the Australians have expressed considerable current interest. Thus, there is a need to focus on some specific implementing steps in our contracting process.

The most immediate system being considered by the Australians is the proposed procurement, through FMS channels, of subsystems for several destroyers the Australians plan to construct. In connection with these subsystems the Australians, as part of the offset objective, are arranging with the several U.S. contractors involved to procure subsystem components from Australian sources. This technique of separate arrangements (offset) between Australia and U.S. contractors is an approach which we understand will be followed in future major procurements by the Australians. Because

of this pending action, it is appropr.ate that a framework for procurement/ contracting be developed to provide, (1) the mechanism for assuring that we can track procurements placed in Australia; (2) apply uniform contract provisions to carry out the purposes of our objective; and, (3) determine what, if any, action is required on such matters as the Buy American Act, duty, and other such inhibiting provisions. To develop this guidance framework, staff members of my office will be in touch with their counterparts in your office. When this guidance is developed, I propose to distribute it to each of you for application.

Attachments
as

[illegible]
Acting Assistant Secretary of Defense
(Installations and Logistics)

Memorandum of Discussions

Against the purchase by the Government of Australia from the United States Department of Defense of major weapons systems and items of defense equipment, the .S. Department of Defense agrees to establish the basis of an associated offset arrangement. The offset arrangement is pursuant to the discussions held in Washington on 10 April 1973 between the U.S. Department of Defense and the Australian Department of Defence. In these discussions the following principles and understandings were agreed:

1. The U.S. Department of Defense will commit itself to a combined U.S. industry and DOD offset objective of no more than 25% of the value of a major Australian order.

2. The U.S. Department of Defense and the Australian Department of Defence will look to those U.S. firms benefiting substantially from an Australian order to carry the initial and primary burden of offset implementation.

3. In the event that U.S. firms and subcontractors are unable to completely fulfill their offset objectives, the U.S. DOD will first offer Government Furnished Equipment (GFE) to Australian industry as bid opportunities and, second, if GFE items turn out to be unsuitable for either partner, select other items of defense equipment and supplies which appear to be competitively obtainable from Australian sources.

4. The DOD reserves the right, unilaterally, to select appropriate procurements for offset implementation. However, to facilitate the selection of suitable items, DOD will consult with A/DOD to identify areas of Australian industrial/technological strength.

5. DOD procurement from Australian sources will normally be competitive and be subject to two basic conditions: one, that the items of procurement fully satisfy DOD requirements for performance, quality, and delivery, and two, that the items of procurement cost DOD no more than would comparable U.S. items or other foreign items eligible for award.

6. If and when special circumstances invite it, the DOD may consider alternative means of procurement involving directed procurements or negotiated procurements, including items of Research and Development, to the extent appropriate items can be selected.

7. Procurements from Australian sources made under DOD implementation of offset arrangements will be in accord with the Armed Services Procurement Regulations (ASPR). Selective waiver of the Buy American Act and the DOD "Gold Flow" rule will be made by the DOD for those procurements in which Australian sources are solicited and evaluated to be the winning bid except for application of these differentials. Thus the DOD will authorize case-by-case exceptions of these differentials in consonance with the principles and understandings of this Memorandum of Discussions.

8. As a general rule, the DOD role in this offset agreement will begin at the time of an Australian Request for Quotation (RFQ). The time-frame for placement of orders in fulfillment of the DOD share of the U.S. offset objective will be within five years of the initial date of delivery of the items purchased against which the offset objective is measured.

9. Notwithstanding the DOD's willingness to facilitate and to assist the A/DOD and Australian industry in successfully accomplishing the purposes and understandings of the offset arrangement, it remains the basic Australian responsibility to carry out those actions to bring its sales to the U.S. defense industry market and to the DOD to successful consummation.

10. It is recognized that detailed implementing procedures for the management of offsets will be needed. These procedures necessarily involve both procurement and sales activities and they will be developed in subsequent meetings as mutually agreed.

Signed, ad referendum, this 10th day of April 1973 in Washington, D.C.

SUBMITTED: Leonard A. Alne

Leonard A. Alne
For the U.S.
Department of Defense

Roy W.B. Davies
For the Australian
Department of Defence

APPROVED: H.P. Clausen

MEMORANDUM OF DISCUSSION

IMPLEMENTATION/EXECUTION ARRANGEMENTS FOR
AUSTRALIAN INDUSTRY PARTICIPATION (A.I.P.)
WHEN PURCHASES FROM THE U.S. ARE MADE
UNDER FOREIGN MILITARY SALES
(FMS)

The United States Department of Defense (US/DOD) in discussions with the Australian Department of Defence (A/DOD) at previous Procurement Liaison Meetings has made a number of arrangements involving Australian Industry Participation (A.I.P.) in connection with purchases made by Australia from U.S. These include such matters as inspection, contract administration, exchange of technical information etc.

(2) The latest of these arrangements was the Memorandum of Discussions regarding basic offset arrangements, signed April 10, 1973.

(3) The US/DOD recognises that Australian selection of a contractor for an equipment requirement is based largely on considerations of:

* Equipment performance
* Product support arrangements
* Price and delivery
* Australian industry participation.

(4) The objective of the Australian Industry Participation programme (A.I.P.) is to:

* Broaden industrial capability of strategic significance
* Stimulate technological advancement in key industries
* Improve defence supply capability and self-reliance.

(5) In implementing the Memorandum of April 10, 1973, with regard to Australian purchases through the Foreign Military Sales Organisation (F.M.S.) and Australian Industrial Participation the following actions will be taken:

(6) Pre-Contract Stage

6.1. A/DOD will advise US/DOD of its planned requirements for equipment purchases and guidelines for A.I.P. satisfaction.

6.2. US/DOD will advise Australia of estimated budgetary costs and provide details of G.F.E. items, including prime and sub-contractors for the equipment concerned.

6.3. In consultation with US/DOD, A/DOD will explore with the appropriate U.S. contractors, possible areas of Australian Industry Participation.

6.4. A/DOD will assess the defence/technological/economic significance of the U.S. industry proposals.

6.5. A/DOD will advise US/DOD and U.S. industry of the areas of Australian industry participation which are acceptable within the guidelines laid down.

(7) Preliminary Assessment Phase

7.1. US/DOD and A/DOD will examine the expected dollar achievement by U.S. industry against the project target for Australian Industry Participation.

7.2. If a shortfall in target appears likely, US/DOD will review the programme and advise A/DOD of its proposals to make good any such shortfall.

7.3. A/DOD will submit any appropriate proposals for consideration as direct purchase by US/DOD and from A/DOD, or as items for considera-

tion for joint development and production.

(8) Post-Contract Phase

8.1. Specific details of the agreed A.I.P. proposal will be made available to US/DOD.

8.2. U.S. contractors will be required to report quarterly to Australia for their specifie A.I.P. agreement the following:

* R.F.Q.'s made available to Australia
* Contracts placed in Australia
* Value of each contract
* Achievement against each contract
* Progressive total of A.I.P. achieved
* Any problems in administering the programme.

8.3. Australia will report quarterly/half-yearly to US/DOD Military Department concerned, the delivery programme for items being purchased from Australia.

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(9) For the purpose of assessing the value of A.I.P. to be achieved, the following definitions will apply.

9.1. A major contract is one which involves end items and amounts to be at least $500,000.

9.2. The US/DOD recognises that A/DOD makes a range of smaller purchases amounting to about $A6 million per year, at present, and will include this amount in the total figure against which A.I.P. is calculated.

9.3. The US/DOD will be responsible for A.I.P. commitments associated with A/DOD purchases through F.M.S. For A.I.P. arrangements associated with A/DOD pruchases direct from U.S. companies, with no FMS or DOD procurement involved, it will be the responsibility of A/DOD to

assure achievement of the agreed targets. In the latter case, when requested by A/DOD, US/DOD will assist where possible with waivers, contract services etc. In any case where US/DOD assistance involves permission to the contractor to include as A.I.P. items for the US/DOD, the DOD will want to receive appropriate offset credit.

9.4. The starting point for the arrangement outlined in the Memorandum of April 10, 1973 will be Australian programmes commencing after April 18, 1973.

(10) Where the US/DOD owns the rights, and is in a position to do so, it will continue to make data packs and technical information available on items Australia wishes to produce.

(11) The US/DOD will use its best offices to assist Australia in the negotiation of licenses, royalties and technical information exchanges with U.S. companies, on items Australia desires to produce for defence purposes.

(12) The US/DOD will continue to provide contract administration services or other assistance to A/DOD where appropriate as currently arranged.

(13) A/DOD will use its best offices to ensure compliance by Australian contractors/suppliers with quality standards, delivery dates, and prices for items produced in Australia for US/DOD. The DOD will provide assistance where possible to Australia to achieve these objectives.

(14) A/DOD will use its best offices to ensure that any facilities established in Australia for production, maintenance, or support of equipment of U.S. design or origin are made available to the US/DOD when required.

(15) When research and development proposals are being developed as part of the A.I.P. programme, arrangements will be made for a regular exchange of information to ensure that both parties are fully informed of the development and production possibilities of the items under discussion.

(16) Arrangement will be made for a regular exchange of information to ensure both parties are fully informed on the possibilities of purchase by US/DOD of Australian produced end items.

(17) For the purpose of administration of the A.I.P. programme with F.M.S., each country will nominate a specific liaison authority.

(18) A/DOD will provide reports each quarter to the US/DOD liaison authority of the progress made by each company in achieving the A.I.P. targets. This information will include the total commitment of the company, types of items suggested for A.I.P. and those accepted, the value of the R.F.Q.'s submitted to Australia, the dollar value of orders placed, and the deliveries made by Australian companies. Information will be provided on any joint development programmes or any other US/DOD purchases from Australia which may not be tied to a specific Australian-F.M.S. Procurement, but which will be creditable against the cumulative overall US/DOD commitment target. Provision will also be made for an overall review of progress on the programme each twelve months.

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Richard Bennewitz

E. BENNEWITZ, Special Assistant
ASD(I&L)
U.S. Department of Defense

Ron. W. Davies

R. DAVIES, First Assistant Secretary
(Planning and Procurement)
Australian Department of Supply

18 April, 1973

MEMORANDUM OF UNDERSTANDING
BETWEEN THE GOVERNMENT OF THE SWISS CONFEDERATION
AND THE GOVERNMENT OF THE UNITED STATES
CONCERNING THE F-5 PROGRAM

1. The Government of the Swiss Confederation, acting through the Federal Military Department (hereinafter called the FMD) intends to purchase a quantity of F-5E and F-5F aircraft, with associated supporting defense articles and services, from U.S. sources through the United States Department of Defense (hereinafter called the DOD) under Foreign Military Sales procedures.

2. The goal of the Memorandum of Understanding (MOU) is to offset to the maximum extent possible the amount to be paid by the Swiss Government for the aircraft and supporting equipment set out in paragraph 1 by placing contracts on a competitive basis with Swiss industries, but in no event will the goal be less than 30%.

3. The United States Government, acting through the DOD, and the Government of the Swiss Confederation, acting through the FMD, in seeking to attain this goal, will look to those U.S. firms benefiting substantially from the Swiss purchase to carry the primary burden of offset implementations. It will be the basic responsibility of industry in each country to identify and define their capabilities and to carry out the supporting action to facilitate the industrial participation envisioned herein. During the first two years the primary burden of offset implementation will be upon Northrop, General Electric and related contractors. However, if during that period Swiss industry offers items which can meet valid U.S. defense procurement on a competitive basis, the provisions of para 5 will be applicable. After such two year period representatives of the parties hereto, with appropriate representatives from the industrial sectors, will meet to review progress hereunder. Should it be apparent that the offset objectives may not be reached before the expiration of the MOU, the DOD will augment industry efforts to reach that objective by offering to Swiss industry the opportunity to provide defense articles and services under competitive solicitation procedures and in accordance with paragraph 5.

4. (A) In order to achieve the goal the DOD, contingent on the sale of the above quantities of aircraft to the Government of the Swiss Confederation, agrees to use its best efforts to have Northrop, General Electric, and other companies associated

with the F-5E and F aircraft program provide Swiss industry with the opportunity to compete, on an equal basis with U.S. industry and other sources for sub-contracts. In addition, the DOD will encourage the prime contractors (Northrop and GE) to implement their plans for expansion of Swiss products in the U.S. and third-country markets.

(B) Swiss items purchased by U.S. sources (including municipalities) and Swiss items purchased by third-country sources as a result of the efforts of Northrop, GE and other U.S. contractors associated with the F-5 program will be recognized in any computation of offset amounts. The primary test will be a mutual accord as to whether or not a given sale occurred as a result of efforts arising from this offset agreement. To facilitate these computations the DOD will look primarily to the contractor to keep records adequate for this purpose.

5. The DOD agrees that in seeking to attain this goal, it will:

(A) Provide for waiver of the cost of import duties in evaluating defense prime contracts and sub-contract solicitations from Swiss industry and for the necessary duty-free entry certificates and related documentation.

(B) Emphasize that in inviting submission of selected tenders, special consideration should be given to those items for which Swiss industry can bid on a competitive basis.

(C) Use its best efforts to have technical data required for production provided to Swiss contractors on a reasonable cost basis.

(D) Facilitate the necessary export licenses required for the provision of bid package and related technical data to accomplish the above.

(E) Provide for waiver to the extent permitted under "Buy National" legislation and regulations.

6. The FMD and its organizations will use their good offices and authority to achieve the established procurement objectives. This will include, in addition to the purchase of the F-5 aircraft, the following:

(A) Direction to Swiss industry on steps to be taken by Swiss industrial firms to make known their capabilities and

products which might qualify for competitive procurement by U.S. industry and, to the extent necessary, by the DOD;

(B) Advice to Swiss industry on the necessary steps they must take to coordinate their efforts in responding to U.S. offers;

(C) Assistance to Swiss industry in meeting handling requirements for classified U.S. information.

7. The FMD and the DOD will appoint project officers to monitor progress toward the objective of this MOU. These project officers will meet periodically, but not less than annually, to review the progress of this understanding and recommend such action as may appear necessary to carry out its objective.

8. At the end of every two years, representatives of the parties hereto with appropriate representatives from the industrial sectors will meet to review progress under this MOU.

9. This Memorandum of Understanding is effective on the date on which it is signed, and shall remain in effect for eight years, subject to the respective laws of the Government of the Swiss Confederation and the Government of the United States.

James R. Schlesinger

The Secretary of Defense
of the United States of America

2 July 1975
(Date)

The Chief of the Federal
Military Department of the
Swiss Confederation

9 July 1975
(Date)

"COUNTING PROCEDURES"

US-SWISS OFFSET ARRANGEMENT

Introduction

The US/Swiss F-5 Offset Arrangement dated 9 July 1975 needs definitive guidelines on the counting of items and monetary amounts against the Offset goal.

The guiding principles are taken from paragraph 4(b) of the Memorandum of Understanding, namely,, that "Swiss items purchased by U.S. sources (including municipalities) and Swiss items purchased by third country sources as a result of the efforts of Northrop, GE and other U.S. contractors associated with the F-5 program will be recognized in any computation of offset amounts."

Principles

In order to make the above guiding principle more concrete and to eliminate as much as possible areas of ambiguity and potential dispute the following specific points are made:

1. To be counted an item must be made in Switzerland or by a firm not resident in Switzerland but utilizing a significant percentage of Swiss components (in this latter instance the actual cost of the Swiss componentry will count). License/royalty fees paid by U.S. licensees to Swiss licensors for items procured under this arrangement will count. The term "item" includes construction and technical services (e.g. - engineering services).

2. To be counted the purchase must be a result of efforts in accordance with, and in furtherance of, the MOU. In addition to sales to U.S. firms or the U.S. Government, if, as a result of efforts described above, a sale is made to a State or any U.S. governmental entity, it will count toward the Offset goal.

3. Where, through the efforts described in 2 above, a purchase is made of a Swiss item (as defined in 1 above) by a third-country government or company it shall count toward the Offset goal.

4. Any purchases within the following three categories will be counted if so noted in the purchase order. In all other cases the primary test of counting will be mutual accord as to whether or not a given sale occurred as a result of efforts arising from the Memorandum of Understanding.

A. The item is produced by the Swiss aircraft industry or by any industr providing items related to aircraft, including maintenance, research, and development;

B. The item is produced by the Swiss metal-working, mechanical, electric machinery, apparatus, instrument, electronics, transportation equipment

industry, including technical maintenance, research and development.

C. The item falls within a specific project or case concurred in by the GRD and the USG.

5. Where a claim is made by any of the entities set out in 2 above that a certain purchase is to count, under the rules prescribed in paragraphs 2, 3 and 4 above, it will count in the absence of clear evidence that it was not made as a result of efforts described in 2 above.

Reporting

Reports will be prepared by each side annually unless otherwise agreed. These reports will include specific items purchased as a result of the MOU, indicating the names of the purchaser and the seller and the date of their contracting. This information will be exchanged between the DOD and the GRD. The presumption will be that the DOD report stands as a mutually agreed record between the two governments unless the GRD provides clear evidence that the purchase was not made in accordance with the principles stated herein. The GRD will have the right to audit such reports for a period of 90 days following receipt thereof.

The first DOD report will be provided the GRD on or before 31 July 1976. (This report will record data through June 30th).

Edward M. Fish

For the Department of Defense
United States of America

10 March 1976

Date

For the Federal Military Department of
The Swiss Confederation

29. März 1976

Date

OFFICE OF THE UNDER SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

RESEARCH AND
ENGINEERING

15 FEB 1978

MEMORANDUM FOR THE ASSISTANT SECRETARIES OF THE MILITARY DEPARTMENTS
THE DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: List of Items Excluded from Procurement Consideration Under MOUs for Reciprocal Procurement

Based on our previous memorandum of 26 April 1977, forwarded herewith (attachment) is revised list. Future revisions of this list will be made on an annual basis.

FLOYD H. TROGDON
Acting Deputy Under Secretary
(Acquisition Policy)

Attachment
a/s

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DoD LIST OF RESTRICTED DEFENSE ITEMS UNDER MOU FOR RECIPROCAL DEFENSE PROCUREMENT

Section I - Items Procured Pursuant to ASPR 3-216

Navy

Fuzes, Safe and Arm Devices, and Similar Items

MK-13 Safe and Arm Device
MK-13 Triggering Device
MK-17 Safe and Arm Device
MK-33 Safe and Arm Device
MK-330 Fuze
MK-334 Fuze
MK-404 Fuze
MK-407 Fuze
FMU-109 Fuze

Missiles and Missile Components

AIM-7F Sparrow Missile
- Guidance and Controls Section
- MK-58 Rocket Motors
- MK-71 Warhead Metal Parts

AIM-9L Sidewinder Missile
- Guidance and Control Section
- MK-36 Rocket Motors
- DSU-15 Target Detector
- AN/WDU-17 Warhead

Trident I (C-4) Missile System
- Guidance and Control System
- MK-5 Electronic Assemblies (EA)
- MK-5 Inertial Measurement Unit Electronics (IMUE)
- Backfit of Poseidon (C-3) SSBNs

Flares

MK-46 Flares, Infrared Decoy

Sonobuoys and Components

AN/SSQ-36
AN/SSQ-41B
AN/SSQ-47B
AN/SSQ-53A
AN/SSQ-57A
AN/SSQ-62

Military Sealift Cargo

Ocean Transportation and Services

Air Force

MAC Commercial Airlift
GAU-8/A and 30mm Ammo

Defense Logistics Agency

Textiles - Worsted

Army

L.A.P., Manufacturing & testing of projectiles (5.56mm through 8 inch), mines, dispensers, sockets, pyrotechnic devices, grenades, demolition charges, small arms ammunition and components, fuzes and components containing mech. timing devices

TOW Missile and Launcher
2.75 Rocket Items

LAP Motor	Igniter
Fin & Nozzle Assy	Motor Tube
Stabilizer Rod	Seal Rings
Felt Washer	Disc Charge Support
Ring Charge Support	Spacer Charge Support
O Ring	Lockwire
Metal Spacer	Launcher
Intervelometer	Fin Blades

Projectile Metal Parts for Cartridge 105mm (Beehive)
Projectile M406, M107 - 155mm
Projectile M509 - 8"
155mm Cannister, XM625, XM626:
Projectile Metal Parts for Cartridge 90mm
Cartridge Case M118, M14B4
Fuze Time M84A1
Fuze Grenade M213, M219E1, M42/M46
Fuze Bomb Nose M904E3, M19
Fuze Rocket M423, M565, M564
Fuze M494/M571
Head Assy M525 Fuze
Casing Burster Warhead, M156
Fin Assy M158, M170
Adapter Booster - M147, M148
Body Assy and Base Plug, M404
Bomb, M117A1E1
Launcher Rocket 2AU 68A/A
Warhead Flechets WDU 4A/A
M18 Mine Program
Blasting Cap, Firing Device, Metal Parts, Test Sets
Laser Range Finder VVG-2 and XM21 for Solid State Ballistic Computer for M60 Series Tank
Limited Light Sight
MX-9644 Image Intensifier Tube 25mm

MX-7845 Image Intensifier Tube (1st generation)
MX-8501 Image Intensifier Tube (1st generation)
BA-4386 Battery
AN/PVS-4 Night Vision Sights
AN/PVS-5 Night Vision Goggles
AN/PVS-5A Night Vision Goggles
AN/VVS-2 Viewer
AN/VSS-3 Searchlight
Common Module Program (thermal Imaging System)
  Tactical night vision systems -
    AN/TAS-4 AN/TAS-6
    AN/TAS-5 GLLD/TAS-4
Maintenance of idle portions of 21 GOCO facilities
Consolidated Facilities Scranton AAP

Section II Items Procured Pursuant to referenced ASPR requirement

ASPR 1-2207.2 - Jewel Bearings & Related Items
ASPR 1-2207.3 - Miniature & Instrument Ball Bearings
ASPR 1-2207.4 - Precision Components for Mechanical Time Devices

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
WASHINGTON, D.C. 20310

SARDA

SUBJECT: Procurement Information Letter (PIL) 79-1, Government-to-Government Agreements on Mutual Reciprocal Defense Procurement and Offset Arrangements

SEE DISTRIBUTION

1. This Procurement Information Letter (PIL) lists current Government-to-Government Agreements on Reciprocal Defense Procurement and Offset Arrangements, provides capsule summaries of each existing agreement, transmits copies of unclassified agreements and Department of Defense implementing instructions and provides guidance to Army activities concerning evaluation of offers originating in signatory countries.

2. The United States has entered into reciprocal defense procurement and offset procurement agreements with allied or friendly governments in connection with, or as a result of purchases of defense equipment by these countries from the United States and its contractors, or to redress inequitable defense trade balances. Implementation of these agreements is covered generally in DAR 6-1310, which includes a requirement for a Notice of Potential Foreign Source Participation clause in acquisition solicitations to which these apply.

3. The objectives of these agreements are to commit the United States to acquire supplies or services from the foreign signatory country either to a specific dollar amount, to a percentage of the value of any related US foreign military sale, or, to the maximum extent possible. In seeking these objectives, the agreements generally provide for issuance of duty-free certificates and either permit or grant waivers of Buy National regulatory or legislative restrictions to the extent permitted by law..

4. General legislative support of these objectives with regard to NATO Allies is found in Section 802 of the DOD Appropriations Authorization Act, 1977, which expresses the congressional policy in favor of NATO standardization and interoperability of equipment used by NATO forces. Section 802 also authorizes the Secretary of Defense, whenever he determines that it is necessary to carry out this policy, to waive Buy American restrictions in the public interest. In addition, DAR 6-303(xi) provides that Appropriation Act restrictions regarding specialty metals do

not apply to purchases which are necessary to comply with certain offset agreements with foreign governments or where such procurement is necessary in furtherance of the standardization and interoperability of equipment requirements with NATO.

5. At present, bilateral government-to-government reciprocal defense procurement or offset agreements exist with Canada, United Kingdom, Norway, Australia, Switzerland and France and an agreement exists with a consortium of F-16 aircraft co-producers including Belgium, Denmark, the Netherlands and Norway. Bilateral agreements with Belgium, Italy and Germany have not yet been implemented.

a. Canada. The US and Canada have agreed to seek expanded defense economic cooperation. In implementation of a Letter of Agreement dated 27 July 1956, since amended, and a Memorandum of Understanding dated 21 Nov 1963, as published in DAR 6-506 and DAR 6-507, offers of designated Canadian defense end products will be evaluated on the same basis as domestic end products, and certain non-designated Canadian end products will be evaluated without regard to Buy American Act differentials. See DAR Section 6, Parts 1, 5 and 6 and Inclosure 1.

b. United Kingdom. The US and UK have agreed to seek an equitable long term balance of defense trade. In implementation of a Memorandum of Understanding dated 24 Sep 1975, the Secretary of Defense issued a blanket waiver of the Buy American Act covering all items of UK produced or manufactured defense equipment other than those items excluded from the MOU, on 24 Nov 1976, and also detailed implementation instructions, since revised on 16 May 1977 which provide that UK sources are to be provided every opportunity to compete on a fair and equal basis with US sources for both research and development and production contracts, consistent with National Disclosure Policy, US laws or regulatory restrictions and US defense mobilization base requirements and subject to US industrial security requirements. See Inclosure 2.

c. Norway. The US and Norway have agreed to extend reciprocal acquisition commitments first entered into on 27 Feb 1968 which seek an equitable long term balance of defense trade. In implementation of a Memorandum of Understanding dated 19 May 1978, the Secretary of Defense issued a blanket waiver of the Buy American Act covering all items of Norwegian produced or manufactured defense equipment other than those items excluded from the MOU and also detailed instructions on 21 Oct 1978 which provide that Norwegian sources are to be provided every opportunity to compete on a fair and equal basis with US sources for both research and development and production contracts, consistent with National Disclosure Policy, US laws or regulatory restrictions and US defense mobilization base requirements and subject to US industrial security requirements. See Inclosure 3.

d. France. The US and France have reached agreement on defense trade and technology transfer objectives. The Memorandum of Understanding, dated 22 May 1978, is classified Confidential and can be obtained on request to this office.

e. Australia. The US has committed itself to a combined US industry and DOD offset acquisition objective of 25 percent of the value of major (over $500,000) Australian foreign military sales purchases from the US, per discussions conducted and documented on 10 Apr 1973. US firms benefiting substantially from Australian foreign military sales orders are responsible for initial and primary offset implementation. DOD has agreed to guarantee shortfalls first by offering government furnished equipment bid opportunities, then by selecting other defense equipment and supply solicitations for which Australian sources can compete. Waiver of Buy National restrictions will be considered on a case-by-case basis. See Inclosure 4.

f. Switzerland. The US has committed itself to a combined US industry and DOD offset acquisition objective of at least 30 percent of the value of a Swiss foreign military sales order of US F-5E and F-5F aircraft, per a Memorandum of Understanding dated 9 July 1975. US firms benefiting from the sale were responsible for meeting offset objectives during the first two years of the agreement, however, in view of slow progress, DOD is augmenting industry efforts per the MOU, which also provides for waiver of Buy National restrictions on a case-by-case basis. See Inclosure 5.

g. European Participating Governments (EPG) (The Governments of Belgium, Denmark, the Netherlands and Norway). The US has committed itself to a combined US industry and DOD offset acquisition based on USG and EPG purchases of F-16 aircraft which will achieve a minimum offset level of a percentage of the value of an EPG foreign military sales order of a specified number of F-16 aircraft, per a Memorandum of Understanding dated 10 Jun 1975. The actual offset goal varies according to the number of aircraft purchased and their ultimate use, and is to be met principally through co-production. Where difficulty is encountered in meeting offset goals, DOD is obligated to provide offset opportunities in designated technological areas, which may involve Army requirements. The US-EPG MOU is marked For Official Use Only and can be obtained on request to this office.

SUBJECT: Procurement Information Letter (PIL) 79-1, Government-to-Government Agreements on Mutual Reciprocal Defense Procurement and Offset Arrangements

6. In implementation of these Memoranda of Understanding, the Office of the Secretary of Defense has established that contractors and potential contractors in countries with whom DOD has unions will be provided access to all solicitation related activities such as conferences, symposia and briefings, subject to the provisions of National Disclosure by DOD 5200.1-R, AR 380-11, AR 380-10 and AR 380-25. Decisions to deny foreign sources access to information required for participation in US acquisition actions under the MOU will not be made below the level of the Under Secretary of the Army. Recommendations to deny such access will be forwarded through security channels to HQDA, ATTN: DAMI-CIS for submission to the Under Secretary of the Army for decision. See Inclosures 6 and 7.

7. Offset acquisitions will normally be competitive. Items acquired must fully satisfy DOD requirements as to performance, quality and delivery and shall cost DOD no more than would comparable items of US or other manufacture which are eligible for award.

8. The agreements described here, while they afford certain foreign suppliers the opportunity to compete equally with US suppliers, do not waive other statutory and departmental constraints such as the DOD Appropriations Act restrictions on acquisition of food, clothing, cotton, wool, woven silk, or synthetic fabric; and the DOD industrial preparedness planning requirements to acquire domestic jeweled bearings, ball bearings and precision components of time devices. Attached at Inclosure 8 is a listing of other items not eligible for reciprocal defense acquisition.

9. Offers of eligible defense articles or services from sources in countries with which the US has a reciprocal defense procurement and offset arrangement and for which a blanket waiver of the Buy American Act has been granted, should be evaluated without regard to Buy American Act or International Balance of Payments factors and awards may be made, if warranted, without reference to this headquarters. All other offers from sources in countries with which the US has a reciprocal defense procurement and offset arrangement should also be evaluated without regard to BAA or IBOP factors, however, no award shall be made without applicable Determination and Findings or waivers as may be necessary under Section VI of DAR.

10. Request widest dissemination of this PIL, to include prime contractors.

SUBJECT: Procurement Information Letter (PIL) 79-1, Government-to-Government Agreements on Mutual Reciprocal Defense Procurement and Offset Arrangements

11. Questions regarding offers from sources in foreign countries with which the US has entered into offset procurement agreements should be addressed to HQDA, ATTN: SARDA, Washington, DC 20310, telephone: Commercial (202) 695-0851, Autovon 225-0851.

FOR THE ASSISTANT SECRETARY OF THE ARMY (RDA):

Sally Clements

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Sally Clements
Deputy for Materiel
Acquisition

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AMERICAN DEFENSE PREPAREDNESS ASSOCIATION

NATO RSI REFERENCE BOOK

SECTION 6

SECRETARY OF DEFENSE FIFTH ANNUAL REPORT TO THE CONGRESS ON RATIONALALIZATION AND STANDARDIZATION WITHIN NATO

THIS REPORT BRINGS UP TO DATE DESCRIPTION OF U.S. PARTICIPATION IN THE NATO RSI PROGRAM AND REPORTS ON THE DEVELOPMENT OF SELECTED SYSTEMS AS WELL AS PLANS FOR LATER DEPLOYMENT

RATIONALIZATION/STANDARDIZATION WITHIN NATO

A Report to the U.S. Congress

by the

Secretary of Defense

January 31, 1979

I am submitting this report in accordance with the Nunn Amendment, Section 302(c) of Public Law 93-365, as amended by the Culver-Nunn Amendment, Section 814 of Public Law 94-106, which was, in turn, amended by Section 802, Public Law 94-361, 14 July 1976.

In my view it represents encouraging progress in the necessarily long-term effort to comply with the mandate of the Congress. Much that the DOD has initiated in response to that mandate is finally coming to fruition.

Appendix C provides a report on the initiation of procurement actions on new major systems not standard or interoperable with equipment of other members of NATO as required by the Culver-Nunn Amendment.

Harold Brown
Secretary of Defense

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SECTION

I. INTRODUCTION AND OVERVIEW

I am particularly pleased to submit this fifth annual report on US and NATO efforts to rationalize our collective defense posture because I believe that it represents more solid progress than in any previous year of NATO's history. While there are many obstacles yet to be overcome in this most complex endeavor, we have turned a highly significant corner in my view.

The centerpiece of this year of accomplishment was agreement by Allied Heads of State at the May 1978 Summit in Washington to undertake a NATO Long-Term Defense Program of more than 120 individual defense improvement measures. These call for cooperative Alliance programs in ten vital functional areas: readiness, reinforcement, reserve mobilization; maritime posture; air defense; command, control and communications; electronic warfare; rationalization/standardization; logistics; and theater nuclear forces.

But the LTDP betokens more than this. It signifies a major change in attitude toward consensus that genuine Alliance cooperation is vital to the common defense.

(U) However, the LTDP will only live up to its promise if there is vigorous follow-through on the part of national authorities and at NATO and international military headquarters. Hence, we are working closely with them to move forward in this regard. NATO's follow-through machinery also is being strengthened for this purpose. For example, high-level civil or military authorities within NATO have been appointed program monitors for each of the nine conventional program areas to keep track of progress and identify problem areas. The NATO Nuclear Planning Group is carrying on work in the tenth field, Theater Nuclear Force Modernization.

Probably the second most significant cooperative achievement of 1978 is the launching of the NATO Airborne Early Warning and Control (AEW&C) Program. In December 1978 NATO Defense Ministers approved the acquisition of an 18 aircraft E-3A AEW&C force to be owned and operated by the Alliance. It will provide the improved warning and tracking information for battle management so essential if NATO air defense forces are to defend effectively against the increasingly serious Warsaw Pact offensive air threat and especially the low-level attack threat.

Agreement between the US and the FRG on the 120mm tank gun is perhaps our third most important accomplishment of 1978. This should insure standardization of the next generation tank gun for most countries in the Alliance (France has already agreed on compatible ammunition).

Although NATO's efforts toward rationalization of its defense forces and greater Alliance cooperation continue to be inhibited by political, economic, and military obstacles within NATO countries, including our own, the results of the past year fully justify the renewed US effort related to NATO. Some additional significant areas are briefly summarized below:

1. Readiness. Substantial progress has been made on LTDP measures, including improved capabilities to respond to alerts, progress toward increasing and modernizing antiarmor weapons for the mid and long term, and improved ammunition storage and handling facilities and procedures.

2. Reinforcement. A US brigade moved from southern Germany to Garlstedt as the lead element of wartime reinforcements for NORTHAG. In accordance with the LTDP, the FRG has provided sites for prepositioning equipment for the remainder of an additional heavy US division in the north, of which this brigade is the forward element.

3. Interoperability of Communications. During 1978, NATO achieved significant progress in developing the NATO integrated Communications System (NICS). This system, expected to be operational by the early 1980s, is designed to meet the political and command and control requirements of high-level NATO civil and military authorities. As part of the LTDP interoperability of tactical communications will be improved through a two-pronged approach: early implementation of agreed interface devices and early ratification, and subsequent implementation, of standardization agreements. In this connection, the US developed in 1978 and will install in 1979 NATO interface units for use between US and other national tactical switches. In addition, bilateral efforts between the US and EUROCOM resulted in standardization agreements which when ratified will permit a high degree of interoperability between future digital tactical communications systems.

4. Lines of Communication and Host Nation Support. NATO's civil agencies and European nations are carrying out many measures to improve reception and onward movement of US reinforcements and supplies and to provide wartime civil and military assistance and resources to support Allied forces in the host nation's territory, thus reducing the need for early deployment of combat service support units with reinforcing combat forces. Host nation support includes a wide range of reception facilities; transport (road, rail, barge, air and ship); gasoline, oil, and lubricants; recovery, repair and cross-servicing of materials; medical and engineering services; communication and security. Bilateral negotiations between NATO nations are underway or have been concluded for wartime movements, collocated operating bases; maritime forward area ordnance support bases, safe havens for battle damaged ships, and depot maintenance of US equipment and other areas. Most of these agreements are for wartime use of Allied assets, largely from their civil economies. However, it may become necessary for the US to assist in

financing any peacetime preparatory costs. I regard host nation support as one of the most significant ways in which our Allies can facilitate the US contribution to the defense of Europe at very large cost savings to the US. Therefore, I am continuing to give it high priority.

5. War Reserve Stocks. A major LTDP program is designed to increase NATO's war reserve stocks of ammunition, fuel, and equipment. In the ammunition area, nations have already made improvements in several key areas.

6. NATO Infrastructure. The commonly funded NATO Infrastructure Program continues to demonstrate Allied determination to provide for the common defense. We are striving for NATO agreement on a five-year (1980-1984) program large enough to provide vital facilities to support our collective defense posture, meet key LTDP commitments, and absorb the construction backlog which has resulted from underfunding in the past. The US continues to get substantially more dollar return from this program than it contributes.

7 Interoperability. NATO has sharply accelerated its efforts to achieve interoperability of forces, weapons and equipment, though concrete results will take time. The Aircraft Cross-Servicing Program progressed rapidly in 1978 with cross-servicing exercised 600 times, a common family of air-to-surface and air-to-air munitions identified, and nations actively pursuing programs to certify each other's weapons for use on NATO tactical aircraft, e.g., FRG has certified five of seven members of the common family of air-to-surface weapons on their F-4 aircraft. Land forces have already standardized fuel, and naval fuel standardization is well advanced. NATO is progressing rapidly on plans to convert from F-40 (JP-4) military jet aircraft fuel to F-34 (JP-8), a kerosene fuel which is logistically preferred for the European area. Conversion is underway in the UK, where US aircraft first began using F-34 fuel in August 1978, and should be completed by April 1979. Standardization of rifle, artillery and tank gun ammunition is underway with emphasis on decreasing the variety of weapons with different calibers or other characteristics and on increasing interchangeability of ammunition of the same caliber. The US has made bilateral arrangements with the UK, Canada and the FRG to exchange artillery and tank gun ammunition and conduct safety certification.

8. Cooperation in Research and Development and Procurement. Standardization and interoperability of NATO weapons and equipment obviously cannot solve all of NATO's defense problems, but I am convinced that our Allies share our belief that NATO must achieve better use of resources available for defense by overcoming the waste and redundancy inherent in overlapping national armaments industries and by realizing the economic benefits of economies of scale as well as the military advantages of

interoperability of forces and equipment. We have proposed within NATO a framework for cooperative development and production of armaments to implement the armaments proposal initiated by President Carter at the 1977 London Summit. It is based on three cooperative initiatives establishing: (1) general procurement memorandums of understanding with all NATO countries in order to improve cooperation between the US and the defense industries of our allies; (2) dual production runs on developments already or nearly completed so that the best developments can be used by all; and (3) family of weapons agreements for sharing new development programs. In addition the Conference of National Armaments Directors (CNAD) has accepted a proposed overall framework for a NATO periodic armaments planning and management process.

9. Alliance Training Programs. Joint or multinational training, generally under the auspices of the Euro NATO Training (ENT) Group, expanded notably in 1978. The ENT Basic Helicopter Pilot Program at Fort Rucker, Alabama has graduated 92 German, three Danish, 11 Norwegian and 11 Dutch pilots. All Euro NATO nations are participating in a Long-Range Reconnaissance Patrol School which held its first course in Germany in 1978. In 1978 the newly-formed NATO Engineer School at the FRG Engineer School in Munich held its first course in minefield/barrier techniques. The UK, FRG and US are conducting courses in LANCE maintenance, fire control and ammunition for five NATO countries. Joint instructor and maintenance training courses have been proposed for both the FH 70 towed 155mm gun scheduled for fielding in 1979 and the SP 70 self-propelled version planned for fielding in the mid-1980s. In July 1979 the UK will start a NATO communications course to better prepare officers for communications positions on NATO command and headquarters staffs. Joint Air Force training includes plans for a NATO Air-Ground Operations School to train 300 students per year; a NATO course at Furstenfeldbruck, Germany to train 80 flight safety officers per year in flying safety techniques and procedures; a series of one-week UK courses for flight supervisors; and US Air Force exercises with Allies in dissimilar air combat tactics and air-to-air combat using air combat maneuvering instrumentation systems. An important project nearing fruition is EW tactics training for NATO aircrews using multiple ground sites in Central Europe. In 1978, the Euro NATO nations approved initiation of a joint jet pilot training project at a US facility using a NATO syllabus and a NATO faculty. Student load is estimated to be initially 320 annual graduates (110 US) and eventually as many as 740 graduates per year.

10. Common Military Doctrine. The Allied Tactical Publication on NATO Land Force Tactical Doctrine has been issued to units in the field as a modernized doctrinal foundation for all succeeding NATO land forces' doctrine and procedures manuals. During 1978 the US and FRG Armies

agreed in principle on two more concept papers (Night Operations and NBC Defense) to add to the seven previously agreed. They also agreed in principle on an interoperability concept for operational cooperation in the areas of personnel, operational command, a liaison system, logistics assistance and exercises. US Army bilateral staff talks with the UK Army also are underway. NATO also produced or rewrote three naval warfare tactical doctrine publications in 1978: mine countermeasures, amphibious embarkation and doctrine/tactical instructions. Six new NATO Standardization Agreements related to doctrine were ratified and ten were revised. The NATO Allies are participating in development of a series of standard concepts such as maritime operations, air defense, AEW&C, and maritime mining. In addition nations reviewed Allied Tactical Publications on NATO Tactical Air Doctrine and Offensive Air Support Operations. The latter will be broadened in scope to include such operations as defense suppression. A new publication on "Counter Air Operations" is being circulated for national comment, with ratification expected in 1980.

Obviously, the above examples of key rationalization, standardization and interoperability (R/S/I) efforts do not include all of the actions being taken by the United States, our Allies and NATO committees and agencies in armaments cooperation and in the R/S/I activities previously under way. The rest of this report provides more complete coverage of these efforts.

Realignment of the Department of Defense organization to improve our focus on NATO and to assist in the development of the LTDP, which I reported last year, has proven workable. I have made further adjustments as we have progressed from the "study" to the "implementation" stage, but I am pleased to report that there have been no new DoD staff increases related to NATO activities.

Congressional Support. Since we are vigorously carrying out the mandate of Congress, we hope that Congress in turn will help in the process by further legislation. We appreciate the support that Congress has already provided for our NATO rationalization/standardization efforts. Our work within DoD and NATO this past year to enhance standardization of weapons systems and military equipment has been bulwarked by the Congressional affirmation in the FY 77 Defense Appropriation Act that it is US policy for equipment procured by the US for use in NATO to be standardized or at least interoperable with that of our Allies. Similarly our efforts in arms cooperation within NATO have been anchored by the sense of Congress in the same legislation that progress toward realization of standardization/interoperability objectives would be enhanced by expanded inter-Allied procurement of arms and equipment within NATO and that expanded inter-Allied procurement would be facilitated by greater reliance on licensing and coproduction. We also welcome renewal by Congress of relief from provisions against the use of foreign specialty metals and chemical warfare protective clothing.

The importance which the US places on NATO R/S/I has been emphasized both to the US public and our Allies by related Congressional activities such as the series of hearings held by the Daniel Special Subcommittee for NATO Standardization, Interoperability and Readiness of the House Armed Services Committee, at which I and many other DoD officials testified.

However, I seek the support of Congress for changes in other laws or proposed new legislation to remove further impediments to or provide the necessary authority for cooperative efforts to achieve NATO rationalization/standardization. As discussed in later sections of this report in more detail, we seek legislative remedies in the following cases:

1. Bilateral Agreements for Mutual Support (pp. 43, 49, and 66). To enhance troop readiness and effective employment of forces, we need authority to facilitate mutual logistics support between US forces deployed overseas and Allied host nations through uniform NATO procedures and forms in lieu of commercial procedures. We are requesting such authority in DoD legislative proposal 96-4, which specifically excludes major end-item procurement.

2. Infrastructure (p. 53). Congressional support is needed for a substantially increased NATO Infrastructure Program for the next five-year (CY 1980-1984) period to provide vital facilities to support our collective defense posture, meet key LTDP commitments, and absorb the construction backlog which has resulted from past underfunding. We also seek your support for continued prefinancing of limited military construction where we are unable to gain NATO funding for all projects as quickly as needed and for US funding of either those projects not eligible for Infrastructure funding or when such funding would end up costing the US more than we would gain.

3. Chemical Warfare Protective Clothing and Specialty Metals Restrictions (p. 65). The DoD Appropriations Act of 1979 provides authority to waive restrictions on the purchase of chemical warfare protective clothing and items containing foreign specialty metals for only one year. We will ask that this autority be extended.

4. Procurement from NATO Member Governments and NATO Organizations (pp. 43 and 66). DOD Legislative Proposal 96-5 would allow agency heads to waive certain clauses and restrictions required by US law to be included in contracts with NATO member governments and NATO agencies when their procurement regulations are adequate to protect US interests.

5. Joint Training Costs (p. 96). The legislation which authorized the US to ratify NATO Standardization Agreement 6002 governing costs to be charged by one NATO country for training personnel of an Ally stipulated that the US should charge all direct costs, thus requiring a US reservation on the incremental costing principle

in the STANAG to which the other countries (except the UK) subscribe. Legislation may be required to enable us to lift the reservation. In a related matter, we decided, after consultation with Congressional staffs, to exempt the dedicated program for training FRG jet pilots from STANAG 6002. At high levels the FRG has requested that the US cost this program under STANAG 6002 as other foreign military training programs are costed. After further assessment of the implications, we may request Congressional support for this action.

While all that I have described above represents solid progress, it is still far from adequate to meet collective defense needs. Moreover, many of these programs and projects are still far from fruition. All this takes time and the cooperation of all parts of national governments and all elements of each nation. No one can promise quick results, but the US must take the lead within NATO as we are the largest partner and the Allies look to us for such leadership. We will continue to press ahead and ask for the continuous support of Congress in this effort.

II. NATO LONG-TERM DEFENSE PROGRAM

In historic perspective the 1977 London Summit of NATO Heads of State and Government may turn out to be a watershed in NATO's development. There, President Carter's call for immediate attention to needed short-term improvements, development of a long-term planning program, and closer armaments cooperation set in train an unprecedented effort to revitalize the Alliance. The results of the past year of positive action fully justify the renewed US effort related to NATO.

The need to confront the alarming year-by-year growth in Warsaw Pact capabilities had long been recognized. The Major NATO Commanders had already identified deficiencies and recommended solutions, but political attention was needed. President Carter's strong statement, followed by his positive actions to strengthen the US commitment to NATO, proved to be the galvanizing ingredient. Allied Heads of State and Government joined him in calling for action to offset the negative trends in the balance of conventional forces.

Alliance-wide short-term initiatives in the areas of antiarmor, readiness/reinforcement and war reserve munitions were identified and have, in large part, been implemented in national defense plans, providing an immediate display of Alliance resolve to correct its deficiencies. NATO's 1978 fall review of national defense plans evaluated progress in meeting these short-term measures. Only a few will not be achieved though others, particularly those related to ammunition procurement, will not be fulfilled until end-1979 or later.

But the centerpiece of NATO activity during 1978 was the response to the President's call for Long-Term Defense Program (LTDP). Ten high level international task forces made an in-depth analysis of Alliance problems in ten vital functional areas: readiness; reinforcement; reserve mobilization; maritime posture; air defense; command, control, and communications; electronic warfare, rationalization; logistics; and theater nuclear force modernization.

The resulting Long-Term Defense Program, approved by NATO Heads of State and Government at the May 1978 Summit in Washington marks a significant milestone for NATO through its projection of Alliance defense planning into a longer-term framework and its emphasis on cooperative efforts to strengthen Alliance defense through the 1980s. The LTDP was developed as a means of coping with the challenge to Alliance security posed by the continuing momentum of the Warsaw Pact military build-up. NATO's leaders recognized the need to finally address this imbalance between the conventional forces of the Warsaw Pact and the Alliance. The LTDP is designed to meet this challenge. It provides for force improvements in certain selected areas and for a far greater degree of Alliance cooperation, leading to an increase in overall defensive capability from the

national resources already made available or planned for the Alliance. Further improvements are to be made to the readiness and combat capabilities of NATO's military forces and in the capability to reinforce those forces. The program recommends a series of detailed actions to improve NATO capabilities in certain priority areas. A hallmark of the Washington Summit was the call for "vigorous follow-through action" on the part of national authorities and at NATO and international military headquarters in the priority areas.

The initial action taken within NATO was to allocate responsibility for each LTDP measure approved by Ministers to national and NATO civil and military authorities as "action bodies." A second step was the appointment of "program monitors" designated by Secretary General Luns for each of the nine conventional functional areas. These monitors are high-level civil and military officials within NATO who keep track of progress, identify problem areas, and provide periodic reports on their functional areas of responsibility. The NATO Nuclear Planning Group is carrying on work in the tenth field, Theater Nuclear Force Modernization. After assessing the normal evolution and changes in NATO operations and the requirements associated with the LTDP, certain staff realignments have been approved, and modest staff increases in the NATO organization are under consideration by the North Atlantic Council. The NATO Military Authorities have provided their initial assessment of staffing and organizational needs to meet increased work loads resulting form the Long-Term Defense Program.

In December 1978 NATO Defense Ministers reviewed the initial steps taken to implement the LTDP, reaffirmed the importance of vigorous follow-through action, including the necessary organizational support, and recognized that this would call for continued efforts at both the national and international levels of the Alliance. These efforts cover a number of areas, and much remains to be done. We are, after all, looking some ten to fifteen years downstream. Many of the approved programs are conceptual and must be fleshed out by nations and NATO organizations into concrete, funded programs. Most measures require further refinement or elaboration to facilitate implementation. Some must be studied further before they can be approved and implemented.

NATO needs to establish an LTDP baseline against which progress in implementation can be measured. Without such a baseline, it will be difficult to ensure coordinated action and to monitor implementation. The action bodies responsible for implementing the LTDP measures must spell out in greater detail the implementation actions required, e.g., specific program definition to include quantities, milestone dates, costs, and set realistic time schedules for those actions; and track implementation and report progress. Program monitors must be provided the information they

require to carry out their responsibilities to measure and assess progress, to facilitate coordination of NATO and national LTDP efforts, and to assess priorities and identify problem areas, providing appropriate recommendations for Ministerial decisions.

We are working with our Allies to move forward together in this regard. One of the bright spots in the LTDP process has been the growing sense of Alliance solidarity and pride in the efforts of each individual nation to revitalize and strengthen the Alliance. The spirit of cooperation and interdependence among Allies is heartening and needs to be nurtured. We recognize that greater effort must go into the implementation phase of LTDP. We want to keep the momentum going. The President has unleashed a powerful idea that has been readily accepted by the Alliance. I pledge my efforts towards maintaining this momentum.

The following paragraphs list major LTDP measures and discuss the status of their implementation. Sections III and IV cover, respectively, the Communications, Command and Control and Logistics LTDP programs. The policy, long rang planning, procedural, and programmatic aspects of standardization and cooperative arms programs are discussed in Sections V and VI.

READINESS

Readiness initiatives under the NATO Long-Term Defense Program (LTDP) are aimed at increasing force responsiveness through a number of measures including increased cooperation, especially higher levels of standardization and interoperability, and more efficient use of available resources. The readiness portion of the LTDP is divided into 12 major initiatives, with a separate group of minor measures (no-cost and low-cost items for the most part), involving multinational actions in coordination with various NATO civilian and military agencies. Some measures are still in a preliminary stage while others have developed to the point where progress can be measured.

Increase in Antitank Guided Missile War Reserve Stocks and Development of Planning Factors for Densities and Consumption Rates. Under this measure nations initially have agreed in principle to increase their antitank guided missile war reserve stocks to minimum levels based on existing national rates of consumption. At a later date, nations will undertake to maintain/build their stocks in accordance with new NATO-wide standards developed by SACEUR.

Antiarmor Weapons Program. This initiative calls for expanding and modernizing antiarmor capabilities in the mid term (1979-1984) and continuing that effort into and through the long-term (1985-1990). Nations have indicated their willingness to undertake actions in the mid term to implement the measure, but the specifics of implementation will depend upon national review of various alternative systems and/or modernizing old systems. Determination of long-term requirements must await decisions on mid-term procurement.

Defense Against Chemical Warfare. This initiative includes two major measures -- one dealing with provision of standardized protective equipment and a second concerned with special protective equipment for aircrews. All NATO nations have agreed to provide both individual and unit protective equipment, which meets NATO agreed standards, for all their forces. Increased emphasis has been placed on acquisition of protective equipment, integrated NBC defense training, and the organizational changes necessary to upgrade current capabilities.

As with standardized protective equipment, nations have agreed to procure special protective equipment for aircrews. Significant progress has been made in this area by the US with large quantities of components delivered to United States Air Forces Europe units. Initial training for all personnel has started and should be completed in 1979. Meanwhile, the evaluation of a new respirator system is underway. The Conference of National Armaments Directors is reviewing this measure to determine whether additional equipment should be developed.

Ammunition Loading Program. The goal of this program is to improve and modernize ammunition storage and handling facilities and procedures. Individual measures involve procurement of modern handling equipment, modernization of facilities, revised personnel manning for ammunition handling units, real estate procurement and construction of facilities, combat loading of selected units, and tests of procedures. All nations have indicated their intention to implement this program.

Air-to-Surface Munitions Purchasing Program. This initiative involves achieving agreed stockage levels of air-to-surface munitions based on an interoperable family of munitions. Supreme Headquarters Allied Powers Europe (SHAPE) is in the process of establishing sortie and attrition rates for submission to nations for approval. Upon establishment and acceptance of these rates an air-to-surface purchasing program can be undertaken. The draft revision to the stockpile planning guidance may be distributed to nations for comment by April 1979 and could be published by September 1979. Since the US typically stocks munitions in excess of Allied Command Europe guidance, no or relatively modest cost increases are expected for the United States, but large increases may be anticipated for the Europeans.

Recategorization of Forces. This initiative in the Long-Term Defense Program proposed an increase in force commitment to NATO by recategorizing certain member nation forces to permit earlier transfer of authority. In

the view of NATO, increased force commitment, in the context of increased degree of readiness to respond or earlier transfer of authority to NATO rather than additional units for the total force, evidences positive political reaffirmation of national resolve to support the Alliance, signals to potential aggressors the strength and determination of member nations, provides more effective use of resources, and permits more effective employment planning by US and NATO commanders. Recategorization measures are under continuing review by all nations.

Pursuit of Current Cooperative Development of a Common Family of Antiarmor Weapons. A cooperative review and development program for a common family of antiarmor weapons was endorsed by NATO Defense Ministers in May 1978, and implementing actions are currently underway within the Alliance.

Protection of NATO Headquarters Against Chemical Warfare. The US has notified NATO that it will provide its personnel in these headquarters with the minimum nuclear/biological/chemical (NBC) defense equipment required under NATO standards and also that NBC defense training for personnel will be upgraded. The US has also recommended that all international headquarters develop NBC defense plans, conduct training for command post personnel and NBC defense teams, conduct NBC exercises in conjunction with major exercises, and organize and conduct NBC defense evaluations in headquarters. Actions taken to consolidate, collocate, and increase the survivability of NATO and US headquarters are discussed in the NATO Command and Control portion of Section III, Communications, Command and Control.

Improvement of Reaction Time, 1st Netherlands Corps. This measure, which does not involve direct US participation, calls for deployment to Germany of additional Netherlands forces. Because of the significant costs involved, progress on this measure has been slow. It has been under study by a high-level military working group in NATO since December 1977, and that group has made recommendations now being reviewed in various national capitals. In the interim, multilateral discussions continue.

Cooperative Development of a New Family of Air-Delivered Weapons. Progress is being made in all aspects of this program with NATO study groups actively pursuing expansion of the family of weapons selected for interoperability. In the long term, the Conference of National Armaments Directors, the major NATO armaments body, has tasked a separate NATO Air Forces Armaments Group subgroup to report on as well as review systems that are being considered for 1984 and later development.

Improved Responses to the NATO Alert System. This initiative includes some 15 different measures, all designed either to effect transfer of authority (to NATO from national command) earlier than is currently agreed or to provide the means by which earlier decisions may be rendered. Many of the measures involve very sensitive questions of national sovereignty and deal with national political ideology and doctrine and are not, therefore, susceptible to early and unanimous implementation. In general, the United States has agreed to all the applicable measures, recognizing them as aids to more expeditious and efficient response to any threats. Some of the other NATO partners, however, have not agreed to the measures or have provided qualified or limited agreement, and many of the alert measures remain under study in the various national capitals.

REINFORCEMENT

Reinforcement proposals entail basically two programs. The first is principally designed to accelerate the movement of significant fighting power to the forward areas in the critical early phase of a crisis or hostilities. The second is primarily organizational in character and is expected to be largely completed in the short term. In general, the two programs are being developed satisfactorily. However, the successful implementation of the Rapid Reinforcement Concept now requires the nations to take a number of steps some of which involve substantial cost and will require time to complete.

A major item in the first program is the prepositioning of equipment for three additional United States heavy divisions in the Central Region of Europe. Negotiations to identify the additional storage sites required are well under way. The LTDP measure calls for NATO funding of these sites. It is expected that the unit equipment for the first division could be pre-positioned by September 1980 and for the other two divisions by September 1982. Meanwhile the United States has reconstituted most of the shortfalls in the equipment already prepositioned and has reduced the break-out and marry-up times for prepositioned equipment.

Another major item in the first program is the United States initiative to modify long-range wide-body civil passenger aircraft to carry military cargo. This proposed modification will be accomplished on new aircraft on the production line. Funds have been planned for 65 aircraft in the fiscal years 1979 to 1984, inclusive. The provision of 23 Canadian and European aircraft with similar capability is under active study by the NATO Civil Aviation Planning Committee.

Additionally, Norway has earmarked modern multipurpose ships for the movement of the Canadian Air/Sea Transportable Combat Group, thus reducing deployment time. These ships will be replaced in 2 to 3 years by new modern roll-on/roll-off vessels, further reducing deployment time. Norway has also purchased and prepositioned significant stocks of military equipment for use by Norwegian forces. This action has materially reduced reinforcement reaction time and therefore improved Norway's defensive posture. The United Kingdom has identified a number of merchant ships suitable for employment with the UK/Netherlands Marine Force. The need for any modifications to these vessels is under study.

The second program involves Allied planning to identify suitable merchant ships and civil aircraft and to resolve the technical and legal problems involved in making them available for reinforcement purposes. NATO has identified necessary ships; and arrangements and procedures for provision and employment have been discussed. During 1977 NATO endorsed a Rapid Reinforcement Concept and directed the Civil Aviation Planning Committee (CAPC) to evaluate the availability of civil aircraft of NATO countries and the national arrangements made or to be made to ensure availability before full emergency powers are taken. Most countries have completed initial plans, and the way is now open for them to take appropriate national measures to commit these vessels and aircraft.

Planning for the provision of civil aircraft for participation in reinforcement airlift is ongoing. The basic requirement is to use all the long-range, cargo-carrying or cargo-capable aircraft belonging to Canada and European member nations to augment the airlift capability currently available. The problem in implementing this measure has been to work out the terms and conditions under which commitment of these aircraft could be undertaken by member countries. In those cases where legal powers to take control of the ships and aircraft do not exist, member countries will need to acquire additional powers or to make stand-by commercial contracts.

Initial civil feasibility studies have been completed for the reception and onward movement of reinforcements in central Europe. Various problem areas have been identified, including the need to improve reception facilities.

The coordinating arrangements to facilitate the flow of reinforcements in crisis and war involve a network of authorities, national and international, civil and military. Planning is being undertaken to bring the nuclei of some NATO Civil Wartime Agencies into operation early in the reinforcement period to participate in this network. An initial meeting of all the authorities concerned has been held to construct a practical framework for the flow of information throughout the network.

RESERVE MOBILIZATION

The reserve mobilization program recognizes that national reservists and reserve units are indispensable components of NATO's forces providing a significant portion of the war-authorized strength of ground forces. The program further recognizes that, in view of the Warsaw Pact's capability to attack with little warning, the mobilization of reserves by NATO member nations must be quick and effective. Moreover, the reserve forces must be adequately postured and sized to meet the requirements of the NATO strategy on the modern battlefield.

With the importance of national reserve forces in mind, the Reserve Mobilization Task Force conducted an analysis of the responsiveness and capabilities of national reserve forces. The effort concluded that NATO's ability to mobilize its reserves rapidly and in a coordinated manner needs to be improved. In addition, the data supplied by nations have revealed a number of force related deficiencies. Further, the study found that there are a number of uncommitted reservists who could be used to create additional reserve component formations.

These conclusions led to the identification and subsequent approval of a number of remedial measures which emphasize ground force units and individuals. They can be grouped into three broad categories of national action:

(1) To coordinate and synchronize, as far as possible, national policies with the NATO alert system to insure that NATO-allocated reservists and reserve units will be available when required.

(2) To bring national reserve forces up to NATO standards.

(3) To make plans, in the case of certain European Allies, for the provision of extra units from uncommitted reserve manpower.

Coordination and Synchronization Measures. Certain nations have been requested to upgrade the availability of some of their reserve formations. Reports indicate that in some cases plans are already underway to accomplish this project, while in other instances the effort is being further studied and refined.

Nations are to devise plans to bring up to war-authorized strength those ships which may be called upon to implement NATO contingency plans before the declaration of any mobilization measures of the Alert System. National plans generally exist to satisfy this requirement.

NATO nations are asked to upgrade the responsiveness of reserve forces by agreeing to automatically implement or to provide closer links between their mobilization measures and the NATO Formal Alert System. The measure is now under study by the nations. Concurrently, SACEUR will seek to improve responses, in general, to the Formal Alert System.

Nations are to seek ways to coordinate national policies and plans with the NATO Alert System to insure availability of reservists when required. The measure includes plans and procedures to expeditiously call and move reservists and units. The nations concerned are studying the measure to determine what steps must be taken to meet the degree of responsiveness required.

Measures for Meeting NATO Standards. Within this category, nations are to upgrade the posture of their reserve forces primarily in the areas of personnel and training.

In the area of personnel, certain nations are to eliminate the numerical deficiencies in their naval reserve forces. They have reported that either corrective programming has been accomplished, or that studies have been initiated to determine the remedial actions required.

In the area of training, the emphasis is upon nations to upgrade the frequency and duration of training for individuals and units. The objective is to achieve a responsiveness posture commensurate with the criteria of the assigned availability category. National reports do not yet clearly indicate the degree of compliance.

Additional Reserve Units. To achieve the goal of creating additional units from uncommitted reserve manpower, certain European Allies were asked to study the feasibility of adding battalion- and brigade-size mechanized forces to their reserve structures in the 1985-1990 time period. For the most part nations report that studies are under way.

MARITIME POSTURE

The measures approved in the LTDP for improving NATO's maritime posture are directed principally to enhancing survivability and combat effectiveness in five selected functional areas. Progress in these areas

is summarized below. The maritime posture of the Alliance could be enhanced by increases in numbers of ships and maritime aircraft. Specific remedies are being sought under normal NATO defense planning procedures.

Maritime Command, Control and Communications. These measures concern the fitting of Link II terminals into certain ships, the development of NATO common message language for tactical data links, the installation of secure voice and ECM-resistant communications, the fitting of satellite communications (SATCOM) in appropriate ships and the development of broadcast equipment for shore stations and suitable reception facilities in submarines.

The Link II measure is extremely important since it is the accepted NATO standard for high frequency tactical data communications. The system has been implemented by the US, Italy, France, Canada and the FRG. Some NATO nations are evaluating Link II concepts for their maritime patrol aircraft and their shipborne helicopters.

Air Defense. One measure calls for a program for point defense missile systems (PDMS). Most nations have announced their intention to implement this program either fully or partially. The longer-term improvement to PDMS for larger ships is being developed by the NATO Conference of National Armaments Directors (CNAD) as is the requirement to provide a limited self-defense capability for the number of smaller ships. Nations have generally agreed to implement this measure.

The accelerated PDMS program (short-term) includes the continued installation of the NATO SEASPARROW Missile System (NSSMS) to include the RIM-7M monopulse missile, the Target Acquisition System (TAS) and the Close-in Weapon System (CIWS). In the long term, the US, FRG and Denmark are developing the Rolling Airframe Missile (RAM) to complement the RIM-7F and the CIWS in increasing firepower. It should be operational in 1984. The NATO Naval Armaments Group (NNAG) is examining the requirement to replace the NATO SEASPARROW System along with other existing PDMS.

Anti-Submarine Warfare (ASW). The majority of nations are prepared to provide their ASW-capable ships with an effective medium-range sonar which will be effective against torpedo firing submarines. For the mid-and long-term, the development of future lightweight torpedoes is being studied by the CNAD. A European collaborative effort in the long term may also be expected.

In the long term there is the program for an advanced acoustic sonar system which CNAD has under discussion. NATO has addressed this problem through the SACLANT ASW Research Center (SACLANTCEN), which has a long-standing program directed toward research in this area. The item is under active discussion in the NNAG, where national as well as SACLANTCEN studies are being considered. The UK has suggested that, as a first step, a CNAD study of a common operational need be undertaken.

Mine Warfare. This program includes three measures for early implementation. Two of them, those concerning existing minelaying/mining capabilities and a production program for mine countermeasure (MCM) systems, are well supported. The MCM production program is designed to increase the quantity of MCM ships. The US has several programs under development that run the gamut from new and improved systems to new MCM ships and improved airborne platforms. A program for retaining MCM vessels in reserve status is supported by three nations. Most NATO MCM ships are old; however, they do possess a limited capability and some could be fitted with modern gear.

In the long term, CNAD is actively engaged in considering opportunities for cooperation in the development of new generation mines. An outline NATO operational objective (ON00) for a deep water mine has been developed under the auspices of the NNAG. Insofar as cooperative work on improvement to MCM capabilities in the long run is concerned, CNAD is receiving support from the majority of nations possessing this capability.

The recommendation to reopen the mine production lines is being studied.

Surface Warfare. The LTDP calls for nations to give their ships an improved anti-surface ship missile capability, and all nations involved propose to do this in the mid term. Another mid-term measure involves equipping additional aircraft with improved antisurface ship missiles (ASSM). So far only The Netherlands, Italy, Norway and the United States have announced their intention of carrying this out within the timescale concerned. The US will deploy HARPOON, a medium-range ASSM, aboard P-3 maritime patrol aircraft. Deployment of the HARPOON ASSM is also scheduled for US carrier-based aircraft.

The long-term equipment programs involving advanced ASSMs and air-launched ASSMs are being conducted under the aegis of CNAD. A project group (PG 16), under the NATO Naval Armaments Group (NNAG), has been formed to develop an advanced ASSM. PG-16 has completed the Feasibility Phase. The US is represented on PG-16 and continues to provide funding.

Maritime Concept of Operations. The terms of reference for the Tri-MNC Concept of Maritime Operations have been prepared by the Military Committee.

AIR DEFENSE

NATO has begun activities to refine and implement the program to improve its integrated air defense. The Supreme Allied Commander Europe (SACEUR) has formed an Air Defense Planning Group (ADPG) which is carrying out the detailed planning and refinement directed by Ministers. The ADPG will develop a fully coordinated plan for the air defense of NATO.

It also is expected to analyze the adequacy of all air defense proposals and, in the light of funding constraints, endeavor to determine the degree of military risks associated with them. In addition to this work, it is important to recognize the major improvement to NATO's air defense which will result from fielding the NATO Airborne Early Warning System comprised of AWACS and NIMROD. Agencies of the NATO Conference of National Armaments Directors (CNAD) and nations are working many of the specific LTDP air defense recommendations. The status of the major measures follows:

Adoption of an Improved Identification Capability for All Nations and Agreement to Cooperative Development of a Long-Term Solution. Positive and reliable identification of friends and foes (IFF) is a capability required by all tactical weapon systems, particularly those engaged in air defense. The NATO Alliance presently uses two identification systems which are interoperable but impose operational constraints. The objective in the near term is to get all of NATO equipped with an improved capability over the present mixed environment. It is recognized that there are other performance limitations to the near-term solution, and correcting these shortcomings requires intensive development and ultimately technology transfer.

The United States is continuing to participate in the formulation of a NATO-wide architecture and development of a future identification system that will overcome shortcomings of the present IFF systems. Excellent cooperation has been achieved at the NATO level over the past year, and a coordinated development program is being initiated to validate the critical parameters of the system and assess technical risk. The cooperative activity is coordinated through a Working Group on IFF with information and work shared under the terms of memoranda of understanding. The CNAD (Conference of National Armament Directors) Tri-Service Group on Communications and Electronic Equipment (TSGCEE) has begun work which is designed to lead to a project group for the future NATO identification system.

Agreement on a Multifunctional Information Distribution System (MIDS). Within NATO, the CNAD TSGCEE has begun concept work for an interoperable ECM-resistant MIDS. In the US, the Joint Tactical Information Distribution System (JTIDS) is a major joint Services development program using modern communications technology to provide jam-resistant, secure, integrated communications and other capabilities. It could be a primary tactical data distribution system for passing critical real-time information to large numbers and types of force elements.

The US has offered JTIDS to the NATO nations as a basis for both the NATO Airborne Early Warning (AEW) ECM-Resistant Communications System (ERCS) and the Multifunctional Information Distribution System (MIDS). Based upon this offer, a Memorandum of Understanding with the United Kingdom has been signed. The UK is evaluating JTIDS terminals for application in their NIMROD AEW, TORNADO, and ground installations.

The NATO ERCS system definition has progressed sufficiently to confirm that JTIDS is compatible with existing ERCS requirements, and performance tests conducted during 1978 by the SHAPE Technical Center verified this for

all NATO nations. The US is cooperating with its allies in definition activities for the MIDS, including a planned team approach in 1979 directed toward documenting initial system design requirements based upon a TDMA architecture. This area of cooperation with our allies is a key to achieving real-time effective interoperability among all NATO forces.

Phased Improvement of an Integrated Air Command and Control System in Allied Command Europe. The NATO Air Command and Control System (ACCS) program has been moving forward on a variety of fronts. The primary effort has been to develop the ACCS MOR (Military Operational Requirement), which is the overall concept definition and master plan for ACCS. Approval by the NATO Military Committee is expected in the Spring of 1979.

Meanwhile, the USAF is progressing with plans to implement a key element of the ACCS in its region of Europe (4ATAF area). The current concept calls for US procurement of the German EIFEL/DISTEL air command and control system and installation of the system at ATOC (Air Tactical Operations Center) Sembach and remote equipment at its associated airbases. In addition, installation of improved communications equipment is planned for this facility.

The facilities modifications are required to upgrade the operations center at Sembach AF, Germany. Expansion of this facility is needed to provide space for programmed communications-electronics equipment and to provide an adequate work area for battle staff personnel. Automation of selected command and control functions is needed to provide a means for more responsive and effective employment of tactical air assets. This automation effort (i.e., EIFEL/DISTEL) is being pursued in a cooperative venture with the German Air Force (GAF) within the framework of the Central Region Air Command and Control System. A draft memorandum of understanding is being developed with the GAF to work toward an objective of installing EIFEL/DISTEL in Sembach. US funding and implementation of EIFEL/DISTEL will be a major step toward full air standardization in the Central Region. This common command and control equipment will accelerate the standardization of procedures and tactics and will enable national air forces to act as one coherent and unified force.

Improvements to the Interface Between Land-Based Elements of the Air Defense System and NATO Maritime Elements Operating in Close Proximity. Two basic programs are being implemented to improve the interface. The first is the development of a buffer system. The second program will be directed toward rectifying deficiencies in procedures, plans, and operations to improve the land/maritime interface. The requirement for a land/maritime air defense interface was established by NATO in 1970. The project to develop such an interface was initiated in 1973. This project is receiving impetus under the Long-Term Defense Program.

Provision in the Mid To Long Term of Interceptor Aircraft Having Enhanced Capability and Operating Under NATO Command. NATO nations are considering an Operational Concept which requires a dedicated all-weather interceptor aircraft force to provide area defense in depth during war and to ensure the integrity of Allied airspace in peace. For the effective

employment of this force, secure electronic countermeasures and communications systems will also be required. This force is to be complemented by suitably designed and equipped tactical aircraft in their alternate fighter role to obtain or reestablish local air superiority.

The US Air Force now has F-15 and F-4 aircraft in Europe as a dedicated, in-place interceptor force. This force deployment is in consonance with NATO's requirement. The US is planning the necessary development program to modify certain US aircraft to carry the Advanced Medium Range Air-to-Air Missile (AMRAAM). While somewhat behind the US commitment, other nations have plans to update their interceptor forces with modern aircraft such as the F-16 and multi-role combat aircraft (MRCA) and with improved missiles.

Strengthening of Forward SAM Defenses and Provision of Additional Surface-to-Air Capability in Other Areas. The LTDP measure consists of specific proposals for a program to improve the ground-based air defense posture of Allied Command Europe. The air defense planning group under SACEUR is now working with nations to conduct the detailed planning and refinement which is necessary before these proposals can be implemented.

Air Defense Requirements of Portugal. The Portuguese air defense system needs strengthening. For Portugal to strengthen her air defenses and meet NATO force goals, external assistance into the mid-80's is necessary. It is important to continue current military assistance programs to enable further Portuguese force modernization, of which air defense is an integral part.

COMMUNICATIONS, COMMAND AND CONTROL

(See Section III for the Communications, Command and Control (C^3) program area of the Long-Term Defense Program)

ELECTRONIC WARFARE

The NATO Nations have agreed that urgent action is required to cope with this important dimension of modern warfare. The Long-Term Defense Program initiatives and other related EW measures have been undertaken to provide for important improvements in NATO's EW capability and NATO's capability to counter the sophisticated EW threat posed by the Warsaw Pact. These measures cover land, air, and maritime forces together with improvements in NATO's EW organization and procedures, including close cooperation in research and development. The implementation status of these programs follows. Cooperative efforts for developing new EW equipment in the near and mid term are hampered in some cases by the advanced stage of individual national programs involving considerable national effort and resources already expended. In these areas NATO will concentrate on cooperative programs for the long term.

Provision of EW Units in Support of Assigned/Earmarked Corps and Divisions. This measure is receiving wide support. The equipment aspects of this program are being pursued by Panel XIV of the NATO Army Armaments Group (NAAG). Existing equipment or equipment under development will satisfy most requirements in the mid term. There are several possibilities for cooperative developments in the long-term.

Provision of Basic EW Self-Protection Capability for Army Aircraft and Combat Vehicles and Troops. This program includes six basic operational requirement programs, of which several are well-suited for cooperative R&D. Specific aircraft equipment issues have been assigned to the NATO Air Force Armaments Group (NAFAG), Subgroup 11. The NAAG, Panel XIV, and the Defense Research Group (DRG), Panel IX, are engaged in studies that involve this initiative as it applies to vehicles and troops.

Provision of Self-Protection Suit for Tactical Aircraft. For the long-term several nations have developed programs utilizing sophisticated reprogrammable equipment. To support this measure the CNAD has tasked Subgroup 11 of the NAFAG to undertake a program of work to actively encourage nations to cooperate in software development for reprogrammable equipment.

Provisions in the Mid Term of Chaff and Decoys and a Dispensing System for all Ships. Five NATO nations are participating in the NATO SEAGNAT project, which will provide the required capability within the mid term. Most nations not participating in SEAGNAT are pursuing complementary national programs.

Provision in the Medium Term of Shipboard Threat Alert Receivers. Six nations are actively engaged in producing suitable systems to meet this requirement. However, their respective programs are in such advanced stages that further development through cooperative programs would not be cost-effective.

Provision in the Long-Term of Jamming Equipment for Major Combatants. Except for two nations this measure is being met either wholly or partially but requires further development and the allocation of additional funds for full implementation. Although current advanced stages of development preclude cooperative efforts at this time, these systems must be operationally compatible. A collateral issue is being worked by the NNAG to establish the basis for collaborative development and production of a NATO soft-weapon system for antiship missile defense in the long term (1987).

Provision of Expendable Jammers in Support of Corps and Divisions. The US Army has initiated action to determine the technical feasibility and operational effectiveness of expendable jammers and destructive homing weapons. Simultaneously, it is being recommended that the NAAG, Panel XIV, investigate possible cooperative R&D programs in these areas.

Provision for EW Direct Support of Combat Operations. The US has briefed its concept for EW direct support to SHAPE with the objective of further briefs to the NATO MODS and is initiating the appropriate actions for consideration of a SHAPE concept. In addition, the CNAD has tasked the NAFAG (Subgroup 9) to assess these concepts and to report on possibilities for a cooperative program.

Provision of NATO-Assigned Expendable Drone Force. The US and Germany are jointly developing a harassment drone. In addition, the NAFAG, Subgroup 15, is presently attempting to harmonize national requirements for remotely piloted vehicles and recently established a working group to address harassment drone issues.

Provision of a NATO EW Software Facility. Highly flexible reprogrammable EW systems represent a significant improvement over existing conventional-circuit EW hardware. Although these new systems respond much more quickly and inexpensively to the ever-changing threat, they require specialized equipment and dynamic data files to support them. Five major areas of support for reprogrammable systems must be addressed: intelligence support, engineering facility support, automated equipment support, testing capability and support, and location of support facility. The Supreme Allied Commander Europe (SACEUR) has requested initiation of a feasiblity study, which will result in recommendations concerning NATO application of programmable EW components and their software support. The study goal cited by SACEUR is to investigate possible alternatives. SACEUR requested that the study include, but not be limited to, listing of possible alternatives; estimated program milestones for each alternative; cost associated with each alternative; and operational, technical, logistical, etc., aspects of each alternative. In addition, the CNAD has tasked the NAFAG (Subgroup 11) to study this measure with particular reference to its tri-service aspects and to propose possible areas of cooperative centralized EW support.

Development of a Concept to Counter Soviet/Warsaw Pact Command, Control and Communications (C^3) Systems. NATO military authorities (SHAPE leading) have undertaken the preparation of a NATO concept for Counter C^3 operations. In addition, the CNAD has formed an exploratory working group to address equipment matters related to counter C^3.

Reorganization of NATO Intelligence Organization in Order to Give Adequate Support to EW. Under the aegis of the NATO Military Authorities, nations are addressing the aim of improving intelligence support to all levels of EW activities within the framework of the existing intelligence organizational structure.

Provision of EW Staff at NATO Headquarters. An EW section is being formed within the NATO International Staff. The Military Committee will examine augmentation of the NATO International Military Staff and Major NATO Command Headquarters Staffs in early 1979.

RATIONALIZATION

(See the discussion of the Conference of National Armaments Directors in Section V for information on the Rationalization Program area of the LTDP.)

LOGISTICS

(See Section IV for discussion of the Logistics program area of the LTDP.)

THEATER NUCLEAR FORCES (TNF)

The TNF task force is essentially the NATO Nuclear Planning Group (NPG) and is concerned with modernizing NATO's theater nuclear forces, that is, those nuclear weapons and supporting posture deployed in Europe or in support of deterrence of attack on Europe. This vital area was included in the NATO Long-Term Defense Program to ensure that the NATO triad of capabilities -- conventional, theater nuclear, and strategic nuclear -- continues to provide balanced, mutually supporting deterrence. The US is relied upon to provide the bulk of strategic nuclear forces and is determined to maintain parity of those forces with the similar forces of the Soviet Union. While overall priority in improvements in capabilities in Europe is properly directed to conventional forces, theater nuclear forces must be maintained as a viable force, and for this reason their modernization must continue.

A review of modernization actions for theater nuclear forces, involving both short- and long-term measures has taken place over the last year. Based on recommendations of the Major NATO Commanders, several short-term improvement measures have been set in train. These are confined to currently available forces and weapons systems and include such items as completing the deployment of the LANCE missile system, continued development of replacement artillery-fired atomic projectiles and certification of additional nuclear-capable systems.

The long-term task is to provide an overall concept for long-term modernization which can then be utilized to coordinate detailed national programs for weapons systems acquisition, improvements to posture on the ground in Europe, and supporting command and control and target acquisition systems. A year ago the Nuclear Planning Group (NPG) asked a high level group of senior defense planners, under the Chairmanship of the US Assistant Secretary of Defense for International Security Affairs, to propose a conceptual framework and to provide NPG Ministers a set of broad alternatives on TNF modernization.

The High Level Group (HLG) is in the process of dealing with issues relating to the characteristics of the long-term theater nuclear force posture, especially long-range theater nuclear forces, including questions of basing, survivability, size, and participation. The HLG is also examining the question of a political and military rationale for such long-range theater nuclear forces in Europe.

III. COMMUNICATIONS, COMMAND AND CONTROL

Integrated or at least interoperable communications, command and control (C^3) is central to effective Alliance conduct of coalition defense. Although a number of C3 programs have been under way within NATO for years, approval of the NATO Long-Term Defense Program in May 1978 formed the diverse projects into a cohesive coordinated whole. This demonstration of political will gave NATO and national C^3 efforts an increased sense of purpose and urgency. Of the ten LTDP program areas, C^3 is an essential element in four: maritime posture, air defense, electronic warfare and, of course, the program specifically devoted to C^3. Major C^3 LTDP measures are development and approval of operational, procedural and technical interoperability standards for communications and ADP systems; NATO Integrated Communications System Stage II; Maritime Communications Program; Tactical Trunk Network; Single Channel Radio Access; NATO/National Area Interconnection Program; Strategic ADP System; War Headquarters Improvement Program; Tactical ADP Program; and Warning Improvement Program. All of the efforts highlighted in this section are related to the LTDP.

During 1978 the Alliance made significant advances in communications interoperability and interconnection, including the continuing development of the NATO Integrated Communications System. NATO study groups are continuing their work of developing standard specifications for the next generation tactical communications equipment. Pending development of the next generation equipment, NATO and NATO nations will be equipping selected systems with an interface unit so that national tactical area communications systems can interoperate automatically. The US and NATO continue to plan to interconnect new communications systems in the Central Region. NATO has taken steps to consolidate US and NATO communications facilities in the Norfolk area and has authorized US use of the NATO IIIB satellite over the Eastern Pacific through January 1979. It is completing a Memorandum of Understanding (MOU) that provides for joint US-NATO use of a NATO satellite ground terminal to be installed in Iceland. A UK/US agreement to interconnect systems in northern Germany will permit the US to use an existing UK system to provide essential communications for new US forces to be stationed there.

COMMUNICATIONS INTEROPERABILITY

NATO Integrated Communications System (NICS). The NATO Integrated Communications System, conceived in 1970, is expected to be an effective operating NATO command, control and communications system by the early 1980s. The first voice and message switches will be installed in 1979. This system is designed to meet the political and command and control communications requirements of NATO civil and military authorities. The completed network will be a survivable common-user switched voice/teletype/data system which will absorb or replace most of the current NATO-funded

communications systems. The NICS will connect the NATO Headquarters in Brussels, NATO Commanders' Headquarters down to the Principal Subordinate Commands and the NATO national capitals for essential command and control, political consultation, intelligence exchange and messages concerning nuclear weapons employment.

The mature NICS Stage II will be redundant for survivability, will have facilities in all NATO nations, and will be centrally managed and controlled by NATO international personnel. The first stage will be completed about 1981 at a cost of about 500 million dollars; and the entire system, including stage II, is scheduled for completion in the mid-1990s. The additional full system cost will probably approach one and one-half billion dollars. The NICS Management Agency (NICSMA) has contracted for the Telegraph Automatic Relay Equipment (TARE) message switches, the access switches of the Initial Voice Switch Network (IVSN), and the NATO Phase III Satellite Communications System. Of the two NATO Phase III satellites operational during 1978, one was on loan to the US and used successfully throughout the year. A third Phase III satellite was launched successfully in November 1978. The NATO Integrated Communications System Management Agency (NICSMA) with national and SHAPE Technical Center help, completed the NICS Stage II Architecture. NATO nations are reviewing the architecture with the objective of agreeing to the concept at the Spring 1979 NATO Joint Communications Electronic Committee (NJCEC) meeting. If agreement is reached, NICSMA will initiate the design and implement the program over the years 1980-94 in accordance with recommendations of the NATO LTDP.

Communications-Electronics Operating Instructions (CEOI). US Army Europe (USAREUR) has identified an initiative in the furtherance of interoperability - a more effective, usable CEOI for wartime use. While peacetime VHF frequency allocations are limited, the majority of restrictions in the FRG are removed during wartime, and therefore a greater number of required frequencies will be made available. The wartime USAREUR and 7th Army Automated CEOI will fulfill the wartime VHF frequency requirements taking full use of the spectrum and will, dependent upon NATO approval, include other Allied force requirements in the Central Region. Data collection has begun for the wartime edition, and an initial operating capability is envisioned for February 1980.

Interoperability Manuals. In 1978 US Army Europe prepared two interoperability manuals as practical guides to interoperation of US Army communications among allied forces. They are designed as guides on communications philosophy and doctrine, signal unit structure, current equipment capabilities and the specific level of interoperability possible with each nation in the Alliance. A special two-volume US-French bilingual Communications Interoperability Pamphlet was published and presented to the French Forces in Germany in July 1978. Volume I is for the Staff Officer's use; Volume II, for the operator. The other document, the NATO Interoperability Pamphlet, has been approved, is ready for publication and will be distributed in early 1979 to both company-size units in Europe and to CONUS units earmarked for NATO.

Accelerating Interoperability of Tactical Area Communications Systems. The study by the Tri-Service Group of means to accelerate interoperability of tactical communications was concluded in April 1978. Although the US offer to lend a limited amount of equipment was not accepted, the study did focus on the issues and alternatives and was responsible, in part, for the Ministerial and Heads of State LTDP agreements in May 1978 to accelerate improved interoperability in the 1980s. The improvement is to be achieved through a two-pronged approach - early implementation of agreed interface devices that will permit automated interoperability between dissimilar systems and early ratification, with implementation as soon thereafter as possible, of standardization agreements based on the work of the US and EUROCOM, a subgroup of EUROGROUP (an organization of European NATO nations).

NATO Interface Unit (NIU). In furtherance of interoperability between Allied tactical trunk networks, the United States is developing an interface unit which will provide the conversion between electrical, supervision and address techniques of US tactical switches and the NATO standard interface. The US NIU will provide for up to eight interfaces. During December 1978, interoperability was successfully demonstrated using equivalent NIUs between the US and France and, with some modification to the NIU, between the US and Germany. Six R&D models are on contract to provide interface with the US AN/TTC-38 switch and are scheduled for fielding by December 1979. The NIU will be produced in conjunction with the TRI-TAC AN/TTC-39 switch scheduled for fielding in Fall 1982.

Strengthening US-EUROCOM Relationships. As a result of the continuing bilateral efforts between the US and EUROCOM, a high level of interoperability between future digital communications systems can be predicted. A number of draft standardization agreements to define that interoperability were identified and are being jointly sponsored in NATO by the US and EUROCOM. Some have already been submitted, and the remainder should be submitted to the appropriate NATO committee by Spring 1979.

The EUROCOM-US Cryptographic Working Party held its third meeting 6-7 March 1978. This group addressed specific problems related to synchronization of US and UK secure bulk encryption equipments and laid the groundwork for resolving the problems on a bilateral basis. Resolution of this problem permits secure interoperability of trunk communications using either the UK- or US-designed cryptographic equipment.

US-France Relationships. Even with the NATO adoption of US-EUROCOM interoperability standards, an interoperability problem with the French "RITA" digital communications system will remain since that system differs from the US or EUROCOM systems in fundamental technical parameters. The US started bilateral technical discussions with France in December 1977 to seek a solution to this problem. Several alternatives were identified, and an analysis of the cost and operational implications of those alternatives was initiated. It is hoped that an agreed solution can be reached by the end of 1979.

Joint US-NATO Troposcatter Test Program. Technical discussions on digital transmission over operational troposcatter links culminated in a joint US-NATO test in Europe. The test results demonstrated the technical feasibility of converting the ACE-High system from analog to digital transmission. For the longer term, the digital transmission system will ease transition into a mature digital switch network, improve NATO security with bulk encryption capability, provide greater reliability, and facilitate interoperability with the US digital defense communications transmission system now being installed in Europe.

NATO Communications Security (COMSEC). US efforts during this period were directed toward furthering initiatives in the sharing of production of COMSEC equipment for NATO. Increased consultation took place with authorities of concerned NATO nations to seek compatible, if not common, solutions to secure communications interoperability. Negotiations were completed with The Netherlands to share in the production of US-developed COMSEC equipment for the protection of multi-channel communications. In addition, the US continues to participate in the development of a standard voice processing technique.

In November 1978 the NATO Integrated Communications System Management Agency (NICSMA) completed an overall systems architecture plan that is in consonance with NATO LTDP agreements and forwarded it to NATO nations for endorsement. A US COMSEC expert assisted in preparing the COMSEC portion. The definition of a system acceptable to nations will be available by April 1979, when the NATO Joint Communications Electronics Committee meets to act on the architecture as presented by NICSMA.

Maritime communications system/equipment for NATO should be completely compatible with and capable of interoperability with existing or planned equipment without requiring major modifications or ship alterations. The US has officially offered to NATO nations a maritime secure record communications system. The new US wideband secure voice system, VINSON, will soon make its appearance in the US Navy and will be available to our NATO partners.

Norway and The Netherlands previously offered competitive equipments to satisfy the NATO requirement for a new off-line cryptographic equipment. National requirements may be satisfied using either equipment, depending on the national need. The US is considering its quantitative as well as functional requirements and expects to satisfy its needs through purchase of one or both of the NATO-approved systems. US production is permissible under NATO rules, but the anticipated small number required is not likely to make national production an economical course of action.

A number of NATO nations accepted a US offer to test their national radios with the US wideband tactical COMSEC equipment (VINSON). The large quantity of VINSON equipments being produced for US forces is resulting in a lower price, which can benefit other NATO nations. NATO nations are being informed of this development and are offered the opportunity to take advantage of the attractive price available from US production. If they prefer, the US is willing to assist in arranging national production in accordance with applicable NATO rules.

Combat Net Radios. To achieve interoperability of tactical communications, the Department of Defense is currently striving to achieve an early agreement on an Electronic Counter-Countermeasure (ECCM) standard for the Combat Net Radio (CNR). In offering NATO the opportunity to participate in the SINCGARS-V (Single Channel Ground and Airborne Radio Subsystem) program's ECCM development and testing process, the US suggested that NATO nations under the auspices of Subgroup 2 (SG/2), Tri-Service Group on Communications Electronic Equipment (TSGCEE), define, by 1981, the NATO ECCM technical interoperability chacteristics of VHF tactical single-channel radio equipment for the post-1985 time frame. To assist in the establishment of these standards, the US intends to invite interested NATO nations to provide participants in SINCGARS-V Working Groups on Interface Control Test Integration. If NATO nations participate, their views can have an impact on attaining an interoperable CNR with lessened research and testing costs to the Alliance and early selection of characteristics/standards for a future VHF CNR.

Sixty-Six Words-Per-Minute Teletype Conversion. Although the US Army standard for tactical teletype equipment is 60 words per minute, the US Army Europe has initiated conversion of all its tactical teletype equipment to 66 WPM, which agrees with the NATO standard. When completed, this will significantly decrease interface difficulties in Allied operations and allow more flexibility in assignment of equipment.

INTERCONNECTION AND CONSOLIDATION

Interconnection of US and NATO Communications. A joint US-NATO study on selected interconnection of the NATO "ACE HIGH" tropospheric scatter system and the US Defense Communications System (DCS) has been completed. Eight interconnects have been accomplished to route US and NATO requirements on a circuit-by-circuit basis between the DCS and ACE HIGH. A draft annex to the SHAPE/USEUCOM Memorandum of Understanding is being coordinated. This annex specifies US and NATO responsibilities at interconnected facilities.

Automatic Voice Network (AUTOVON) - Initial Voice Switched Network (IVSN) Interconnection. In January 1978 the US proposed to NICSMA and SHAPE that the capability should be developed in the IVSN access switch to interconnect automatically with AUTOVON switches in Europe to improve flexibility under exercise, crisis and wartime conditions. NICSMA agreed that the IVSN contractor should study the feasibility of providing such a capability. In late 1978 NICSMA/US Defense Communications Agency (DCA) discussions with the IVSN contractor resulted in a proposal which would provide study, test and demonstration of two types of AUTOVON-IVSN interconnects. In early 1979 the NATO Infrastructure committee will review NATO funding for this proposal.

AUTODIN-TARE Interconnection. Based on an NJCEC decision, the US, NICSMA and the MNCs are taking steps to insure direct electronic interoperability between the NICS Telegraph Automatic Relay Equipment (TARE) and the US Automatic Digital Network (AUTODIN) System. The DCA has taken action, through direct coordination with NICSMA, to resolve technical/procedural differences so that the electrical interface can take place. These differences are being resolved, and achievement of the interface is near. Current planning is to interface the first TARE at Norfolk, Virginia, in 1979, with three additional interfaces in Europe to take place between 1980-82 as TAREs are installed.

Central Region Improvement Program (CIP-67) Interoperability With US. CIP-67 will provide microwave transmission facilities to replace existing networks serving NATO Headquarters in the Central Region. The US and NATO plan to interconnect CIP-67 microwave transmission facilities with existing US facilities at selected collocated sites. As a result, the FRG will avoid land acquisition and general preparation investments at seven locations, and the US will expand use of CIP-67 for US communications.

The NATO Integrated Communications System Management Agency (NICSMA) identified a number of potential interconnection projects and established liaison thereon with the US and other NATO nations. A US/NATO working group, established in November 1976, is developing technical solutions to interconnections where they can be achieved to the mutual benefit of the systems and parties involved.

Consolidation of US and NATO Communications in Norfolk, Virginia. Consolidation of the SACLANT and US communications centers in the Norfolk area was effected in October 1978. This action together with the AUTODIN/TARE connection previously described, will provide improved customer service and increased flexibility and survivability to US and NATO systems. In addition, NATO agreed in November 1978 to participate in a joint US and NATO transmission link between Northwest, Virginia (location of NATO and US satellite ground terminals) and Norfolk, Virginia (location of CINCLANT and SACLANT Hqs). This action, to be completed in late 1979, will provide the most cost effective transmission system for both the US and NATO.

Interim Offer of Leased Automatic Digital Network (AUTODIN) Services to NATO. In March 1975 the US offered to permit NATO use of US record message processing capability until the NATO Telegraph Automated Relay Equipment (TARE) became operational. Because of delays in implementing the TARE program, SHAPE accepted the US offer in January 1978 and requested nine NATO headquarters locations be considered for AUTODIN terminals. The joint US/SHAPE proposal was approved by NATO in July 1978. The US will loan NATO the necessary cryptographic and interface equipment, and NATO will supply the required terminal equipment. Access lines are provided from a mix of US and NATO resources. Installation work is now in progress with an objective of providing the NATO AUTODIN operational capability to support Exercise WINTEX in spring 1979.

Elimination of US Manual Transfer Points in Europe. The US and NATO are jointly pursuing the elimination of manual message transfer points by establishing direct message interfaces between the US system and NATO relay facilities in the European area. Actions were completed in the UK in 1977, and additional actions were completed in Italy in 1978. NATO's interim use of the US Automatic Digital Network capability beginning in March 1979 will eliminate the continued requirement for the remaining US Manual Transfer Points in Europe. All such points will be closed in 1979.

Interoperability of Tactical Data Links. As discussed in Section II under the Maritime LTDP measures, the United States and some of the NATO nations have implemented Link 11, which has been accepted as the NATO standard for high-frequency data communications since 1965, while several other NATO countries employ Link 10. Link 16, currently under development in NATO, will provide line-of-sight communications for both data and voice. Although not formally agreed at this time, it is likely that Link 16 will be implemented through the Multifunctional Information Distribution System (MIDS).

Collocated Operating Bases (COB) Communications. COB communications provide for the prepositioning of communications facilities at NATO bases that would accept US aircraft deployed to the European Theater in time of crisis. NATO will provide certain command and control communications to these bases. We are investigating the feasibility of using NATO or Allies' national communications systems to satisfy administrative and logistic communications which are now a US national responsibility. We also will provide the US elements at these bases with access to the AUTODIN System.

Specifically, this project will provide AUTODIN record communications capability, leased voice circuits, high frequency (HF) radio, ultra high-frequency (UHF) air-to-ground radio, aircraft survivability measures (ASM) communications and tactical switchboard capability. Immediate record communications requirements for the first 13 bases to be opened in FY 79 will be provided by Mode II AUTODIN terminals mounted in S-280 shelters operating at 75 baud. They will be replaced by Mode I 300-baud AUTODIN terminals starting in FY 79. All COBs will be equipped with record communications by FY 81. Three locations will receive fixed Digital Subscriber Terminal Equipment (DSTE), one location will use existing base communications facilities, and 48 will receive the S-280 Mode I package. UHF radio capability will be provided by acquiring and installing the standard AN/GRC-171 multi-channel transceiver. HF communications will be initially accommodated by using KWM-2A radios and be replaced by the new solid-state KWM-2A replacement radios. The UHF and HF radios will be phased to coincide with the installation of record communications.

SATELLITE COMMUNICATIONS

Contingency Use of NATO and National Satellites. The US, the UK and NATO entered into agreements in 1973 and 1976 for contingency use of each other's communications satellites. These agreements provide for sharing of satellite power and bandwidth in order to satisfy critical requirements in the event of a satellite failure. Shared arrangements under these agreements continue. Because of the operational need for a communications satellite over the East Pacific Ocean and the nonavailability of a replacement US satellite until early 1978, the US requested from NATO the services of the NATO IIIB satellite for a period of approximately one year. The Memorandum of Understanding (MOU) for the US use of NATO IIIB, signed in September 1976, provided for the launch of the NATO IIIB satellite in January 1977, one year earlier than that envisaged by the original NATO satellite launch plan. The NATO IIIB satellite was launched in January 1977, positioned and tested by NATO, and then turned over to the US for our exclusive use in March 1977. Due to a delay in the launch of US satellites from late 1977 to March 1978 plus the subsequent US launch failure in March 1978, the US requested and received NATO authority for two extensions of six months each. These extensions permitted the US to continue using the NATO IIIB satellite through January 1979. The NATO IIIB satellite is scheduled to be returned to NATO in February 1979.

Joint US-NATO Use of Satellite Ground Terminals. NATO will install a satellite ground terminal in Iceland. Negotiations are being conducted between the US and NATO for US manning and operation of this terminal. In return, the US will obtain a specified number of circuits through the NATO satellite system for US use. A joint US and NATO Memorandum of Understanding has been drafted and is in the final stages of governmental approval. We expect that it will be signed by NATO and the US in early 1979. The Defense Communications Agency, in conjunction with the Services, will determine whether some of the current US communications systems carrying traffic to and from Iceland should be disestablished after the NATO Iceland terminal is installed.

Interoperability and Mutual Support between US Defense Satellite Communications System (DSCS) III and NATO IV Satellite Systems. The military satellite systems of the US and NATO will be even more supportive and interoperable in the 1980s when the DSCS III and NATO IV space segments are implemented. US involvement in the NATO IV space segment design as well as the consideration of DSCS III satellites for the NATO IV system has resulted in many common design features for these two systems. Shared use of each other's system for better survivability and for contingency back-up will enhance the operation of both satellite communications systems. At their November 1978 meeting the NJCEC approved a plan for procurement of the NATO IV satellites by the international competitive bid process. The bid package will be written so as to include the basic DSCS III design as well as a separate NATO-tailored design. Consequently, NATO IV may look exactly like

a DSCS III, or it may be a design that is similar enough to be extremely valuable to the US in a contingency. Selection of the contractor for the NATO IV space segment will result from the normal NATO procurement procedures. The US is being asked to support SATCOM IV with appropriate security devices. Steps are being taken to satisfy the NATO request in a manner which will assure security for the NATO satellite.

Loan of US Spread Spectrum Equipment. The US proposed to NATO that the US, the UK and NATO jointly develop an interoperable modulation subsystem based on the spread spectrum technique. The US submitted an engineering approach involving the early release of technology for achieving spread spectrum interoperability, and the SHAPE Technical Center (STC) commenced a study to determine options for NATO spread spectrum modulation equipment (SSME). The STC found that an SSME approach similar to the one taken by the US is most feasible for NATO. The US, in October 1977, offered to lend NATO a few (3-5) sets of OM-55 SSME to permit NATO to establish an early interim capability via the NATO satellite communications system that will be interoperable with US Navy ships. The NJCEC agreed to the US loan offer at its Spring 1978 plenary meeting as part of a SATCOM interoperability program. The details of the OM-55 loan are being negotiated by the US Navy with NICSMA and should be finalized by late 1979. This stage will provide a limited capability until NATO procures its own equipment.

REGIONAL COMMUNICATIONS

US/UK Mutual Support. A US offer to transfer to the UK the US Defense Communications System in the Londonderry area for use as a part of the planned new military UK radio communications system was not accepted by the UK. The UK indicated a desire to negotiate future use of the real estate occupied by the US system. These negotiations are in progress.

The installation of direct interface between US and UK message systems in the UK was completed in 1978. Follow-on improvements to the existing automated interfaces will be implemented in 1979.

To provide needed US communications to northern Germany, the US agreed to finance the expansion of selected segments of the UK "STARRNET" system to assist in satisfying US requirements. This concept will provide US communications at less than it would cost to lease service or establish totally new facilities. A US/UK Memorandum of Understanding to this end was developed in 1978, and is in the process of final coordination.

US/Italy Mutual Support. Discussions in 1978 between the US European Command and Italian Ministry of Defense officials concluded that interconnections between the US Defense Communications System in Italy and the Italian Three Services Radio Relay Network would benefit both countries. Plans are being developed to consider three interconnections.

US Air Forces in Europe (USAFE)/Central Region Communications Interoperability. USAFE is working with the communicators from the Central Region nations on joint utilization of theater communications assets to improve flexibility and survivability and extend communications capabilities to locations not presently served. Several options, including system interconnects and capacity sharing, are being discussed.

Communications Electronics Interoperability Exercises. As in last year's report, a US/FRG tactical communications interoperability exercise program began in October 1976 and continues today with the inclusion of partnership exercises between the V US Corps and III German Corps. In addition the US schedules exercises concurrently with NATO or allied national exercises to test communications concepts and equipment interoperability and to resolve technical problems. During 1978 Air Traffic Control procedures were exercised in Allied exercises to demonstrate the US ability to be integrated effectively into the Central Region airsapce control program.

NATO COMMAND AND CONTROL

Support for NATO Command, Control and Information Systems. In support of the overall reorganization of Allied Air Forces in the Central Region of Allied Command Europe (ACE), a NATO/US effort was initiated to share the US Worldwide Military Command and Control System (WWMCCS) Automatic Data Processing (ADP) facility at Ramstein Air Base, Germany, with NATO. The effort evolved into a NATO plan to implement full-scale ADP systems at selected major headquarters in ACE. For the interim period, this will be accomplished by acquiring US WWMCCS standard equipment through Foreign Military Sales. As a result, both the ACE and US systems will use the same hardware and software and provide the foundation for follow-on interoperability efforts.

Tactical C^2 Interoperability. There is a perceived need within NATO to achieve command and control interoperability in the tactical environment. A measure in the NATO Long-Term Defense Program addresses this need. The newly established NATO Tri-Service Group on Communications Electronics Equipment (TSGCEE) has several subgroups working on this problem. For the long term one subgroup began discussion on a Multifunctional Information Distribution System (MIDS). MIDS includes those systems which have communications, navigation, and identification capabilities integrated into a common unit. A comprehensive concept of operation, which includes an outline of essential characteristics for a NATO MIDS, is being prepared. It is envisioned that the NATO MIDS will provide timely secure information flow under electromagnetic countermeasures (ECM) conditions and will supplement many of the less ECM-resistant communications systems now in use. Its inherent relative navigation and identification capabilities should also prove to be very valuable to those systems that do not have weight or space available for separate equipments. During the next year the MIDS characteristics will be refined, and the potential of a common NATO development fully explored.

The US Joint Tactical Information Distribution System (JTIDS) is a candidate to meet the NATO MIDS requirement. If NATO agrees to JTIDS, the US will permit it to be manufactured by other NATO nations under a licensing arrangement.

Another TSGCEE subgroup is involved in a project that will provide navigation and position finding. In 1978 a memorandum of understanding covering NATO participation in the US NAVSTAR Global Positioning System (GPS) was signed by ten NATO nations. The group continued its work on a draft STANAG for "Form, Fit and Function (F^3) Specifications for Aircraft Inertial Navigational Systems," on "Test Methods for F^3 Inertial Systems," and on "Ring Laser Gyro Test Methods." The possibility of joint research or codevelopment of ring laser gyros, nuclear magnetic resonance gyros and fiber optics gyros is being investigated. The group has approved a paper setting forth guidance in expressing capabilities or specifications of navigation system accuracies. Coordination on the use of the OMEGA radio navigation system continues; there will be an exchange of data on the results of ongoing OMEGA accuracy trials in the North Atlantic and the Mediterranean.

Under the auspices of the TSGCEE, significant progress was made over the past year in the vital field of interoperability of identification, especially with regard to the technical guidelines for a question-and-answer (Q&A) component of the direct portion of a system which could be ready for introduction in the late 1980s. A special group charged with the characterization of a future system was organized into two working groups covering a direct and indirect portion of the overall system. A significant element in the direct portion is the Q&A component, while in the indirect portion a fully interoperable multifunctional data distribution system provides the backbone. In both of these critical supporting areas we are reaching agreements with our Allies on approaches and management issues. Development is being initiated on a cooperative basis with the UK, the FRG, and France to validate the NATO technical agreement which describes the Q&A component. The critical technologies include lasers, microwave and spread spectrum techniques. Precision crystal clock technology and low-cost spread spectrum techniques are being contributed to the project as the result of European developments. Until the long-range system is available (late 1980s or beyond) the US will continue to press for the NATO-wide adoption of the present US MARK XII System.

USAREUR/NATO Command and Control Information System (CCIS) Interoperability

The USAREUR CCIS Study addresses the authority, responsibility, information requirements, operational procedures and interfaces required for USAREUR command and control in the NATO wartime environment. The principal focus is on USAREUR wartime functions, NATO and Host Nation interfaces and, to a less complex degree, interfaces with US Corps and USEUCOM. Of particular impact has been the establishment of a US Army combat presence in the NORTHAG area and the concurrent recognition that CINCENT will become a major interface in USAREUR dealings with the ACE commands. Objectives include:

(1) Continue working for the implementation of the near-term enhancements to the USAREUR CCIS which have been identified thus far.

(2) Test concepts of the USAREUR CCIS during a NATO exercise and identify additional enhancements, both near- and long-term, which are appropriate.

(3) Develop where possible, Required Operational Capability (ROC) statements for recommended long-term improvements.

(4) Integrate, where possible, completed and ongoing C^3 studies and projects.

Warning Support to NATO. The US is continuing its full support for the establishment of a NATO warning system as originally proposed in the NATO Long-Term Defense Program. Although agreement on the full scope of the proposed program was not achieved prior to the Washington Summit, the NATO Defense Planning Committee (DPC) agreed to the early discussion of existing national differences with a view toward achieving an Alliance agreed program. Apart from LTDP sponsored activity the DoD intensified its support for this critical aspect of Command and Control through the implementation of key intelligence initiatives while simultaneously pursuing the establishment of essential secure communications capabilities and ADP support systems.

Selective Release Improvement Program (SELRIP). SELRIP is a joint US-NATO program where the US offered to provide and test unique equipment designed to improve the effectiveness of nuclear weapon employment. The basic objective of SELRIP is to provide aids to the decision-maker in order to significantly speed up the responses to requests for selective nuclear release. The initial test was conducted with a five-site system during Exercise ABLE ARCHER 77. Positive aspects of this test included the successful use of automated message equipment to compose, pre-format and pre-address messages locally and transmit them via NATO communications. However, equipment limitations and poor communications circuit availability limited the test results. The second phase of the test was conducted during Exercise ABLE ARCHER 78 using both fixed and mobile equipment. The preliminary results of this test indicate that the SELRIP operational concept is sound. The final phase of testing will occur during ABLE ARCHER 79 and will expand the test bed to include two additional corps level units.

USAFE Communications-Air Traffic Control (ATC) Survivability Program. The program involves a comprehensive, balanced approach distributing resources among hardening, CBR protection, camouflage, dispersal, diverse and redundant circuit routing, and interoperability with systems of NATO and our NATO Allies.

Support for War Headquarters Improvement Program (WHIP). The US provided considerable support in the formulation of this NATO LTDP Program and is continuing to provide technical assistance. During 1978 the US continued to participate actively in refining the program and in efforts to resolve

Implementation questions such as the appropriate management structure, the appropriate technical authority, and the refinement of the mobile war headquarters portion of the program. The US provided technical expertise for a preliminary survey of selected NATO headquarters and provided recommendations to structure the program.

US Communications Support for the Allied Forces Central Europe/Allied Air Forces Central Europe Static War Headquarters. In 1975 NATO approved the establishment of Allied Air Forces Central Europe as a new entity and the establishment of an Allied Forces Central Europe/Allied Air Forces Central Europe Static War Headquarters. To expedite activation of the Static War Headquarters, the US provided various types of communications and electronic support. An Initial Operating Capability (IOC) was established at the facility in 1977. Action to expand and improve the operational capability continued in 1978.

Collocation of Allied Headquarters with Headquarters US Army Europe. Collocation of the Central Army Group Headquarters, the 4th Allied Tactical Air Force Headquarters, and the Allied Command Europe Mobile Force (LAND) Headquarters with the Headquarters of the United States Army Europe at Heidelberg will enhance interoperability and minimize the delay associated with the transition from a peacetime to a wartime posture. Collocation at Campbell Barracks, Heidelberg, began during 1978. A total of $1.3M was programmed in the FY 1978 DoD budget to support collocation. Modifications of the various communications support activities are underway, with the US, FRG, and NATO sharing in the costs associated with this collocation, which is scheduled for completion by June 1980.

IV. LOGISTICS

In today's complex, interdependent environment, logistics coordination and readiness is increasingly important to NATO deterrence and defense. Alliance logistics readiness can be improved through increased cooperation and coordination, as well as achievement of higher levels of essential war reserve stocks. Despite the concept that "logistics is a national responsibility" with support of national forces based upon national self-sufficiency, achieving the level of logistics readiness essential to multinational mission accomplishment through coordination and rationalization must be a NATO concern. The strategy and tactics of coalition warfare must be supported by increased Alliance logistics cooperation. Moreover, host nation support in logistics, especially for wartime, is highly beneficial to the US in reducing the logistics tail and facilities which the US itself would otherwise have to provide. Nor is it very costly to our Allies since much of it entails only the earmarking of civil assets for wartime use.

In 1978 NATO continued to make progress in facing up to these needs. In a major step forward NATO approved a series of logistics recommendations as a part of the Long-Term Defense Program (LTDP):

(1) Harmonization of logistics arrangements in the Communications Zone.

(2) Establishment of a logistics coordinating capability in Headquarters Allied Forces Central Europe (AFCENT), and study a capability at Allied Forces Northern Europe (AFNORTH) and Allied Forces Southern Europe (AFSOUTH).

(3) Establishment of Ammunition War Reserve Stocks for an adequate number of combat days.

(4) Provision of additional well-located storage facilities for ammunition stocks, including acceleration of the forward storage site program.

(5) Remedial measures to resolve problems arising from the discharge of ammunition cargoes.

(6) Clarification/simplification of procedures for the authority of Major NATO Commanders (MNCs) to reallocate war reserve ammunition stocks.

(7) Agreements between MNCs and nations to earmark ammunition for use in war by NATO commanders on a regional basis.

(8) Arrangements to guarantee fuel requirements for Allied forces prior to hostilities.

(9) Strengthening of logistics staff support at NATO Headquarters and within NATO military commands, including a new Assistant Secretary General for Infrastructure and Logistics.

(10) Study the establishment of NATO command-controlled stocks of selected ammunition items.

(11) Study the improvement to reserve stocks of selected heavy equipment.

(12) Build-up of war reserve stocks of jet, ground and naval fuel for Allied forces, including reinforcements for an adequate number of combat days in dispersed, protected or hardened facilities.

IMPROVING LINES OF COMMUNICATION AND HOST NATION SUPPORT

Adequate air, sea and ground Lines of Communication (LOCs), including facilities and logistics services, are vital to the capability to rapidly reinforce and resupply the European theater. In June the three Major NATO Commanders completed Phase III of the series of reinforcement studies which examine the movement of Canadian, US and UK reinforcements from their home bases to unit assembly areas. Work on Phase IV is underway. This phase will refine Phase III results to include a more detailed examination of support, organization, ammunition and resupply movement. In addition, a new Supreme Headquarters Allied Powers Europe (SHAPE) draft reinforcement plan is currently under review by the NATO nations. Publication is scheduled for June 1979.

The NATO Senior Civil Emergency Planning Committee (SCEPC) and three of its subordinate boards and committees -- the Planning Board for Ocean Shipping, the Civil Aviation Planning Committee and the Planning Board for European Inland Surface Transport -- continued their efforts to improve procedures for making civil resources available to support the military reinforcement of Europe. As part of the LTDP, the SCEPC and Allied nations are carrying out actions to improve the reception and onward movement of forces and their equipment and supplies. The US has also initiated several actions, including enhancement of the strategic airlift fleet and improvement of seallft capability, which are reported under Reinforcement in Section II.

Host Nation Support. Logistics wartime planning relies on civil/military resources of our European allies through Host Nation Support (HNS), which includes civil and military assistance rendered in peace and wartime to allied forces in the host nation's territory. HNS is one of the key ways to improve rationalization in the Alliance and is receiving top-level priority and emphasis. It will directly enhance our readiness by reducing the requirement for early deployment of US combat service support units. HNS thus permits us to get more combat power to NATO earlier. It also affects the nature and structure of US support forces. HNS is a vital element to successful implementation of the LTDP.

Host nation support is arranged through cooperative agreements by which the host nation agrees to perform a task or provide a resource,

especially in wartime, to an ally lending its forces for the defense of the NATO area. The host nation includes these agreed responsibilities in its wartime plans. This reduces redundancy and waste and increases the logistics flexibility of the NATO structure. The United States has concluded a number of these arrangements with NATO allies and has agreed to pay for services rendered. We must continue to move from bilateral to multilateral planning and agreements to insure that total requirements are known and to improve logistics harmonization.

By such means the US is increasing its reliance on Allied civil and military logistics resources. We wish to avoid deploying US support forces to Europe for missions that could be accomplished equally well with host nation resources such as civilian manpower, supplies, services, equipment, and accommodations. This would include the continuation during wartime of current labor service units and hired indigenous labor which presently support US forces in peacetime. If the US Army had to supply all of these personnel, additional indirect support spaces would be necessary which would increase significantly the total manpower required.

The US Air Force has made significant progress in developing host nation support in its Collocated Operating Base Program. Specific areas for host nation support include fire and crash rescue services, rapid runway and other facilities repair, utilities distribution, billeting, messing, air traffic control services, disaster preparedness, and communications. US Air Forces in Europe (USAFE) is presently evaluating the support capability of each airfield in NATO and may be able to reduce USAF requirements in the future, commensurate with the host nation support to be provided. Significant additional savings are expected at host nation airfields when firm agreements are negotiated for use of vehicles, materials handling equipment, and personnel.

In addition, Supreme Headquarters Allied Powers Europe (SHAPE) has prepared a report identifying the host nation support available from the FRG to meet US needs. Work is also underway to identify HNS available in other NATO nations.

Harmonizing Logistics Arrangements in the Communications Zone (COMMZ), including Agreements between Nations and MNCs. Effective rear area support for Allied operational forces can be better assured through harmonization of the communications zones. By harmonization we mean a better blending of the logistics policies, procedures and resources of the several nations and a better set of arrangements and agreements for working together in the COMMZ. One principal action under this LTDP measure is to achieve national agreements covering agreed responsibilities between Allied nations and the Major NATO Commanders (NMCs) and Major Subordinate Commanders (MSCs) necessary to enhance logistics support of combat forces. This support includes the reception facilities for reinforcements and resupply; NATO POL (Petroleum, Oil, Lubricants); the recovery, repair and cross-servicing of materiel; medical services; engineering services; communications; and security. Negotiations are ongoing, and MSCs will provide status reports beginning in July 1979. The Senior NATO Logisticians Conference (SNLC) endorsed the general concept of SACEUR's harmonization plan at its October 1978 meeting.

Establishing a Logistics Coordination Capability in Headquarters Allied Forces Central Europe (AFCENT). An objective of the Long-Term Defense Program in the area of consumer logistics is to establish an organization at AFCENT with sufficient staffing and authority to assure a well-coordinated, effective communications zone. The Supreme Headquarters Allied Powers Europe (SHAPE) and Headquarters AFCENT have developed a conceptual plan to establish a multinational coordinating center in Headquarters AFCENT. This coordinating and planning capability is intended to enhance the vital areas of reinforcement, host-nation support and lines of communication. The proposed concept was endorsed by the Conference of Senior NATO Logisticians at Headquarters NATO in October 1978 and is now being reviewed in capitals. SHAPE was charged with further development and refinement of the plan.

Remedial Measures to Resolve Problems Arising from the Discharge of Bulk and Containerized Ammunition Cargoes. The NATO Defense Planning Committee has recognized the need for remedial measures to resolve the ammunition unloading problem, with both the Senior NATO Logisticians and the NATO Senior Civil Emergency Planning staffs being tasked to monitor progress. Ammunition port capacity available in Europe to safely discharge ammunition in support of Allied Command Europe (ACE) requirements during peacetime, crisis, or wartime is limited due to national restrictions on the use of commercial port areas and the lack of separate ammunition port facilities. DoD is working through the NATO Planning Board for European Inland Surface Transport (PBEIST) to firm up arrangements for the use of facilities that are suitable from both a capacity and safety standpoint for wartime and peacetime ammunition discharge. With regard to peacetime facilities, the DoD Explosives Safety Board is being tasked to conduct level-of-risk assessments of all the alternate sites identified by the FRG MOD in Germany. Headquarters US European Command (USEUCOM) is evaluating the peacetime sites nominated by the FRG and the wartime sites identified by PBEIST study groups.

Coordinating Transportation. In June 1978 the US proposed to the NATO Senior Civil Emergency Planning Committee (SCEPC) that an ad hoc group review existing mechanisms for coordinating transportation in the Central Region and make recommendations for improving NATO capabilities for rapid reinforcement. SCEPC has initiated a preliminary action to develop a paper identifying problem areas and describing the framework for the flow of information among the various authorities involved in the wartime transportation coordinating chain. National representatives began work on this paper in November 1978, and completion is expected in the first half of 1979.

Arrangements for US Lines of Communication (LOC) in Europe. Agreements with our Allies are at various stages of completion. Umbrella agreements have been consummated with Belgium, Luxembourg, The Netherlands, and the UK. A draft LOC Agreement with Italy has also been negotiated and should be concluded within six months. Efforts are continuing in other areas. US Air Forces in Europe (USAFE) is negotiating host nation support agreements for collocated operating bases and air bases supporting the LOC from the United States.

Other Alliance nations have also concluded bilateral and multinational agreements for LOCs through the BENELUX countries. SHAPE has established a board headed by the deputy SACEUR, to coordinate host nation support efforts. The board has reviewed United States Army, Europe requirements, identified categories of HNS which Germany could provide US forces in wartime, and determined those which need further study or government approval. This work supports the NATO LTDP objective to harmonize military and civil support in the communications zone.

NATO's Planning Board for European Inland Surface Transport (PBEIST) is continuing to refine its study of multilateral military and civil transport requirements across the BENELUX LOCs. The PBEIST Ad Hoc Groups on Lines of Communication for the Central, Northern and Southern Regions of NATO submitted their comprehensive feasibility reports to PBEIST in October 1978. The second phase of the PBEIST-LOC effort will concentrate on development of detailed movement plans for external reinforcement to NATO.

Collocated Operating Bases (COBs). The United States has authority to negotiate for use of a number of Allied bases needed to support US augmentation aircraft. Technical arrangements for the use of many of these bases have been completed. Negotiations for the remaining bases are in various stages of completion. Requirements for Minimum Essential Facilities (MEF)(dispersal pavement and storage for munitions, POL and liquid oxygen) at bases have been identified at a cost of approximately $167 million. Some of this total might not currently be eligible for NATO infrastructure funding. Because MEF are required to permit effective employment of augmentation forces, full operational capability at COBs will be delayed until these facilities are available.

Forward Area Ordnance Support Bases for US Atlantic Fleet Forces. Experience in Southeast Asia proved the necessity for an in-theater capability to do minor maintenance, test and reissue of air-launched weapons. There is no facility in the Eastern Atlantic Command (EASTLANT) area capable of performing maintenance of modern sophisticated ordnance. During a prolonged period of advanced readiness or hostilities many air-launched weapons, torpedoes, and ship's missiles would require shipment to the US for relatively minor repairs. We have initiated a project to exchange components, and conduct ready-for-issue tests. Arrangements have been made with the UK, The Netherlands, and Iceland; and the Supreme Allied Commander Atlantic (SACLANT) has submitted infrastructure projects to provide or improve necessary facilities. These projects will provide an advanced underwater weapons laboratory, maintenance facilities for the Sea Sparrow and HARPOON missiles and a torpedo workshop and missile checkout facility.

Safe Havens for Battle-Damaged NATO Naval Ships. In an engagement between NATO and Soviet naval ships in the North Atlantic, Allied ships would suffer structural, hull, and machinery damage. Tows to Allied shipyards or repair facilities would permit further damage to these slow-moving targets. To minimize these losses, we are working on establishment of safe havens. These safe havens would be relatively close to the battle areas but within the umbrella of air cover. A joint SACLANT/US team has surveyed airfields and selected two locations as temporary bases for Strike Fleet (STRIKFLT) aircraft and for accessibility to a safe haven and repair facilities for a damaged carrier. Plans are now underway to extend existing agreements to include these two locations; to preposition minimum essential equipment and materials necessary to sustain STRIKFLT; and submit projects through the NATO Infrastructure Program to provide increased POL and liquid oxygen storage, rapid recovery arresting gear, navigation aids (NAVAIDS), and airfield pavement improvements.

Consolidated Procurement of POL (Petroleum, Oil, Lubricants). Each NATO nation storing fuel in the Atlantic Command area presently contracts independently. US contracts are negotiated by the Defense Fuels Supply Center. Consolidated fuel procurement by host country or Defense Fuels Supply Center (DFSC) has been suggested by The Netherlands for US, UK and Netherlands storage locations in the UK. In response the US has offered to handle all procurement for the United Kingdom, The Netherlands and the US for storage locations used by all three nations in the UK. A reply is awaited. DoD is planning to further review requirements, prices, and resupply methods to determine whether increased savings and guaranteed availability could be achieved elsewhere. Resupply could be accomplished on a rotational basis. Use of common fuels at NATO depots will be considered.

Transfer of Zweibrucken-Huttenheim Pipeline. During the past year the US approved return of the US-operated Zweibruecken-Huttenheim (Z-H) petroleum pipeline to Germany for transfer to NATO and integration into NATO's Central Europe Pipeline System (CEPS). The Z-H pipeline is a 55-mile network in Southwestern Germany which has three storage terminals. Transfer is scheduled for 1 August 1979. This action is a significant milestone in NATO logistics rationalization efforts. The CEPS, which will be expanded by the integration of the Z-H system, is a useful model for other NATO multinational logistics programs.

Mutual Use of Petroleum Terminals. Certain petroleum tank farms in Germany have recently come under a US-German mutual support agreement. The agreement provides for peacetime issue to US Forces of POL stocks from the German terminals located near US operating areas. Negotiations are continuing for the possible extension of this arrangement.

Depot Maintenance of Equipment. US Army Europe (USAREUR) and the FRG Army have continued bilateral planning for cross-servicing of USAREUR combat vehicles should workload and cost-effectiveness warrant. The FRG has offered surplus maintenance capacity of 150,000 man-hours annually at the German Army Maintenance Plant in Juellch, Germany for repair of US Army tactical wheeled vehicles. Repair of US vehicles (35 2½-ton trucks) at Juelich started on 1 October 1978, and 260 M35 trucks will be repaired during FY79. Repair parts, major assemblies and components are being furnished through US supply sources. Continued utilization of the Juelich Maintenance Plant during FY 80 to the maximum 150,000 available man-hours is expected. In addition, available capacity at the Mainz contract-operated plant, in conjunction with other existing facilities in Germany, will provide sufficient capacity in the near term (through FY 81). Additional German support is not presently required. Also, action is underway to enable the US to use the NATO Maintenance and Supply Agency (NAMSA) for depot maintenance of equipment as well as other logistics support (see Utilization of NAMSA).

Maintenance of US Army Helicopters. Germany has offered helicopter maintenance support to US forces through German civilian industry. Objectives are to foster rationalization through the use of German civil resources and to reduce costs, such as savings in transportation to and from the United States. A contract to convert 62 AH-1Q attack helicopters to AH-1S COBRA/TOW was awarded in April 1978 to Dornier Aircraft Corporation, Munich. As a result of a worldwide safety-of-flight problem on the T-63 engine, a contract was awarded to Motoren and Turbinen Union, also in Munich, to repair 280 engines. The first contract for 72 engines has been completed. Although there is nothing scheduled for FY 79, the US Army will continue to award aircraft maintenance contracts based on economic and readiness considerations as the need arises.

Regional Purchase of European Non-Tactical Vehicles. In January 1978 the Secretary of Defense approved a program to procure vehicles from German sources for use by US Forces in Germany and the BENELUX. A similar program is under discussion with the UK. A feasibility and cost study was recently conducted in Britain, and the results are favorabe. Program approval is expected in early 79. A similar program is also being studied for Italy, Spain, Greece, and Turkey. This standardization action will assure readiness, maintainability, and reliability of these vehicles and permit, during joint operations, war, or other emergency, the interchange with NATO allies of parts and services to repair damaged or inoperable vehicles. The program is estimated to amount to 15,000 vehicles valued at more than $190 million over a 7-year period.

Legal Impediments to Mutual Support. Generally speaking, procurement contracts with individual Alliance nations and NATO organizations for supplies and services to support US Forces must conform to the same requirements of law as apply to DoD contracts with private firms. Likewise, any sales made to these nations and/or organizations must conform to the Arms Export Control Act. Unfortunately, under simulated wartime conditions.

mutual support in areas such as POL, transportation, rations, billeting, exercise ammunition and training breaks down if every transaction must be handled under these detailed procedures. In addition, some Allied governments have objected to the use between sovereign governments of commercial-type contracts as well as to the clauses, terms and conditions which the US uses with commercial contracts. This has become a very sensitive point in attempting to conclude support agreements with them. DoD believes that these governments have a valid point and that in many instances government-to-government mutual support could be handled more efficiently and economically through international agreements with NATO governments and organizations. To solve these problems, both with respect to mutual support and with regard to certain other forms of procurement from Allied governments and agencies, DoD introduced two legislative proposals in the 95th Congress.

HR 11607 (DOD Proposal 95-86) was designed to solve the problem of mutual government-to-government support between the US and the NATO Allies. This proposed legislation would permit the US to negotiate bilateral agreements with NATO nations instead of commercial-type contracts to cover the purchase, sale or loan/exchange of certain supplies, services and minor equipment for mutual support of US and Allied forces in Europe and its adjacent waters. This or similar legislation would greatly enhance interoperability between Alliance forces, a major Alliance goal. Hearings on this bill were held by the special Subcommittee on NATO Standardization, Interoperability and Readiness of the House Armed Services Committee. The bill has been revised in the light of views expressed by subcommittee members and will be resubmitted as DOD legislative proposal 96-4 for the 96th Congress.

HR 12837 (DOD Proposal 95-96) was introduced in the 95th Congress to facilitate the making of agreements with friendly foreign governments and international organizations in furtherance of the policies and directives concerning cooperation with NATO and other US allies. Hearings were held on the bill, and it is presently being considered for resubmission to the 96th Congress as DOD legislative proposal 96-5.

Passage of these DoD proposals or similar legislation is important to our continued NATO rationalization efforts and is a high-priority DoD and SACEUR objective.

Mutual Transfer of Medical Facilities in Wartime. U.S. Medical Command (USMEDCOM) operates fixed hospitals in the FRG which may not be required by US Army Europe in wartime and could be transferred to German control. This bilateral project establishes a basis of understanding and develops procedures under which facilities suitable for use as hospitals held by the US and FRG in peacetime would be transferred to the other nation in time of war or advanced state of readiness. The US and German Combat Logistics Support System (CLSS) Medical Coordinating Committee has developed a bilateral agreement to transfer medical facilities in time of war or advanced state of readiness.

IMPROVING WAR RESERVE STOCKS

A major LTDP logistics program is designed to significantly improve the war reserve stock position throughout the Alliance. The program covers ammunition, POL (Petroleum, Oil, Lubricants) and equipment.

Establishing Ammunition War Reserve Stocks for an Adequate Number of Combat Days. The LTDP sets as an objective the increase of war reserve munition stocks. Central European nations are to eliminate their shortfalls within the short term; the remaining nations have also set a target for this action. The Northern and Central European nations should be able to accomplish their objectives within the timeframe. Without assistance, Portugal and Turkey will probably be unable to fulfill their goals. Generally, the United States already has sufficient stocks.

Clarification/Simplification of Procedures for the Major NATO Commanders' Authority to Reallocate War Reserve Ammunition Stocks in an Emergency in War. The authority currently given to Major NATO Commanders to "reallocate in an emergency in war those resources put at their disposal by the nations" is limited in practice. Legalistic and administrative entanglements must be removed to maximize the usefulness of existing ammunition assets. Defense Ministers agreed at the May 1978 Ministerial to clarify these procedures. At its October 78 meeting the Senior NATO Logisticans Conference (SNLC) agreed to recommended changes to Military Committee policy documents which will help clarify the Major NATO Commanders' reallocation authority.

Arrangements for NATO Nations to Earmark Ammunition for Use in War by NATO Commanders on a Regional Basis. A further impediment to MNC's authority to reallocate ammunition stocks in an emergency during war is that stocks are nationally funded and owned. Earmarking of certain quantities of stocks on a regional basis would contribute further to an effective capability for MNCs to reallocate in an emergency. The MNCs and the SNLC are considering possible solutions to this problem as an LTDP action.

Providing Well-Located Storage Facilities for Ammunition Stocks Including Acceleration of the Forward Storage Site Programs and Providing Additional Rear Area Storage. This LTDP initiative is designed to improve positioning of ammunition stocks and to increase storage facilities to accommodate additional ammunition storage requirements. Both NATO-funded initiatives and nationally funded efforts are underway toward attainment of program objectives.

Forward Storage Site Program. NATO is constructing storage facilities to allow storage of wartime supplies close to initial deployment positions. Construction of these facilities is funded under the NATO Infrastructure Program, with land provided free by the host nations. This program currently includes storage sites for US use, of which a number have already been funded. The remaining sites have been recommended for accelerated funding in the 1979 and 1980 increments (Slices 30 and 31) of the NATO Infrastructure Program. The US has identified all site locations, and host nation land acquisition actions are proceeding on an expedited basis in close coordination with the US. Design of the sites is underway. Construction of one of the sites was started in 1978 with completion scheduled for 1979. Contracts will be let in 1979 on additional sites.

In the context of additional rear area storage and joint use of facilities/storage sites, the US and the FRG are negotiating for US use of German-controlled storage sites outside the FRG. One site in the FRG is jointly occupied at the present time. Legal details are currently being worked out.

US Army Europe has a project to accommodate their increased storage requirements through use of additional storage space in other countries. Several sites have been offered by Luxembourg. Negotiations are underway for the construction of controlled humidity warehouses and support facilities which will be operated under a service contract by a local commercial firm. The US Army Europe has funds to proceed with formal procurement. The acquisition of storage space is a high-priority item for host nation support. Specific actions are dependent upon availability of funding at the appropriate time to support projected material delivery schedules.

Arrangements to Guarantee Fuel Requirements for Allied Forces Prior to Hostilities. In the event of an embargo of crude oil in times of political tension military requirements for certain fuels will be in competition with national civil needs. To guarantee that NATO's minimum military fuel requirements will be met in tension/embargo situations, the Supreme Allied Commander Europe (SACEUR) has proposed that the NATO nations (1) earmark stocks to support national forces, (2) maximize civil/military bulk petroleum pipeline connections, (3) arrange through bilateral agreements and enabling legislation for host nation fuel support of external reinforcements, and (4) develop further flexible NATO arrangements for POL, including a NATO oil-sharing plan.

These measures are under detailed preparation in the NATO Petroleum Planning Committee. We are actively supporting these measures as part of the LTDP and are pressing for positive response from the other NATO nations.

NATO Command-Controlled Stocks of Selected Ammunition Items. The LTDP calls for a NATO study of a cooperatively-funded, command-controlled, seven-day stockpile of selected ammunition items. This stockpile would be in addition to NATO agreed minimum stock levels. SACEUR is conducting this study, and it is hoped that the results can be brought before the NATO Defense Ministers at their December 1979 meeting.

Improvements to Reserve Stocks of Selected Heavy Equipment. The LTDP calls for studies to improve reserve stocks of selected heavy equipment. A study is being conducted by SHAPE Technical Center and calls for defining the requirement and developing a methodology for determining levels of attrition stocks of heavy equipment to sustain the combat power of units at a reasonable level until they can be resupplied. Completion is expected in late 1980.

Build-Up of War Reserve Fuel Stocks. The NATO nations are presently committed to hold a reserve stock of fuels to support wartime efforts pending resupply. The United States holds adequate stocks in reserve in Europe, but not all nations maintain the minimum level. To improve NATO's capability to sustain combat, SACEUR has recommended that reserve bulk petroleum levels be expanded in hardened storage. To achieve this new level nations must agree to commit the necessary resources. Additional storage will be required, and NATO infrastructure rules must be amended to support the new stock level. We will encourage the other Allies to fulfill their obligation to store the present minimum and work toward the new target as part of the LTDP.

IMPROVEMENT OF NATO LOGISTICS ORGANIZATION

The LTDP recognizes that the NATO logistics organization and staff structure needs substantial improvement The present staff structure can at best provide only minimum planning and coordination of logistics functions. We believe that substantial staff strengthening is needed in the NATO Headquarters International Staff and in the staffs of the Major NATO Commands (MNCs), the Major Subordinate Commands (MSCs) and the Principal Subordinate Commands (PSCs). The NATO Secretary General's proposal for increased logistics staffing on the International Staff (IS) and a new Assistant Secretary General for Infrastructure, Logistics and Council Operations was approved in late 1978. An earlier success, reported last year, was formation of the Senior NATO Logisticians Conference (SNLC), which held its first meeting early in 1978. The SNLC meets in both Civil and Military Sessions and is responsible for providing advice and policy on consumer logistics matters (as contrasted to production logistics, which is handled by the Conference of National Armaments Directors).

Assistant Secretary General for Infrastructure, Logistics and Council Operations and the NATO Headquarters Logistics Staff. In late 1978, NATO approved the establishment of a new Assistant Secretary General for Infrastructure, Logistics and Council Operations together with a Director of Logistics supported by a small staff. This action was strongly supported by the United States and will for the first time provide a NATO Headquarters capability for pursuing Alliance logistics problems and better coordinating Alliance logistics actions. It is expected that the new Assistant Secretary General and part of his logistics staff will be in place by Spring 1979. The new Assistant Secretary General will become the permanent Chairman of the Civil Session of the SNLC.

Logistics Staffs for NATO International Military Headquarters. The Long-Term Defense Program (LTDP) includes an action to strengthen logistics staffs in the various NATO International Military Headquarters. We will be supporting during the first half of 1979 a Manpower Survey by the NATO Military Authorities which will result in specific recommendations for this improved logistics staffing.

Logistics Coordinating Capability for Allied Forces Northern Europe (AFNORTH) and Allied Forces Southern Europe (AFSOUTH). As a complementing objective to the establishment of a logistics coordinating capability in Allied Forces Central Europe (AFCENT), the recommendation to study the need for similar capability in the Northern and Southern Regions of Allied Command Europe was approved as part of the LTDP. The proposed AFCENT concept for a multinational coordinating center has been provided to the Major Subordinate Commands (MSCs) of AFNORTH and AFSOUTH for their review and evaluation. Each MSC must determine its individual requirement for a logistics coordinating capability.

IMPROVING OTHER ALLIANCE SUPPORT ARRANGEMENTS

While alliance support arrangements for logistics services are vital to successful harmonization of the communication zone, other support arrangements such as the following are necessary to further standardize and rationalize the logistics process.

Munitions Consumption Rates. In December 1978 SACEUR published new guidance for stockage of ground munitions. This increased the previous (1967) stockage requirements for indirect fire weapons such as artillery, while it decreased the requirement for antitank guided missiles. Stockage requirements for tanks remain about the same. SHAPE is conducting an ATGM density and mix study to resolve differing opinions. Revisions to ACE stockpile guidance on air-to-surface munitions, air-to-air munitions and heavy equipment are due in 1979. The US typically stocks munitions and equipment in excess of the ACE guidance. We expect no cost increase for the United States.

Replenishment at Sea. The Major NATO Commanders have identified replenishment at sea as an area in which improved interoperability would enhance Alliance military effectiveness. While ships of the Alliance are able to replenish at sea, it often takes longer than is operationally desirable. The Major NATO Commanders continue to encourage replenishment at sea practice as often as possible during exercises. The Alliance has produced Standardization Agreements for equipment for high-speed refueling involving interoperable probes and spools. To augment NATO's capability for rapid refueling at sea, NATO-flag tankers have been identified as suitable for the installation of astern refueling rigs. Such rigs have already been installed or are programmed for several US and two UK vessels. NATO common infrastructure funding for a program of 60 ships has been requested by the Supreme Allied Commander Atlantic (SACLANT) and endorsed by the Senior NATO Logisticians Conference. The Alliance has also produced Standardization Agreements on equipment for astern refueling of naval escorts by merchant tankers. A draft Allied Tactical Publication concerning ship-to-ship towing has also been prepared.

Utilizing the NATO Maintenance and Supply Agency (NAMSA). NAMSA is the principal multilateral NATO logistics organization. It provides logistics support for designated weapons systems on a multinational basis to NATO members desiring its services. The US is the main supplier to NAMSA but has made only limited use of it for logistics support of US forces. This is because the US has had full capability to support US forces in Europe and also has broader worldwide logistics responsibilities which influence the choice of logistics support modes. More importantly, NAMSA has declined to enter into contracts requiring full compliance with US procurement laws and regulations. All other NATO nations contract with NAMSA in accordance with NAMSA regulations and procedures. At present, the US may not legally contract with NAMSA, and we require new US legislation to comply with both US and NAMSA regulations. As mentioned earlier, DoD proposed legislation, HR 11607, "To further the rationalization, standardization, interoperability, and effectiveness of the land, air, and naval forces of the NATO countries" was not passed by the 95th Congress and will be resubmitted in a revised form early in the 96th Congress as DoD Legislative Proposal 96-4. If enacted, the legislation will provide a flexible method for interchange of supplies and services between our forces deployed in Europe on the one hand and Allied countries and NATO subsidiary bodies, e.g., NAMSA, on the other hand (see pp.43-44). In the interim, we continue to explore possible uses for NAMSA including perhaps an expansion/revision of mission and/or capability. Two major new programs for NAMSA are assisting in the logistics support of the NATO Airborne Early Warning and Control System and Host Nation Support/Bilateral Cooperation.

INTEROPERABILITY

Standardization of equipment at the assembly, component, spare parts, and materials (ACSM) level is the key to system interoperability and effective supply and maintenance cross-servicing. ACSM standardization will improve the operational effectiveness of NATO forces and will enhance

logistics support by eliminating unnecessary duplication. It will also reduce logistics support costs and improve mobility. Working groups have been established within NATO's Conference of National Armaments Directors (CNAD) to develop additional needed standardization agreements (STANAGS) and improve interoperability.

Aircraft Cross-Servicing. The NATO Aircraft Cross-Servicing Program is designed to improve the capability of Alliance aircraft to recover at an allied airbase, other than the home base, refuel, rearm with allied munitions and be retasked for a subsequent mission. This program has progressed rapidly, with cross-servicing having been exercised over 600 times during 1978. NATO has identified a common family of air-to-surface and air-to-air munitions for cross-servicing by NATO tactical air forces. Included in this common family are five US-developed munitions, three United Kingdom-developed munitions and three French-developed munitions. Almost all nations have programs to certify weapons for use on NATO tactical aircraft which is the first step in the cross-servicing program. The FRG is leading the allied certification efforts and has certified five members of the common family of air-to-surface weapons. Active loadcrew/aircrew exercises will continue to be expanded, particularly in the Central Region. As follow-on to the present interoperability approach of matching weapons to systems, we are pursuing the adoption of families of weapons systems.

Fuel Standardization. NATO's study of fuel standardization is continuing and already has resulted in standardization of fuel for land forces. Naval fuel standardization is well advanced; most diesel-turbine- and steam-powered naval vessels already use or will be converted to use two standard interchangeable diesel fuels widely available in world oil markets. NATO is progressing rapidly on plans to convert from F-40 (JP-4) military jet aircraft fuel, a naphtha-type fuel in widespread NATO use, to F-34 (JP-8), a kerosene fuel in order to standardize aircraft fuel and permit use of commercial jet aircraft fuel (with an additive). Most nations have indicated a readiness to convert if the US, the largest user and original proponent of F-40, is willing to do so. The US Air Force and US Army have as their objective the orderly conversion from NATO F-40 to F-34, the logistically preferred aircraft fuel for the European area.

The USAF is planning full-scale conversion of US Air Forces in Europe (USAFE) aircraft. The mid-CY 1980 timeframe is emerging as the tentative target date to begin conversion on the Continent. The USAF has determined that it is feasible to convert the F-15 aircraft engine to use F-34 fuel. This conversion is nearly completed in the UK and will provide greater flexibility through the ability of US forces to fly and fight using a number of jet fuels. The US Army will require further testing and evaluation of F-34 fuel use in helicopters before a final decision can be made.

Conversion is progressing well in the United Kingdom because F-34 is that nation's primary fuel. USAFE F-111E aircraft at Upper Heyford began using F-34 Fuel in August 1978. USAFE bases in the UK are being converted as drawdown of F-40 fuel and delivery of operational technical orders permit. Over 50% of the terminals have been converted to F-34 and all should be completed by April 1979. The NATO Fuels Working Group will meet in February 1979 to discuss the conversion schedule for the European Continent which is expected to take 2-3 years to complete. The Navy, which currently uses F-44 (JP-5), does not plan to convert to F-34 because of safety considerations aboard ships. However, Naval aircraft can be refueled with F-34 as necessary.

Interoperability of LN-12 Inertial Navigation System (INS) for F/RF-4 Aircraft. Headquarters USAFE is working with the German Air Force (GAF) on the LN-12 inertial navigation system, including maintenance of the LN-12 system installed on all F/RF-4 aircraft. This will enhance readiness, improve LN-12 performance, and reduce operating costs for the INS system. The Germans are hesitant to participate in a cross-maintenance agreement to cover the LN-12 INS because they believe it would entail degrading the performance of their systems. If the USAF can improve the performance of the LN-12, the GAF is more than willing to enter into a cross-maintenance agreement with USAFE. The US is considering a proposal to allow USAFE to use the GAF contract depot repair facility. As the performance of the USAFE LN-12 systems improves, the door for further interoperability at the wing level will be opened.

Interchangeable Ammunition. The interchangeability and standardization of ammunition within NATO is critically important to the improvement of operational capability, force flexibility, and simplication of the logistics system. Although the problems have been identified, the resolution process is slow due to the difficulties in reaching total accord in such areas as characteristics, manufacturing processes and safety standards. Several projects are underway between NATO nations. These are aimed at decreasing the variety of weapons with different calibers or other characteristics and increasing the interchangeability of ammunition of the same caliber. Emphasis is being placed on rifle, 155mm howitzer, and tank gun ammunition. (Details are reported in Sections V and VI). During 1978 the United States Army Europe (USAREUR) and the Department of the Army materiel Development and Readiness Command (DARCOM) conducted, in conjunction with Allied national agencies, safety certification of currently fielded Allied-manufactured artillery and tank gun ammunition for use in peacetime training. Separate bilateral agreements have been signed with Germany, the United Kingdom, Canada, and The Netherlands. US and German Army artillery units have exchanged both 155mm and 8-inch ammunition and conducted firings without incident. This demonstrated interchangeability between US- and German-manufactured ammunition.

NATO Standardization Agreements (STANAGS). NATO STANAGS enhance the interoperability of NATO forces through greater commonality of materiel and of operational, logistics and administrative procedures. They also

bring about certain economies in design, engineering, development, procurement, production, and logistics support. At least half of the 700 existing NATO STANAGS pertain to materiel. There is, however, a great need for additional STANAGS for materiel, especially at the level of assemblies, components, spare parts and materials (ACSM). Studies in the materiel area show that there are deficiencies in the NATO STANAGS system. The number of materiel STANAGS is insufficient to support the materiel needs of a 15-nation alliance. Many existing STANAGS have not been ratified and implemented by a large enough base of NATO nations to be effective. In addition, many STANAGS do not require the retrofit or modification of existing equipment due to inclusion of a "no retrofit" clause. A majority of the materiel STANAGS used by NATO's Air Forces contain "no retrofit" clauses. This reduces the effectiveness of STANAGS except for new equipment.

NATO has taken several steps to remedy these deficiencies. It is testing a system for monitoring STANAG implementation which will better inform NATO and national authorities on the status of ratification and implementation by each member nation. The "no retrofit" clause is not being included in new STANAGS and is considered for deletion during reviews of current STANAGS. A library of STANAGS has been created at the Headquarters of the US Army Europe (USAREUR), and copies are being provided throughout the command where required. Key USAREUR personnel are attending NATO Working Party Meetings at Headquarters NATO as advisors, and USAREUR is actively involved in the US staffing of all STANAGS and Allied Publications as they are being developed and amended. In response to a US recommendation NATO has formed under the Conference of National Armaments Directors a Group on Material Standardization to plan, manage, and oversee preparation of STANAGS by other groups and committees and to oversee future long- and short-term NATO actions pertaining to STANAGS. The Group is now developing plans for improving standardization and interoperability among NATO forces by increasing the number of STANAGS in the materiel area, by expanding the subjects covered, and by looking into already existing international standards in the private sector which can be adopted and used by NATO without further preparations. The Group is concentrating its attention in the areas of assemblies, components, spare parts and materials (ACSM) and in the related areas of engineering practices and metrication. The Group has assigned to participating nations tasks for the development of master plans for production of STANAGS in the following areas:

AREA	BEING PREPARED BY
Mechanical	United States
Chemical	Germany
Materials	France
Electronic	United Kingdom
Aeronautical	Not yet assigned.

Projects are also underway to develop STANAGS pertaining to configuration management, metrication and engineering drawing practices. The Group has also participated in the conduct of studies to find the solution to problems presented by NATO's Military Agency for Standardization (MAS).

NATO Use of Other International Standardization Agreements. The US is also looking toward increased emphasis on incorporating other related military international standardization programs into the NATO program. Standards developed by the American/British/Canadian/Australian (ABCA) Armies Standardization Program, the ABCA Naval Quadripartite Standardization Program, and the Air Standardization Coordinating Committee (ASCC) are being considered for increased use in developing a basis for NATO STANAGS. Also being considered is a means to adopt for NATO use certain standards which have been developed by non-government international organizations such as the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), the International Special Committee on Radio Interference (CISPR) and other similar standards writing groups.

US/DOD LOGISTICS MASTER PLAN (LOGMAP)

The DoD LOGMAP was approved for implementation in July 1978. The LOGMAP is designed to help achieve DoD objectives for US/NATO logistics and integrate these actions along with other DoD priorities into the ongoing DoD Management System for programming and funding. As a result of Ministerial and Heads of Government approval of the LTDP in May 1978, the US LOGMAP is being reorganized to insure that all LTDP logistics follow-through actions involving the US are included in the LOGMAP. This revision to the LOGMAP will be completed early in 1979 and will make the LOGMAP more responsive to NATO LTDP reporting and tracking requirements.

NATO INFRASTRUCTURE

The NATO Infrastructure Program provides the facilities which are necessary to support NATO military forces and are intended for commmon use or have a high degree of common interest. It covers such varied items as airfields, air defense facilities, communications, missile sites, war headquarters, nuclear storage sites, pipelines, and POL depots. It does not normally cover general-purpose depots, troop billets, and other logistics support facilities closely related to national standards and practices although a one-time exception was made to fund such facilities from this program as reimbursement for certain of the US costs for relocation from France.

The NATO commonly funded Infrastructure Program was inaugurated by the North Atlantic Council in 1951 as a follow-on to a similar program begun in 1950 by the Western European Union countries. It has been a most

successful common endeavor and has been credited with fostering a large part of the cohesion among the Allies. Essential military facilities costing about $5.3 billion are currently under construction or completed, and facilities worth another $1.8 billion are programmed. The program has given NATO a network of modern airfields, an efficient system of POL distribution and storage, common communications without which the NATO command structure could not function, essential air defense warning installations, and naval navigational aids. By jointly financing these and other types of facilities designed to enhance the effectiveness of NATO forces, NATO nations have demonstrated in a most realistic way their determination to provide for the common defense. For national use projects, such as airfields, the US has been very successful in recent years in securing a large proportion of projects for support of US forces. Recent annual programs, or "slices," have provided, on the average, over $5 worth of facilities for US forces for every $3 of US contribution to single- and joint-user projects.

We consider it highly important that NATO agree on a 1980-1984 Infrastructure ceiling high enough to provide vital facilities to support our collective defense posture, meet key LTDP commitments, and absorb the construction backlog which has resulted from previous underfunding for rapid ground and air reinforcement. This will be feasible only if our Allies help provide the necessary European facilities for them as agreed in the LTDP.

Congressional Consideration of FY 1979 NATO Infrastructure/US Military Construction (MILCON) Request. Congress approved what was requested for the US share of NATO infrastructure but substantially less than requested for unilateral funding in the US MILCON program. These actions were taken to encourage multilateral rather than unilateral funding of military facilities in Europe required by US Forces. The FY 1979 MILCON programs for US unilateral funding authorized in Europe totalled $260 million, distributed $214M Army, $10M Navy and $36M Air Force. This represents about 60% of programs requested. In making these substantial reductions, Congressional reports indicate that some projects were approved for FY 1979 only to avoid unacceptable delays in readiness and to provide the basis for an orderly transition to the newly-agreed Congressional policy that future construction requirements which fall within the purview of the NATO Infrastructure Program should be funded directly by that Program. In the future such projects would be considered for US unilateral funding (prefinancing) only on an exceptional basis, and the Appropriations Conferees indicated that prior to construction there should be Alliance agreement on recoupment of US funds used for prefinancing within a reasonable period of time. The Congress also indicated dissatisfaction with the slow rate of recoupment from NATO Infrastructure for projects prefinanced in previous years.

Actions Being Taken by DoD. An analysis of factors influencing substantial reductions by Congress in FY 79 MILCON programs in Europe indicated the need for a much more comprehensive and integrated review of future proposed construction programs in Europe.

In October 1978, Secretary Duncan directed improved procedures for review and analysis of military construction programs in Europe, including NATO Infrastructure. ASD(MRA&L) will have overall responsibility for management of the European construction program, both appropriated and infrastructure funded.

In accordance with Congressional desires the proposed FY 1980 MILCON projects for Europe have been reviewed to ensure that they are consistent with priorities established by CINCEUR and do not contain projects that should be provided from infrastructure. A major objective of the review process for FY 1980 MILCON has been to reduce US unilateral funding of NATO eligible projects.

In the negotiations currently underway at NATO Headquarters we are seeking a substantial increase in the next five-year (CY 1980-1984) financial ceiling for NATO infrastructure. This should provide for a more rapid rate of recoupment for projects prefinanced in prior years. Although the next few years will require substantial construction investments in Europe to meet LTDP objectives and therefore may not permit as rapid a liquidation of current unrecouped total as we would like, our action to seek reasonable recoupments in later years (FY 1981 and later) should halt the present growth and provide for its orderly liquidation. We must also recognize that there will be a concomitant rise in our annual contributions to the expanded NATO infrastructure program.

We must, however, continue prefinancing some construction because of our inability to gain NATO funding for all projects as quickly as needed. In each case of a project submitted for US MILCON funding a convincing rationale will be provided to justify its prefinancing within the Military Construction Program (MCP) on grounds of military urgency. In other cases unilateral US financing of selected projects may be proposed if economic analysis indicates that seeking their inclusion within infrastructure would not be practicable.

Although the US weighed in heavily for a significant increase in the financial ceiling, no decision was reached at the December 1978 Ministerial on either financial ceiling or national cost shares for the next five-year (1980-1984) NATO Infrastructure Program. This subject has been remanded to the NATO Infrastructure Committee, and we are hopeful that NATO nations will be able to agree on terms of the next program by the time of the next Ministerial in May 1979.

The US continues to support the need for a substantially increased program for the next five-year period. A substantial program is needed to provide continuity of the individual programs that make up the NATO Integrated Communications System (NICS).

In addition, the program should provide for ground support facilities concurrently for advanced weapons systems being procured or upgraded by NATO nations; hardened facilities to protect aircraft, vehicles and operation centers; needed facilities to support LTDP programs such as reception for external reinforcements; and storage facilities for war reserve materiel including POMCUS. We favor a program of 1.5 billion Infrastructure Accounting Units (IAU) ($6.7 billion). Within the overall ceiling for the new program, we are working to achieve a Reinforcement Support Program to provide facilities such as ammunition and war reserve storage. This is also needed to permit flexibility in adjusting effective cost shares. A larger Infrastructure program -- to support LTDP, other improvements, and more US operational projects will require us to offer an increase in our effective cost share from 21.56% up to 25%, but only if the ceiling is adequate.

Construction of adequate facilities in Europe is key to many of our NATO initiatives. Therefore, the European construction program will continue to receive constant, high-level management attention in DoD. We will also need the understanding and support of Congressional Committees reviewing our MILCON/NATO Infrastructure requests.

V. ACHIEVING ALLIANCE STANDARDIZATION/INTEROPERABILITY OF WEAPONS SYSTEMS

INTRODUCTION

In the last ten years the Alliance has gone from superior technology in most weapon systems to a situation in which the Warsaw Pact has at least equal quality in many of the weapon systems fielded today. This relative increase in Warsaw Pact strength is not surprising when one considers that the Pact spends some $18B annually on military R&D, while NATO spends around $15B, some of which includes significant duplication of effort. Moreover, much of this duplication of effort has resulted in weapon systems which are not standardization nor even interoperable on the battlefield.

This is a very difficult problem to resolve but in the past year we have made some progress toward correcting it through increased cooperation in armaments acquisition and improved weapons harmonization.

(1) Through the LTDP (discussed in Section II) the Alliance has initiated action in a number of areas where harmonized equipment and weapons are needed.

(2) In concert with our NATO allies DoD is pursuing a triad of approaches to arms cooperation: general procurement memoranda of understanding (MOUs) facilitating reciprocal defense trade, dual production of weapon systems already developed, and the family of weapons concept for new weapons to be developed.

(3) The Conference of National Armaments Directors, the primary forum for armaments cooperation in the Alliance, has established several new NATO cooperative projects, is moving toward establishing a NATO Periodic Armaments Planning System, and is making progress in a number of other arms cooperation areas.

(4) While progress was slow initially, the Transatlantic Dialogue with the Independent European Program Group (IEPG) is proving a useful forum for exchange of information and development of policy issues.

(5) Interoperability of forces is increasing, especially in the five priority areas designated by the US Joint Chiefs of Staff and the NATO Military Committee.

(6) NATO approved the AWACS program.

(7) Congress continues to provide essential support.

DOD PRIMARY APPROACHES TO ARMS COOPERATION

After more than a year of planning, discussing, and negotiating, DoD has evolved three primary approaches for cooperative development and production of armaments to implement the armaments aspects of the NATO initiatives introduced by President Carter at the London Summit in 1977. These approaches are general procurement MOUs between the US and each NATO nation in order to expand reciprocal trade in defense items; seeking dual production of weapon systems already or nearly developed so that the best systems are available to all; and seeking family of weapons agreements for sharing weapons development in order to avoid duplicative research and development (R&D) programs.

The purposes of the general MOUs are to encourage bilateral arms cooperation and weapons harmonization. A major goal is the reduction of national barriers to fair competition by NATO defense industries by reciprocal waivers of various "buy national" requirements and practices. Using the UK-US agreement as the initial model, we have completed agreements with seven NATO nations, and five others have expressed interest in negotiations.

Dual production is the production of the same weapon system on both sides of the Atlantic. Under this approach, a nation that has developed a system useful to the Alliance would permit others to produce the system, thereby avoiding the need to develop a similar system. The US is presently involved in such arrangements on the French/German-developed ROLAND and has offered for European production the AIM-9L air-to-air missile, the COPPERHEAD laser-guided artillery projectile, and the STINGER shoulder-launched surface-to-air missile.

The essence of the family of weapons approach is to avoid duplicative R&D and, where practicable, production by early agreement among nations on the responsibility for developing the weapon systems of the family. As we envision the implementation of this concept, participating NATO nations would group weapons with similar missions and then agree on which nations would take the lead for development. Each developing nation would make available the weapon system to the other nations or would provide a data package for coassembly or coproduction. This concept is being discussed with the nations within the context of the Transatlantic Dialogue with the IEPG.

Fundamental to the long-run success of these approaches is the improvement of the management structure for arms cooperation within the Alliance. The US efforts toward this end are described later in this section under the Periodic Armaments Planning System.

CONFERENCE OF NATIONAL ARMAMENTS DIRECTORS

As the principal forum for armaments cooperation within the Alliance, the Conference of National Armaments Directors (CNAD) is responsible for monitoring the weapons acquisition activities of the nations and for providing a structure for cooperation and information exchange through its subordinate bodies. The CNAD has continued to stress the need for greater standardization/interoperability through improved cooperation, more efficient procurement of military equipment, and promotion of a strong Alliance-wide industrial and technological capability. Over the past year the CNAD was instrumental in the progress made in a number of armaments cooperations areas. These include the Transatlantic Dialogue, intellectual property rights, aircraft cross-servicing, quality assurance, material standardization, and long-term planning as well as specific equipment programs.

Much of the CNAD work is done in the Main Groups: The Naval, Army, and Air Force Armaments Groups, the Tri-Service Group on Communications and Electronics Equipment, the Tri-Service Group on Air Defense, and the Defense Research Group. The purposes of these groups are to exchange information and identify opportunities for cooperation, to formulate and lay the groundwork for common projects, to review and seek solutions to interoperability.

At its fall 1978 meeting the CNAD, having reviewed those aspects of the LTDP which offered areas for greater equipment cooperation, tasked its Main Groups to pursue vigorously 38 LTDP measures and will continue to review the LTDP for additional opportunities in this regard. In addition, the CNAD has been assigned action on most of the agreed measures in the rationalization program area of the LTDP. Some of these measures are discussed below. In the meantime agreements were reached among various groupings of Allies to participate in cooperative programs for a NATO Anti-Surface Ship Missile (ASSM), an Explosive Resistant Multi-Influence Sweep System (ERMISS), a Small Surface-to-Air Ship Self Defense System (NATO 6-S), Torpedo NEARTIP Conversion, Aircraft Cross-Servicing, Small Arms Ammunition and NATO AWACS. Three new NATO Projects were established: the satellite-based worldwide positioning and navigation system (NAVSTAR), the PATRIOT surface-to-air missile system, and cooperative support of the 76/62 OTO MELARA compact gun system. In the high-priority area of command and control the Tri-Service Group on Communications and Electronics Equipment has several subgroups working on the interoperability aspects of tactical area communications and tactical radio equipment, multifunctional information distribution systems, and a future NATO identification system. Continuing its program of information exchange and scientific studies, the Defense Research Group completed long-term studies in new technologies for the design of high speed vessels and counter-mobility.

At the spring 1978 CNAD meeting, the Study Group on Intellectual Property Rights in the Field of Licensing and Coproduction provided the

nations with a set of provisional guidelines which could, when implemented, contribute significantly to the reduction of barriers to armaments cooperation and weapons harmonization. Recognizing that for economic, legal, and practical reasons complete solutions to licensing and coproduction problems will be difficult to attain, the CNAD referred the guidelines to the NATO Industrial Advisory Group for additional coordination and to the nations for their consideration.

Fundamental to interoperability and the ease of cooperation in armaments are standardized policies, procedures, and programs in the areas of quality assurance and assemblies, components, spare parts, and materials. Established in 1971, the CNAD Group on Quality Assurance has been instrumental in the development of NATO standardization agreements and publications on quality assurance. The CNAD Group on Material Standardization, consisting of senior national representatives responsible for such activities within their own defense establishments, has worked since 1977 to develop an effective NATO policy and program for material standardization and to promote the utilization of existing international and national industrial and military standards and specifications.

Perhaps the most far-reaching development in CNAD this year is the acceptance of a framework for a NATO Periodic Armaments Planning System (PAPS). Accepting the principle of national sovereignty in equipment decisions and the need to utilize existing Alliance structure without radical change, a CNAD study group developed a PAPS which promises improved means of achieving and maintaining cooperation in R&D and procurement efforts. The system uses mission needs identified by national or NATO military authorities as catalysts to set into motion the activities of the CNAD main groups. The study group is presently developing the linkages between the PAPS and the NATO planning process, as well as with the national acquisition processes. The objective is a systematic procedure to identify Alliance mission needs setting forth military problems for which the CNAD would seek cooperatively developed equipment solutions. A second element of the PAPS would provide the nations and NATO agencies feedback on the weapon systems throughout the systems' life cycles.

The Study Group has been tasked to prepare a plan for a one-year trial implementation to begin after the Spring 79 CNAD. When fully implemented, the system would include:

(1) Timely development of mission need documents which would guide the activities of the CNAD and influence national weapons acquisition plans at the early stage of their formulation.

(2) A means to prepare systematically NATO acquisition strategies which would form the basis for both national and multinational programs to meet the mission needs.

(3) Management review procedures to assess progress on cooperative programs at critical milestones and monitor the degree to which weapons harmonization is being achieved Alliance-wide.

A related system, presently under trial in the Alliance, is the NATO Armaments Planning Review (NAPR), which would help identify requirements for weapons harmonization and opportunities for arms cooperation from a review of national plans. As this system is implemented and refined, it will be integrated into the management review procedures of the PAPS as well as provide an additional source of information and guidance for the mission-need definition phase of the overall PAPS system.

A NATO weapons planning and management process of this kind would provide more efficient means for the CNAD to perform its tasks of monitoring weapons acquisition by the nations and of providing a formal basis for cooperation and information exchange. Moreover, it will provide to the nations a more effective means of developing cooperative activities that will lead to increased military capability, more effective use of Alliance-wide resources, and improved Alliance solidarity.

TRANSATLANTIC DIALOGUE WITH THE INDEPENDENT EUROPEAN PROGRAM GROUP

Since February 1976 the European members of the Alliance, including France, have participated in an effort to rationalize the European defense sector and increase the ability of the European nations to participate in cooperative programs with the United States on a more equal footing. Although at a fairly early stage of development, the IEPG has become the principal European forum for intra-European equipment matters, and the work formerly done in these areas by the EUROGROUP has been passed to the IEPG.

Like the CNAD, much of the work of the IEPG is done in subordinate groups. The equipment planning panel, using a comparative analysis of major European equipment requirements, has identified medium mortars and 155mm artillery as areas of potential cooperation. The specific projects panel oversees four subgroups and ten exploratory groups studying the possibilities of cooperation in tank ammunition, tactical combat aircraft, short-range unguided antitank missiles, mine hunter ships, land mine systems, torpedoes, helicopters, antitank missiles, mine sweepers, naval mines, very low-level man-portable surface-to-air guided weapons, medium mortars, and long-range maritime patrol aircraft. A third panel has focused its attention on guidelines for equipment collaboration, means to involve those nations without major defense industries, and a possible common code for arms exports.

In the spring of 1978 the Transatlantic Dialogue (TAD) between the IEPG and the North American Allies began to take concrete form. The initial topics identified by the IEPG for consideration were obstacles facing the European defense industry in selling to the US defense market, US and Candian procurement of supplies in Europe, and the exchange of equipment replacement schedules. Since then the dialogue has already expanded its scope toward the issues fundamental to Alliance-wide arms

cooperation. During the October session of the TAD, Dr. Perry, the Under Secretary of Defense for Research and Engineering, presented a comprehensive policy statement (discussed above) on arms cooperation, focusing on achieving transatlantic cooperation through reciprocal procurement MOUs, dual production of developed systems, and implementation of the family of weapons concept. This statement was well received by the IEPG and will form the basis for further discussions and activities in the TAD. The TAD, constituted at the Deputy National Armaments Director level, provides a forum in which to deal with economics and political issues in armaments cooperation not susceptible to resolution in the other CNAD fora.

INTEROPERABILITY

The Joint Chiefs of Staff and the NATO Military Committee have established five standardization/interoperability priority areas: command, control, and communications; cross-servicing of aircraft; interchangeable ammunition; compatible battlefield surveillance/target designation/target acquisition; and standardization/interoperability of components and spare parts. Within these areas our intention is initially to seek interoperability where necessary and standardization where possible, especially where there is promise of significant payoff in military and cost effectiveness, and in the long term to seek standardization through cooperative acquisition efforts.

Specific efforts to increase interoperability in these areas are discussed in other sections as indicated below:

(1) Command, Control, and Communications. (See Section III)

(2) Cross-Servicing of Aircraft. (See Section IV)

(3) Interchangeable Ground Battlefield Artillery Ammunition. (See Section IV)

(4) Battlefield Surveillance/Target Designation/Target Acquisition. (See Section VI)

(5) Standardization/Interoperability of Components and Spare Parts. (See Section IV)

Essential to equipment interoperability as well as to rationalization as a whole is the existence of compatible doctrines, tactics, and procedures. With no single effective focal point in NATO to develop such uniformity, the Services have each approached the task by various routes and emphases. The Navy, with a body of previously harmonized doctrine and procedures, relies upon the machinery of the NATO Naval Armaments Group to develop the underlying conceptual basis for common naval equipment. Without a similar basis, the Army and the Air Force have sought other means. The Army is in the midst of staff talks with the FRG, UK and France designed to develop compatible doctrine leading to specific armaments cooperation, as well as to other rationalization objectives. Army and the Air Force are developing Allied Tactical Publications (ATPs). (For additional details see the military doctrine part of Section VIII.)

AIRBORNE EARLY WARNING AND CONTROL (AEW&C) PROGRAM

NATO Defense Ministers formally approved the NATO AEW&C program during their 5-6 December 1978 Defense Planning Committee (DPC) meeting in Brussels. The program will encompass the acquisition of 18 E-3A AWACS (Airborne Warning and Control System) and associated support equipment, modification of 52 existing ground radar sites to make them fully compatible with AWACS and construction/refurbishment of necessary support facilities. The United Kingdom will also provide 11 NIMROD Airborne Early Warning (AEW) aircraft as an "in kind" contribution to the aircraft acquisition portion of the composite Alliance program.

Formal approval of the program by NATO is documented in a Multilateral Memorandum of Understanding (MMOU) signed by all NATO Defense Ministers with the exceptions of those from Belgium and France. Belgium was unable to sign the MMOU at the December DPC because it had only a transitional government at the time. It is hoped, however, that Belgium will be able to join its Allies early in 1979. France could elect to join as a subscriber to the program in the future. DoD is currently seeking Congressional approval for US participation. In the meantime development is continuing to protect production schedules and cost base lines until all participating nations can commit funds to full program go-ahead.

The multinational NATO AWACS program will be the largest, single commonly-funded project ever undertaken by the Alliance. In taking this crucial step to counter the Warsaw Pact low-level air threat, NATO has demonstrated its military and political solidarity.

DoD INTERNAL IMPLEMENTATION OF NATO STANDARDIZATION POLICIES

DoD initiatives to further its NATO standardization goals are directed along two paths: implementing policy and procedural changes within the Department and seeking Alliance cooperation through the approaches discussed above.

Implementation within DoD. We are achieving better organizational focus on the policy and procedural implications and to modify DoD systems and procedures where necessary to ensure effective implementation of standardization/interoperability policy. DoD Directive 2010.6, Standardization and Interoperability of Weapon Systems and Equipment Within NATO, originally published in March 1977, is under revision and will be published in early 1979. Major changes in the revision include new policy statements on the US commitment to interoperability with the forces of the NATO Alliance; the importance of codevelopment and coproduction programs in implementing general and reciprocal MOUs; the need for more open competition within Alliance industry, including access to technical information on a need-to-know, case-by-case basis; consideration of the possible impact on the US economy of technology transfers as we increase the effectiveness of such transfers to our Allies; and more specific guidelines for NATO RSI in weapons system acquisition.

DoD Steering Group for NATO Rationalization/Standardization, which plays a major coordinating role in the development and implementation of the LTDP, is being augmented by the creation of a temporary Steering Committee on Armaments Cooperation led by the Under Secretary of Defense for Research and Engineering. The Service Departments have established small organizations to focus on RSI and to coordinate their internal policies and actions. Development of the LTDP has led to increased awareness of the issues and problems of NATO S/I and, by highlighting 38 potential cooperative programs, has helped to revitalize the role of the Departments in the CNAD Main Armament Groups.

Effective long-term implementation requires continual identification and monitoring of cooperative programs. Until the CNAD can better help to perform these functions, the DOD acquisition system must do the task essentially alone. The DOD acquisition process is outlined in two DoD Directives (5000.1 and 5000.2), which are being rewritten since the publication of DoD Directive 2010.6 to reflect the NATO S/I policies. Key to implementing the DoD RSI Directive 2010.6, is the use of the Defense Systems Acquisition Review Council (DSARC) process. This process has continued to develop as the primary monitoring and management means of our cooperative efforts.

As the Mission Element Needs Statement (MENS) has become a major milestone of the DSARC process, so has the need to consider in that statement the RSI implications and then to design, if appropriate, an effective plan to ensure NATO S/I. For systems with a total or partial application to NATO, RSI is a fundamental part of the acquisition strategy. Following the initial go-ahead, the weapon system program, as it moves along the acquisition cycle, is continually reviewed for the implementation of the plan.

As the PAPS is implemented, our weapons acquisition process, from identification of mission needs through the entire life cycle of each weapon will be linked to an Alliance RSI coordinating and information supplying system. While the decisions will remain national, the awareness of the needs of the Alliance and other nations and the existence of more efficient CNAD cooperative bodies will simplify the development and implementation of RSI plans.

Defense Science Board 1978 Summer Study. USDR&E gave the Defense Science Board (DSB) two tasks:

(1) To review the goals and objectives underpinning NATO interoperability and standardization policies and programs.

(2) To determine specific actions that the US government and US industry could take to better achieve stated goals and objectives.

The study approach was to review current US and NATO procedures, policies, and perspectives; to assess US industry interests, perceptions, experience, and problems with arms cooperation; to analyze the implications of technology sharing and technology transfer as a central aspect of arms collaboration; and to develop a consensus on the critical factors and issues affecting US approaches to armaments collaboration.

Although DoD consideration of the recommendations from the DSB is not yet completed, many of the DoD actions since the DSB meetings this summer reflect the ideas, concerns, and experiences of the meetings. The conclusions of the DSB are:

(1) US policy on armaments collaboration should give at least comparable weight and emphasis to interoperability as to standardization of complete systems.

(2) The present DoD program of armaments collaboration - based on bilateral defense procurement MOUs, dual production, and the family of weapons concept - is a beginning that should be broadened to give emphasis to codevelopment and coproduction.

(3) An approach based on codevelopment and coproduction affords the best opportunity to build strong industrial and national incentives into collaboration and to maintain healthy competition.

(4) Both the US and European NATO states are in formative periods with respect to armaments collaboration and the US should remain open and flexible and consider a range of approaches to standardization and interoperability and learn from experience.

(5) Certain US governmental procedures and regulations should be reviewed and revised to facilitate armaments collaboration and give focus to priority issues pertaining to standardization and interoperability.

(6) Several national policy issues, which go beyond the interests and jurisdiction of DoD, significantly affect NATO armaments collaboration and need resolution.

CONGRESSIONAL SUPPORT FOR STANDARDIZATION/INTEROPERABILITY

Congressional Legislative Action. The DoD Appropriations Act of 1979 (P.L. 95-457, Sec 824) continues the grant of authority to the Secretary of Defense to waive restrictions prohibiting the purchase of items containing foreign specialty metals and in addition includes waiver authority regarding chemical warfare protecting clothing produced outside the US. Waiver authority is granted when such purchases are in furtherance of NATO S/I and "when such procurement is necessary to comply with agreements with foreign governments requiring the United States to purchase supplies from foreign sources for the purpose of offsetting sales made by the United States Government of United States firms under approved programs serving defense requirements . . . ."

Congressional Budgetary Actions. Congress supported some but not all of the specific programs important to our NATO Allies and, therefore, to our mutual cooperation. For example, we and our Allies are pleased that DoD/Congressional differences on the Harassment Drone and the Anti-Ship Missile Defense programs have been overcome so that these programs can proceed. On the other hand, lack of Congressional support for evaluation of the French ATLIS II laser pod and other foreign weapons threatens future cooperation with the Allies involved and creates skepticism concerning Congressional backing for its own (Culver-Nunn) policy.

DoD Legislative Program in Support of Standardization/Interoperability. We are submitting to the 96th Congress as DOD 96-4 a proposal seeking authorization to waive certain legal provisions in the interest of enhancing NATO standardization and interoperability (S/I).

DoD Legislative Proposal 96-4 is designed to enhance readiness and effective employment of forces. To acquire logistics support by uniform NATO procedures and forms in lieu of commercial procedures facilitates the extension of normal logistics support from NATO host nations to US forces deployed overseas. Reciprocally, it would authorize our NATO Allies to obtain some goods and services from US forces in Europe pursuant to these same procedures rather than by foreign military sales agreements. The complex US contracting procedures presently required are too cumbersome in many cases for what are unprogrammed minor purchases. Moreover, some Allies have objected to the use of contracts (or the standard contract provisions required by US law) as inappropriate for intergovernmental transactions. In addition, we have no authority to enter into agreements for the loan/exchange of goods such as spare parts. Ability to do this is key to some critical readiness initiatives.

Enactment of proposal 96-4, which is a part of the President's Legislative Program, would permit agreements for the purchase, sale and loan/exchange of goods and will remove a major source of hindrance, irritation, and ill-will between the US and its Allies. The passage of DOD Legislative Proposal 96-4 in this session of Congress, in addition to improving readiness, will materially strengthen our ability to pursue NATO standardization/interoperability measures under US law.

DoD Legislative Proposal 96-5 (submitted to the 95th Congress as 95-96) is now being examined at DoD. It is designed to waive both objectionable contract provisions and inhibiting limits on the use of government appropriations (such as the Berry and Bayh Amendments) in government-to-government and government-to-international organization agreements. Such authority would be exercised when it would further NATO standardization/interoperability policies expressed in Section 814 of Public Law 94-106, as amended. This authority would assist in addressing the refusal of NATO governments to

accept certain clauses and restrictions that are required by US law to be included in contracts but which our Allies regard as offensive to the dignity of agreements between sovereign governments or as unwarranted imposition of US rules, limitations, and procedures that are not appropriate for contracts made with other countries.

We will continue to review current policies on both sides of the Atlantic in a variety of areas for possible adjustments.

CONCLUSION

We are encouraged by the solid progress made during the past year in arms cooperation and weapons harmonization. While continuing to seek interoperability where necessary and standardization where possible, we will strive to develop the economic, political, military, and organizational basis for long-term standardization through cooperative acquisition efforts. The Long-Term Defense Program, the three primary approaches, the work of the CNAD (especially towards a Periodic Armaments Planning System), and the Transatlantic Dialogue with the IEPG will provide the foundation for building and maintaining programs which will result in increased military effectiveness of the Alliance.

VI. WEAPON SYSTEMS STANDARDIZATION PROGRAMS

Section V stressed the three broad US initiatives for increased armaments cooperation which have been submitted in NATO's Conference of National Armaments Directors and the processes in NATO and in the United States which are being used to implement them. This section summarizes progress in particular programs for improving the interoperability and standardization of equipment used by the US and our NATO Allies. As in the past, it is divided into three categories: US consideration of European and Canadian systems, European and Canadian consideration of US systems, and cooperative weapons acquisition programs. Each section is divided sequentially into land, sea and air programs. The discussion of individual weapon systems has been expanded this year to provide additional system description, information on Defense Systems Acquisition Review Council (DSARC) status, activity in the NATO armaments groups and, as appropriate, funding information. In addition, tables on selected land, sea and air weapons in national inventories which may be used by the Alliance in Europe have been revised (see Appendix B). They now display the planned employment of selected systems by country over time. The weapons identified are those employed by active and reserve component forces. There may be other, older equipment in use by border forces and other paramilitary organizations that is not included. Replacement schedules are US estimates and have not been validated by other nations.

US CONSIDERATION OF EUROPEAN AND CANADIAN SYSTEMS

ROLAND Air Defense Missile System. The US ROLAND is a short-range self-contained, full-tracked air defense system capable of all-weather (AW) operation that will replace the daytime CHAPARRAL system. It has ten missiles on board, an acquisition and track radar, and an optical back-up system. The design was transferred under license from the French-German Euromissile consortium and is based on the ROLAND system now being fielded in Europe. Technology transfer to the US was approved in January 1975 and was essentially completed in the US in late 1978 with the final testing on four US-built prototypes. The Army will request approval for production in the spring of 1979. The system will be deployed to Europe in the early to mid 1980s. Over 90% of the field-replaceable subassemblies will be interchangeable with the German-French ROLAND. With the exception of Norway and Canada, the US is prohibited by an MOU from marketing its version of the system in NATO. Congress approved FY 79 production monies for three fire units but caveated upon successful completion of the US test program. Proposed funding in FY 80 is $259.3M for procurement and $11.3M for research, development, test and evaluation for 15 fire units and 410 missiles.

Armor Machine Gun. The Armor Machine Gun, M240, is a 7.62mm air-cooled, link belt-fed, lightweight general-purpose machine gun that is electrically operated. The weapon is fully automatic and is fired coaxially; it will replace the current M219 machine gun on the M48 and M60 series tanks as well as other armored vehicles and will be employed on the Infantry Fighting Vehicle/Cavalry Fighting Vehicle (IFV/CFV). Additionally, each XM1 will be equipped with two M240 armor machine guns. It is produced by Fabrique National of Belgium as the MAG 58. Various versions of the weapon are already in the inventory of six NATO countries: the UK, Belgium, The Netherlands, Greece, Luxembourg, and Portugal. The Army has contracted to purchase 10,000 weapons from Fabrique National and has accepted delivery of 7428 as of mid-December 1978, with the remaining 2572 to be delivered by April 1979. The first weapons were deployed to the field in Europe in March 1978. The M240 is fully funded to procure an additional 17022 weapons through FY 84. FY 79 procurement will be the first year of a planned multi-year contract designed to establish a US production base and will result in an anticipated delivery quantity of approximately 400 weapons per month commencing in 1982.

Battalion Mortar System. The Improved 81mm Mortar System, XM252, will consist of the United Kingdom (UK) L16A2 barrel, UK L5A4 bipod mount, US baseplate, and US M64 sight. It will replace the M29A1 (81mm) company mortar in mechanized units and the battalion mortar (4.2") in nonmechanized units. It will provide a product-improved high-explosive round with higher sustained rate of fire, increased lethality and range, and reduced weight. The L16A1 UK mortar is currently being used by some 24 different countries, including three NATO Allies. Field delivery is planned for the early 1980s. The UK and US are cooperating on product improving the UK L15A1 HE ammunition to accept the US M734 multi-option fuze and the UK is modifying the propellant charge to meet US requirements. Congress denied the Army FY 79 request for $5.0M to procure 300 mortars until testing has been completed and a procurement decision made. Developmental testing is under way with operational testing scheduled to commence in March 1979. Current RDTE funding levels include $3.0M in FY 79 and 80 for testing and evaluation in preparation for procurement. $10.5M has been budgeted in FY 80 for procurement of 780 weapons, and $10.8M in FY 81 for procurement of 768 weapons.

Battery Computer System. The battery computer system is a small, state-of-the-art, gunnery-related system that will replace the present Field Artillery Digital Automatic Computer (FADAC). It can interface with the Tactical Fire Direction System (TACFIRE) or operate in an autonomous mode (that is, without the TACFIRE), compute fire commands for the numerous type missions required for the field artillery and accept messages, in digital form, directly from the fire support teams with the maneuver force. The battery computer system can be operated and transported in a variety of tactical vehicles ranging from the ¼-ton truck to the M-577 Command Post Vehicle. The Engineering Development contract was awarded on 28 September 1976 to Norden Systems, a subsidiary of United Technologies, Inc.

Under the terms of Norden's agreement with the UK Marconi Space and Defense Systems (MSDS), Ltd., the engineering development prototype of the battery computer was built in the US by Norden while system software and prototype gun display units were developed by MSDS in the UK. Hardware and software integration and contractor testing were essentially completed in July 1978. Government tests and training are currently under way. Field deployment to tactical units is programed to begin in the early 1980s. The battery computer system completes RDT&E in FY 79 and will be in production during FY 80-83 to fill US Army requirements for 1228 systems. The US Marine Corps also plans production during this time frame.

Chemical Protective Clothing. In 1975 and 1976 a tripartite test of US, UK, and Canadian nuclear, biological and chemical (NBC) protective clothing was conducted. The US selected the US-designed overgarment for long-term procurement and adopted the UK-designed overboot. As an interim measure, however, the US Army procured 200,000 UK overgarments to meet specific USAREUR requirements until its own overgarment production base could be established. The US production base is now established and capable of producing 100,000 suits per month.

The US Air Force evaluated the UK liner system and is procuring it for aircrews. The US Army has decided to standardize the overgarment for combat vehicle crew use.

In addition, the USAF has developed a first generation aircraft ensemble for all aircrew members. A UK respirator system is one of five being evaluated with OT&E planned for 1979. NATO will conduct a special meeting to review efforts in aircrew protective clothing in March 1979. Both the US and the UK have participated in joint exercises where the aircrew systems were exchanged and flown by aircrew members. The amount of $15,000 has been approved for FY 79 to test and evaluate the UK system.

Helicopter Ammunition. ADEN and DEFA 30mm ammunition and weapons were originally developed by the UK and France, respectively. The US-developed 30mm round is interoperable and is part of a NATO family of 30mm ammunition. The US will equip its Advanced Attack Helicopter (AAH) with a 30mm gun that will be capable of firing both the NATO rounds and an improved US developed family of rounds. At a cost of $18.7M, the US ammunition development program will provide a training practice, high explosive and high explosive dual purpose round with an aluminum cartridge case. The 30mm dual-purpose round will be type classified "standard" in 1980. The US rounds have been tested successfully in NATO ADEN and DEFA weapons as well as in US guns to assure maximum interoperability.

A memorandum of understanding with France and the UK is being coordinated to insure interoperability of the US ammunition with ADEN and DEFA weapons systems. The 30mm munitions program has been presented to Panel X of the NATO Army Armaments Group.

10-Ton Truck. The German MAN 10-ton truck is one of the key contenders among several trucks being considered to meet Army transporter requirements. The Army has been conducting Technical Feasibility Tests at Aberdeen Proving Ground, Maryland, on two second-production MAN vehicles along with the Lockheed Dragon Wagon and PACCAR 10-ton cargo trucks and the Army 5-ton high-mobility tactical truck. MAN has completed initial evaluation requirements and is now scheduled for major component test validation. Formalization of Army requirements and completion of currently scheduled testing should occur in June 1979. The Army has programed $23.1 million in FY 80 for procurement of 10-ton vehicles to transport conventional ammunition.

Administrative-Use Vehicles. Since 1976, the US has been studying an RSI program for a cost-effective source of low-density, non-tactical, administrative use vehicles (AUV) from European manufacturers for US Forces in Europe. Projections are that approximately 15,000 vehicles will be procured over the next 5-7 years at an estimated cost of $190 million. On 30 January 1978 the Deputy Secretary of Defense approved such a program for the German-Benelux area. The AUV program was implemented in Germany during FY 1978 with the Army having procured 125 vehicles (Volkswagen) at approximately $0.8M, and the Air Force procured 100 vehicles at an estimated cost of $1.4M. Once total program conversion has been achieved, the Services will spend $10-15M annually for replenishment assets in the FRG. Logistical support for the vehicles is being accomplished in-house (Transportation Maintenance Centers) and under local support contracts with the respective vehicle manufacturer and his dealerships.

Feasibility studies are being conducted by the Services for possible expansion of the program into the United Kingdom, Italy, Spain, Greece and Turkey. Approximately 2000 AUV are involved in the UK program, with an estimated 3500 vehicles for the remaining four Mediterranean countries.

Artillery/Mortar Fuze. The Norwegian Proximity Point Detonating (PPD) 440 Fuze is designed to be used on Army high-explosive, spin-stabilized artillery (105mm through 8-inch) and on mortar (4.2-inch) ammunition. In addition, the US Air Force is evaluating PPD 440 fuze components for possible application for bomb munitions. The proximity fuze has the same effect as the time fuze but does not have to be set incrementally. The PPD 440 is in an advanced development stage. Since this stage is not expected to be completed until 1983, the PPD 440 cannot meet immediate US requirements. US-Norwegian codevelopment costs (design, manufacture, laboratory and ballistic testing, and loading and packaging) are estimated to be $10 million through type classification standards. France is monitoring the research, development, test and evaluation for possible adoption by the French Army. The US Air Force has signed a Memorandum of Understanding (MOU) for components and testing for bomb munitions, and the US Army is negotiating with Norway for evaluating fuzes and other components. For FY 79 the Army and Air Force have allocated funds for the procurement of prototype fuzes and components for evaluation.

PENGUIN Missile. These missiles provide combatant craft and patrol boats with the means to launch surface-to-surface anti-shipping missiles against surface vessels. The US Navy is negotiating a Memorandum of Understanding with the Royal Norwegian Navy (RNON) on a test-and-evaluation (T&E) project to evaluate the suitability of the Norwegian PENGUIN MK 2 surface-to-surface missile system to US Navy craft. The PENGUIN Missile MK 1 was developed in 1962-1970 by the RNON with US Navy participation. Since 1972, the missile and the system have been employed operationally in RNON. The PENGUIN missile system MK 2 is a further development of the MK 1 system and production will commence in the near term for the RNON and other European countries. T&E is fully funded.

HARRIER Vertical/Short Takeoff and Landing (V/STOL). The UK-produced AV-8A HARRIER V/STOL has been operational in the US Marine Corps since 1971. Last year's DoD budget submission included funds for RDT&E of two prototype YAV-8B aircraft as an improved version to replace the existing Marine Corps light attack inventory. The YAV-8B progressed through the advanced development stage with the first prototype flight on 9 November 1978. Acquisition was deferred pending a determination that the YAV-8Bs would meet performance goals and a DoD assessment that the aircraft offered significant advantages over conventional aircraft, such as the A-18. Because of limitations on funding for procurement of Marine and Navy aircraft in the 1980s, the need to purchase larger numbers of such aircraft and other pertinent factors, the decision was made to terminate funding for YAV-8B research and development. Therefore, this program is not included in the FY 80 DoD budget request.

OTO MELARA Compact Gun. The MK 75 gun mount designed by OTO MELARA in Italy with its associated system is a fully automatic, remotely controlled, lightweight weapon system that stows, aims and fires 76mm ammunition. It is being installed by the US Navy in FFG-7 and PHM-class ships. Two Italian manufactured mounts have been delivered and are installed in FFG-7 and PHM-1. Italy is selling the US eight more. The first US-produced gun mount will be delivered in early 1980 for installation in FFG-8.

Italy, The Netherlands, Denmark, Germany, Greece, Turkey and the US are now involved in a cooperative support effort for the OTO MELARA gun. A technical working group from Italy, Denmark, Germany, The Netherlands and occasionally the US and Turkey monitors gun and ammunition technical problems. The US conducted an operational evaluation of the OTO Melara gun in 1975. In addition, Germany, The Netherlands, Denmark and Italy have conducted joint testing of the gun and ammunition.

A Memorandum of Understanding (MOU) for the cooperative support of the 76mm OTO MELARA compact gun has been drafted by the NATO Naval Armaments Group. Italy, Germany, The Netherlands, and Denmark have signed the MOU, which is currently under review in the US. The OTO MELARA program is funded to provide gunmounts for new US Navy ships of the FFG-7 and PHM-1 class and for the US Coast Guard's new medium endurance cutters.

SKYFLASH. The SKYFLASH Is a semi-active radar air-to-air missile of AIM-7E aerodynamic performance with improved capability in clutter environments. It has been considered as an interim capability for the F4E pending development of the US Sparrow Advanced Monopulse Missile (AMM). The US Navy agreed to conduct additional ground and flight tests of SKYFLASH. This MOU was consummated in March 1977. In February 1978 the US and the UK signed another MOU which provided the basis for a limited technical evaluation (LTE). This LTE has been completed by the Air Force with US Navy support. Procurement has not been recommended by the Navy or Air Force, and no procurement funds have been requested for FY 80.

ATLIS II. The US Air Force has proposed joining the French ATLIS II pod development program to satisfy requirements for a near-term day laser target designator to be used by single-seat aircraft such as the F-16. Informal negotiations have produced a draft MOU which outlines the program, whereby the US would acquire two prototype pods for engineering, flight tests and evaluations in FYs 1979 and 1980. However, Congressional action deleted ATLIS II funding in the FY 1979 Budget because of a concern over the system's capabilities and availability. Nevertheless, ATLIS II is needed as a near-term solution to an inventory shortfall for designators, and $6.0M is contained in FY 1979 Supplemental Budget Request to begin this initiative.

EIFEL/DISTEL Command and Control Information System. As discussed earlier in Section II, the NATO Air Command and Control System (ACCS) Program has been progressing with US Air Force plans to implement ACCS in the central region of Europe. Automation of selected command and control functions is needed to provide a means for more responsive and effective employment of tactical air assets. This automation (EIFEL/DISTEL) is being pursued in a cooperative effort with the German Air Force, which has developed this capability for two similar German operations centers. A draft MOU is being developed with the German Air Force to work toward an objective of installing EIFEL/DISTEL in the Operations Center at Sembach, Germany, in the early 1980s. US funding will represent a major step in improving the standardization of air communications in the Central Region. A total of $22.5M has been identified for procurement of EIFEL/DISTEL during FY 81-84.

Towed Aerial Gunnery Target. SECAPEM 90 B is a recoverable, towed aerial gunnery target equipped with a real time acoustical scorer. It has been considered as a replacement for the DART aerial gunnery target system and has successfully undergone test and evaluation by the US Air Force with the F4. The Air Force training requirement is approximately 1000 systems in early FY 82 and 83.

EUROPEAN AND CANADIAN CONSIDERATION OF US SYSTEMS

PATRIOT Surface-to-Air Missile. This is a high- and medium-altitude air defense system designed to counter the field army air defense threat of the 1980s and 1990s. The first battalion will be deployed to the European theater in the early to mid 1980s. It is fully funded and will complete engineering development and enter into production in FY 80.

In October 1978 five nations (The Netherlands, Belgium, Denmark, Greece, and the US) signed a NATO PATRIOT Memorandum of Understanding (MOU) during the Twenty-second Meeting of the NATO Conference of National Armament Directors. In January 1979, France and the FRG signed the MOU, which established a multi-national PATRIOT Program Steering Committee and a full-time Management Group to determine a preferred European option to acquire PATRIOT. Project Successor, a joint US-FRG effort, studies the effectiveness of PATRIOT as a replacement for NIKE HERCULES and I-HAWK.

TOW Heavy Antitank Assault Weapon. The TOW is a tube-launched, optically-tracked, wire-guided infantry antitank missile system. United Kingdom plans call for use of the TOW system to meet its helicopter anti-tank requirement, and Germany recently concluded a purchase of an additional 15,000 missiles. In the aggregate ten NATO Allies possess or have ordered approximately 50,000 missiles. Letters of Offer and Acceptance are pending for an additional 1140 missiles for the UK and Luxembourg. The thermal night sight is being procured for deployment in the near future. In addition, a development effort is underway to examine options for warhead and guidance improvements. The product improvement program is funded at $3.5M in FY 79 and $26.2M in FY 80.

Improved HAWK Surface-to-Air Missile. Improved HAWK is a mobile, all-weather, day-and-night, low- to medium-altitude air defense guided missile weapon system capable of operating effectively in an electronic counter-measures (ECM) environment. Denmark, France, the FRG, Greece, Italy and The Netherlands have adopted the Improved HAWK system; and Belgium is seriously considering it. The European effort is a coproduction program to upgrade NATO BASIC HAWK to Improved HAWK. This program is managed by the NATO HAWK Management Office (NHMO), which is assuring maximum standardization and interoperability of the missiles and ground support equipment. The European production of ground support equipment is complete, and the missile production is scheduled for completion in January 1980.

STINGER. This is an advanced man-portable air defense system. It uses a passive infrared homing guidance system which operates independently after initial aiming and launching by the operator. Target engagement will be possible regardless of engagement aspect. It was approved for production in November 1977 and will be fielded in the early 1980s. STINGER and Swedish RBS-70 (which requires a three-man team) are the leading candidates for future NATO MANPADS. STINGER has been discussed in NAAG Panel V, and a formal briefing by US representatives is scheduled for Spring 1979.

Discussions have been held with Germany on the coproduction of STINGER as a common NATO weapon. The US has briefed and provided technical information to Norway. The Netherlands and Italy have expressed an interest in STINGER sales and/or possible coproduction. The Netherlands has also received briefings, and Italy has asked for information and technical data.

Single Channel Ground and Airborne Radio Subsystem (SINCGARS-V). The SINCGARS-V program will provide the next generation of VHF-FM combat net radios to be fielded for the US Forces in the mid 80s. This family of radios will be lightweight, securable, capable of providing both voice and data service and possessing electronic counter-countermeasures (ECCM) features. These radio configurations (manpack, vehicular and airborne) will be developed based on maximum commonality of components and reduction in logistic support requirements. The current R&D effort is in advanced development with three contractual efforts: two slow frequency hopping (SFH) contracts and one fast frequency hopping (FFH) effort, awarded in April 1978 with a UK company as a subcontractor on one of the SFH contracts. A decision will be made in the April-June 1982 period whether to go into Engineering Development (ED) or to bypass ED and go straight into production.

Modular Infrared Equipment. The US has developed a family of forward-looking infrared common modules (MOD FLIR) which are in production for target acquisition and fire control systems, e.g., the TOW Night Sight (AN/TAS-4) and Tank Thermal Sight (AN/VSG-2). These systems will be fielded in USAREUR beginning in 1979, and the same modules are used in Navy and Air Force airborne FLIRs. These passive FLIR systems provide imagery from the natural heat radiation of targets in spite of darkness. They suffer only limited degradation from smoke, haze, dust and fog.

A Memorandum of Understanding (MOU) with the FRG for sale and co-production of MOD FLIR became effective in April 1978 following Congressional approval. Two competing MOD FLIR tank sight designs have been made by US-German contractors and delivered to the FRG for test. One design will be slected as the therman sight for the LEOPARD, MARDER and LUCHS vehicles. Pilot production of German-made common modules is scheduled to begin in 1981.

Within NATO, the US is preparing an MOU for presentation to Project Group 15 of the NAAG for the sale and coproduction of MOD FLIR among interested member nations. Current participants are the US, the FRG, the UK, Italy, and The Netherlands; France and Belgium are observers. When ultimately signed and approved, this MOU would facilitate the use of US MOD FLIR as the NATO standard.

MOD FLIR is fully funded for FY 79-84. Full-scale production of end items using the common modules began in October 1978.

COPPERHEAD 155mm Munitions. COPPERHEAD is a 155mm cannon-launched projectile capable of effectively engaging moving and stationary armored targets with indirect fire. It significantly complements current Army antiarmor capability by providing responsive fire support beyond the range of direct-fire assets and is in engineering development, with the production decision scheduled for September 1979. Fielding is scheduled to begin following first-year procurement in FY 80. There is no competitive international system. A bilateral MOU with the UK on COPPERHEAD was signed in June 1978. This MOU provides for the acquisition of COPPERHEAD by the UK, at their option, through FMS or coproduction. The UK subsequently requested and received permission from the US to provide copies of the MOU to Italy and the FRG, their trilateral partners on the FH-70 and SP-70 howitzer development. This request was based upon an expression of interest in a quadrilateral MOU by the FRG and Italy. Briefings have been presented to NATO Panel IV, Surface-to-Surface Artillery, as well as to France, the UK, the FRG, Canada, Belgium, and Norway. Interoperability of COPPERHEAD with non-US NATO artillery systems is being evaluated. COPPERHEAD is funded to complete research, development, test and evaluation in FY 81.

Infantry Fighting Vehicle (IFV)/Cavalry Fighting Vehicle (CFV). The IFV and CFV are lightly armored full-tracked fighting vehicles which provide improved cross-country mobility, mounted firepower, communications and protection to the mechanized infantry and armored cavalry. The vehicles have mobility, firepower and protection which complement the XM1. Primary armament for the IFV/CFV is a stabilized, dual-fed 25mm cannon which provides accurate high explosive or armor-piercing fire. Other armament includes the TOW missile, M240 coaxial machinegun, and, in the infantry configuration, six firing port weapons. The first prototype vehicle was received 1 December 1978, and after DT/OT testing a production decision will be made in January 1980. Under a Statement of Accord the UK is conducting a study of the IFV/CFV and derivatives, comparing them against the UK General Staff requirements and procurement options. Italy has indicated an interest in coproduction of the IFV/CFV. There are two competing weapons for the 25mm cannon: the FACC self-powered, which is an Americanization of the Oerlikon KBA-B02, and the Hughes Helicopter external-powered weapon. Both weapons can use the Oerlikon ammunition and links without modification. The self-powered weapon's external configuration maintains interchangeability with any turret that mounts the KBA-B02. One of these systems will be selected in January 1979. The US ammunition and links can be fired from the KBA-B02 and after type classification will be proposed as NATO Standard. Congress has provided $39.0M for long-lead item procurement in FY 79 for the IFV. Development is funded through FY 82; and production begins in FY 80 initially, with 208 IFV/CFV and delivery starting in May 1981.

Standoff Target Acquisition System (SOTAS). SOTAS is an Army program to develop an airborne target acquisition system that will provide a new capability to detect and locate moving targets well beyond the forward edge of the battle area (FEBA), during day and night, and under most weather

conditions. Information will be displayed in near real time at ground stations with sufficient accuracy for strike by Army ground and Air Force support weapon systems. The SOTAS system is a division-level asset consisting of four helicopter-borne radars; a data link/positioning system; one primary ground station located at the division tactical operations center (DTOC) and up to five secondary ground stations (division artillery, the three brigade headquarters and the division alternate DTOC). One helicopter can cover the division's area of interest; four helicopters per division allow continuous coverage during periods of sustained combat. SOTAS competes with no existing or proposed US or NATO system. It was approved for Engineering Development (ED) in August 1978, and fielding is expected in the mid 1980s. The advanced development model, known as Interim Interim (I^2) SOTAS, has been demonstrated to British, FRG, and Canadian forces. All three have expressed interest in further opportunities to evaluate or observe the system. Two I^2 SOTAS are now in Europe, so that concept evaluation by NATO allies should be facilitated. The I^2 SOTAS has participated in REFORGER '76, '77 and '78 and will participate in REFORGER '79.

HARPOON Anti-Surface Ship Missile. HARPOON is an all-weather medium range anti-ship missile designed for a high single round effectiveness against surface ships. The missile provides the Navy with a significant stand-off attack/over-the-horizon capability. The missile can be launched by surface ships, submarines and maritime patrol aircraft. The missile is currently in use by the US, The Netherlands, Denmark, and Turkey. Several other European countries have indicated a desire to procure HARPOON for their navies. The HARPOON program is funded at a reduced level pending full approval for service use.

MK-46 Antisubmarine Torpedo. The US Navy MK-46 lightweight torpedo is an antisubmarine weapon which can be launched from both surface ships and aircraft. It is currently in use by Canada, France, Greece, Italy, The Netherlands, and the United Kingdom. The FRG will take delivery in 1979-1980. In addition, the US has developed and approved for Service use an improvement program to upgrade the MK-46 torpedo in order to cope with the current threat. The Navy is providing NATO countries with information on the improvement program through NATO Project Group 19 under NATO Naval Armaments Group (NNAG).

P-3 Patrol Aircraft. The US Navy P-3 Orion is a maritime patrol aircraft with the mission of surveillance, location and attack operations against submarines and surface ships. It is one of NATO's most effective and economical antisubmarine systems and is presently operated by Norway. Canada has contracted to procure a modified P-3C version, the AURORA, while The Netherlands has agreed to purchase thirteen (13) P-3Cs. The P-3 program is fully funded through 1984. The US Navy participates in NATO's Maritime Patrol Aircraft Steering Committee with France, the FRG, Italy and The Netherlands. The US Navy also provides information to our Allies through NATO Information Exchange Groups IEG/2 on Undersea Warfare and IEG/4 on Maritime Air.

Sonobuoys. The US Navy was involved in the NATO Sonobuoy Interoperability Demonstration planned by an Information Exchange Group IEG/2(SG/8) of the NNAG and hosted by the French Navy 4-6 October 1978 to ascertain the interoperability of sonobuoys using launching mechanisms in NATO ASW/Maritime patrol aircraft. This demonstration included sonobuoy handling, physical fitness of sonobuoys and launchers, sonobuoy launching from aircraft, and VHF data link between sonobuoys and aircraft with simultaneous monitoring by a shore based facility. Participating aircraft included the US (S-3A, P-3B and P-3C), France (Atlantic), UK (NIMROD), and Canada (ARGUS). Sonobuoys were provided by the US (AN/SSQ-41A, 41B, 36, 56A); France (DSTV-4L); the UK (Type 30068); Canada (AN/SSQ-517B); and the FRG (AN/SSQ-41A Hermes). Observers were present from Canada, France, the FRG, the UK, the US, Italy and The Netherlands. The demonstration provided an opportunity to exchange information concerning design variances and launch techniques and proved conclusively that NATO has attained a high degree of interoperability of sonobuoys.

F-16 Fighter Aircraft. The F-16 Multinational Fighter Program is a joint development/production program for the US, Belgium, Denmark, The Netherlands, and Norway. The Memorandum of Understanding between the US and the European participating Governments (EPGs) was signed in June 1975. Letters of Offer and Acceptance totaling over $2.6 billion in FY 75 dollars were signed in May 1977 and formally initiated the purchase of 348 EPG F-16 aircraft and associated support. Standardization between US Air Force and EPG F-16s is being closely coordinated through the Multinational F-16 Configuration Steering Group, and the benefits of standardization/interoperability will be achieved through basing of a substantial number of USAF F-16 aircraft in Europe and through a common logistics support base with the EPGs. Multinational operational test and evaluation of the F-16 will be jointly conducted by the US and EPG aircrews in both the United States and Europe prior to operational deployment. The joint tests will establish a common training baseline and develop common tactics and employment concepts.

AIM-9L Infrared Air-to-Air Missile. In October 1977 the US signed an MOU with the FRG to lead a European consortium to coproduce the US Navy-developed AIM-9L missile in Europe. Norway, the UK and Italy are participating and the FRG is now in the process of arranging for manufacture of specific parts for each country. The AIM-9L will be employed by numerous aircraft including the F-16 and the MRCA. It represents the third generation of the successful Sidewinder missile but differs from its predecessors principally in having an all-aspect attack capability. The FRG has signed a Letter of Offer (LOA) for 500 AIM-9L missiles and has requested an LOA for an additional 1000. The AOTD fuze for the missiles to be built by the consortium will be purchased by the FRG from the US.

NATO Airborne Early Warning and Control (AEW&C) Program. This program includes planned acquisition and operation of 18 E-3A aircraft (in a standard configuration with US AWACS aircraft); modifications to make 52 ground sites interoperable with the AWACS aircraft; and refurbishment of a main operating base and other support facilities. United States participation in this program will be in two capacities, first as agent for NATO's acquisition of the E-3As and second as purchaser and user of the system. The US Air Force as agent will work with the NATO AEW&C Program Management Organization to procure the 18 AWACS aircraft. As a member of NATO, the United States will also participate in both the management and operation of the NATO Airborne Early Warning and Control System. (See Section V for further details.)

Joint Tactical Information Distribution System (JTIDS). The US has formally proposed that NATO accept the US-developed JTIDS as the basis for jam-resistant communications within the Alliance. JTIDS will provide a means of interconnecting and facilitating real-time jam-resistant, secure exchange of combat critical communications between tactical force elements. The Federal Republic of Germany is developing a similar system, Multiple Access Communications System (MACS) which it has also proposed as a NATO standard. Formal selection of JTIDS as the jam-resistant communications link for the NATO Airborne Early Warning aircraft will remain open until frequency supportability is achieved. The United Kingdom has provisionally selected JTIDS for application on its NIMROD AEW aircraft, its new generation of air defense fighter aircraft, and within elements of the UK Air Defense Ground Environment. It has also contracted with US JTIDS suppliers to provide terminals for UK test and evaluation and to study the integration of JTIDS into the various UK candidate platforms. France has also expressed considerable interest in the JTIDS concept. Several US-France technical interchanges have taken place with an objective of achieving interoperability between JTIDS and the French-developed SINTAC system. A formal MOU between the US and the UK has been signed. Another MOU between the US and France is also in draft and should be completed early in 1979. Plans are also in preparation for a test program to be conducted in Europe.

Precision Location Strike System (PLSS). PLSS is a tactical, integrated system for all-weather, near real-time location and accurate attack of enemy air defense radar systems and wideband jammer systems. This system is currently under full-scale development and is a major US Air Force effort to develop an all-weather tactical location/strike system. Current plans call for delivery of the first PLSS system in the mid 1980s. Integration into NATO operations, C^3 system interoperability, and requirements of the NATO Long-Term Defense Program are being considered during the development effort. Discussions are continuing with NATO Allies to determine the combat potential of PLSS and to seek support for the program and explore the extent of possible NATO participation. Funding of $373.9M for RDTE has been programed through FY 84.

NAVSTAR Global Positioning System. The NAVSTAR Global Positioning System (GPS) is a satellite-based, universal positioning and navigation system. It was designed by the US to provide precise position information and time for accurate worldwide weapons delivery and to reduce proliferation of navigation aids. The cooperative venture to encourage NATO participation by including Allied personnel in the Joint Program Office (JPO) structure is being implemented. Six NATO personnel, including the NATO Deputy Program Manager, are in the JPO now, with additional arrivals forecasted through the second quarter of CY 79. NATO personnel have been integrated into user equipment, program control and operational applications functional areas.

The Concept Validation Phase is nearing completion, with a DSARC Milestone II scheduled for May 1979. Funding through FY 84 is $1314.2M.

Advanced Medium-Range Air-to-Air Missile (AMRAAM). AMRAAM is an all-weather, all-aspect, radar missile capable of engaging numerically superior aircraft forces before they close to within visual range. This missile will have the capability for multiple launches beyond visual ranges and become autonomous soon after launch to permit the launch aircraft to maneuver and/or engage more targets quickly. It will be compatible with the F-14, F-15, F-16 and F-18 aircraft as well as applicable Air Defense and Air Superiority NATO interceptor aircraft of the late 1980s. The AMRAAM program has passed DSARC I for initiation of the competitive prototype phase with deliveries anticipated in the mid 1980s. Missile development is in response to a Joint Service Operational Requirement (JSOR) and a Mission Element Need Statement (MENS) and is consistent with NATO requirements being formulated in NAFAG Subgroup 13. All five of the participating contractors have contracted NATO industry for potential technical support. Initial exchange of aircraft/missile interface data requirements has occurred with the UK. In consonance with on-going efforts for agreement on a NATO family of air-to-air missiles, the AMRAAM program has initiated planning for early NATO industry participation in full-scale development leading to US/NATO co-production. AMRAAM is fully funded for the prototype phase leading to Milestone/DSARC II.

GBU-15. The GBU-15 is a guide-glide weapon in the 2000-lb class which is designed to destroy high-value fixed targets, enemy surface-to-air defenses and ships. Two basic aerodynamic configurations are completing development: the Cruciform Wing Weapon (CWW), optimized for very low- to medium-altitude attack, and the Planar Wing Weapon (PWW), optimized for attack at high altitude and at standoff ranges to avoid enemy defenses. In September 1978 the initial GBU-15, the CWW with television and data link, successfully completed DSARC III; but the test program has been extended through the third quarter of CY 79. The following countries have expressed interest in the GBU-15 and have requested and received information: Australia, Canada, F-16 consortium countries, Israel, the FRG, Greece, Iran, Italy, Japan, Korea, Spain, Turkey and the UK. In addition, the GBU-15 has been discussed by the Air Senior National Representatives, and by Subgroup 9 of the NATO Air Forces Armament

Group. However, the Congress directed additional testing before approving initial production. Those tests should be complete by the first quarter of FY 80. No funding has been requested in the FY 1980 proposed Budget.

AGM-65 MAVERICK. The MAVERICK missile is a self-guided, rocket-propelled, air-to-surface missile designed to destroy small, hard tactical targets in the close air support, interdiction, defense suppression and counter-air operations of tactical air forces. The development of this 465-pound, 12-inch diameter, 8-foot long missile began in 1968 and has resulted in a "family" of terminal guidance seekers mated to a common center/aft section. The television (TV) version provides a daylight launch and leave capability. Production missiles delivered to the inventory include the AGM-65A (TV), and the AGM-65B (TV-scene-magnification) MAVERICK. During this past year, the full-scale engineering development of the AGM-65D (Imaging Infrared) MAVRICK was initiated.

This latest version will provide a day/night/adverse-weather weapon system while retaining the launch and leave capability of the basic TV MAVERICK. AGM-65A missiles have been sold to Turkey, Greece, Sweden, Iran, Israel, Saudi Arabia, and Korea. Germany, The Netherlands and Taiwan have expressed interest in obtaining the MAVERICK missile. We will probably include MAVERICK in the Air-to-Ground family of munitions.

COOPERATIVE WEAPONS ACQUISITION PROGRAMS

Main Battle Tanks. The XM1 tank system is a four-man, highly mobile, full-tracked, ground combat vehicle with significantly improved survivability and mobility, initially mounting a 105mm main gun and later a 120mm gun and possessing fully integrated day/night fire control with shoot-on-the-move capability.

In accordance with the January 1977 Addition to the July 1976 Addendum to the December 1974 US-FRG Memorandum of Understanding (MOU) for harmonizing main battle tanks, work continues on standardizing key tank components. To date, fuel and organizational-level metric fasteners have been standardized; also, initiatives in achieving a common sprocket interface design may result in near-term track interoperability; and the Germans are expected to make a decision on use of the US AGT 1500 power pack in late 1979. The Netherlands has expressed interest in either XM1 purchases or coproduction. During the June 1978 meeting of the NATO AC/225 Panel II, the NATO Army Armaments Group Combat considered the military characteristics of a 1990s-vintage tank.

The XMI is fully funded for FY 79-84 to support achievement and sustainment of a substantial production rate per month. Initial Army plans call for a buy of 7058 tanks, and the XMI will be fielded and deployed to Europe in the early 1980s.

120mm Tank Gun. The German 120mm smoothbore gun system was selected for future incorporation on the XMI as a result of a US evaluation of the FRG and UK 120mm tank main armament systems. It consists of a 120mm smoothbore cannon of German design using a fin-stabilized family of ammunition composed of kinetic energy and HEAT-MP service rounds and two companion training rounds. A DSARC production decision is now anticipated in October 1982, with first production delivery of a 120mm gun XMI tank planned in late FY 84. First field deliveries are anticipated shortly thereafter.

The US is negotiating a licensing agreement with the German producer and an addendum to the December 1974 US/FRG MOU for tank harmonization with the FRG for US production of their gun system. It is also anticipated that the US and the FRG will participate in a cooperative effort to develop modern-technology 120mm ammunition. Configuration management working groups have been established to assure the maximum degree of standardization and interoperability. The approved FY 1979 funding level for this program is $35.6M and is $51.9M for FY 1980.

NATO Small Arms Ammunition. In 1976 eleven NATO countries (Belgium, Canada, Denmark, France, Greece, the FRG, The Netherlands, the UK, the US, Luxembourg, and Norway) signed a Memorandum of Understanding for the testing, evaluation and selection of a second NATO standard caliber of small arms ammunition. The present NATO standard 7.62mm ammunition, used in heavy weapons such as crew-served machine guns, will continue as a NATO standard cartrige. An additional program objective is to test and recommend a NATO standard infantry weapon. An international test control commission (TCC) was formed to control technical tests which began on 1 April 1977 at Cold Meece, UK, and Meppen, FRG. A one-year military test began on 1 June 1978 at Hammelburg, FRG, using approximately 200 international troops. Final test report and recommendations are due in NATO Headquarters on 15 January 1980, with a NATO decision scheduled for mid 1980. Current funding levels are $1.575M in FY 79 and $1.46M in FY 80.

Military Bridging. For 1985 and beyond the system of military bridging is a family of assault, dry-gap, and floating tactical bridges. The common bridge girder is a modular design with reinformement capability, and all type bridges are launched from a common vehicle with appropriate launch mechanisms. Development of this system satisfies a requirement to significantly increase the capability to bridge wider spans in less time with fewer men. Advanced development is in progress; engineering development is scheduled for 1980-1985; and initial production of the dry-gap bridge is anticipated to begin in 1988, with the assault and floating bridges following in the early 1990s. The US, the FRG, and the UK are participating members in this trilateral development program, and progress reports are discussed with all NATO members at NAAG Panel IX meetings.

A draft MOU proposes that each participating member share 1/3 of the $75-80M development cost.

Close Combat Anti-armor System (CCAS). The CCAS (formerly known as the Advanced Heavy Antitank Missile System or AHAMS) is planned to be the Army's next-generation infantry heavy antitank weapon to replace the TOW in all configurations. As such, the CCAS will be compatible with existing and planned TOW launch platforms. The CCAS will have improved capabilities to defeat projected threat armored vehicles and operate in a sophisticated countermeasures and battlefield obscurants environment. NATO Allies are now considering possible ways to pursue a cooperative antiarmor program package. The CCAS current funding for FY 1979 is $1.0M and funds planned for FY 1980 are $12.0M.

Aerial Scout Helicopter. The Aerial Scout will be a small highly maneuverable helicopter which will fill the Army's requirement for a day-night/adverse-weather, combat-survivable helicopter for the conduct of reconnaissance, surveillance, security and target acquisition and target designation functions. Fielding is expected in the mid 1980s. The requirement has been briefed to NATO Panel X, Tactical Vehicles for Air Mobility, and discussed with defense officials in France, the FRG, Italy and the UK. Italy has expressed a keen interest in the Aerial Scout development since they believe their A-129 helicopter offers some commonality potential. Technical data on European systems and subsystems will be requested for consideration in determining the preferred system configuration. FY 79 funding of $5.5M is being utilized to support a special study group which is examining the Aerial Scout requirement and developing program alternatives. The current US Army requirement is for 1436 Aerial Scout Helicopters.

155mm Howitzer Ammunition. The US has been a party to a Memorandum of Understanding (MOU) on 155mm weapons and ammunition standardization with the UK, the FRG and Italy since 1969. Since this MOU was not sufficiently comprehensive to achieve complete ballistic standardization, a revised MOU was negotiated and signed by the four nations in 1978. The new MOU requires all four nations to develop only 155mm ammunition that meets the criteria outlined in the MOU. All current US and Trilateral (UK/FRG/Italy) ammunition and howitzer development conforms to the ballistic parameters in the MOU. It is anticipated that testing to confirm interchangeability of newly developed munitions will be initiated in 1979 pending availability of new munitions. Terms of the ballistic parameters have been provided to NATO through Panel IV of the NAAG. Copies of the MOU and required drawings have been provided to France at its request for consideration in development of a new howitzer. Funds to conduct necessary US Testing have been submitted with the Army's FY 79 and FY 80 budget requests. The amount approved for FY 79 was $400,000 with an additional $1.9M requested for FY 80.

Remotely Piloted Vehicle (RPV). The US Army is developing a fixed-wing remotely piloted vehicle (RPV) system for target acquisition, laser designation and reconnaissance (TADARS) out to the range of the division artillery. The RPV carries a stabilized TV boresighted with a laser rangefinder/designator. An anti-jam data link is used to send the TV image to the ground station. A Memorandum of Understanding was signed with the UK in October 1978 for exchange of RPV information in order to promote interoperability in the development of tactical RPV systems. This MOU gives the US Army the opportunity to observe the development and testing of a remotely piloted helicopter (RPH) system. RPH technology may be applicable to follow-on US programs. Preliminary discussions are being held with the FRG to determine its interest in RPVs. The RPV program has been approved for entry into full-scale engineering development.

General Support Rocket System (GSRS). The General Support Rocket System (GSRS) is a multiple-launch rocket system designed to deliver a large volume of firepower in a short period of time against critical, time-sensitive, area-type targets, particularly during surge periods when the rate of targets acquired exceeds available cannon weapons fire support. This system is following an accelerated acquisition cycle with DSARC III scheduled in May 1980. Currently, the US, France, the FRG and the UK are negotiating an MOU for a cooperative development program for a Multiple Launch Rocket System (MLRS), scheduled to be signed in Spring 1979. If signed, all four countries will adopt a standardized MLRS, which will be the GSRS. Italy has also expressed interest in the system. The Army FY 80 budget submission included the funds necessary to start Low Rate Initial Production beginning in FY 80.

SP70 Howitzer. The SP70 is a self-propelled, 155mm howitzer that features a high rate of fire, automatic loading capability, improved survivability and mobility. This trilateral project is being developed by the UK, the FRG and Italy. The current development plan indicates that technical evaluation trials of engineering development prototypes will be conducted in FY 82-83, user trials of engineering development prototypes in FY 83 and first production deliveries to the field in FY 86-87. At a May 78 meeting of the Tripartite Joint Management Committee the United States reaffirmed an interest in monitoring the development of the SP70. Our intent in monitoring the SP70 program is to evaluate the technology for possible application to the US artillery systems. The developing nations welcomed our interest, agreed that we could send observers to trials and decided that technical design data exchanges could be conducted. A quadripartite meeting of technical experts is planned for 12-16 February 1979 in Germany. We have requested $1.0M in FY 80 to continue monitoring the technological developments of the SP70.

20-40mm Ammunition. An ad hoc group made up of technical members from the UK, the FRG, France, and the US has been working for the past year to reach agreement on standard families of ammunition in calibers between 20-40mm. They have now reached agreement in principle on which families will be standardized. The goal is that in a timeframe 15-20

years from now the NATO countries will have no calibers between 20-40mm which are not interoperable. It is expected that a formal Memorandum of Agreement will be signed within the next 12 months. The agreement will insure that, prior to introducing a new round of ammunition, consultation will be insured between the member countries.

NATO SEASPARROW Point Defense Missile System. Belgium, Denmark, the FRG, Italy, The Netherlands, Norway, and the US are members of a consortium which is producing the NATO SEASPARROW Missile System under a Memorandum of Understanding for development and production signed in 1968. This system includes a fire control radar, a launcher and a variation of the SPARROW Missile which will provide point defense to various classes of ships. The development phase of the program is complete, with only system modification and improvements continuing, and the production phase includes 162 systems and subsystems, with initial production completed in 1978. As of November 1, 1978, there are both US ships and NATO Consortium ships with the system installed. Installation of all systems will be complete by FY 1985. The US is developing the SEASPARROW RIM-7M (monopulse) missile as a system improvement. This missile will be made available to the other members in the Consortium when available. There will be almost 100% interchangeability since the complete program has been handled by a joint office. Within European countries there are some minor variations. Major procurement has been completed, and the only funding profiles are for ordnance alterations and operations and maintenance, which are minimal and fully funded. The SEASPARROW system is administered by a NATO Project Steering Committee established by member nations under the aegis of the CNAD.

Rolling Airframe Missile (RAM). The RAM Missile, formerly Anti-Ship Missile Defense System (ASMD), is a fire- and forget-missile that will help to meet the requirements of the US, the FRG and Denmark through the mid 1990s for point defense in a high threat environment. It will provide increased firepower and thereby supplement other point defense systems. The US, the FRG and Denmark are preparing joint full-scale engineering development following two years of advanced development by the FRG and the US. An MOU is now being negotiated and should be signed in March 1979. Anticipated delivery date is FY 1984. Other members of the NATO SEASPARROW Consortium have unofficially expressed interest in the concept of providing a RAM capability to their SEASPARROW launchers. This program will provide missile standardization and limit the launching system to two variations; a stand alone launcher and a modification to the present SEASPARROW launcher. An infrared all-the-way seeker is being tested by the US. The RAM development is RDT&E funded through FY 84 to 50% of program cost.

NATO Anti-Surface Ship Missile (ASSM II). The US Navy is participating in a NATO project under the auspices of Project Group 16 of the NATO Naval Armaments Group, with France, the FRG, Norway, the UK and The Netherlands for the development of a second-generation anti-surface ship missile. This missile would be similar to the HARPOON in size and range, but it would be able to accept varying modules within its configuration to

meet different national requirements. A joint feasibility study has been conducted, and an Interim Phase Memorandum of Understanding has been signed to evaluate the study results. Negotiations for the next stage, project definition, are presently under way. This is a European-led effort with the UK, France and the FRG having major roles.

NATO SEA GNAT. This is a cooperative international research and development project which is sponsored by the NNAG and is being conducted under a 1976 MOU. As the result of NATO sponsored studies, a common requirement was identified for a ship-launched decoy system to protect against air- and sea-launched anti-ship missiles, and the project was established in 1977 by a consortium of NATO nations. Its purpose is to develop decoy rounds to protect ships against guided missiles. This project will provide the participating nations with a standardized, chaff/infrared decoy system which will result in economies in development costs as well as potential savings in procurement and logistical support. The SEA GNAT program is RDT&E funded through FY 80.

The NATO SEA GNAT program continues to make good progress. Discussions are being held on a Production Supplement to the Memorandum of Understanding. The US and the UK have indicated that they each intend to produce the NATO SEA GNAT System. Although the US, with its share of 52% of the costs, is the principal development nation, other partners are sharing the costs.

NATO Patrol Hydrofoil Missile Ship. The NATO Patrol Hydrofoil Missile (PHM) Ship is the product of a cooperative program with the Federal Republic of Germany and Italy aimed at answering the need for a small, fast ship capable of anti-surface ship attack as well as barrier and surveillance operations. In the summer of 1977, the US made a production decision authorizing 5 PHM follow-on ships for a total of six. It is planned that the six-ship US Squadron will be operated. The PHM Ship Defense System Acquisition Review Council (DSARC) process is complete. PHM-1 is operational; follow-on will be delivered in 1981 and early 1982. Although the Germans and Italians remained full partners in PHM ship design and development until completion of the design stage (31 December 1977), only the US intends to produce PHM ships at this time. Although other NATO Allies, notably the UK and Greece, have expressed interest in the PHM program, no countries have indicated any near-term desires to participate in PHM coproduction with the US. US PHM production is fully funded.

ERMISS Minesweeping Systems. The US Navy is participating in a NATO project under the auspices of Project Group 14 of the NATO Naval Armaments Group to develop an explosive-resistant multi-influence sweep system (ERMISS). The project commenced research efforts in September 1978 under an MOU between the participating countries: France, the FRG, The Netherlands, the UK and the US. A project office has been established in the FRG with a German project manager and an assistant manager from each of the

other participating countries. A NATO steering committee oversees the work of the project. The MOU covers the initial 2-3 years of the project, with a goal of being ready to proceed with construction by late 1981 of two prototype ships. Actual construction would proceed under a subsequent MOU. Each participating country will contribute approximately $160K to cover the project's work for the period of the current MOU. The project is fully funded for FY 1979.

Electro-Optical Devices. The US is cooperating with Canada on a ship-board Infrared Search and Track (IRST) System in Project Group 15 of the NNAG. This is a joint three-phased program which is progressing well under an agreement signed in 1976. Denmark, France, the FRG, Italy, The Netherlands, Norway and the UK are closely observing the US-Canada program and are being kept appraised of the effort by means of the NATO project group formed to consider the cooperative development and production of an IRST system. Phase I of the US-Canada program covers demonstration of feasibility and will form the basis for providing an operational capability. As a follow-on, Phase II includes test and evaluation; and Phase III, procurement.

It is expected that in early 1979 the NATO project group will proceed toward agreeing on an MOU which would engage interested NATO countries in financial support of the US-Canada IRST system engineering development. This move depends on successful at-sea trials and would align NATO planning for the IRST system with the US plans for engineering development commencing in 1979. There is a strong possibility that other NATO nations will be included in the IRST system development and procurement phases.

Variable-Depth Sonar (VDS) Trials: In October 1977 the US Navy joined Canada in a Memorandum of Understanding for joint US/Canadian VDS trials to evaluate the feasibility of towing a variable depth sonar from a high-speed platform. This effort is called Project HYTOW. The US Navy provides the test platform, and Canada provides the variable depth sonar. We anticipate resuming in-water rest of the full scale towed body in early summer 1979. The program is fully funded for FY 79.

Undergraduate Jet Pilot Training System. The Undergraduate Jet Pilot Training System (VTXTS) will replace the US Navy's aging inventory of intermediate and advanced training aircraft, the T-2C and TA-4J. The VTXTS will consist of a fully integrated, interdependent matrix of academics,

simulation and in-flight training. The VTXTS is approaching DSARC Milestone Zero. Field delivery date is projected to be 1986. Among the alternatives undergoing investigation is that of acquiring an off-the-shelf low cost training aircraft, including those in production by several NATO countries. Conceptual studies will be solicited during FY 80, and the competition will be open to all qualified bidders. To date, formal discussions have not been opened with potential contractors other than the US. Specific funding for FY 80 is undergoing analysis for definition by early 1979.

Expendable Harassment Drone. This system is a low-radar cross-section expendable vehicle co-developed by the US and FRG air forces and enemy threat radars by delivering a warhead to damage the equipment. The harassment drone (HD) is a one-way vehicle to eliminate post launch command and control, recovery and refurbishing problems. Preprogramed flight profiles eliminate enemy intrusion and takeover. The HD will be equipped with a seeker-warhead payload which will allow the capsule to acquire, guide to and dive on a target, exploding its fragmentary warhead and inflicting damage. The NATO Long-Term defense Program (LTDP) identified the HD as the number three priority program for improving the Air EW capability of the Alliance in the 1980s. Congress has approved FY 79 funding in the amount of $3.8M and full-scale USAF/FRG co-development is under way.

Low-Altitude Airfield Attack System (LAAAS). This program supports our share of the joint US/United Kingdom (UK) full scale development of the JP-233 weapon system. The JP-233 system includes specialized munitions capable of being delivered from low-altitude, high-speed aircraft against Warsaw Pact airfields. A firm development cost plan (DCP) has been finalized in conjunction with the UK contractor and the UK Ministry of Defense. During 1980 flight trials of development standard dispensers will begin using a British Buccaneer attack aircraft to evaluate flutter and jettison characteristics of the dispensers. Sub-munition flight testing will commence from the Buccaneer, and preparations will begin for the flight test program using the Air Force F-111 and the Royal Air Force Tornado (MRCA) aircraft. The joint full scale development phase of this program is due for completion in the second quarter of FY 84. Depending on a decision to enter into production of the JP-233 system, complete JP-233 systems could be procured for USAF use primarily in NATO. US funding is $26M in 1979 and $25.3M in 1980.

VII. TRAINING

Joint or multinational training continues to be a major rationalization area with considerable potential for increased effectiveness. When Allied military personnel train together in a common course of instruction, using common facilities, and equipment, they learn to work together and to utilize common procedures. Moreover, in the long run, their national military forces will find it easier to agree on the common doctrine and tactics necessary to operate together effectively in combat. Another very important consideration is that consolidated training is often less expensive because of economies of scale.

Within NATO the Euro NATO Training Group is the organization charged with developing proposals for useful cooperative training. This group consists of training experts from all Alliance nations except France, Luxembourg and Iceland. The group as a whole meets annually in plenary sessions. Joint Services, Army, Naval, Air Force and Financial subgroups normally meet twice each year and appoint working groups for specific projects.

Obstacles to Alliance cooperation in training include differences in operational doctrine and procedures and variations in military equipment. Differences in national doctrine make nations reluctant to send their personnel to training courses of other nations. This problem would be alleviated if nations would train using common NATO rather than diverse national doctrine and procedures. To the degree that there are major Allied differences in equipment, cooperative training opportunities tend to be limited to the basic level, for example, acquiring the skills to fly a training aircraft as opposed to an operational aircraft. The Alliance can maximize cooperative training only if it also makes parallel progress in standardization of operational doctrine and equipment.

PROGRESS IN SPECIFIC PROJECTS

Basic Helicopter Pilot Training. This joint project began operation in June 1976 when the first European student pilots began training at Fort Rucker, Alabama. From then until the end of 1978 92 German, three Danish, 11 Norwegian and 11 Dutch students have completed training. In FY 1979 99 European students are programmed for basic helicopter pilot training.

The Euro NATO Basic Helicopter Pilot Training Course uses existing US training facilities and equipment and a NATO syllabus. US students attend classes with the European trainees. One Danish, one Dutch and ten German instructor pilots are working with US instructors. Norway is expected to begin furnishing pilots this year. In November 1978, representatives of the five nations attended the Fourth Euro NATO Basic Helicopter Training

Symposium at which a new draft training agreement was adopted for consideration by the final negotiating authorities.

This joint helicopter pilot training project has been very successful, both from the viewpoint of Alliance cooperation in pursuing common goals and as a demonstration of savings achievable through common training. Costs of the training are considerably less per student than would be the case if each of the participating nations conducted a separate helicopter pilot training program of equal quality.

Nuclear, Biological and Chemical (NBC) Defense Training. During 1977 the Euro NATO Training Group, recognizing the need for improving the state of NBC defense training within NATO and the potential for greater cooperation in this training, established a permanent NBC Working Group. This group convened twice during 1978 to exchange information on methods of NBC training and to examine the possibilities for joint NBC training. In addition, the group adopted a series of recommendations for improving the effectiveness of NBC training throughout NATO.

Euro Patrol School. In 1976 Germany proposed the establishment of an International Long Range Reconnaissance Patrol (LRRP) School with the objectives of standardized LRRP equipment, more cost-effective training and improved LRRP procedures and operations. A preliminary course was conducted in June-July 1977 with students from Belgium, Denmark, Germany, Greece, Netherlands, Norway, the United States and the United Kingdom. The staff for the course came from Germany, the United Kingdom, Belgium and The Netherlands. A LRRP Evaluation Conference was conducted later in 1977 at which a revised program of instruction was recommended. All Euro NATO Nations are involved in this school to some degree. Active US participation in the Euro Patrol School consists of three non-commissioned officers on the school staff as instructors and four students in attendance at the first regular course from October to December 1978. A LRRP conference is scheduled for early 1979 at which representatives from participating nations will discuss further refinements. US Army Europe will provide US representation at the conference and is sending students to courses scheduled in January, March and May 1979.

NATO Engineer Course. In 1977 the NATO Central Army Group (CENTAG) proposed that a NATO Engineer School be established to contribute to interoperability training of the NATO nations in mine field/barrier techniques. In August 1977 the US Army Europe sponsored an initial working conference on the project attended by representatives of the US, Belgium, Canada, the FRG, The Netherlands, Portugal and the United Kingdom. During a subsequent working group meeting in November 1977 Germany offered the Engineer School at Munich as the site for the NATO course, and the working group began development of the course syllabus. US Army Europe provided 15 students and an officer and a non-commissioned officer as instructors for the preliminary course which started in May 1978. Five courses are planned for 1979; the US Army Europe plans to have students in each of these courses.

LANCE. During a Euro NATO training meeting in 1973 Germany announced plans to expand its LANCE School facilities and offered courses of instruction for detachment commanders and maintenance personnel to Euro NATO nations. Since then courses have been conducted at the German Technical School in Aachen for military personnel of other NATO countries. Subsequently, the United Kingdom offered and conducted training courses in LANCE gunnery and ammunition at the UK School of Ammunition. The US has been training LANCE personnel from Belgium, Germany, Italy and the United Kingdom at Fort Sill, Oklahoma. In June 1977, a working group agreed on a LANCE syllabus for a course on laying, loading and fire control duties. The first course of four weeks duration was held at the German Missile School, Geilenkirchen, in October 1977 and was attended by students from Belgium, Netherlands, Germany and the United Kingdom. The US Army Europe sent four students to the UK courses during 1978 and has quotas for two students each to both the British and German courses in 1979.

SP 70 and FH 70 (155mm Gun) Training. The UK has proposed unit instructor and maintenance courses for the FH 70 Gun System, a towed 155mm gun scheduled to be fielded in 1979. Norway, Denmark and Belgium have expressed interest in the FH 70 training program. The FRG has proposed the establishment of a Euro NATO Training Center for the SP 70, the self-propelled version of the FH 70, for the mid 1980s when this weapon system is to be fielded. The FRG and the UK are developing course syllabi, student costs and instructor requirements. The US is monitoring both of these training projects.

USAREUR Command Language Program (CLP). The US Army Europe is continuing its Command Language Program with the objective of enabling all of its personnel to integrate their military activities with those of the host nation, thus enhancing interoperability and communication with the host nation populace. All military personnel receive at least 40 hours of instruction in the host nation language. Officers assigned as brigade or battalion commanders must take 120 hours of language instruction. Instruction in German special military terminology has been added recently.

Attack Helicopter Gunnery Ranges. A program is being developed to allow the exchange use by the UK and the US of each other's attack helicopter gunnery ranges. The US would use the Larkhill and Otterburn ranges in the UK in exchange for UK use of the US range at Grafenwoehr, Germany. A successful pilot program for US helicopter units was conducted at Larkhill in November 1978.

Communications Training. The UK has reported that it was developing a new course starting in July 1979 which would better prepare qualified officers for communications positions on NATO command and headquarters staffs by broadening their knowledge of NATO communications plans, procedures and organizations. The UK will provide details as to syllabus and course cost at the Spring 1979 meeting of the Euro NATO Naval Subgroup. The US is considering using this course as a refresher for officers reporting to NATO communications billets in Europe and will participate in curriculum review and monitor progress.

Maritime Tactical Schools (MTS) Conference. The purpose of this annual conference is to provide a forum for the exchange of ideas and to discuss the possibility of establishing a course in Coastal Water Maritime Warfare. Representatives at annual meetings are normally the directors of national tactical schools. Germany hosted the first meeting in February 1978.

Simulator Training Catalog. This catalog lists the simulators available to visiting NATO ships in the various NATO ports. Denmark has the lead in this project and will provide an annual update based on inputs from other countries. Next update will be presented at the Spring 1979 meeting of the Euro NATO Naval Subgroup.

NATO Air-Ground Operations School (AGOS). This project has been under study by a Euro NATO Training Working Group. A report of the Air Force Subgroup was transmitted to the Supreme Headquarters Allied Powers Europe (SHAPE) in the spring of 1978 recommending Oberammergau, Germany as the preferable location for the NATO AGOS with the Joint Warfare Establishment in the UK an acceptable alternate solution. Final site selection awaits the results of a costing study. The school would provide instruction in coordination of air-ground operations to 300 NATO students per year, would be staffed by instructors and staff members from the NATO nations, and would operate under the direction of SHAPE. The school would make a major contribution to better coordination of air-ground operations among the NATO nations.

Tactical Leadership Program (TLP). Establishment of a Tactical Leadership Course for the Central Region was approved by a Memorandum of Understanding (MOU) signed on 29 September 1977. Phase I of the program, which was initiated by Allied Air Forces Central Europe (AAFCE) at Furstenfeldbruck Air Base, Germany, on 10 January 1978, consists of seminar training covering weapons system descriptions, basic tactical doctrine from national viewpoints, and leadership development for the employment of tactical air forces. Eight seminars, with 144 graduates from six AAFCE nations plus two French graduates, have been conducted. Phase II will include flying training structured toward application of tactics, enhancement of tactical leadership skills, and development of aircrew confidence in multinational tactical employment. The total program combining Phase I (seminar) and Phase II (flying) is to be established in June 1979 at a permanent location yet to be selected.

Fighter Weapons Instructor Course (FWIC). Currently, NATO's requirements for fighter weapons instruction are being met in part by TLP and mobile training teams (MTTS) from the US and German Air Forces. Because of NATO's requirements for fighter weapons instructors and the escalating costs of training, we need to develop a FWIC in NATO.

Aircrew Combat Training. Because NATO does not have an adequate facility, other NATO nations have been participating in aircrew combat training exercises in the US. The alliance needs a facility

in Europe that would offset some of the costs associated with conducting this training in the US and which would provide the added benefit of a NATO environment for training. This facility, cooperatively managed, financed, and manned by the Alliance, could effectively add to combat readiness and rationalization, standardization, and interoperability within NATO.

NATO Air Defense Ground Environment (NADGE) Training. NADGE training, conducted at Erndtebruck, Germany, provides realistic air intercept and joint maintenance training for military personnel of the NATO nations. Denmark, the FRG, Greece, Italy and the US have participated in courses which are taught in both German and English. This training enhances controller crossfeed and standardization of techniques and procedures and, coupled with early implementation of AT-40, will help ensure common airspace control procedures and management throughout NATO. Eleven courses are planned for 1979.

NATO Flight Safety Officer Training. The purpose of this training is to exchange and disseminate flying safety techniques, procedures and philosophy. The Euro NATO Training Air Force Subgroup has requested that the Air Staff of the FRG Ministry of Defense set up a model Flight Safety Officer Training Course at the earliest possible time. Current plans call for training 80 flight safety officers per year at a series of four-week courses at Furstenfeldbruck, Germany. After finalizing course development during the first half of 1979, the FRG will request that each Ally submit its respective requirements.

Euro NATO Flight Supervisors Course. The Euro NATO Training Air Force Subgroup accepted a UK offer to conduct two one-week courses per year for up to 14 flight supervisors from interested NATO nations. The instruction focuses on flight management and supervisory techniques, procedures and doctrine, with the course serving as a forum for exchange of views on these subjects among the NATO nations. Two courses were held in 1978. NATO nations have indicated interest in future courses and have been asked to consider sending representatives who will, in the near future, take up executive flying appointments.

Dissimilar Air Combat Tactics (DACT) Exercises. The objective of DACT exercises is to allow Allied and US Air Forces Europe tactical fighter aircrews to exercise in the air-to-air role against aircraft of dissimilar characteristics and performance capabilities using common rules of engagement. Arrangements are now in effect for DACT exercises between specific US Air Force tactical fighter units and the air forces of The Netherlands and the United Kingdom. Additional DACT exercises have been conducted with Denmark and Germany during NATO exercises.

Electronic Warfare Training. The US-UK electronic warfare training facility, located in the United Kingdom, began electronic warfare training for US/UK aircrews in 1977. The NATO Electronic Warfare Training Course at Florence, Italy has been expanded to include aircrew training. However, the Alliance needs a NATO aircrew electronic warfare tactics facility in Central Europe to provide training similar to that provided by the US-UK facility. As an interim solution, current plans call for an approach using multiple ground sites. The Conference of NATO Armaments Directors (CNAD) has established a project group which is continuing development of agreements to site the threat simulators.

The project group is finalizing a memorandum of understanding between the FRG, France and the US which will establish a multi-site facility in Germany and France. Belgium, The Netherlands and the United Kingdom are also investigating the possibility of a similar facility in Belgium. The long term solution would appear to be dependent upon a Central European nation providing land area large enough to accommodate a range.

The USAF will continue to conduct the EW Operations Staff Officer Course for NATO students at Mather AFB, California. The USAF provides course materials and instructional staff for five annual courses, each consisting of 10-15 students, covering fundamental EW concepts, air defense system operations, EW attack system operations, and EW planning and resource management. The student enrollment is approximately 50% German, with the remainder equally distributed among Belgium, Canada, Denmark, France, Greece, Italy, The Netherlands, Norway, and the United Kingdom.

The US plans to establish three new EW courses at Corry Station, Pensacola, Florida, administered by the US Navy with instructors provided from civilian contractor sources. Germany, Greece and Portugal are interested. Courses planned are Enlisted Operator/Maintenance, EW Staff Officer and EW Watch Officer. Present plans call for beginning the Operator/Maintenance course in April-June 1979 with officer courses planned for January-March 1980, dependent on Allied interest.

A Joint Service Advanced Electronic Warfare Course will be conducted at the NATO School in Oberammergau, Germany in 1979. The US is providing part of the instructional staff and course materials. The NATO Electronic Warfare Advisory Committee (NEWAC) is defining the overall requirements for EW training and examining whether the EW training function at Oberammergau could be expanded to include evaluation and analysis facilities and thereby establish the NATO school as the center of NATO EW expertise. In addition, NEWAC has identified a need for senior officers assigned to NATO command appointments to attend the NATO Joint Senior EW Course at RAF Cranwell in the UK as a prerequisite to assumption of duties. Once requirements are identified by the MNCs, it is anticipated that the Military Committee will include this requirement as a prerequisite for assignment to certain positions.

Common funded EW services are now regularly employed to provide a more realistic EW environment during NATO exercises.

Air Combat Maneuvering Instrumentation (ACMI). ACMI is a system of ground-based tracking stations, computers, aircraft pods and a ground control display and debriefing subsystem. It monitors aircraft engaged in simulated air-to-air combat and depicts the information on the ground subsystem. The simulated air battle is recorded so that participating aircrews can be debriefed on its course and outcome. Headquarters, US Air Forces in Europe (USAFE) has conducted negotiations with the Italian, German and UK Air Forces to obtain support facilities and prefinancing in return for shared use of the system. Installation of the system at Decimomannu, Sardinia, has begun and is expected to be operational by July 1979.

Selection of Undergraduate Aircrew Students. During the past year, new national methods of preselection and prediction of success rates for aircrews prior to their commencement of flying training and during training were presented to the ENT Air Force Subgroup (AFSG) in order that all Allies could benefit from the reduced wastage rates and economies in training resources which result from these methods. The ENT-AFSG agreed that exchange of information as well as visits between national specialists should continue to encourage similar future initiatives. The US supports the ENT-AFSG initiative to hold a yearly seminar on the selection of undergraduate aircrew students, particularly in view of the positive effect on the proposed Euro NATO Joint Jet Pilot Training Program.

Euro NATO Joint Jet Pilot Training. Because of the high cost per student involved in training jet pilots, the Alliance would benefit from the cost-effectiveness and increased military effectiveness and readiness of a cooperative pilot training program. In 1978 the Euro NATO Training Group approved initiation of a joint jet pilot training (JJPT) project, which would use a NATO-developed syllabus, a joint NATO faculty and US facilities dedicated to NATO. The program, consisting of both undergraduate pilot and fighter lead-in training would be 14½ months in duration. If all Euro NATO nations choose to participate, JJPT initially could graduate 320 students (including 110 US students) per year with as many as 740 students per year in the long term.

After its working group studied alternative proposals and sites in the United States, Canada and Europe, the Euro NATO Training Group concluded in 1976 that, for the short term (10 years), the JJPT project could be conducted most effectively and economically in the US because of a combination of adequate facilities, favorable weather, relatively uncongested air space and significantly lower costs. The European Allies requested additional cost comparisons of US sites with those in Turkey and Italy. After additional study the Euro NATO Training Group confirmed the savings available through the US option, and in late 1977 the Euro NATO Training Chairman again recommended to the Eurogroup and NATO Defense Ministers that the US option be adopted. At their December 1977 meeting, however, the Eurogroup Ministers again agreed to a Turkish request for additional time to further consider cost data. At the request of the Chairman, Euro NATO Training, the US reviewed its offer to determine whether it remained valid in view of inflation and base closings and, if so, for how long.

In March 1978 the DoD informed the Euro NATO Training Group Chairman that the offer was valid through 1 June 1978 but emphasized that the cost estimates would require recomputation because of inflation and changes in the agreed syllabus and maintenance concept. The Eurogroup Ministers agreed in May 1978 to implement the program with the United States hosting the short-term program for a ten-year period. In response to a US invitation in July 1978, twelve countries (all NATO countries except France, Iceland, and Luxembourg) indicated an initial first-year requirement to train 295 pilots with an increase to 320 in subsequent years. The Air Force is developing an implementation plan which will be presented to Allies early in 1979.

In a related action the Euro NATO Training Air Force Subgroup (ENT-AFSG) has identified a requirement for a future training aircraft to support the Euro NATO Joint Jet Pilot Training (ENJJPT) long-term solution. The ENT-AFSG has tasked the ENJJPT Working Group (ENJJPTWG) to develop an operational objective for the future training aircraft in parallel with their study and review of a possible European solution for the ENJJPT long-term requirement. Presently the milestones for this requirement call for an outline of operational objective (000) to be developed by 1982, for negotiations for cooperative NATO development to be undertaken by Conference of NATO Armaments Directors (CNAD) in 1983, and for production of training aircraft to begin in the early 1990s for eventual phasing into the long-term ENJJPT solution. The US supports this initiative.

TRAINING COSTS

The costs charged by one Euro NATO nation for training personnel of other Euro NATO nations are determined by principles established in NATO Standardization Agreement (STANAG) 6002 which has been ratified by all Euro NATO nations. STANAG 6002, "Principles and Procedures for the Conduct and Financing of Common Training," deals with the training of individual students using existing national facilities, normally excess, and directs that training will be provided on an incremental cost basis. Because of restrictions included in the Arms Export Control Act of June 1976, US ratification of STANAG 6002 included a reservation that the US must charge direct costs but could waive indirect costs and administrative surcharges on a reciprocal basis. The UK included a similar reservation in their ratification.

The majority of the Euro NATO countries are concerned with the US and UK reservations and are pressing, in some cases at Ministerial level, for the use of incremental costs for all training under STANAG 6002. For many years our Allies have followed the concept of incremental costing in assessing charges for training conducted for other NATO countries and are asking the US and the UK to do the same. The Euro NATO Training Financial Subgroup met twice in 1978

to attempt to rewrite STANAG 6002 to permit withdrawal of US and UK reservations. However, new US legislation is required. Therefore, the DoD is considering proposing legislation that would permit the charging of incremental costs, on a reciprocal basis, for training the US performs for other Euro NATO nations. We believe that this action would be more than justified by the increased military and cost effectiveness which would result from the rationalization/standardization/interoperability benefits that would accrue to the US, its Allies and NATO from enhanced commonality of tactics, technique and procedures, and from improved capability of NATO forces to operate together in combat

A related matter that has caused the FRG dissatisfaction is the agreement between DoD and the staffs of the Congressional Appropriations Committees that the dedicated programs for training German jet pilots in the US would not come under STANAG 6002 but would be full-costed. We are considering FRG requests to price these programs under STANAG 6002 as we do for all other training conducted by the US for Euro NATO Allies.

STANAG 6003, "Principles and Procedures for the Financing of the Establishment and Operation of Common Training Facilities," deals with the establishment and operation of new training facilities for joint use by NATO countries. Although several countries have ratified a draft copy of STANAG 6003, the document has not been completely staffed and coordinated by the Euro NATO Training Group. At its meetings in January and September 1978 the Financial Subgroup rewrote this STANAG to clarify the wording. The document will be finalized at a meeting of the Financial Subgroup early in 1979 and submitted for formal staffing and ratification. A draft of this document is being used as the pricing guidance in developing the implementation plan for the Euro NATO Joint Jet Pilot Program.

Congressional support for US participation in Alliance training programs can pay large dividends in improved combat capability. Cooperative Alliance training helps NATO achieve standardized procedures, tactics and operational doctrine as well as improved interoperability on the battlefield. Perhaps most important, common training nurtures the military rapport and common bonds that are so essential to an effective Alliance.

VIII. MILITARY DOCTRINE, EXERCISES, FORCE STRUCTURE, AND INTELLIGENCE

Although not a part of the Long-Term Defense Program, a number of other rationalization/standardization efforts currently under way in NATO also contribute significantly to rationalization of NATO defenses. During the past year steady progress has been made within the Alliance in adoption of common military doctrine which is the key to successful multinational force integration. In order to assess the effectiveness of these and other rationalization efforts, Allied military commands have continued to conduct both bilateral and multilateral exercises using various scenarios. Alliance force structure improvements, particularly qualitative improvements of deployed and NATO earmarked forces, have continued through 1978.

COMMON MILITARY DOCTRINE

Essentially, military doctrine encompasses all the various guidelines which the military forces use in their operations. Tactical doctrine is generally divided into three levels, starting with basic doctrine which provides the broad principles for warfare in a specific environment, e.g., land warfare. Operational doctrine supports basic doctrine in specific functional areas, for example, antisubmarine warfare. Finally, operational tactics deal with the execution of specific tasks such as close air support procedures.

Land Warfare Doctrine. The Allied Tactical Publication 35, "Land Force Tactical Doctrine," first issued in draft in February 1975, has been published and issued to units in the field. This publication provides a modernized doctrinal foundation for all succeeding NATO land forces doctrine and procedures manuals. Broad areas covered include offense, defense and nuclear operations. Specific areas covered include, among others, tactical aspects of night operations, airmobile operations, the land-air battle, electronic warfare, and airborne operations.

The USAREUR Handbook for NATO Operations identifies differences between the doctrine, operational procedures, priorities and terminology of the US forces and those of the other NATO forces positioned in Central Europe. It is an unclassified description of those factors which could jeopardize smooth interoperations if a CONUS-based division were assigned to an Allied corps in AFCENT. The initial draft was distributed for review during the summer and used by US units participating in the 1978 NATO Autumn Forge exercises. An updated draft is being edited for publication in early 1979.

To date, US/FRG Army staff talks have resulted in a total of nine concept papers that have been formally approved and signed by the Chiefs of Staff of the US and the FRG Armies. They address the Threat, Anti-Armor, Air Defense, Airmobile Operations, Mobility/Countermobility, Fire Support, Military Operations in Built-Up Areas, Terrain Analysis, and Reconnaissance. During the past year joint US/FRG efforts have culminated in an agreement in principle on two additional concepts, Night Operations and NBC Defense.

It is anticipated that these two concept papers will be presented formally for ratification and signature by the Chiefs of Staff of both armies in Spring 1979.

As a follow-on to agreement on joint tactical concepts, the two armies formalized methodology by which a joint definition of weapons systems requirements can be derived. The Military Equipment Characteristics Document (MECD) is used for this definition. This document facilitates establishment of a joint US/FRG Army user position on the requirement for, and the nature and characteristics of, a weapons system in order to promote mutual cooperation. Procedures for cooperation on both major and non-major items of equipment also have been formalized and agreed.

In June 1978 the Commander in Chief, US Army Europe, and the Chief of Staff of the German Army reached agreement in principle on a German Army Draft Interoperability Concept. The theme of the concept is operational cooperation (operational interoperability) among all allied forces in the FRG. The concept outlines five areas of cooperation: personnel, operational command, liaison system, logistics assistance and exercises. The objectives of the initiative are to insure that every corps can command a division or a brigade of another nation, every division and brigade is prepared to be subordinated to a higher headquarters of another nation, and divisions and brigades of different nations can accommodate brigades of other nations operating in their combat sector. The German Army has staffed the draft concept and is in the process of finalizing it as a plan. Upon final agreement the plan will be presented to the Commander-in-Chief, Allied Forces Central Europe, as a joint US/FRG interoperability plan, with the recommendation that it be implemented AFCENT-wide.

US Army bilateral staff talks with the UK Army also are progressing and efforts are under way to establish bilateral staff talks between the US and the French Armies. The second meeting, held in England in September 1978, resulted in agreement in principle on a joint threat paper and agreement to develop four other concept papers. Bilateral agreements such as these will improve the ability of US and Allied armies to meet the Warsaw Pact threat.

Naval Warfare Doctrine. During the past year NATO navies have continued to devise, review, and refine a variety of doctrinal guidance. At present there are 52 Alliance-wide maritime publications. These publications, which are under the auspices of the NATO Military Committee and the Military Agency for Standardization, address virtually every aspect of naval warfare.

In 1978 three tactical doctrine publications were produced or rewritten These works were concerned with mine countermeasures, amphibious embarkation, and doctrine/tactical instructions. As custodian for one of these documents, the US had the major responsibility for shaping the final product. Three other publications were cancelled because of obsolescence or inutility. The US contributed to the development of 14 changes to various tactical publications of which the US is custodian of seven. Six new NATO Standardization Agreements (STANAGS) were ratified, and ten were revised. These STANAGS covered

such subjects as replenishment at sea, shipboard helicopter facility designations, and minimal training requirements and qualification for diving medical officers.

In addition to review and development of publications and agreements, the US is participating with its NATO Allies in the development of a series of standard concepts of operations which are under the auspices of the three Major NATO Commanders (TRI-MNC). Some of these concepts which involve maritime matters include the TRI-MNC Concept of Maritime Operations, the TRI-MNC Operational Concept for Air Defense, the TRI-MNC Military Concept of Operations for the NATO Airborne Early Warning Mixed Force, and the Concept for NATO Maritime Mining.

Alliance and national exercises provide the opportunity to test these new concepts and to practice establishd procedures and doctrine. Multi-national forces such as the Standing Naval Force, Atlantic, the Standing Naval Force, Channel, and the Naval On-Call Force, Mediterranean continuously employ and participate in the development of naval tactical concepts and doctrine. Through post exercise discussions the Permanent Maritime Exercise Analysis Team provides an assessment on the adherence to NATO doctrine during exercises and identifies areas in which improvements could be made.

Air Warfare Doctrine. Allied Tactical Publication (ATP) 33, "NATO Tactical Air Doctrine," effective on 1 October 1976, is the doctrinal cornerstone for employment of airpower by NATO air commanders, using centralized control of air resources as its key principle. A complete review of the publication is underway with a view toward establishing a family of tactical air doctrine under the umbrella of ATP-33. Also, Allied Tactical Publication 40, "Doctrine and Procedures for Airspace Control in a Combat Zone," became effective September 1977. It has proven invaluable in establishing regional air space control systems which can promote the safe, efficient, and flexible use of airspace in a combat zone. Other NATO tactical air doctrines are currently being revised and updated. ATP-27(A), "Offensive Air Support Operations," will be broadened in scope to include such operations as defense suppression. A complete revision of ATP-27 has been initiated. The draft of ATP-27 is currently being circulated for national comment and ratification is expected in 1980. Additionally, a new doctrinal publication, ATP-42, "Counter Air Operations," is being circulated for ratification, which is expected in 1980. US leadership in this field continues to drive NATO doctrine development programs.

Chemical Warfare Defense Procedures. The US Air Force has initiated an extensive program to attain a sustained operational capability under toxic conditions. The program applies to all forces stationed in Europe and all who are designated for possible mobilization into Europe. This program is being developed in close coordination with the UK and the FRG, and other NATO countries are being encouraged to participate to the maximum extent. Personal protective equipment is being delivered to USAFE in quantity, and aircrew and ground support personnel have begun an intensive training program on the equipment. US Air Forces in Europe (USAFE) developed design criteria

for CW protection in semi-hardened facilities (command operations centers, squadron operations and ready crew), and some construction is in progress. The US Air Force Civil Engineering Center is developing design criteria to modify existing facilities for support personnel. Major future tasks are to provide improved aircrew equipment items; to develop large-capacity decontamination equipment to rapidly decontaminate aircraft, support equipment and facilities; and to develop improved detection capabilities.

Emphasis placed on acquisition of protective equipment, integrated NBC defense training, and organizational changes required to assure an effective NBC defense capability has significantly improved the readiness of US forces in Europe. NBC individual protective equipment has been delivered to US Army Europe (USAREUR) units in quantities sufficient for immediate defensive operations. Unit training with the automatic chemical agent alarm is under way. NBC defense programs for unit training in USAREUR have improved significantly, and more realistic NBC play has been integrated into operational exercises. NBC defense teams organized in 1978 to support each combat division in USAREUR will be upgraded and reorganized into company size units during 1979.

The US Army and the FRG have completed a joint concept paper on NBC defense which is to be signed early in 1979. The paper develops broad concepts for NBC defense which will meet specific US and FRG requirements, lead to commonality in NBC defense doctrine and promote cooperative RDTE programs in NBC defense.

Action is being taken to improve the condition and capability of retaliatory chemical stocks in the face of a major Warsaw Pact chemical threat. The improvement effort will provide the highest degree of readiness possible within the constraints of policy directives, public laws and the capability of the existing stockpile.

THE NATO EXERCISE PROGRAM

The NATO Military Exercise Program is designed to improve the capability of NATO and national forces, headquarters, and agencies to implement NATO contingency and general defense plans, all of which require close cooperation among forces of different nationalities. Major NATO Commanders have the responsibility to develop the military exercise process which involves exercising forces in NATO military exercises.

AUTUMN FORGE. The central feature of the NATO exercise program within the Allied Command Europe (ACE) is the AUTUMN FORGE exercise series created in 1975. The intent was not to establish a single large centrally controlled exercise but, within the existing exercise structure, to strengthen the capabilities of our diverse national forces and the land, sea, and air

components of those forces to work together. It should be emphasized that in no way are these integrated exercises; they are still planned and conducted by the sponsoring nations to meet diverse national training objectives. However, the common intelligence scenario of AUTUMN FORGE has permitted NATO influence in its conduct to a degree never before achieved. This, in turn, has helped to align national exercise activities to meet more effectively integrated Alliance needs.

The AUTUMN FORGE exercise series has been the key ingredient of the NATO improvement program, enabling validation of doctrine and procedures, checks of equipment, training of soldiers and leaders, and testing and improvement of the myriad tasks that must be performed in time of war. In particular, this exercise series has provided unique opportunities to comprehensively assess the effects of the innovations instituted individually and to redirect efforts and priorities in order to further enhance overall military effectiveness.

In AUTUMN FORGE 78 a NATO headquarters (Allied Forces, Central Europe) was involved for the first time in the process of coordinating reinforcement movements from the United States. Intratheater reinforcement was expanded to include airborne reinforcement of the Northern Region; and, for the first time, a US-based air defense unit, a HAWK battery, was deployed to Europe. At the same time, increased use of complicated intermodal connections was made along with increased use of Luxembourg air lines of communications.

US forces participated in 17 of the 31 exercises in the AUTUMN FORGE 78 series and conducted successful operations with Belgian, Dutch, French, German, Italian, Luxembourg, and UK forces. Air and ground tactical and support operations reflected compatible doctrines and readiness.

REFORGER and CRESTED CAP. In the US REFORGER and CRESTED CAP exercises conducted in conjunction with the AUTUMN FORGE series for 1978, over 13,000 troops, 34,000 tons of equipment (including 1,035 vehicles and 117 helicopters) and 96 F-4E aircraft were deployed from the continental US to Europe in a timely, safe and highly professional manner. Facilities and procedures from the US through lines of communications to major assembly areas were validated.

The performance of our military personnel working together with US and Allied civilians was especially gratifying as was the quality of an unprecedented amount of host nation support. While variations in doctrine continue, the exercises revealed higher levels of compatibility throughout all operations. The exercises included several firsts: non-stop deployment of troops from the west coast of the US to Europe using C-5 aircraft and aerial refueling; special routing and procedures for semi-secure deployment; and surge through Goose Bay, Labrador, using Military Airlift Command (MAC) and civilian personnel. Most battalions took less than the anticipated time to draw POMCUS stocks, and the issue of equipment and ammunition at night was accomplished without difficulty. GOLDEN THUNDER was the first exercise to deploy a battalion on a no-notice basis to draw prepositioned unit sets of equipment and participate in a follow-on field training exercise. The 2nd Battalion, 37th Field Artillery, was deployed from Fort Sill, Oklahoma.

The REFORGER exercise for 1979 will not be conducted in conjunction with the AUTUMN FORGE series but is being held during the period 3 January to 28 February 1979 to take advantage of winter training conditions in Europe. Two brigades of the 1st Infantry Division (Mech) from Ft. Riley, Kansas, and one brigade of the 2nd Armored Division from Ft. Hood, Texas, will deploy with selected support units to the FRG. These CONUS-based units will participate in the VII (US) Corps field training exercise CERTAIN SENTINEL. A battalion-size no-notice deployment with an issue of POMCUS equipment will also be conducted during REFORGER 79.

NORTHERN WEDDING 78. This exercise was conducted during the period 4-19 September 1978 in the eastern Atlantic, North Sea, and English Channel. More than 40,000 men, 172 ships and 800 fixed and rotary wing aircraft from nine NATO nations participated in this exercise. Combined amphibious landings were conducted in the Shetland Islands, southern Norway and Denmark. After landing in Denmark, the US Marine Corps 4th Amphibious Brigade participated in the additional Exercise BOLD GUARD in Denmark and Germany.

DISPLAY DETERMINATION 78. This major NATO exercise, involving the forces of six nations, was conducted in the Southern Region of the Allied Command Europe, from 28 September to 13 October 1978. Amphibious landings were conducted at Vatika and Strymonikos, Greece. The amphibious landing force was comprised of United States Marines, United Kingdom Royal Marines, Italian Marines, and Greek Naval Infantry. Naval operations during DISPLAY DETERMINATION 78 provided important training for participating naval and air forces in coordinating their respective efforts in a multinational environment to defend the sea lines of communication from the Eastern Atlantic to the Eastern Mediterranean. The overriding theme of DISPLAY DETERMINATION was to exercise NATO's ability to defend Allied territory against aggression along its southern flank with the rapid employment of external reinforcements.

WINTEX/CIMEX 79. In the area of major command post exercises this exercise (planning for which is currently underway) is of particular interest. WINTEX/CIMEX 79 is the latest in the WINTEX series of major NATO-wide command post exercises conducted biennially in the spring. CIMEX is the NATO civilian participation in WINTEX 79. WINTEX/CIMEX 79 is unique among WINTEX exercises because of the extensive NATO civilian participation. The exercise for 1979 is sponsored by the NATO Secretary General and will be conducted in coordination with all the major NATO commands.

WINTEX/CIMEX 79 is designed to test procedures for the movement, protection and supply of all reinforcements, reserves, supplies and equipment necessary to provide the military with the manpower and material needed for the defense of Europe. It will test the coordination procedures of civil and military authorities in crisis management and control of transport essential to moving troops, equipment, supplies and refugees. WINTEX/CIMES 79 will also exercise civil and military authorities in the use of operational and logistic plans, procedures and communications throughout NATO in order to evaluate and improve NATO's readiness and effectiveness to function in a period of crisis and war.

POWER PLAY 79. In conjunction with and in support of the NATO WINTEX/CIMEX exercise, the United States will conduct Exercise POWER PLAY 79, a Joint Chiefs of Staff-sponsored worldwide command post exercise designed to maximize interplay among military, civilian, and political participants.

US Service Participation in Exercises. The US Army Europe (USAREUR) has developed a number of exercise-related initiatives which are included in the USAREUR Five-Year Exercise Master Plan. This plan provides not only a coordinated and systemized approach for the participation of USAREUR forces in future US, NATO, and other national exercises but also for the participation of selected CONUS-based units in European exercises other than REFORGER and for numerous small scale aviation/helicopter exercises on a bilateral or multilateral basis.

US Naval Forces Europe units in the Mediterranean and European waters have been directly involved in 15 significant exercises during 1978. The objective of these exercises was improved coordination of Allied maritime forces through exercises of varying complexity using standard operational and tactical doctrine, communications, and reporting procedures.

The US Air Forces in Europe (USAFE) participate in an extensive exercise program in order to cultivate cooperation with other nations and commands. These exercises encompass all facets of airpower in Europe and measurably improve the readiness of NATO. Additionally, the Tactical Deployment to Europe Program, which exercises augmentation forces at collocated operating bases, has produced marked advances in interoperability among participating forces.

FORCE STRUCTURE

Stationing a US Brigade in Northern Germany. In 1975 SACEUR proposed stationing a US brigade in NORTHAG. This provides at least a partial solution to the strategic maldeployment of forces in West Germany, where NATO's defense is centered in the Central Army Group (CENTAG) although a Warsaw Pact main attack is possible in the area of the Northern Army Group (NORTHAG). Garlstedt, in northern Germany, was selected as the site for the US brigade to be restationed from CENTAG to NORTHAG. In addition to partially alleviating force inadequacies in NORTHAG, this restationing will provide increased opportunities for interoperability with NATO Allies, an important aspect of coalition warfare.

The Federal Republic of Germany agreed to share the relocation costs for the US brigade and pay about $68.5 million, roughly half the cost. Construction for the project is proceeding on schedule, with dining facilities and barracks rehabilitation in the Bremerhaven area essentially complete. Approximately 95 percent of the essential troop facilities in the Garlstedt area are completed, and construction of the community support facilities is

scheduled for completion in mid-1979. Ammunition storage facilities for basic load and training ammunition have been completed, and those for war reserve stocks are scheduled for completion in early 1979. The movement of all brigade troop units into Garlstedt should be completed by 1 February 1979.

Multinational Corps. The requirement for placing a German division under command of a US corps in wartime has led to the initiation of this program. Project objectives are the refinement of US/German capabilities to provide international command, control and support functions. The project involves not only US and German unit staffs but also the staff of the Central Army Group. Problems of interoperability surfaced in this project are being addressed through staff planning and coordination. Procedures developed will be tested in future exercises.

Peacetime Basing of US Aircraft on Non-US NATO Bases. The US has begun deployment of A-10 aircraft to Europe and is in the process of instituting the concept of rearward maintenance of A-10s at a Main Operating Base (MOB) in the United Kingdom and forward employment primarily from operating locations in the Central Region. Allied bases, already identified as collocated operating bases (COB), have been identified as forward operating locations (FOL) for the A-10 in peace and war. The FRG has approved the first base for this concept. Rearward maintenance and forward employment in peacetime will permit us to establish a centralized maintenance capability to support all A-10s in the Region while training European A-10 crews over the territory where they will be expected to fight and can contribute the most.

This concept will be exercised and refined on a continuing basis to improve support for CONUS-based A-10s which will deploy in support of Europe. The forward employment concept improves the flexibility of A-10 units to respond to the Allied ground forces they will support, and enhances interoperability with Alliance air forces by providing mutual support and facilities on a routine basis. Peacetime basing of US aircraft on Allied bases is not a new concept. An F-15 squadron is stationed at Camp New Amsterdam, The Netherlands, and provides a significant improvement to air defense capabilities in the Second Allied Tactical Air Force (2ATAF) area.
squadron will be augmented by an additional F-15 squadron in wartime. Under the COB program the Royal Netherlands Air Force will provide support to the augmenting squadron.

INTELLIGENCE

During 1978 considerable progress was achieved in improving the overall intelligence interoperability of the Alliance. Although not a separate functional area of the NATO Long-Term Defense Program (LTDP), specific initiatives were set in motion which will have a significant impact on full

implementation of many of the LTDP activities. Major emphasis was given to intelligence problems identified by the task forces for Communications, Command and Control (C^3) and Electronic Warfare (EW).

The Alliance as a whole and the individual member nations initiated comprehensive reviews of policies governing both intelligence sharing and intelligence dissemination.

NATO Requirements. One key initiative was the conduct of a comprehensive NATO Commanders' Operational Intelligence Requirements (COIR) Study. The objective of the study is to achieve a systematic articulation and validation of intelligence requirements based on NATO military missions, functions and command and control (C^2) processes, as defined by each level of command and each operational decision-making point.

Battlefield Exploitation and Target Acquisition (BETA) Project. BETA is a test bed which is being developed to demonstrate the utility of a system for the automated correlation of sensor inputs to support near-real-time target nominations and battle management. The system may be demonstrated in Europe during an FY 80 Field Training Exercise (FTX). All NATO countries have been informed of the project and will be invited to observe the European demonstration, which will involve NATO units in the Central Region.

Exercises. Additional emphasis was placed on improving the overall intelligence play in exercises and arrangements were initiated to achieve a more definitive sizing of intelligence support requirements under a variety of conditions. Considerable expansion of this effort is forecast for 1979.

Enhanced Reporting. The US initiated an enhanced military intelligence reporting program aimed at promoting the necessary common threat perception at all levels of command. This program is being orchestrated by the Defense Intelligence Agency (DIA) and includes intensified efforts by the US European and Atlantic Commands (USEUCOM and LANTCOM), their component commands, and the separate Military Services. This effort is closely tied to the NATO Commanders' Operational Intelligence Requirements Study.

Appendix A

DEFINITIONS OF TERMS RELATED TO RATIONALIZATION/STANDARDIZATION WITHIN NATO

The Department of Defense Steering Group on Rationalization/Standardization within NATO agreed that the following definitions will apply in DoD actions concerning NATO rationalization/standardization. Those marked by an asterisk are DoD and NATO approved definitions. The others were forwarded to the Chairman, Joint Military Terminology Group, and have been approved as DoD terms for inclusion in JCS Pub 1 -- DoD Dictionary of Military and Associated Terms. They also have been recommended to NATO for incorporation into the NATO Glossary of Terms and Definitions For Military Use.

Term	Definition
Collocation (Co-location)	The physical placement of two or more detachments, units, organizations, or facilities at a specifically defined location.
Commonality	A quality which applies to materiel or systems possessing like and interchangeable characteristics enabling each to be utilized or operated and maintained by personnel trained on the others without additional specialized training; and/or having interchangeable repair parts and/or components; and applying to consumable items interchangeably equivalent without adjustment.
*Compatibility	Capability of two or more items or components of equipment or materiel to exist or function in the same system or environment without mutual interference.
Consolidation	The combining or merging of elements to perform a common or related function.
Harmonization	The process and/or results of adjusting differences or inconsistencies to bring significant features into agreement.
*Interchangeability	A condition which exists when two or more items possess such functional and physical characteristics as to be equivalent in performance and durability, and are capable of being exchanged one for the other without alteration of the items themselves or of adjoining items, except for adjustment, and without selection for fit and performance.

Term	Definition
Interconnection	The linking together of interoperable systems.
*Interoperability	The ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together.
Interoperation	The use of interoperable systems, units, or forces.
Rationalization	Any action that increases the effectiveness of Allied forces through more efficient or effective use of defense resources committed to the Alliance. Rationalization includes consolidation, reassignment of national priorities to higher Alliance needs, standardization, specialization, mutual support, improved interoperability or greater cooperation. Rationalization applies to both weapons/materiel resources and nonweapons military matters.
Specialization	An arrangement within an alliance whereln a member or group of members most suited by virtue of technical skills, locatlon, or other qualifications assume(s) greater responsibility for a specific task or significant portion thereof for one or more members.
*Standardization	The process by which member nations achieve the closest practicable cooperation among forces; the most efficient use of research, development, and production resources; and agree to adopt on the broadest possible basis the use of (a) common or compatible operational, administrative, and logistics procedures; (b) common or compatible technical procedures and criterla; (c) common, compatible, or interchangeable supplies, components, weapons, or equipment; and (d) common or compatible tactical doctrine with corresponding organizational compatlbility.

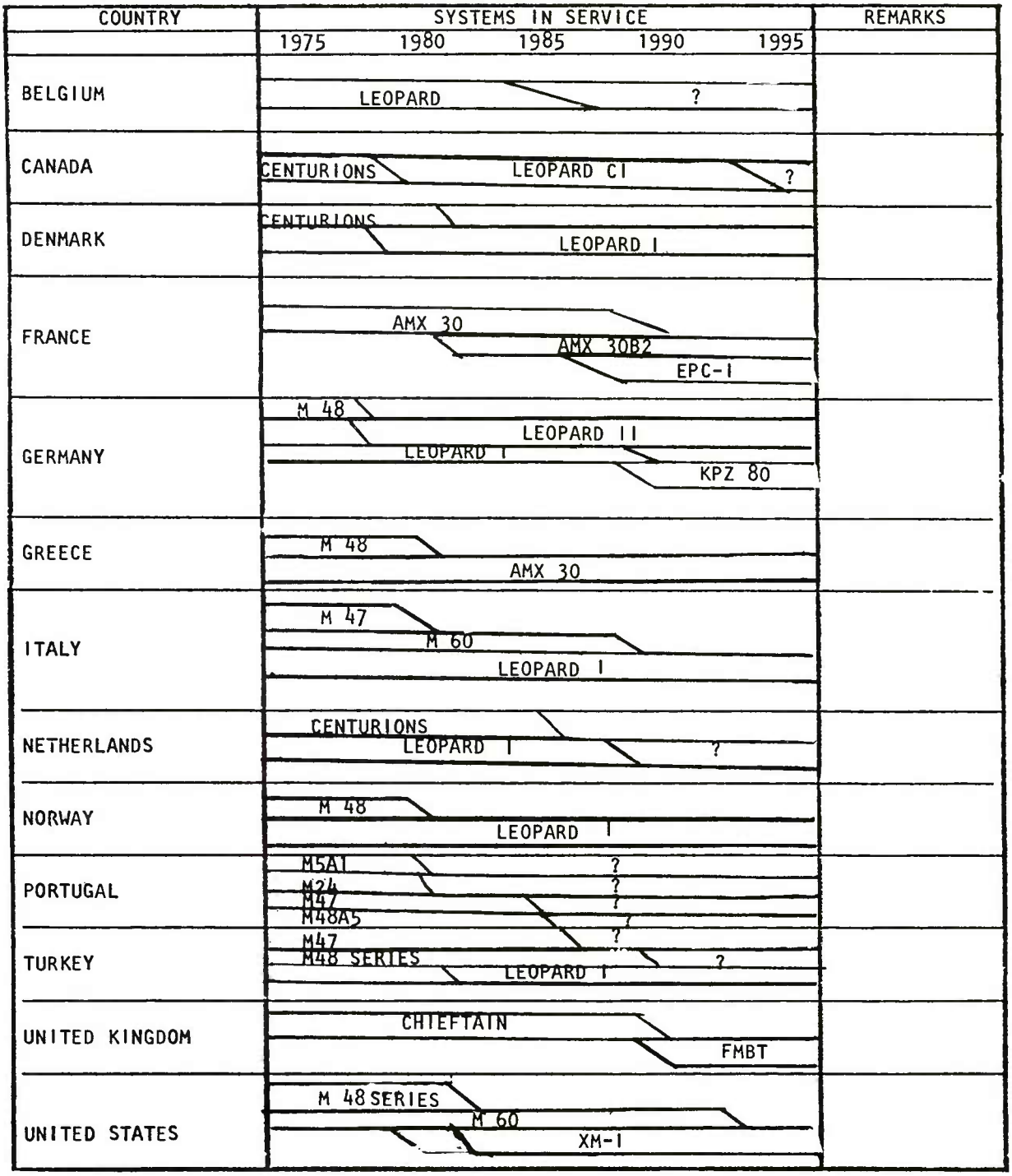
Appendix B

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

Main Battle Tanks
Infantry Combat Vehicles
Utility Helicopters
Scout Helicopters
Attack Helicopters
Short-Range Surface-to-Air Missiles
Medium-and High-Altitude Surface-to-Air Missiles
Light Antitank Guided Missiles
Medium Antitank Guided Missiles
Heavy Antitank Guided Missiles
Tactical Combat Aircraft
Air-to-Air Missiles
Air-to-Surface Weapons Guided
Air-to-Surface Weapons Unguided
Large Patrol Combatants (Gun and Missile)
Naval Mines
Lightweight ASW Torpedoes
Sonobuoys

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

MAIN BATTLE TANKS



SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

INFANTRY FIGHTING VEHICLES

COUNTRY	SYSTEMS IN SERVICE					REMARKS
	1975	1980	1985	1990	1995	
BELGIUM	AMX 13					
	M-75		AIFV (TBD)			
CANADA		M 113AI			?	
DENMARK	M 113					
		M 113AI				
					?	
FRANCE	VTT/AMX 13					
			AMX 10 P and PC			
GERMANY	M 113					
		MARDER				
	HOTCHKISS			SPZ 80		
	LUX 8x8 RECCE					
GREECE	M 113					
ITALY	AMX 12					
		M 113				
			VCC			
NETHERLANDS	AMX					
	DAF YP 408					
	M113 UPGRADE			YPR 765		
NORWAY		M113 AI				
			?			
PORTUGAL	CHAIMITE		?			
	EBR 51		?			
	M 113		?			
TURKEY	M 113		?			
	M 113A1		?			
UNITED KINGDOM		FV432				
				MICV		
UNITED STATES		M113 AI				
			IFV			

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

UTILITY HELICOPTERS

COUNTRY	SYSTEMS IN SERVICE 1975 1980 1985 1990 1995	REMARKS
BELGIUM	?	
CANADA	CH 135 ?	
DENMARK		
FRANCE	PUMA EURO UTTAS	
GERMANY	UHID ?	
GREECE		
ITALY	AH 204/205 ?	
NETHERLANDS	?	
NORWAY		
PORTUGAL		
TURKEY	* ?	* OH-35 OH 58A UH 1H
UNITED KINGDOM		
UNITED STATES	UH-1 UH-60	

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

SCOUT HELICOPTERS

COUNTRY	SYSTEMS IN SERVICE					REMARKS
	1975	1980	1985	1990	1995	
BELGIUM	ALOUETTE II			?		
CANADA	OH 58A			?		
DENMARK						
FRANCE	ALOUETTE II			?		
GERMANY	ALOUETTE II			?		
GREECE	OH 134/135			OH 58B		
ITALY						
NETHERLANDS	ALOUETTE II			?		
NORWAY	UHIB			?		
PORTUGAL						
TURKEY				?		
UNITED KINGDOM	GAZELLE			?		
UNITED STATES	OH 58C				ASH	

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SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

ATTACK HELICOPTERS

COUNTRY	SYSTEMS IN SERVICE	REMARKS
	1975 1980 1985 1990 1995	
BELGIUM	?	
CANADA		
DENMARK		
FRANCE	ALOUETTE II ?	
GERMANY	DAH-1	
GREECE		
ITALY	A 129	
NETHERLANDS	BO 105	
NORWAY		
PORTUGAL		
TURKEY	?	
UNITED KINGDOM	SCOUT LYNX	
UNITED STATES	AHI *	* AAH LAH

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

SHORT RANGE AIR DEFENSE GUN AND MISSILE SYSTEMS

COUNTRY	SYSTEMS IN SERVICE 1975 1980 1985 1990 1995	REMARKS
BELGIUM	HSS 804 → GEPARD 35mm ROLAND II TYPE	HSS 804 is a 20mm gun
CANADA	L 60 → GEPARD ROLAND II TYPE	L60 is a 40mm daylight only system
DENMARK	L 60 → ? L 70 → ?	L70 is a 40mm all weather system
FRANCE	ROLAND I → ROLAND II	ROLAND I is a clear weather system; ROLAND II is an all-weather system
GERMANY	RH 202 and GEPARD L 70 ROLAND II	RH 202 is a 20mm system
GREECE		
ITALY	L 70 → ?	
NETHERLANDS	L 70 → GEPARD	
NORWAY	L 60/L 70 → GEPARD RH 202 → ROLAND II	
PORTUGAL		
TURKEY	L 60/L 70 → ?	
UNITED KINGDOM	L 70 → ? BLOODHOUND → ? RAPIER	
UNITED STATES	VULCAN → DIVAD REDEYE → STINGER CHAPARRAL → ROLAND II	

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

MEDIUM AND HIGH ALTITUDE AIR DEFENSE

COUNTRY	SYSTEMS IN SERVICE 1975 1980 1985 1990 1995	REMARKS
BELGIUM	HAWK ? / NIKE HERCULES ?	
CANADA		
DENMARK	I HAWK ? / NIKE HERCULES ?	
FRANCE	I HAWK ?	
GERMANY	I HAWK ? / NIKE HERCULES PATRIOT	
GREECE		
ITALY	I HAWK ? / NIKE HERCULES ?	
NETHERLANDS	I HAWK ? / NIKE HERCULES ?	
NORWAY	NIKE HERCULES ?	
PORTUGAL		
TURKEY	NIKE HERCULES ?	
UNITED KINGDOM		
UNITED STATES	I HAWK ? / NIKE HERCULES PATRIOT	

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

LIGHT ANTITANK GUIDED MISSILE

COUNTRY	SYSTEMS IN SERVICE					REMARKS
	1975	1980	1985	1990	1995	
BELGIUM	*	LAW		?		*Blindicide
CANADA						
DENMARK						
FRANCE		STRIM		?		
GERMANY		LANZE		?		
GREECE						
ITALY						
NETHERLANDS						
NORWAY						
PORTUGAL						
TURKEY						
UNITED KINGDOM		LAW		?		
UNITED STATES		LAW		VIPER		

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

MEDIUM ANTITANK GUIDED MISSILE

COUNTRY	SYSTEMS IN SERVICE					REMARKS
	1975	1980	1985	1990	1995	
BELGIUM	*		MILAN		?	* ENTAC & SS-10
CANADA						
DENMARK	COBRA					
FRANCE	ENTAC		MILAN		ATEM *	* ANTI-TANK EUROMISSILE
GERMANY	COBRA		MILAN		ATEM	
GREECE	*		MILAN		?	* COBRA & SS-10
ITALY	*					* COBRA & MOSQUITO
NETHERLANDS						
NORWAY	ENTAC		MILAN		?	
PORTUGAL						
TURKEY	*		MILAN		?	* COBRA & SS-10
UNITED KINGDOM			MILAN		/ ATEM	
UNITED STATES		DRAGON			AMAMS	

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

HEAVY ANTITANK GUIDED MISSILE

COUNTRY	SYSTEMS IN SERVICE	REMARKS
	1975 1980 1985 1990 1995	
BELGIUM	SWINGFIRE; TOW OR HOT / ?	
CANADA	SS-11; TOW; ?	
DENMARK	TOW; ?	
FRANCE	SS-11/12; HOT; ATEM*	* ANTI-TANK EUROMISSILE
GERMANY	SS-11; TOW; ATEM; HOT	
GREECE	SS-11; TOW; ?	
ITALY	SS-11; TOW; SPARVIERO	
NETHERLANDS	TOW; ?	
NORWAY	SS-11; TOW; ?	
PORTUGAL		
TURKEY	HOT; ?	
UNITED KINGDOM	SWINGFIRE; ATEM; SS-11(AIRBORNE); TOW OR HOT; *	* ATEM OR UK SYS
UNITED STATES	TOW; CCAS; IMPROVED TOW	

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

TACTICAL COMBAT AIRCRAFT

COUNTRY	SYSTEMS IN SERVICE	REMARKS
	1975 1980 1985 1990 1995	
BELGIUM	F-104 → F-16 MIRAGE 5B → F-16 FOUGA → ALPHA JET	
CANADA	F-104 → ? F-104 → ? F-5 → ?	
DENMARK	F-104 → F-16 F-100 → F-16 F-35	
FRANCE	ETENDARD MIRAGE III → MIRAGE 2000 MIRAGE IV, V, F-1 * JAGUAR → ? ALPHA JET	* MYSTERE, VAUTOUR AND F-100
GERMANY	F-104 → TORNADO G-91 → ALPHA JET F-4	
GREECE	F-5 → ? F-104 → ? F-4, A-7, MIRAGE F-1	
ITALY	F-104 → ? G-91 → ? F-104G → TORNADO MB-338 → MB-339	
NETHERLANDS	F-104 → F-16 F-5 → ?	
NORWAY	F-104 → F-16 F-5 → ?	
PORTUGAL	F-86 → F-5E ? G-91 → F-5E ?	
TURKEY	F-102, F-5 → ? F-100, F-104 → ? F-4	
UNITED KINGDOM	F-4 → TORNADO HARRIER, JAGUAR → ? VULCAN, CANBERRA, BUCCANEER → TORNADO HUNTER, LIGHTNING → HAWK, SEA HARRIER	
UNITED STATES	F-4 A-7, A-10 → F-15, F-16 F-111 → F/E F-15, ATF A-10 A-37 → A-10 F-105 → F-4, F-16	

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

AIR-TO-AIR MISSILES

COUNTRY	SYSTEMS IN SERVICE	REMARKS
	1975 1980 1985 1990 1995	
BELGIUM	AIM-9J → AIM-9L	
CANADA		
DENMARK	AIM-9B → AIM-9J	
FRANCE	MAGIC I → MAGIC II MATRA 530 → SUPER 530 MATRA 550	
GERMANY	AIM-9B → AIM-9L → AMRAAM	
GREECE	AIM-9J AIM-7E	
ITALY	AIM-9B → AIM-9L AIM-7E → ASPIDE	
NETHERLANDS	AIM-9B → AIM-9J	
NORWAY	AIM-9B → AIM-9J AIM-9B → AIM-9L	
PORTUGAL	?	
TURKEY	AIM-9B → AIM-9J	
UNITED KINGDOM	AIM-9G → AIM-9L AIM-7E-2/3 → SKYFLASH	
UNITED STATES	AIM-9D/E/J/H → AIM-9L → ASRAAM AIM-7E → AIM-7E → AIM-7M → AMRAAM	

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SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

AIR-TO-SURFACE WEAPONS GUIDED

COUNTRY	SYSTEMS IN SERVICE	REMARKS
	1975 1980 1985 1990 1995	
BELGIUM	MAVERICK TYPE PGM	
CANADA		
DENMARK		
FRANCE	AS-30 LASER	
GERMANY	MRASM	
GREECE		
ITALY	ALAGH	
NETHERLANDS	MAVERICK TYPE PGM	
NORWAY	BULLPUP / PENGUIN	
PORTUGAL		
TURKEY	MAVERICK TYPE PGM	
UNITED KINGDOM	ASR 1227 LASER / ?	
UNITED STATES	* / **	*GBU-10/12, AGM-45/78, AGM-65A,B (TV MAVERICK) **LLLGB, AGM-88, AGM-65D (IIR MAVERICK)
	GBU-8,10,12 / GBU-15, LLLGB	
	AGM 45,78 / AGM 88, SPW ADSW	
	AGM 65A,B / AGM 65D, GBU-17	

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

AIR-TO-SURFACE WEAPONS UNGUIDED

COUNTRY	SYSTEMS IN SERVICE					REMARKS
	1975	1980	1985	1990	1995	
BELGIUM	20-30mm, BL-735					
	MK-82					
	2.75 RKT					
CANADA	20mm, BL-755					
	MK-82					
	2.75 RKT					
DENMARK						
FRANCE	MATRA 250					
	MATRA 400			1000 KG BOMB		
				BLG 66		
GERMANY	BL-755			MW-1 STREBO		
	20-30mm					
	MK-82, MK-83					
	2.75 RKT					
	MATRA 250R					
GREECE						
ITALY	BL-755					
	MK-82, MK-83					
	M-117, M-64					
	M-84			?		
NETHERLANDS	20mm, BL-755					
	MK-82					
	2.75 RKT					
NORWAY	2.75 RKT			CRV-7		
PORTUGAL						
TURKEY	20mm			?		
	M-39, 2.75 RKT					
	M-61			CLUSTER TYPE WPN		
UNITED KINGDOM	BL-755			ASR-1227		
	MK-13			JP-233		
	MK-82			LGB KITS		
UNITED STATES	20-30-40-105mm, CBU-38, CBU-71					
	CBU-52/58 ROCKEYE			CEB		
	MK-82, MK-84			BLU-95, BLU-96		
	MK-117					
	MK-36			GATOR		
				JP-233		

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

LARGE PATROL COMBATANTS (Gun and Missile)

COUNTRY	SYSTEMS IN SERVICE					REMARKS
	1975	1980	1985	1990	1995	
BELGIUM	NONE					
CANADA	NONE					
DENMARK	HVIDBJORNEN (PF)			?		
	DAPHNE (PG)			?		
	WILLEMOES (PTG)					
FRANCE	TYPE A69 (PF)					
	LA COMBATTANTE (PGMG) / New Class PGMG					
	PATRA (PGMG)					
GERMANY	TYPE 143 (PGG)					
	TYPE 148 (PTG)					
	THETIS (PF)			?		
GREECE	BOSTWICK (PF)			?		EX-US
	LA COMBATTANTE (PGMG)			?		French
	ASHEVILLE (PG)			?		EX-US
	PGM-9 Class			?		EX-US
ITALY	SPARVIERO (PGMH)					
	BERGAMINI (PF)		LUPO (FF)			
	CENTAURO (PF)		LUPO (FF)			
	DE CRISTOFARO (PF)					
NETHERLANDS	BALDER (PF)					
NORWAY	SLEIPNER (PF)					Norway has many small PGMG/PTG.
PORTUGAL	DA SILVA (PF)		TYPE 21FFH			EX-US
	COUTINHO (PF)					Spanish
	CACINE (PGM)					
TURKEY	BERK (PF)					Turkey is
				New Class PF		increasing
	ASHEVILLE (PG)			?		its number
	LURSSEN (PGG)					of small PTG
UNITED KINGDOM	ISLAND (PF)					
	BIRD (PGM)					
	TENACITY (PG)					
UNITED STATES	PEGASUS (PHM)					USCG Operates
	ASHEVILLE (PG)	None				many units
						of PF size.

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

NAVAL MINES

COUNTRY	SYSTEMS IN SERVICE	REMARKS
	1975 1980 1985 1990 1995	
BELGIUM	NO KNOWN STOCKPILE.	
CANADA	NONE. CANADIAN FORCES DO NOT HAVE MINES. HOWEVER, SS DO HAVE AND MPA WILL HAVE CAPABILITY TO LAY MINES.	
DENMARK	MK 6/25/49/52/55 ? / TYPE 15 \ NEW TYPE / TYPE 17/18	US
FRANCE	H-5 \ ? / BOTTOM MINE \ NEW TYPE	
GERMANY	MK 25/36/52/55 ? / DM 11 ? \ NEW BOTTOM MINE \ NEW BOTTOM MINE	US
GREECE	MK 6/18/23 \ ?	US
ITALY	MK 13/16/18 \ ? / P200 \ ? / NEW BOTTOM MINE	US
NETHERLANDS	NETHERLANDS NAVY DOES NOT PRESENTLY HAVE A MINELAYING CAPABILITY. \ BOTTOM MINE	
NORWAY	MK 6/17/51/L MK II/III \ ? / N46/49 \ ?	US
PORTUGAL	NO KNOWN STOCKPILE.	
TURKEY	MK 6/18/23/25/36/49/51 \ ?	US
UNITED KINGDOM	M MK 5/A MK 12/MK 17/28 \ ? / D467/469/G7739 \ ?	
UNITED STATES	MK 56/57 /? / MK 25/52/55 /? / MK 36/40/41 /? / SHALLOW WATER MINE / DEEP WATER MINE / IWD	

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

LIGHTWEIGHT ASW TORPEDOES

COUNTRY	SYSTEMS IN SERVICE	REMARKS
	1975 1980 1985 1990 1995	
BELGIUM	MK L5 \ ?	France
CANADA	MK NC 44 /MK 46 NEARTIP-UK 7511 MK 46 /MK 46 NEARTIP	US
DENMARK	? /A/S torp for KV-72class	
FRANCE	MK L3/L4/L5 /?	
GERMANY	MK 44/MK 46 Mod2 /UK 7511 DM1 \	US UK
GREECE	MK 44 \ ? MK 46 \ ?	US US
ITALY	MK 44 /? MK 46 /? A244	US US
NETHERLANDS	MK NC 44 /? MK 44 /? MK 46 /?	CANADA US US
NORWAY	MK 44 /MK 46 NEARTIP-UK 7511	US
PORTUGAL	MK L3 \ ? MK 44 \ ?	France US
TURKEY	MK 44 \ ?	US
UNITED KINGDOM	MK 44 /UK 7511 MK 46 /UK 7511	US US
UNITED STATES	MK 46 /MK 46 NEARTIP	

SELECTED SYSTEMS DEPLOYED OR PLANNED BY THE ALLIANCE

SONOBUOYS

COUNTRY	SYSTEMS IN SERVICE					REMARKS
	1975	1980	1985	1990	1995	
BELGIUM	UNKNOWN					
CANADA	SSQ-512A /SSQ-41 SSQ-517A/B/C SSQ-47 /SSQ-522/SSQ-523 /SSQ-50/53/62					
DENMARK	UNKNOWN					
FRANCE	DSTV-3Q/4L/3L DSTA-3S/3B (Follow on is DSTA 5/6)					
GERMANY	SSQ-41 /? SSQ-47 /?					
GREECE	SSQ-23/47					
ITALY	BI-168/BIT-3/8/BIR SSQ-41 /? SSQ-47 /? SSQ-57					
NETHERLANDS	SSQ-41 /? SSQ-47 /?					
NORWAY	SSQ-41/47 SSQ-53 /?					
PORTUGAL	UNKNOWN					
TURKEY	SSQ-47					
UNITED KINGDOM	Jezebel /BARRA MK 1C /CAMBS					
UNITED STATES	SSQ-41 /? SSQ-47 /SSQ-50/SSQ-62 /? SSQ-53 /? /SSQ-75 SSQ-77 /?					

Appendix C

NEW PROCUREMENT ACTIONS FOR MAJOR WEAPON SYSTEMS DURING 1978

Public Law 94-361, Section 802, requires, "In any case in which the Secretary of Defense initiates procurement action on a new major system which is not standardized or interoperable with equipment of other members of the North Atlantic Treaty Organization, he shall report that fact to the Congress in the annual report required under Section 302(C) of Public Law 93-365 as amended, including a description of the system to be procured and the reasons for that choice." This legislation is often referred to as the Culver-Nunn Amendment.

The following lists the results of Secretary of Defense decisions to initiate new major weapon system programs or to enter full-scale development or production for major weapon systems. In addition, the narrative briefly describes each system and states the reasons for the choice. In the DoD view these decisions are in concert with the policy as stated in PL 94-361, Section 802.

DIVAD (Divisional Air Defense) Gun. The DIVAD Gun, which will be the replacement for the VULCAN Gun, will be an all-weather, radar-directed gun system employing either 35mm or 40mm cannons in an armored turret mounted on a M48A5 tank chassis. It will be designed to provide air defense protection for forward combat forces. Either of these cannon choices will permit interchangeability of ammunition with several NATO Allies. The FRG GEPARD System, currently in production, was evaluated as an alternative and as an interim option to meet the operational need before DIVAD is available. The GEPARD was ruled out primarily on the basis of cost.

As a result of the recent Defense Systems Acquisition Research Council (DSARC) action on the DIVAD Gun, the DepSecDef has approved the Army request to proceed with the development of competitive DIVAD gun prototypes. The DepSecDef required the Army to explore providing US ammunition to NATO Allies under present licensing agreements, to obtain full license rights on the competitive fire control system to allow it to be provided to NATO Allies, and to explore other methods of enhancing Rationalization/Standardization and Interoperability (RSI) within NATO utilizing this capability.

AEGIS Weapon System and DDG-47 Missile Destroyer. As a result of the DSARC review of the AEGIS/DDG-47, the DepSecDef authorized the Navy to proceed with appropriate action for production of these systems. Since this program involves merely a small number of systems and was initiated several years before the Culver-Nunn Amendment requirement to address RSI, there was no consideration of standardization/interoperability within this program. However, other configurations of the DDG-47 class will be equipped with the HARPOON and LAMPS which will be NATO systems.

CH-53E Helicopter. The Navy request to initiate production of six CH-53E heavy-lift helicopters was approved as a result of the DSARC. Since the CH-53E has approximately 60% component commonality with the previous CH-53 series helicopters (which other NATO Allies have procured), there is inherent NATO RSI within this program. Additionally, the FRG and other Allies have indicated recently an interest in possible procurement of the CH-53E, because of its significantly increased lift capability over the previous helicopters.

High Speed Anti-Radiation Missile (HARM). The Navy, during the past year, have achieved a HARM design which includes an expanded capability. However, there is continued attention toward achieving both the cost and schedule milestones defined for the remainder of the HARM acquisition program. No Allied equipment is available to meet this requirement. A plan has been developed for Rationalization/Standardization/Interoperability (RSI) of HARM with NATO. This plan provides for identification of releasable information, technologies and proper interface points for the calendar date to introduce HARM as a candidate for satisfying NATO's defense suppression needs. HARM is currently being considered as a member of a NATO air-to-ground weapons family.

LAMPS MARK III Program. As a result of the Milestone IIC DSARC review of the LAMPS MARK III program, the DepSecDef authorized the Navy to continue into full scale development of the helicopter air frame and the engine; and, as a part of this decision, the Navy was asked to submit a NATO RSI plan. It is expected that the LAMPS MARK III will have a high degree of commonality with the Army's BLACKHAWK helicopter.

NATO JTIDS (Joint Tactical Information Distribution System). The JTIDS is a Joint Service integrated Communications Navigation and Identification (CNI) program to develop digital data link terminals (with significant ECM-resistance and crypto-security provisions) for the E-3A NATO AWACS, fighters, ships, ground command and control centers, tanks, vehicles, RPVs, missiles and manpack applications. During 1978, development and initial operational test and evaluation of the JTIDS terminal for use on the E-3A was completed. Long-lead items production of JTIDS for E-3A was approved as the result of the recent DSARC. The primary objective is to achieve full NATO interoperability of jam-resistant CNI capabilities. See Section VI for status of this initiative.

SPARROW Advanced Monopulse Missile (AMM). The SPARROW AMM is a joint Air Force/Navy program intended to provide the Services with a medium-range, all-weather air-to-air missile. The AIM/RIM-7 SPARROW AMM DSARC resulted in DepSecDef approval of the SPARROW AMM to proceed into Full-Scale Engineering

Development (FSED). The SPARROW AIM-7M will be interoperable with all NATO aircraft which now carry the AM-7F missiles.

ROLAND. The ROLAND short-range air defense system is the first major system developed by NATO countries (France and the FRG) and procured by the US for Army use. As a result of the ROLAND Program Review held in June 1978, the USDR&E approved the Army plan for obligation of FY 78 initial Production Facilities and Engineering Services funds and directed the Army to proceed with the program as expeditiously as possible. See Section VI for international/RSI status.

SOTAS. The Army Stand-Off Target Acquisition System (SOTAS) Program has been authorized to initiate Full-Scale Engineering Development (FSED). No Allied system meets the US Army SOTAS requirement. As a part of the DSARC approval, the Army was asked to prepare a RSI plan to seek Allied consideration of the use of the SOTAS capability to the maximum extent possible. This plan is now under DoD review.

GBU-15. As a result of the Sep 78 DSARC, the SecDef supported the Air Force request to allow the GBU-15 (Cruciform Wing Weapon) TV equipped air-to-surface weapon to proceed into production and, subject to Congressional approval for the FY 78 reprogramming action which was requested, approved the expenditure of FY 78 dollars for the first production increment. As a part of the DSARC approval, the Air Force was tasked to generate a NATO coproduction plan. The GBU-15 is currently being considered as a member of the NATO air-to-ground family of weapons.

KC-10A. The primary mission of the Air Force KC-10A Advanced Tanker Cargo Aircraft (ATCA) is to provide air refueling support to deploying tactical forces and supporting airlift forces during a large-scale conventional conflict. This aircraft is a derivation of the DC-10-30CF which is modified to conduct the aerial refueling mission, and it will be in consonance with the NATO Standardization Agreement (STANAG) which governs design standards for aircraft refueling systems.

AMERICAN DEFENSE PREPAREDNESS ASSOCIATION

NATO RSI REFERENCE BOOK

SECTION 7

DEFENSE SCIENCE BOARD REPORTS

DESCRIBES STUDY ON ARMAMENTS COLLABORATION (1978) AND ON THE FAMILY OF WEAPONS (1979), AS WELL AS THE DEPARTMENT OF DEFENSE PLAN OF IMPLEMENTATION OF RECOMMENDATIONS IN THE 1978 REPORT

SUMMARY

of

THE DEFENSE SCIENCE BOARD 1978 SUMMER STUDY

on

"ACHIEVING IMPROVED NATO EFFECTIVENESS THROUGH ARMAMENTS COLLABORATION"

31 July – 11 August 1978

Naval War College

Newport, Rhode Island

The Honorable Walter B. LaBerge, Chairman
Mr. O. C. Boileau, Vice Chairman

December 1978

OFFICE OF THE UNDER SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

RESEARCH AND
ENGINEERING

9 January 1979

Honorable William J. Perry
Under Secretary of Defense for
Research and Engineering
Room 3E1006, The Pentagon
Washington, D. C. 20301

Dear Bill:

I am enclosing the summary of the Defense Science Board 1978 Summer Study on "Achieving Improved NATO Effectiveness Through Armaments Collaboration."

In view of the major involvement of your office and yourself, I believe that the usual procedure of sending the report to SecDef may not be applicable to this case. I will leave the choice to you.

I am also convinced that you are, as I am, very well impressed by the way Walter handled this problem and I am attaching a copy of notes to Walter and Ollie thanking them. Recommend your signing them out.

The conclusions and recommendations of the Study Group are outlined on pages 3-7 of the enclosed report. The members of the Defense Science Board Study Group believe that all of the recommendations merit careful consideration and we have structured them in such a way to permit ready implementation into specific actions. Many of the recommendations are already being acted upon within the Department of Defense.

In this regard, I am pleased to note that you have given weight to the second recommendation which would put into effect a plan for implementing the "family of weapons" concept in accordance with a program for co-development and co-production among the Four Powers. The DSB sponsored Study Group which is now completing follow-on work addressing this recommendation, under the chairmanship of Dick DeLauer, will forward their report to you in mid-January.

In particular, I would like to call your attention to the third recommendation of the attached report, which includes six proposed actions to place

increased emphasis on interoperability within the DoD and the NATO Alliance. In my judgment, shared by the Study Group, and, I believe, by most of the participants and advisors involved in our deliberations, the focus on interoperability provides the best opportunity for early achievement of the basic goal which you charged us to address last Summer. Interoperability appears to offer the highest practical immediate payoff in improved NATO effectiveness for the investment in resources the Alliance now puts into research and development.

I believe that this project has been a most useful undertaking and I am sure that all of the participants share with me our pleasure in having contributed to your significant efforts in this particular area.

I am taking the liberty of sending copies of this letter and the report to the Under Secretary of Defense for Policy and to the Chairman of the Joint Chiefs of Staff.

Sincerely,

Eugene G. Fubini
Chairman
Defense Science Board

Attachments:
Letters to W. LaBerge & O.C. Boileau
Summary of DSB Summer Study on NATO

cc: USDP
Chmn, JCS

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INTRODUCTION

Between 31 July and 11 August 1978, nine members of the Defense Science Board (DSB) met at the Naval War College in Newport, Rhode Island for a Summer Study on "Achieving Improved NATO Effectiveness Through Armaments Collaboration." The Summer Study was chaired by Dr. Walter B. LaBerge, Under Secretary of the Army, with Mr. Oliver C. Boileau, President of Boeing Aerospace Company, as Vice Chairman.

Study Objectives

The terms of reference for the Study stated two basic tasks or objectives:

- To review the goals and objectives underpinning NATO interoperability and standardization policies and programs; and
- To determine specific actions that the US Government and US industry could take to better achieve stated goals and objectives.

In a plenary meeting of the DSB as a whole on the opening day of the Summer Study, Dr. William Perry, Under Secretary of Defense for Research and Engineering (USDR&E), provided further guidance to the study. In brief, he stated that the problem of achieving improved NATO effectiveness through armaments collaboration is fundamentally one of getting compatible and better equipment into NATO forces more quickly for the combined resources the Alliance now spends on research and development. Dr. Perry asked the DSB specifically:

- To review and critique OSD's current three-part approach to getting more out of the $16 billion worth of Alliance R&D - $4 billion by the European NATO members and $12 billion by the US; and
- To provide imaginative and realistic ideas as to how the problem could be better addressed and solved.

Method of Approach

Under the direction of the Chairman and Vice Chairman of the Study, an intensive schedule of briefings and discussions had been laid out in

advance to cover crucial aspects of the problem. In brief, the study schedule provided for:

(1) Reviewing current US and NATO procedures, policies, and perspectives on armaments collaboration and NATO rationalization, standardization, and interoperability (RSI). This was accomplished in two full days of briefings by fifteen experts and managers from the Joint Chiefs of Staff and the three Services, from the Departments of Defense and State, from NATO, and from industry and research organizations.

(2) Assessing US industry interests, perceptions, experience, and problems associated with armaments collaboration within NATO. This was accomplished in two full days of candid discussion with top management personnel of ten key companies representative of US aerospace, electronic, automotive and other defense industries. In addition to the DSB Study Group members, eight senior officials from the US Government also participated in these discussions with industry representatives.

(3) Analyzing the implications of technology sharing and technology transfer as a central aspect of armaments collaboration. Twelve experts on technology and technology transfer from US industry were invited for a special one-day session devoted entirely to discussion with the DSB Study Group of problems, policies, and procedures for technology sharing and transfer. The experts included technical directors and managers from aerospace, electronic, propulsion and automotive industries and included several with prior government experience.

(4) Researching, discussing, and developing a consensus on the critical factors and issues affecting US approaches to armaments collaboration. The two weeks of the Summer Study provided, in addition to the above, for four full days for discussion and individual research by members of the DSB Study Group.

Study Group members, industry representatives, and US Government and other experts who took part in the study are listed in Appendix A.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

(1) US policy on armaments collaboration should give at least comparable weight and emphasis to interoperability as to standardization of complete systems.

(2) The present DoD program of armaments collaboration - based on bilateral defense procurement MOUs, dual production, and the family of weapons concept - is a beginning that should be broadened to give emphasis to co-development and co-production.

(3) An approach based on co-development and co-production affords the best opportunity to build strong industrial and national incentives into collaboration and to maintain healthy competition.

(4) Both the US and European NATO states are in formative periods with respect to armaments collaboration and the US should remain open and flexible and consider a range of approaches to standardization and interoperability and learn from experience.

(5) Certain US governmental procedures and regulations should be reviewed and revised to facilitate armaments collaboration and give focus to priority issues pertaining to standardization and interoperability. Major areas needing improvement are:

a. Rules and guidance to industry on acceptable trans-Atlantic teaming arrangements.

b. Incorporation into system acquisition documentation and contracts of requirements for and criteria of standardization and interoperability.

c. Information release procedures especially for performance data and EW vulnerability data.

d. Provisions for protecting intellectual property and enabling transfer of technology and data rights as required and for value received.

e. Accommodation to system acquisition procedures and regulations of other countries in international procurement contracts.

(6) Several national policy issues, which go beyond the interests and jurisdiction of DoD, significantly affect NATO armaments collaboration and need resolution. These include:

a. The principal political forum(s) through which the DoD should pursue armaments collaboration within NATO - e.g. bilateral, Four Power, IEPG, NATO agencies.

b. The relation between US arms export policy and NATO armaments collaboration policies as they affect third country sales.

c. The basis on which the US can make more formal or legal, multi-year commitments to NATO allies on specific armaments collaboration projects.

d. The impact on the US economy of military technology transfer and the relation of military technology transfer to other technology transfer policies.

Recommendations

(1) Prepare for signature by the Secretary of Defense armaments collaboration policy statements or directives, including the following points:

a. The strong US commitment to interoperability with the forces of the NATO Alliance, and that efforts in DoD to achieve interoperability are of equal importance to those for standardization of complete weapons systems.

b. Programs of international co-development and co-production should be one of the principal long-term methods of achieving Alliance equipment standardization supplementing Memorandums of Understanding which facilitate mutual trade and dual or joint production of currently available Alliance hardware.

c. To the degree possible, industrial competition, will be the basis for international cooperation, and that primary technology transfer will be by holder industry company rather than by governmental exchange of data packages.

d. The Department of Defense will consider the potential impact on the US economy (military and commercial trade) when authorizing technology transfers in the military interest of the Alliance.

Action Office: USD(P)

(2) Initiate implementation of a plan, with SecDef and NSC approval, which puts into effect the DSB recommended program for co-development and co-production. This would include:

a. The selection of initial pilot programs from PAPS.

b. The preparation of draft MOUs including the specification of

- the conduct of source selection
- the conduct of development
- guidelines for initiation of production
- guidelines for logistic support

Action Office: USDRE with CJCS

(3) Put into effect a specific set of actions to increase emphasis on interoperability for approval of the Secretary of Defense which will:

a. Provide for achieving increased Alliance agreement on common military tactics and doctrine.

b. Provide for obtaining a military judgment of priorities for interoperability in order to emphasize programs of greater benefit.

c. Provide for developing within NATO, criteria for hardware interoperability and how NATO should monitor individual national programs for compliance to these criteria.

d. Establish procedures to ensure that appropriate NATO-wide interoperability criteria are included in US requirements documentation, mission element needs statements, RFP's and implementing contracts.

e. Establish procedures to ensure formal review of interoperability requirements as part of Service System Acquisition Review Councils (SSARC's) and OSD DSARC's.

f. Establish procedures for appropriate interoperability demonstration/certification as part of operational testing of new weapons systems.

Action Office: USDRE with USD(P) & JCS

(4) Implement a program to improve US industry participation in armaments collaboration including the following:

a. Establish a mechanism for industry and labor communication with the USG on issues of armaments cooperation.

b. Establish incentives for US industry to seek cooperative programs which make US technology available to the Alliance, and Alliance technology available to US industry.

Action Office: USDRE

(5) Draft and submit to the NSC a Presidential Decision Memorandum on NATO Armaments Collaboration including the following:

a. Specify the forum or fora through which the US will deal with its NATO Allies on armaments collaboration.

b. Provisions for minimizing, on a case-by-case basis, restraints on our Allies, in programs of mutual co-operation, of the US policy on limitation of arms sales directed by the President and Congress.

c. Provisions by which the US, through the DoD and Congress, can make long-term program commitments which are credible to our Allies; and which seek improvements in Allied commitments.

Action Office: USD(P)

(6) Prepare a plan and draft implementing directives for the approval of the Secretary of Defense to enhance armaments collaboration. These will provide:

a. Prior to attempts at collaboration, military assessments of what aspects of a system can be designed against a US worldwide requirement, and what aspects of a system may be designed to a less encompassing NATO specification.

b. Explicit definition of staff authority and responsibility within OSD and DoD related to international armaments collaboration.

c. Improvement of the information release process to ensure:

- The timeliness of information release authorization.

- The appropriateness of application of exisitng release criteria especially in the areas of performance data and EW vulnerability data.

Action Office: USDRE

(7) Prepare a report to the Secretary of Defense on the utility of the several hundred established NATO organizations and agencies operating in support of armaments collaboration, including recommendations for agencies to be abolished, consolidated, or reorganized, and where appropriate, revised terms of reference.

Action Office: USDRE

(8) Establish responsibility for establishing and maintaining information and data bases in OUSDRE, but with the support of the Intelligence Community in the following areas:

a. Foreign Allied weapons and technology.

b. Foreign trade statistics and projections on military and nonmilitary high technology products and exports.

Action Office: USDRE

BACKGROUND

Criticality of the Issue Today

Achieving improved NATO effectiveness through armaments collaboration is a critical issue today for at least five reasons. These are:

(1) The rate and quality of Soviet-Warsaw Pact conventional forces buildup.

(2) The increased dependence of NATO on conventional forces for deterrence and defense.

(3) Political and economic constraints on NATO defense budgets.

(4) The "input/output" efficiency of Alliance resource use.

(5) An increased desire of member states of the Alliance for self sufficiency in high technology armaments.

Each of these is discussed briefly below.

Rate and Quality of Soviet-Warsaw Pact Conventional Buildup. The rate and quality of Soviet-Warsaw Pact conventional forces buildup has been a subject of considerable discussion and debate during the last four or five years. There now appears to be widespread agreement among

Western officials and analysts, however, that the Soviet Union and the Warsaw Pact have been embarked on a long term force modernization and improvement program that clearly exceeds any defensive requirements.

Increased Dependence on Conventional Forces. Without diminishing NATO's reliance on US strategic nuclear forces as the ultimate deterrent or in any way reducing the US commitment to the defense of Western Europe, the Soviet-Warsaw Pact conventional forces buildup combined with rough parity in nuclear forces has resulted in an increased dependence of NATO on conventional forces for deterrence and defense. Recent emphasis on the dangers of a short war with little warning soberly signal not only an increased dependence of NATO on overall conventional capabilities but on the immediate availability and readiness of those capabilities for coordinated response.

Political and Economic Constraints on NATO Defense Budgets. While the Soviet Union has been steadily committing 11 to 14 percent of its gross national product to its defense budget, NATO states have been committing proportionately only about one-fourth to one-half that amount. Consumer demands and national priorities affecting the quality of life in the West place severe, if imprecise, limits on what levels of national resources Western governments and parliaments are willing or able to commit to defense. Such political and economic constraints on defense spending have been worsened in their impact in the West by recent inflationary pressures, energy shortages, and rising military manpower costs in most countries. Even the recent commitment of the NATO Allies to effect an annual increase of 3 percent in real terms in defense spending will not close the gap between increases in defense spending that the Soviet Union has been undertaking for years and Western decreases, nor will it increase the proportion of gross national products that NATO Allies commit to defense.

The Input/Output Efficiency of Alliance Resource Use. Former SACEUR Andrew J. Goodpaster is frequently quoted for estimating that

NATO combat effectiveness is diminished by as much as 30 to 50 percent in some cases by lack of standardization of equipment between national forces that may be expected to fight side by side. Thomas Callaghan in his now famous report on "US/European Economic Cooperation in Military and Civil Technology" has claimed that the Alliance wastes as much as $10 billion annually by duplicative R&D and by failure to achieve economies of volume production of military equipment. Both claims are controversial and difficult to substantiate, but they indicate a fundamental problem that is addressed in more detail below.

Increased Desire of Members of the Alliance for Self Sufficiency in High Technology Armaments. A final reason the problem of armaments collaboration is critical today is that the principal industrial economies within the NATO Alliance share a set of convictions -- with important variations in degree -- that: (a) technological superiority in weapons is vital to national security and independence; (b) technology cannot be left entirely to someone else to develop; (c) military R&D underwrites a cutting edge of the evolution of high technology; and (d) high technology developed for military purposes has unpredictable but significant spinoff benefits for the civilian economy.

For such convictions (reasons), the United Kingdom, the Federal Republic of Germany, and France especially -- as well as the US -- wish to maintain, whenever feasible, self sufficiency in high technology areas of military R&D. For other, smaller or less developed states, self sufficiency across a wide spectrum is not feasible and, by national policy, may not be regarded as so desirable. Nonetheless, for states such as Italy, Canada, the Netherlands, Belgium, Norway, and Denmark self sufficiency in selected high technology areas is a vital national interest also.

Efficiency of the Current Input/Output Process

In general, the Study Group agrees that the current "input/output" process is probably not efficient. At least in comparison to the Soviet

Union and the Warsaw Pact, what NATO gets out in terms of deployed force effectiveness of the resources it puts into research, development and materiel acquisition is not without room for significant improvement. There are several classical arguments about why the current process is probably not efficient.

One argument concerns Alliance-wide allocation of military R&D funds. The roughly $12 billion the US spends annually on military R&D contains many projects that are duplicative with or near equivalents of many projects funded by about $4 billion in NATO European military R&D budgets. Even the $4 billion spent annually in Europe contains some redundancies since European states also prefer to maintain self sufficiency in high technology armament areas and generally prefer to meet their military requirements from national resources when possible rather than becoming dependent on armaments imports. Additionally, the output to fielded forces from separate national selection and procurement decisions too often yields equipments that are incompatible with one another. For allied national forces mutually to support one another then requires a belated fix to make them interoperable.

A second argument concerning the efficiency of the input/output process concerns the failure to achieve economies of volume production. With a preference for procurement fron national domestic sources, production runs, particularly within NATO European states, are typically small yielding higher unit costs than is believed to be the case if benefits of the "learning curve" could be achieved by larger production runs. Failure to specialize production and satisfy more NATO national requirements by trade -- so the argument runs -- contributes to inefficiency in the overall Alliance input/output process. Whereas duplicative R&D is driven principally by national desires for self sufficiency in high technology armament areas, the existence of multiple small production runs is more a function of national requirements to maintain stability of employment and a production base in many sectors.

A related argument holds that within the Alliance as a whole there is an excessive production base for armaments due to national desires

for self sufficiency and employment. Without restructuring to rationalize this overall Alliance production base -- a process that could require painful local, sectoral and national economic dislocations -- the overhead cost for individual weapon systems will be inordinately high. One way to bring overhead costs into more reasonable proportion and to reduce unit costs has been to seek or respond to export markets in extra-NATO or Third World areas.

This economic problem, which when dealt with by extra-NATO exports, complicates both the politics and the Alliance-wide economics of armaments collaboration.

Desires for high technology self-sufficiency, preferences for domestic procurement over trade within NATO, some competition for extra-NATO sales, and concerns for protection of non-military, commercial interests all contribute to restraints on technology sharing among Allies. That advanced, military technology is shared among NATO states on only a limited basis -- so a fourth argument goes -- means that Alliance-wide NATO national forces do not receive uniformly the highest quality of equipment that the combined Alliance resources could develop.

Finally, for the evidence that is adduced to indicate that the current input/output process is not efficient for the Alliance, it is argued that the many voices and negotiating forums by which NATO states try to coordinate armaments programs and policies lead to confusion, especially for industry, and inefficiency in the way that armaments are developed and produced. There is a profusion of voices and forums, both inside of and outside of the formal NATO structure, which makes it difficult, especially for competitive US companies, to know which voices and forums to heed.

However inefficient the current input/output process appears to be, the DSB Study Group cautions that this is a process that has evolved naturally to satisfy or adjudicate a wide variety of industrial and economic as well as military interests of the free nations of NATO. In particular, the DSB Study Group cautions that immediate inefficiencies

of a competitive process should not be replaced by longer term inefficiencies of an apparently more rational and efficient process that undercuts competitive incentives.

US Goals Related to Armaments Collaboration

Four key goals of armaments collaboration for the US can be distinguished. These are:

(1) To improve NATO operational effectiveness

(2) To increase efficiency in the allocation of Alliance-wide resources for research, development, and acquisition

(3) To strengthen NATO cohesiveness

(4) To encourage a politically stable and economically strong Western Europe and European defense industry.

These goals are closely interrelated and tend to be mutually reinforcing in the long run. The DSB Study Group accepts and endorses these goals, each of which is discussed briefly in the following paragraphs.

To Improve NATO Operational Effectiveness. This is and should be the overriding and immediate goal of armaments collaboration. The Study terms of reference and title indicate the predominance of this goal. Dr. Perry and Dr. Eugene Fubini, Chairman of the DSB, stressed this as the primary goal in their meetings with the DSB Study Group. The rate and growth of the Soviet-Warsaw Pact conventional forces buildup establishes the importance of this goal.

The whole NATO RSI program is aimed at achieving improved NATO operational effectiveness. Armaments collaboration is a crucial part of the omnibus term, "rationalization," -- that is, "any action that increases the effectiveness of Alliance forces through more efficient or effective use of defense resources committed to the alliance." "Standardization," defined by NATO and the US as "the process by which nations achieve the closest practicable cooperation among forces, the most efficient use of research, development, and production resources,

and agree to adopt on the broadest possible basis the use of common or compatible" procedures, equipment and tactical doctrine, depends directly on armaments collaboration. "Interoperability," or "the ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together" is the military end-in-itself and also clearly depends on forms of armaments collaboration to ensure interoperability.

To Increase Efficiency in the Allocation of Alliance-Wide Resources for Research, Development, and Acquisition. In one sense this goal is the obverse of the first. As the previous comments on the efficiency of the current input/output process of the Alliance indicated, the primary problem is to get more output in NATO operational effectiveness from the defense resources committed on an Alliance-wide basis.

The evidence that was presented to the DSB Study Group concerning potential "cost savings" or benefits of NATO standardization and interoperability with respect to reductions in duplicative R&D expenditures and unit acquisition costs is ambiguous at best, especially concerning the latter. In some cases, states may in fact end up paying slightly higher unit acquisition costs for particular systems in order to ensure that they are standardized or fully interoperable with those of another state so that their forces can fight effectively together. With respect to Alliance-wide R&D expenditures, there is more hope that cooperative reallocations could be effected that could reduce costly duplications of effort. Even here, however, this can be difficult to achieve since sovereign states only very reluctantly forego particular areas of military R&D in which they have either a national security stake or a spinoff stake for their civilian economies.

In either case, the goal of armaments collaboration as the Study terms of reference and Dr. Perry's and Dr. Fubini's discussion make clear is to produce more effectiveness for the Alliance resources committed and not to spend less. The two NATO Summit Meetings, with

President Carter in a leadership role, committed the member states to twin goals of committing more resources to NATO's defense needs and of getting more out of the resources committed. It is particularly the latter of these that armaments collaboration can help achieve.

To Strengthen NATO Cohesiveness. At the London Summit Meeting in May 1977, President Carter, stressing the need for a new major effort "to meet the military and political challenges of the 1980s," declared:

> At the center of this effort must be strong ties between Europe and North America. In maintaining and strengthening these ties my Administration will be guided by certain principles. Simply stated:
>
> - We will continue to make the Alliance the heart of our foreign policy.
> - We will remain a reliable and faithful ally.
> - We will join with you to strengthen the Alliance -- politically, economically and militarily.
> - We will ask for and listen to the advice of our Allies. And we will give our views in return, candidly and as friends.

After proposing that the defense ministers "begin developing a long term defense program to strengthen the Alliance's deterrence and defense in the 1980s," President Carter stressed that:

> As we strengthen our forces, we should also improve cooperation in development, production and procurement of Alliance defense equipment. The Alliance should not be weakened militarily by waste and overlapping. Nor should it be weakened politically by disputes over where to buy defense equipment. (underlining in original)

Specifically, the President promised efforts "to seek increased opportunities to buy European defense equipment," endorsed European efforts to cooperate more fully among themselves in defense production including creation of the Independent European Program Group (IEPG), and invited a trans-Atlantic dialogue "to explore ways to improve cooperation in the development, production and procurement of defense equipments."

To Encourage a Politically Stable and Economically Strong Western Europe and European Defense Industry. In a sense, this goal -- like the goal of strengthening NATO cohesiveness -- could be regarded as instrumental to the first two goals of improving operational effectiveness and of increasing efficiency in the allocation of resources. But because there exists some apprehension in Europe that the US might intend a domination of European defense industry by "armaments collaboration," it has appeared important to state explicitly that the US intends a genuine partnership in which political cohesiveness rests on the basis of and is coexistent with a stable and economically strong Western Europe.

In the Culver-Nunn Amendments to the Defense Appropriation Authorization Act (1977), the Congress stated this goal by writing, inter alia:

> It is the sense of the Congress that standardization of weapons and equipment within the North Atlantic Alliance on the basis of a 'two-way street' concept of cooperation in defense procurement between Europe and North America could only work in a realistic sense if the European nations operated on a united and collective basis. Accordingly, the Congress encourages the governments of Europe to accelerate their present efforts to achieve European armaments collaboration among all European members of the Alliance.

DSB Study Group Observations. The DSB Study Group notes that there are no stated US goals to strengthen the US economy, to provide jobs for US industry, or to consider commercial trade. Insofar as such goals are explicit or implicit goals of NATO Allies, potential conflicts of goals are likely to exist within the Alliance.

The DSB Study Group has no general recommendation to resolve or reduce the areas of potential conflict in stated or implied goals of armaments collaboration. It merely calls attention to the possibility of potential conflict and urges caution and clarity in recognizing and dealing with this possibility.

Current NATO/European Activities in Support of Armaments Collaboration

In its briefings and deliberations, the DSB Study Group conducted a broad review of some of the principal activities now underway in NATO and in Europe to support armaments collaboration and its goals. This review covered:

(1) The principal NATO agencies concerned with armaments collaboration,

(2) Recent NATO emphases affecting armaments collaboration, and

(3) Some key extra-NATO activities in the area of armaments collaboration.

Principal NATO Agencies. Since the mid 1960s the principal NATO agency dealing directly with armaments collaboration is the Conference of National Armaments Directors (CNAD) and its many sub-groups and working committees and panels. It is chaired by the Assistant Secretary General of NATO for Defense Support and supported in its committee work by members of his Division of Defense Support on the NATO International Staff. The primary groups reporting directly to the CNAD are:

The NATO Army Armament Group (NAAG)

The NATO Air Force Armament Group (NAFAG)

The NATO Navy Armament Group (NNAG)

The Defense Research Group

The Tri-Service Group on Air Defense

The Tri-Service Group on Communications and Electronic Equipment

The NATO Industrial Advisory Group (NIAG) consisting of industrial representatives appointed by their governments

The Cadre Groups on specialized aspects of standardization of equipment.

On the military side of the Alliance, the Military Agency for Standardization, reporting to the Military Committee, has played a

primary role in focusing discussions and negotiations within NATO aiming at standardization and interoperability of equipment as well as standardization of doctrine and training for national forces committed to NATO. In existence since 1951, one of the principal activities of the MAS is to coordinate many and publish all of the agreed NATO standardization agreements (STANAGs).

Recent NATO Emphases. Note has already been taken of NATO's Long Term Defense Program (LTDP) that was initiated at the London NATO Summit Meeting of May 1977 and reported on and endorsed at the Washington NATO Summit Meeting of May 1978.

The LTDP is especially significant in several respects. First, it represents, essentially for the first time in NATO's history, a strong public and mutual commitment at the highest political and military levels of the Alliance to plan realistically against a set of defined priorities over about a ten-year period. Second, it resulted from clear initiatives of the Carter Administration to reaffirm the US commitment to NATO on the basis of planning and identification of priority requirements that had already been underway on the military side of the Alliance. Third, the LTDP implies a stronger commitment to armaments collaboration by all members of the Alliance than any previous undertaking to establish and achieve NATO force effectiveness goals.

Besides the LTDP, two other recent NATO emphases are important to armaments collaboration. These are the existing NATO Armaments Planning Review (NAPR) and the proposed Periodic Armaments Planning System (PAPS). It has long been recognized that in order to enhance the possibilities for agreements to collaborate, information exchanges about requirements, replacement schedules, and R&D plans are desirable. Information exchanges do take place on an ad hoc basis in the CNAD's armament groups and subgroups. The existing NAPR, also under the CNAD, attempts to put such information exchanges on a broader and more systematic basis to facilitate armaments collaboration. The NAPR, however, in its present form is only an information system and not a planning system. A planning

system, namely PAPS, has been under consideration and study under the CNAD for about two years now. The PAPS study group is under US chairmanship. PAPS presumably would tie in very closely with the LTDP, and the acceptance of the LTDP by NATO Heads of State and Governments has given new impetus to achieving progress in developing PAPS.

Extra-NATO Activities. NATO has generally accepted the collaboration between two or three NATO states which have not emerged from formal NATO decisions, but which have been formed on an ad hoc, individual project basis. NATO steering groups have frequently been established for assisting and guiding these collaborative ventures between states which have similar requirements occuring in the same time and mutually supporting technological and industrial capabilities to meet these requirements.

To give more structure to opportunities for ad hoc or more systematic armaments collaborations, two locuses of relations within the Alliance yet outside its formal structures have emerged. These are: (a) the so-called Four Power CNAD, consisting of the National Armaments Directors of the UK, France, the FRG, and the US; and (b) the Independent European Program Group (IEPG).

The Four Power CNAD is a natural grouping, reflecting the overwhelming majority of the resources committed to Alliance deterrence and defense capabilities. Close collaboration in this forum, however, creates some resentment among the more industrialized of the smaller states who feel their relative stake in armaments collaboration is as large while their power to influence collaborations is diminished.

The more natural forum for the smaller industrial states of Europe would be an intra-European one. With strong encouragement from the US, the Eurogroup was formed in 1968 within NATO as an instrument for coordinating the European portion of NATO's defense effort. Eurogroup, in effect, constitutes a subgroup within NATO representing all European members of NATO except France, Portugal and Iceland. By 1975 Eurogroup had become the principal forum for reconciling intra-European interests

with trans-Atlantic interests in armaments collaboration. By the end of 1975, however, when the absence of France in Eurogroup was felt and France indicated greater willingness to participate actively in some intra-European forum outside the formal structure of NATO, the Eurogroup Ministers called for the creation of such a forum that could include France. The IEPG was thus created in February 1976, with the blessing of Eurogroup. As the now dominant intra-European forum for armaments collaboration, the IEPG appears to be committed to a flexible and evolutionary, pragmatic and inclusive approach to armaments collaboration within Europe. Principal activities are carried out under three panels: an Equipment Planning Panel, chaired by the UK; a Specific Projects Coordinating Panel with eleven equipment study groups, chaired by Belgium; and a Defense Economics and Procedures Panel with five subgroups, chaired by the FRG. The IEPG itself is chaired by Italy. The IEPG is now engaged in a trans-Atlantic dialogue on armaments collaboration with the US and Canada.

DSB Study Group Observation. It is not for lack of organization that cooperation fails. The problem of finding the basis for collaboration lies deeper than finding the right form of organization, however important the organization of armaments collaboration efforts is.

Constraints on Armaments Collaboration

In view of the background of armaments collaboration within NATO, the DSB Study Group cautions that US programs of armaments collaboration:

(1) Should provide for US self interests as well as Alliance-wide interests, and

(2) Must provide for a realistic and equitable distribution of burdens and benefits of defense spending among all the Allies.

With respect to the first point, the DSB Study Group acknowledges that some US policies and programs in the past have amounted more to obstacles to armaments collaboration than to solutions and that Europeans

have many sensitivities, suspicions, and complaints about US technological and industrial assertiveness or domination with respect to Alliance-wide defense markets and requirements.

However, just as Europeans are more strongly asserting and the US is acknowledging that armaments collaboration must rest on a firm foundation of maintaining the economic and industrial health of their states, so too must the US - the largest and the strongest of the Allies - maintain its economic and industrial health not only for its own sake, but for the sake of the overall strength of the Alliance.

Secondly, armaments collaboration will be successful in achieving its goals only to the extent that collaborating allies are assured that both the burdens and the benefits of defense spending are realistically and equitably distributed among them. This is, of course, more easily stated in theory than applied in practice among allies who have:

(1) Conflicting national interests and priorities, ranging from a desire for technological and arms independence on one end of the spectrum to desires to acquire technology for development and to willingness to accept or embrace arms dependence or interdependence on the other end of the spectrum.

(2) A variety of national and functional motivations to collaborate. These vary widely in the degree and priority of importance that attach to economic, industrial, political, and military motivations.

(3) Wide disparity in technological and manufacturing capabilities and aspirations. Within Europe, at least three distinct tiers or levels are distinguishable among (a) the UK, France, and Germany with a full range of capabilities; (b) Italy, the Netherlands, Belgium, Norway and Denmark, with clear capabilities in limited areas; and (c) other European NATO states with very limited technological and manufacturing capabilities to develop and produce armaments.

(4) A ten-year history of collaboration within Europe and an imbalance of military trade with the US.

CRITIQUE OF THE PRESENT DOD PROGRAM OF ARMAMENTS COLLABORATION

In its review and analysis of the present and proposed DoD program for armaments collaboration, the DSB Study Group took special note of the evolution of the main elements of that program, and further noted the principal arguments in favor of and against each element in the present program. Against this background, the DSB Study Group then examined concrete ways to improve the present program, taking into account suggestions made by management and technology representatives of US industry particularly with respect to the newest and leading edge of the present DoD program -- the "family of weapons" concept. Finally, the DSB Study Group examined the principal advantages of a revised approach to the family of weapons and some of its remaining difficulties.

Main Elements of Present DoD Program

Overview. As outlined by Dr. Perry, the main elements of the present program of armaments collaboration being followed by OUSDR&E are:

(1) A series of bilateral defense procurement Memorandums of Understanding (MOUs).

(2) A series of dual production agreements for systems in the US and in Europe.

(3) A proposed "family of weapons" concept for allocating and specializing development of new requirements on an Alliance-wide basis.

Table 1 depicts the principal objectives, approach to implementation, and status and characteristics of each of these elements.

Defense Procurement MOUs. Since US defense industries have more experience in selling in Europe than do European defense industries in selling in the US, the principal expectation of bilateral defense procurement MOUs, such as the one which was signed between the UK and the US in September 1975, is to give European industries a better chance to bid and succeed in selling in the US defense market. Under the UK-US MOU, one British firm, Marconi Communications Systems, Ltd., has recently

TABLE 1

ELEMENTS OF USDR&E PROPOSED PROGRAM FOR ARMAMENTS COLLABRATION

	Objective	Approach	Status Characteristics
Defense Procurement MOUs	Facilitate military trade and industrial involvement	Opens defense markets on a bilateral basis	Underway
Dual Production	Standardize, protect national economies, and promote industrial involvement through licenses	License and share total market	Examples exist Needs for equipment determined nationally
Family of Weapons	Distribute responsibility for development and possible production and get better/ more weapons	Specialize development	Longer term Starts with agreed upon doctrine/ requirements Assigns functional segments of market

been awarded a major subcontract on a US Army development -- namely, the Single Channel Ground Air Radio System (SINCGARS). It is not likely that such defense procurement MOUs will significantly, in and of themselves, alter the balance of military trade between North America and Europe, but they could stimulate more trade and better reciprocal opportunities to select the best systems or subsystems development and production capabilities. While there was some initial criticism of the UK-US MOU as establishing a special relationship, the US has offered to negotiate similar MOUs with all NATO partners and has signed one with Norway. Criticism still remains, however, that this approach perpetuates a pattern of many unbalanced streets of trade between the US and European NATO states and hampers intra-European rationalization of armaments policies and defense industries.

Dual Production

Almost since the beginning of the Alliance, individual states have satisfied immediate requirements, averted development costs, or acquired particular technologies by arranging the negotiation of rights to produce an ally's proven system under license to their domestic industries. During the early years of the Alliance many licenses flowed from the US to Europe to provide for European (or dual with American) production of thousands of such systems as Hawk air defense missiles, Sidewinder air-to-air missiles, and Bullpup air-to-surface missiles. Licenses have also flowed for a long time in the other direction -- perhaps, most successfully for the British 105mm tank gun, but also less successfully for higher technology systems such as the British B-57 Canberra aircraft, the French AN/TPS-58 radar, the Dutch MK-87 fire control system, and most recently the French-German Roland air defense missile system.

As a specific element of armaments collaboration to achieve standardization or interoperability, dual production -- or licensed production -- was proposed as a principal approach in the second annual report of the Secretary of Defense to the Congress on NATO rationalization/standardization in January 1976 and endorsed by the Congress in the

Culver-Nunn Amendments to the Defense Appropriation Authorization Act, 1977 passed later that year.

Dual or licensed production maintains some clear-cut advantages over direct military purchase from the industry of the developing state:

(1) It does achieve a degree of standardization among participating states so long as reasonable configuration control is maintained.

(2) Licensee states do not have to fund separate development and economies are effected.

(3) The approach minimizes potential hardship to the economy of the non-developing state by

a. Minimizing outflow of funds for direct purchase.

b. Providing employment in domestic industries licensed to produce.

(4) It increases the survivability of the Alliance production base with lines on both sides of the Atlantic.

(5) It does not depend on mutual agreement on and coordination of the timing of requirements, and the need for a particular system is determined nationally, thus minimizing complicated negotiations.

Family of Weapons Concept. The family of weapons concept is new and represents the leading edge of the present DoD program of armaments collaboration. As described by Dr. Perry to the DSB Study Group, the concept has three distinctive features:

(1) It specifically aims at rationalizing the use of collective Alliance R&D resources by proposing and agreeing on a distribution of responsibility for development (and possibly for production) for a set of common weapon system requirements.

(2) By thus specializing development - and later sharing technology - it should enable the Alliance to develop and produce better and more, as well as standardized, weapons for Alliance forces at a given level of resources expended without serious penalty to individual national interests.

(3) It represents a longer term solution than the two previous elements of the present DoD program and depends critically on early agreement among collaborating allies on doctrine and common requirements and, implicitly, on assigning functional segments of a market.

Central to the family of weapons concept is that some of the shortcomings of individual weapon system collaborations can be eased or overcome by a collaboration that encompasses several systems in a specified functional or technological "family." The concept attempts to optimize the advantages of single source developments and of individual collaborations. It requires collaborating allies to agree that one will assume responsibility for developing one weapon in a family while the others assume responsibility for other weapons in the same family and that they also agree in advance to share the results of their separate developments. They must also mutually agree not to conduct competing developments for the systems assigned to the others. Depending on the circumstances, production could be single source, dual production, or joint production for each developed system.

Possible examples of application of the family of weapons concept have been suggested for the next generation of antitank weapons or of air-to-air missiles.

There are acknowledged difficulties with the concept which is still in embrionic stages:

(1) Should a "family" be defined primarily by function (e.g., antitank vs air-to-air) or by its technology (e.g., type of guidance or propulsion)?

(2) Is it possible to coordinate replacement schedules sufficiently for a family of weapons when this is difficult already on an individual weapon system basis?

(3) While in some ways the specialized single-source development seems to imply a corresponding division of an extra-NATO market and thereby ease or finesse difficult negotiations on this issue, are functional segments of that market similar enough or predictable enough

to the corresponding segments of the NATO market to facilitate acceptance of specialization?

(4) Can different political interests in possible Third World markets be accommodated under this concept?

DSB Study Group Appraisal of Present DoD Program

Table 2 presents a summary of the DSB Study Group's appraisal of the present DoD program of armaments collaboration. The following paragraphs briefly elaborate the comments contained therein.

Defense Procurement MOUs. One of the principal arguments in favor of continuing this element of the present program is that it is already underway and represents a beginning for armaments collaboration. It is an approach that aims directly at minimizing or removing barriers to military trade. The UK-US MOU was strongly desired by the British for this reason. Being bilateral, MOUs are relatively easy to negotiate and can be developed without engaging the complex international machinery of NATO or the IEPG. Besides offering equal and reciprocal opportunities for participation in each other's defense markets, defense procurement MOUs facilitate opportunities for industrial cooperation among the defense industries of participating states.

On the other hand, bilateral defense procurement MOUs are potentially divisive from the point of view of the Alliance as a whole. There was some feeling in Europe that the UK-US MOU was establishing or confirming a special relationship to the relative disadvantage of other Europeans. Also, on the negative side, bilateral defense procurement MOUs aimed principally at removing formal legal and regulatory barriers and allowing allied industries to compete in the US market may not really change very much except expectations.

In sum, the DSB Study Group concludes that defense procurement MOUs can be a helpful tool in a much broader approach to armaments collaboration if they are carefully used. Using them carefully includes, at least, ensuring that other NATO allies to whom they would be attractive

TABLE 2

DSB STUDY GROUP APPRAISAL
OF OSD's PRESENT PROGRAM

	Pros	Cons	DSB Conclusion
Defense Procurement MOUs	Underway – a beginning Bilateral – therefore easier Equal participation opportunities Facilitates cooperation	Potentially alliance divisive Won't change much––creates unachievable expectations	Helpful tool if carefully used
Dual Production	Security enhancement Economic incentives Standardizes Saves on development funds	Does not satisfy long term European needs Split markets and dual production investment Raises Third Country issues Increases costs over one source Transfers production technology	Good approach for near term––little chance for long term solution
Family of Weapons	Longer production runs feasible on each project Could satisfy two-way street Insures part of US market to Europeans and vice-versa Standardizes Saves on development funds Minimizes, but doesn't eliminate Third Country issue	Could end up with second best system/subsystem Limits competition–could raise costs Single design could result in no acceptable system No US participation/reduced commitment No US participation/less likely to meet US requirements Endangers each national tech base as R&D funds dry up and can endanger commercial markets Difficult to ever reenter field	Co-development and co-production only

have the chance to negotiate MOUs with the US comparable to those for the UK and Norway and not allowing them to impede the emergence of other forms of armaments collaboration congenial to industry and to European integration as well as to the strength of the Alliance as a whole.

Dual Production. As noted previously, one of the principal arguments for dual production is that it enhances the security of the production base. Furthermore, a nation that acquires a weapon developed within another nation by licensed production rather than by direct purchase also decreases its cash outflow and protects domestic employment. At the level of achieving improved NATO force effectiveness, dual production of proven systems has the distinct advantage of standardizing important elements of the operational capabilities of participating nations. They may require strong international project management or firm national commitments to maintain configuration control, but when successful it is clearly one of the most attractive features of dual production.

Despite such benefits, there are, however, some significant drawbacks to dual production. As their own military technological capabilities have progressed, European industries do not wish to be merely licensees for US developed weapon systems. The principal industrial partners on both sides of the Atlantic do prefer to maintain strong development capabilities, especially in the advanced or high technology areas where spinoff benefits to civilian economies are believed to be greatest.

Again, principally from a European point of view, a major economic argument for standardization is that it should enlarge the market for any given system thereby affording economies of volume production. Dual production splits this larger market, thereby perpetuating redundant investment in production capabilities and failing to achieve the hoped-for acquisition costs savings that should be realized from a single source production. Living with a present fragmented NATO market, major weapons producers (especially in Europe, but to some extent also in the

US) have sought the unit cost relief of extra-NATO sales markets. Dual production -- while continuing the multiplicity of production sources within NATO -- severely complicates the extra-NATO or "third country" sales issues.

A final objection to dual production -- one more often voiced by US industry -- is that it involves not only the transfer of specific system technology of how the weapon works, but, more importantly from industry's point of view, vital production and manufacturing technology, which is the lifeblood of a firm's competitive capability.

The DSB Study Group sees little chance that dual production will provide much of a long term solution. Objections such as those noted based on long term technological, commercial and other national interests will make it an increasingly difficult approach to apply successfully.

Family of Weapons Concept. In its simplest form the family of weapons concept, by dividing responsibility for each weapon in a family among participating states and their industries, would make it feasible to achieve some of the economies of longer production runs for each project. This would be a clear advantage of the concept in comparison to dual production. Of course, this would be at the expense of foregoing one of the main advantages of the dual production approach, namely enhancing security of supply by providing at least two separate sources of production.

One of the strongest arguments in favor of the family of weapons concept is that it appears to satisfy European demands for a better balance on the two-way street. The US, under this concept, would agree in advance not to try to meet each requirement for the family of weapons concerned from US national industrial resources alone, but to accept European solutions for some. Within this concept, part of the US market would also be ensured to the European industries that developed and produced a member of the family, as part of the European market would be ensured to US developers and producers for their member(s) of the family.

The major operational effectiveness argument for the concept is that it would provide standardization of the weapons developed and produced to meet agreed on requirements. Both defense procurement MOUs and dual production achieve degrees of standardization also, but the standardization achieved by those approaches is on an ad hoc basis and almost incidental to achieving other objectives of the concepts, particularly in the case of the defense procurement MOUs. The principal resource-allocation argument for the concept and its essential aim is to provide a rational means of saving on the Alliance-wide expenditure of development funds. Application of the family of weapons concept with single-source producers as well as developers would also appear to minimize or at least finesse the issue of third country sales. The issue would by no means be eliminated, but agreement on a division of responsibility for developing and producing systems for NATO would tacitly or explicitly also involve early agreement in handling competition in this area.

The DSB Study Group finds that one obvious argument against the concept is that it could, by making assignments on a division of responsibility for weapons in a family, lead to the development of second best systems or subsystems. The limitation on competition could also lead to higher costs for individual systems. And finally, the lack of competition implied by the concept could lead not only to second best systems at higher costs but even to no acceptable system in some cases.

The lack of US participation in the development and production of a system may either imply or tend to cause a reduced US commitment to the program. Especially for systems, the development of which may take several years stretching across the tenure of two or more Congresses and even two Administrations, this is likely to be a problem.

Finally, there is the problem of the national technology base. If R&D funds are not committed to a specific development area, the technology base may well dry up. It is generally not adequate simply to commit research funds for the technology base since the real driving function even here is the prospect and the necessity eventually to

to produce an operational system at affordable cost that will meet specific requirements. There is a synergism between pure research and development that makes each essential to the other. If the technology base in a given technological area does dry up due to lack of development incentive and funding, it is extremely difficult to reenter the field.

All things considered, the DSB does not believe the family of weapons concept in its present form to be particularly feasible or desirable. The DSB Study Group does, however, believe that there is merit in trying to work out an arrangement across a family of weapons (as compared to on an individual weapon system basis) for a type of collaboration that will share rather than divide responsibilities on a more nearly optimum basis than at present within the Alliance. The essence of such an approach, the DSB Study Group concludes, must be an arrangement for co-development and co-production.

Emphasis on Co-Development and Co-Production

Reasons for Emphasizing Co-Development and Co-Production. Notwithstanding the difficulties in any armaments collaboration, the DSB Study Group affirms that standardization can be militarily very important. Standardization among a family of weapons should be relatively easier to achieve than on an individual weapon system basis. The various national, economic, technological and commercial interests involved can be accommmodated in a larger framework than when these are handled only in a case-by-case approach. On the other hand, no grand solution to weapons standardization can be provided or imposed on the sovereign states of NATO. Between the scylla of negotiating everything case-by-case and the charybdis of seeking a grand solution, a family of weapons concept that stresses co-development and co-production is worth a good hard try.

By stressing co-development and co-production, the DSB Study Group intends that any approach using a family of weapons concept should give each participating state and its industries with the technological

capabilities a chance to participate in aspects of system or subsystem development and production. Any new weapon development requires a certain amount of "advocacy" in the competition for national resource allocations. Industrial participation in co-development and co-production helps establish the necessary in-country advocacy that can open domestic markets - US as well as European - to the longer production runs that can make the approach more economically acceptable.

Division of responsibility for development along national or even continental lines may foreclose opportunities for using the best technological capabilities available to the Alliance as a whole. An approach that provides for co-development of any system provides the greatest opportunity and assurance that the best Alliance technology will be employed at both systems integration and subsystems and component levels. Co-development and co-production with trans-Atlantic teaming and subcontracting would also permit some control of country by country trade balances. Traffic on the two-way street would be adjusted by subsystems and components more than by total systems or military end items.

With respect to one always troublesome aspect of armaments collaboration -- namely technology sharing, prime contractors and international subcontractors in a co-development and co-production program are likely to be in a better position than their governments to assess the value and fair price for the complementary technologies that must be used, shared, or licensed. Where technology needs to be transferred or would appear to be desirable to transfer could be more equitably determined under a co-development and co-production arrangement than under a single development and dual production arrangement. With co-development and co-production it is less necessary to transfer either highly sensitive system technology or critical production technology.

The other major troublesome issue of all armaments collaboration -- that is, third country sales -- would not be uniquely solved by co-development and co-production. However, co-development would allow, or even require, that this issue be confronted very early in a collaboration and a solution worked out before too many commitments and expectations are established.

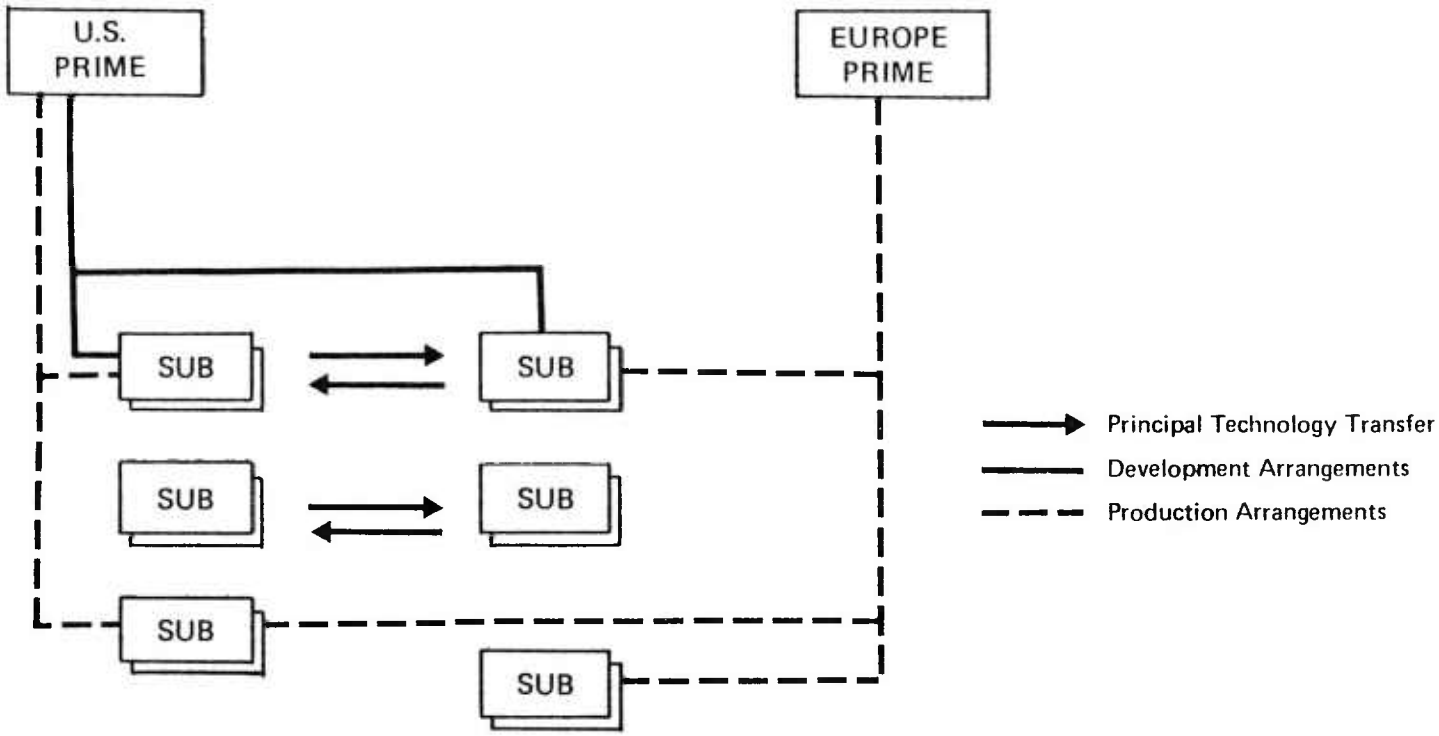
A Model of Co-Development and Co-Production. The DSB Study Group queried US industry representatives for ideas or models as to how a co-development and co-production approach to the family of weapons concept could be implemented. Figure 1 presents such a model, which is commended to OUSDR&E for further critical attention and possible early application.

The model shown in Figure 1 shows only the case in which the development of a particular weapon in a family is funded by the US. A mirror-image picture would be drawn for each weapon whose development is funded by a NATO European state or group of states.

Listed in the lower half of the figure are some of the essential features of this model. First of all, the model requires that there be clear and firm trans-Atlantic agreement on (a) the requirements for and the interoperability criteria for the weapons in the family; (b) the expected sizes of the US and European national buys of each weapon so that planning can be reasonably and fairly accomplished; and (c) which government will be the sponsoring government for each development and which shares or types of shares of the co-development may be expected to be assigned to industries within other participating states. Agreement on each of these points is regarded by the DSB Study Group as essential. The last of these three points requires further elaboration by reference to the block diagram shown.

A second feature of the proposed approach is that the sponsoring government will provide 100 percent of the funding of the development. The DSB Study Group believes that even though co-development is proposed rather than a development carried out within one country alone, the principle should be maintained that the sponsoring government provides all of the development funds. Besides reducing redundancies in development, this would provide for firmer and simpler project control.

The prime industrial contractor would be an industrial company in the sponsoring country. The prime contractor would be fully responsible for the development to the sponsoring government, but would be required to select principal subcontractors from within the other participating



Essential Characteristics

1. Trans-Atlantic agreement on
   - Requirement/interoperability criteria
   - Size of U.S. and European buys – (for planning only)
   - Sponsoring government – shares to others
2. Sponsor funds R&D 100%
3. Prime selects subcontractors through competition
4. Others agree not to do different designs

Figure 1 – A Co-Development/Co-Production Model Facilitating Technology Transfer

states in accordance with agreed on shares of co-development that are to go to those states. As much as possible, selection of subcontractors should be through competition to ensure use of the best available technological capability.

Finally, each of the states participating in the funding of individual weapons in the family would agree not to fund parallel or competing developments of systems or designs being sponsored by other participants.

For the case of a US sponsored development, the block diagram is intended to display some of these features and to indicate others. Since as assembly line on both sides of the Atlantic is likely to be desirable even if individual subsystems or components are not manufactured on both sides (as they would be in complete dual production), a European prime for the European production and assembly should be selected early in the process to assist and coordinate with the US prime developer/producer. The US prime developer, however, would have final responsibility for selecting the European subsystem and component developers who would later participate in the European production. Both US and European development subcontractors would assist the US prime developer in selecting counterparts on the other side of the Atlantic who could be the principal subcontractors for production and perhaps assist in development, if the subcontractors so chosen needed to acquire some technology abroad. These linkages should help to make the best technologies available for the given system since the contracting industries would both be assured a share in production. Subcontractors on both sides of the Atlantic would thus have high incentives to make the development a success by collaborative involvement of companies on the other side of the Atlantic that might otherwise seem principally to be competitors.

Since, in some cases, highly specialized or unique capabilities exist on either side of the Atlantic, the block diagram shows some subcontractors that would be subcontractors to either the US prime contractor for production or the European prime contractor for production.

The DSB Study Group believes that, however complex this model may at first appear, it has certain attractive aspects. In particular, it attempts to offer the most realistic incentives to industries to cooperate across the Atlantic and to leave to cooperating industries the principal roles in negotiating the terms of the technology transfers that must take place.

Implementing the Model: A First Step. Figure 2 presents a flow diagram for implementing the modified approach to the family of weapons concept as proposed by the DSB Study Group. This is labeled a "first step" to emphasize that the DSB Study Group believes that DoD should go slowly and learn while doing in implementing this modified approach.

The diagram is intended to be self-explanatory and will not be commented on in detail. However, it does contain within each of the stages in the process a few points that may not be self-evident from the previous discussion of the DSB Study Group model. The following brief paragraphs highlight some of these points.

Select Four Programs. Since the selection of the mebers of the family should reflect national choices to fund entire developments as much as possible, and not a toughly bargained assignment of responsibilities or arbitrary deal of the cards from a narrowly defined area, it is critical that each weapon or system chosen for collaboration represents on agreed-on common requirement for the participating states, and that it is of interest to the industries of the sponsoring states. The "family" may be chosen from any set of common requirements.

Prepare MOU. The basic agreement on the selection of programs to be developed under the family concept and the broad terms of the collaboration on each should be outlined in a Memorandum of Understanding or a series of MOUs. Since the sponsoring country in each case is likely to be one of the Big Four (UK, FRG, France, US), special attention must be given to providing opportunities for smaller states to share in the development, as they are able and willing to do so, as well as in the

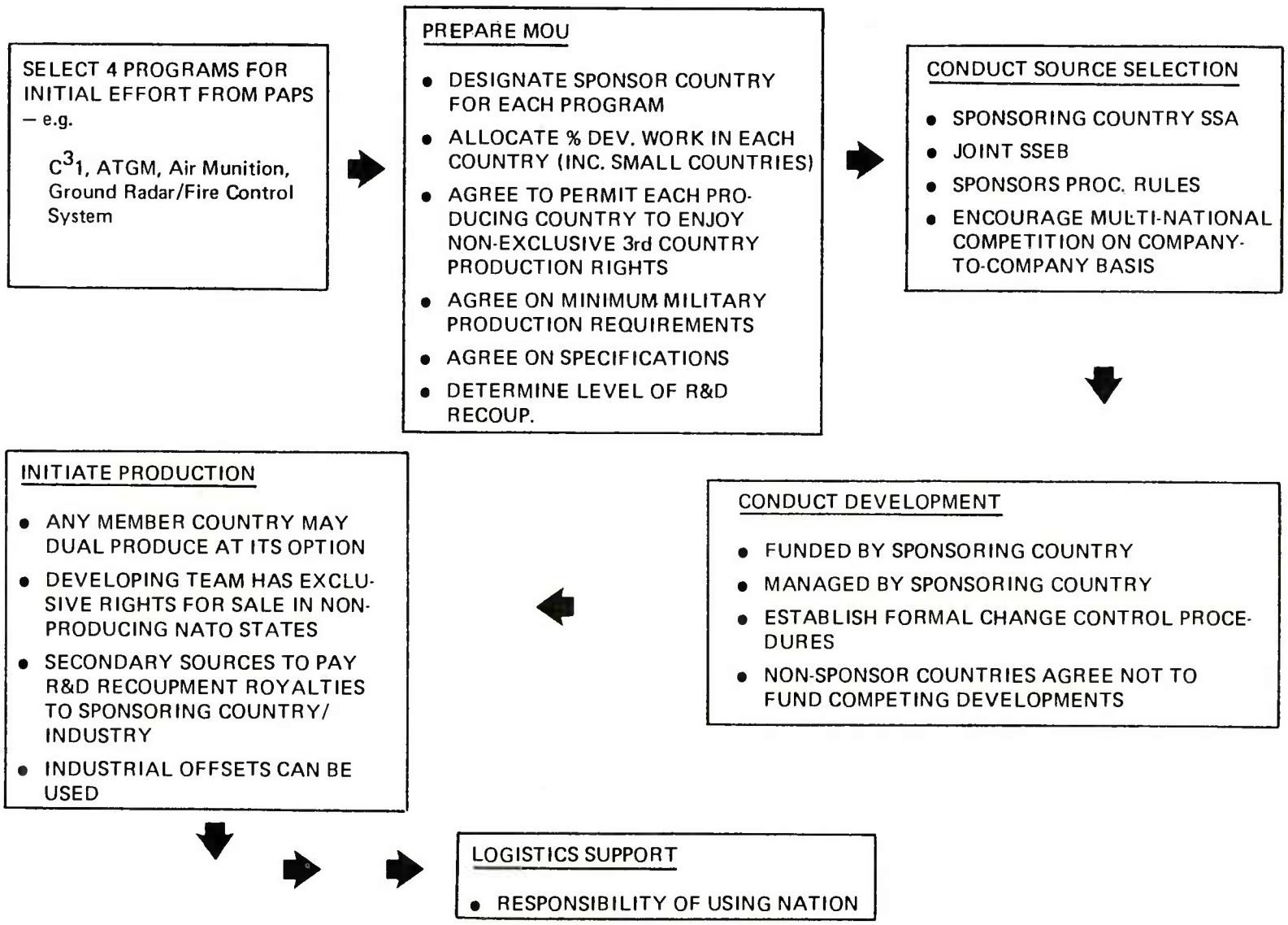


Figure 2 – First Step in "Family of Weapons" Concept

later production. Probably the best way to handle the third country sales issue is to grant each producing country or consortium non-exclusive production rights for sales to extra-NATO third countries; exclusive production rights for sales to NATO countries not participating in production should probably be reserved to the developing country and its production consortium.

Conduct Source Selection. As discussed previously, the development source selection would be the responsibility of the sponsoring country and its Source Selection Agency (SSA). However, a voluntary joint Source Selection Evaluation Board (SSEB) should be set up consisting of representatives from all participating states to advise and assist the sponsoring country SSA. In each case, the sponsor's procurement rules should be used in source selection.

Conduct Development. As in the source selection process, the sponsoring country's procurement rules should be used to manage the development.

Initiate Production. A key point of this approach is to provide multiple production options while rationalizing the Alliance use of development resources. Under this concept, any participating country would have rights to dual produce for its own procurement at its option. If secondary production sources are established, they should be required to pay R&D recoupment costs and royalties to the sponsoring country and its industries. A liberal policy on the use of industrial offsets to facilitate co-production should be followed.

Logistic Support. At the present, logistic support for weapons systems remains principally the responsibility of using nations in NATO.

Summary of DSB Study Group Proposal for a Family of Weapons Concept

The particular advantages of the model of a co-development and co-production approach to the family of weapons concept as proposed by the DSB Study Group are:

- It involves commitment to a common program (or set of programs) by the participation of many nations, yet assigns leadership of each program to a single leader.

- Although control and responsibility for the development are vested in the funding nation, that nation is given both reason to and the means to consider the interest of other participating nations.

- Since co-development and co-production are involved in each program, there is no necessary reason to make a commitment in advance on production; all can wait and see if the development is successful.

- The co-development approach outlined makes high technology available to all the participating members of the Alliance, but it is transferred industrially for acceptable value received.

- The model provides ample opportunity for learning from the process without need to finalize the approach at the initiation of the programs.

Difficulties still remain with the family of weapons concept, even if modified as proposed by the DSB Study Group. Two critical ones are:

- The initial arrangements, which must include several weapons and systems and as many nations as wish to participate, will be difficult to establish.

- Although the modified concept attempts to provide enlarged opportunities for high technology to be made available, by restricting development (or, better, co-development) to one funded program it does not guarantee that the best technology will be used.

OTHER DSB STUDY GROUP RECOMMENDATIONS FOR IMPROVING EFFECTIVENESS

In making the recommendation that DoD emphasize co-development and co-production in its approach(es) to armaments collaboration, the DSB Study Group believes that:

(1) The present DoD program is a start in the direction of better armaments collaboration in NATO that should be built on.

(2) The present DoD program has serious limitations and weaknesses in providing inadequate incentives to both NATO governments and industries to collaborate.

(3) Both Europe and the US are in the midst of a formulative period of re-thinking and reorienting the application of their defense industrial capabilities toward meeting common NATO goals and individual national goals.

(4) In this formulative period, the US and NATO European states should remain open to creative approaches — particularly those proposed by their industries — and not prematurely commit themselves to any one approach that may become doctrinaire.

(5) There are some broad areas of government policies and procedures where immediate changes or improvements can be made to facilitate flexible and adaptable armaments collaboration as a means to improving NATO effectiveness.

(6) There are some critical unresolved issues impeding armaments collaboration, which require the highest policy attention to resolve before armaments collaboration can move very far in new directions.

In regard to the fifth item above, the DSB has provided analyses and recommendations to resolve these issues in the following areas:

- Common defense planning
- Increased emphasis on interoperability
- Improved/modified US procedures and regulations

- Industry involvement in a strategy for co-development and co-production
- Improved approaches to collaboration

Common Defense Planning

Joint Requirements. Ideally, armaments collaboration should proceed from the formulation of joint requirements. Virtually every attempt to adopt another country's development to meet one's own requirement, or adapt one's own development to meet another country's requirement contains difficulties and increases the cost of collaboration. Once requirements have been formulated and accepted on a separate national basis, it is almost too late to begin efficient armaments collaboration. To facilitate formulation of joint requirements as the basis for future armaments collaboration, the DSB Study Group recommends that military staff talks on common doctrine and tactics be strongly supported and endorsed by DoD.

Interoperability. The formulation of joint requirements will have its impact on future capabilities. Improvement in existing capabilities depends on immediate attention to interoperability in NATO as a whole and in the US. From a military point of view, interoperability of fielded forces and equipments could be regarded as an end in itself and standardization, as a means to that end. The DSB Study Group supports and commends the attention that SHAPE and the JCS have given to establishing priorities for interoperability and recommends that DoD give immedaite programmatic emphasis to them in its program of armaments collaboration.

Standardization Agreements (STANAGs). The Military Agency for Standardization (MAS) of the Military Committee has published and promulgated some 600 STANAGs over the years, which have been developed and negotiated through many working groups and committees on both the military and the civilian sides of NATO. The materiel STANAGs (about half of the total) form an important basis for achieving degrees of both standardization and interoperability of NATO equipments. The DSB Study Group

believes that, if STANAGs are worth the trouble to negotiate, there should be greater provision for stressing their importance in common defense planning. In particular, reasonable schedules for their implementation should be agreed to as part of their negotiation and means should be established to monitor compliance with them.

Equipment Replacement Schedules. Efficient armaments collaboration on specific programs, especially if any joint funding of co-development is contemplated therein, and the formulation of joint requirements depend on the reasonable coordination of equipment replacement schedules. There are, of course, many difficulties in coordinating equipment replacement schedules as there are in formulating joint requirements. However, planned inventory lives of specific systems and planned initial operational capabilities (IOCs) for new systems are frequently changed for purely national reasons. The DSB Study Group believes that in some circumstances it is worth the effort or cost to adjust both of these for the sake of improved NATO effectiveness through armaments collaboration. The DSB Study Group therefore recommends that DoD give increased support to the development of PAPS within NATO to facilitate coordination of equipment replacement schedules. It should be recognized, however, that while PAPS is necessary, it is not sufficient. As with the formulation of joint requirements, bilateral talks and negotiations with allies with whom armaments compatibility is most important for NATO effectiveness will also be necessary.

Increased US Emphasis on Interoperability

The DSB Study Group does not accept a sharp dichotomy between standardization and interoperability. Interoperability requires a degree of standardization and is sometimes described as standardization from the bottom up. Standardization (even from the top down) aims at and implies interoperability of equipments and forces. Nonetheless, there has been some tendency to see standardization and interoperability as differences of kind more than differences of degree and to regard the US as pressing for NATO-wide standardization to the neglect of

interoperability or to the potential disadvantage of European NATO allies and their industries.

The DSB Study Group believes that a US program of armaments collaboration to improve NATO effectiveness should give at least equal weight to interoperability as to standardization as these terms are formally defined in NATO. This would require increasing the emphasis on interoperability in present US policy statements and in the systems acquisition process.

Policy on Established NATO and JCS Priority Areas. As a policy matter, DoD should make clear that it accepts and emphasizes the established NATO and JCS priority areas for interoperability. These are:

- Command, control, communications
- Cross-servicing of aircraft
- Ammunition
- Battlefield surveillance and target acquisition and designation
- Components and spare parts

Implications for Systems Acquisition Process. To give meaning and force to this emphasis in policy, interoperability must also receive increased emphasis in the systems acquisition process. It is necessary, that the specific requirement for interoperability be written into required operational capability (ROC) statements and requests for proposal (RFPs) as well as into development contracts. The concern for NATO-wide interoperability should also be made more explicit and focused in all Service System Acquisition Review Council (SSARC) an Defense System Acquisition Review Council (DSARC) milestones and reviews. Finally, operational tests and evaluations of systems under development should be required to include a demonstration or certification of NATO interoperability.

An Interoperability Action Plan. Further to give concreteness and emphasis on interoperability along the lines of the established NATO and JCS priority areas, DoD should develop an action plan to implement this interoperability emphasis.

Improved/Modified US Procedures and Regulations

In addition to the specific suggestions made above for improving common defense planning and increasing the emphasis on interoperability, the DSB Study Group recommends that certain general US procedures and regulations be improved or modified to facilitate armaments collaboration.

Guidelines and Rules for Teaming. Although US industry does not wish to be encumbered or hampered in its negotiations with European industry by complex and restrictive rules, some minimum and consistent guidelines and rules are necessary to give industry a framework for negotiating with confidence that teaming arrangements entered into will be acceptable and supported by the US Government.

Information Release Cycle. Efforts need to be undertaken to review the categories of information that can be released under different stages of collaboration and to shorten the approval cycles at each stage. Opportunities for transatlantic collaboration, in particular, will be lost without significant improvement in these procedures.

Release of Performance Data. To facilitate armaments collaboration on systems currently under development, much more forthcoming procedures for release of performance data must be developed.

Release of EW Vulnerability Data. Armaments collaboration among NATO Allies is exceedingly difficult without shared knowledge of and agreement on EW vulnerability. Clearly a tradeoff of military significance is involved here more than in the general area of performance data. DoD must give increased attention to this tradeoff and make better

provision for timely release of EW vulnerability data in those areas where standardization and interoperability are deemed most important.

Contract Terms and Conditions in International Procurement. The Armed Service Procurement Regulations (ASPRs) should be reviewed and modified to provide waivers of peculiarly US terms and conditions or the substitution of European terms and conditions in US procurement contracts. As much as possible, international procurements should respect and use the regulations of the collaborating governments.

Focused Guidance in RFPs, Including Data Rights. Virtually any development conducted by industry involves background data, which are company owned and regarded as what makes the company competitive, as well as foreground data, which are paid for directly by the development contract. Most European governments allow their contractors to own foreground rights also. To ask US industries to be prepared in advance to surrender or to sell all data rights appears to be unnecessary and unreasonable. More focused guidance on all collaborative issues in RFPs is needed, but especially on the question of data rights.

Interpretation of Anti-Trust Laws. Before international agreements on defense market sharing are entered into and industrial firms are committed to their provisions, DoD should seek Justice Department interpretations of anti-trust laws to ensure that the agreements are acceptable under them.

OMB Circular A-109. Circular A-109 recently issued by the Office of Management and Budget essentially provides for an acquisition system that postpones commitment on procurement until development has been completely worked out and judged successful and to be the best available in meeting the mission element need statement (MENS). Since A-109 is less appropriate for a European environment and for an environment of armaments collaboration that depends on early and long term commitment

to agreed requirements and procurement of the systems under development, the DSB Study Group recommends that A-109 be reviewed and modified to allow for earlier decision making with NATO Allies on armaments collaboration programs.

Other Ways to Provide Long Term Commitments. Europeans, with a long history of intra-European collaboration on development as well as production of armaments, have come to count on long term commitments to joint programs. Formally, with annual budget cycles and Congressional authorizations and appropriations, the US system does not provide for long term commitments to (as distinct from planning for) any acquisitions. Acquisitions are legally determined on an annual cycle. Europeans are sensitive to this issue and wary of entering into apparently long term commitments that could be cancelled or unfulfilled. DoD should study and discuss with the Congress ways to provide longer term formal commitments on armaments collaboration to NATO allies.

Industry Involvement in a Strategy for Co-Development and Co-Production

From its discussions with management and technology representatives of US industry, the DSB Study Group believes that there must be a more sustained and systematic dialogue between the US Government and industry that yields a better industry involvement in a strategy for co-development and co-production as the thrust of armaments collaboration to achieve standardization.

Some of the things that could improve industry motivation and sustain industry involvement are:

- Structuring incentives into RFPs and evaluation criteria
- Ensuring profitability in technology transfer
- Allowing partial recovery of costs of exploring opportunities for cooperation
- Communicating policy and program effectively and unambiguously to industry

Improved Approaches to Collaboration

Armaments collaboration, like military trade between the US and Europe, has to become more of a two-way street if it is to function across the Atlantic. The following comments and suggestions are oriented principally to the need for progressing responsively to evolutionary European policies, programs and interests in armaments collaboration.

Avoid Commitments to a Single Overall Approach. No one overall US approach to armaments collaboration can be developed to encompass all cases because:

- The needs and capabilities of European NATO allies vary greatly with respect to armaments collaboration
- Many European industries remain fearful and suspicious of US industrial domination
- Europeans are not unanimous in their approaches to armaments collaboration
- European states have strong technological and development capabilities in particular areas which match or exceed US capabilities

Define Objectives of Armaments Collaboration and Develop a Concept for Achieving Them.

Consider a Variety of Approaches. In any particular case, the approach to be followed should take account especially of:

- The realities of domestic and export markets and export market needs of the participants
- The specialized or unique technological capabilities available or required
- Differing national policies and economic-industrial needs and priorities

Start with Specific Programs. If armaments collaboration is to achieve the goal of improving NATO effectiveness, it is important to get the process started with a few realistic programs with a high prospect of success. In the long run, better armaments collaboration

will come about as an evolutionary and not a revolutionary process. The proper institutional and governmental framework and guidance for this process will come best from experience.

KEY ISSUES

The DSB Study Group identified several key issues of armaments collaboration that pose policy problems involving other agencies of the US Government besides the Department of Defense. Most of the issues concern other US interests and policies that complicate and constrain armaments collaboration within NATO or would themselves be complicated or constrained by a major push for increased armaments collaboration. Such issues fall broadly into three areas: military, political, and economic. The DSB Study Group strongly recommends that these issues be addressed and resolved at the appropriate levels of the US Government so that DoD policies and programs for NATO armaments collaboration may be developed smoothly and consistently with the national interest.

Military

The principal military issue that needs resolution concerns the potential conflict between worldwide US commitments and US NATO commitments.

Differences in Systems Requirements. US general purpose forces are generally structured and equipped to meet either type of commitment, and the US system acquisition process for these forces is geared to this double commitment. However, if and where US requirements for specific types of systems for NATO use of for worldwide use cannot be reconciled, the US may be confronted with the choice of standardizing within NATO and destandardizing within its own general purpose forces or standardizing within US general purpose forces and destandardizing within NATO.

Differences in Equipment Specifications. The physical environment of the Middle East and Central Europe differ radically as well as the tactics and doctrine that may be employed in them. Hence, US equipment specifications for helicopters, for example, provide for different climb rates, operating temperature ranges, safety and survivability parameters than do NATO European equipment specifications.

Vulnerability of Production Base. The use of non-US suppliers for components or subsystems in co-production programs or of non-US suppliers in military trade poses a potential problem for US worldwide commitments. Clearly a European production base on which the US was solely dependent for some of its procurement would be highly vulnerable in wartime to disruption or attack and in peacetime to political constraints.

Political

Forum(s) for Armaments Collaboration. The multiplicity of forums for armaments collaboration within the formal NATO structure and outside it has been commented on above. For realistic and near term armaments collaboration, the US tends principally to use bilateral negotiations and the Four Power forum. It is unclear to the DSB Study Group whether this helps or hinders the stated, longer term desire for a stronger Western Europe and European industrial base. To encourage the latter, there was some sentiment in the DSB Study Group for dealing only with the IEPG. But it is far from clear whether this would be effective or put far too much strain on an embrionic institution.

Extra-NATO Arms Sales. US arms export policy as currently stated and interpreted is likely to make European defense industries and states more reluctant to enter into trans-Atlantic armaments collaborations in the future unless some relief can be found from the third-party restrictions. The DSB Study Group recommends that steps be taken to seek such relief and to clarify and minimize the restraint imposed on NATO Allies by US self restraint.

Long Term Program Commitments. With smaller total R&D funds allocated and sometimes higher development costs for co-development, European governments and parliaments feel they can afford to make only very few false starts. Unless the Congress and the President can find ways to provide more credible long term program commitments, trans-Atlantic armaments collaboration will tend to be second best choices for many European governments in comparison to intra-European collaborations.

Economic

There are no stated US goals related to armaments collaboration pertaining to the strength of the US economy, jobs for US industry, or commercial trade. Armaments collaboration is likely to have an impact, which is neither very well understood nor predictable, in such economic areas. The possible impact of armaments collaboration on the US economy is particularly hard to decipher because it is extremely difficult to determine what circumstances to compare the economics of collaboration against. The DSB Study Group believes that this subject requires continuing and critical review.

The DSB Study Group calls attention, in particular, to one frequently overlooked aspect of this problem. That is the possible significance of military technology transfer. Within the DSB Study Group, there were widely varied judgments on this issue: some fearing that a liberal military technology transfer policy in armaments collaboration would lead to a progressive weakening of the competitive position and, therefore, health of the US economy in the world and eventually be counterproductive to the military strength of the US and thus of NATO; others feeling that only by a more liberal sharing of US military technology with NATO Europe could Europe and the US be mutually strengthened and that to withhold military technology would be counterproductive to the US by failing to secure US technological superiority (European technology is as energetic and sophisticated as and even superior to US technology in many respects) and by stimulating a protectionist atmosphere.

The DSB Study Group was agreed, however, in regarding technology as playing a crucial role in the health of the US economy. Varied evidence from a Department of Commerce study was adduced to support this point. For example, in an 18 year period from 1957 to 1975, US technology intensive industries showed annual rates of growth almost 1.5 times higher in real output, almost twice as high in employment, and almost 40 percent higher in productivity. Moreover, technology intensive industries contributed to inflation at an annual rate that was only about 60 percent as fast as for all other industries. Finally, the technology intensive industries averaged over $8 billion in net exports compared to an average of $4 billion in net imports in all other industries.

Other statistics tend to indicate that the US may be losing some of the technological drive it enjoyed in previous years. Statistics on patents issued to US and other nationals are an example. While US nationals were issued 4 percent fewer patents worldwide in 1975 than in 1963, other nationals obtained 37 percent more patents in the later year. Other nationals were issued 106 percent more patents in 1975 by the US Patent Office than in 1963, while patents obtained within the US by US nationals increased by only 10 percent. Within the US, less than 20 percent of all patents were obtained by foreign nationals in 1963. By 1975 this proportion had grown to over 30 percent.

Statistics also show that only technology intensive and agricultural products have consistently contributed to the favorable side of the balance of trade from 1971 to the present, while non-technology intensive products and raw materials have consistently shown negative balances. In illustrating specific characteristics of the US/West European balance of trade, figures show that while the US has consistently maintained a favorable balance of trade with Western Europe in both military hardware and in all technology-intensive products ($4 billion in 1976), the unfavorable balance of trade in non-technology intensive products with Europe (-$3 billion in 1976) has brought the total balance close to zero.

Although US military trade with Western Europe is imbalanced

strongly in the US favor, it is useful to consider US military sales in comparison to all US direct defense expenditures in Europe, most of which derive from stationing US forces there. For example, in 1977, the US direct defense expenditures in Europe were approximately $3 billion, while Foreign Military Sales to Europe amounted to about $1 billion. Hence, because of this disparity, the US could be said to have a deficit of close to $2 billion.

To sum up this aspect of the economic issue, the DSB Study Group is concerned that armaments collaboration not contribute to an erosion of the US technology lead and thus to a weakened US economic posture. Technology transfer in armaments collaboration needs to be handled very carefully. Dual production means total transfer of technology including production technology and, generally, technological improvement. Military technology is used in civilian products to a degree that is not well understood, and production technology for military products can improve commerical production capability. Military technology transfer therefore could weaken the US competitive edge in some segments of the commercial market and contribute to a further weakening of the dollar and the US economy. The DSB Study Group believes that this economic issue merits continuing intense study in an inter-agency context and that the issue should be addressed on a program-by-program basis in DSARC reviews for all armaments collaborations.

In the absence of further evidence about the impact on the economy of military technology transfer, the DSB Study Group supports technology transfer only if the tradeoffs are balanced and:

- It is implemented directly by industry-to-industry negotiations and not primarily by government transfer of data packages.
- It is appropriately compensated in the light of immediate and long-term economic value.
- Industry is consulted in the selection of what is to be traded.
- Government regulations are simplified and the time required for approval is reduced.

Appendix A

STUDY PARTICIPANTS

DSB STUDY GROUP

The DSB members who constituted the Study Group on "Achieving Improved NATO Effectiveness Through Armaments Collaboration" were the following:

Dr. Walter B. LaBerge, Chairman of the Study
Under Secretary of the Army

Mr. Oliver C. Boileau, Vice Chairman of the Study
President
Boeing Aerospace

Dr. Betsy Ancker-Johnson
Associate Director
Argonne National Laboratory

Mr. Norman Augustine
Vice President
Martin Marietta Aerospace

Dr. John Baldeschwieler
Division of Chemistry and Chemical Engineering
California Institute of Technology

Dr. Richard DeLauer
Executive Vice President
TRW

Dr. Charles Herzfeld
Technical Director
ITT Telecommunications and Electronics

Dr. Robert Noyce
Chairman of the Board
Intel Corporation

Dr. George Sebestyen
President
Defense Systems, Inc.

MANAGEMENT REPRESENTATIVES FROM INDUSTRY

The following invited guests from industry spent two or three days each in discussions with DSB members:

Mr. W. Crawford
General Manager
General Electric

Mr. P. Devirian
Vice President
FMC

Mr. W. Hawkins
President
Lockheed-California

Mr. L. Heilig
Vice President
Ford Aerospace

Mr. B. Holmes
President
Raytheon

Mr. R. Johnson
President
McDonnell Douglas Astronautics

Mr. J. Richardson
Executive Vice President
Hughes Aircraft

Dr. J. Shea
Senior Vice President
Raytheon

Mr. T. Stuelpnagel
President
Hughes Helicopters

Mr. J. Stuntz
Vice President, Science and Technology
Westinghouse

Mr. G. Tobias
President
Sikorsky Aircraft

TECHNOLOGY REPRESENTATIVES FROM INDUSTRY

The following invited guests from industry spent one to three days each in discussions with DSB members on problems and prospects for technology sharing and transfer:

Dr. F. Bagby
Director, Advanced Systems Laboratory
Battelle Institute

Mr. F. Cleveland
Vice President for Engineering
Lockheed

Mr. M. Fossier
Vice President and Assistant General Manager (Technical)
Raytheon Missiles System Division

Dr. D. Hicks
Senior Vice President, Technical
Northrop

Dr. P. McManigal
Director, Planning
Ford Aerospace

Mr. R. Race
Ordnance Systems
General Electric

Dr. K. Rosen
Sikorsky Aircraft Division

Dr. J. Sternberg
Director, Advanced Systems
Martin Marietta Aerospace

RAdm K. Wallace (Ret.)
McDonnell Douglas Astronautics

Mr. T. Wilson
President
Teledyne Ryan Aeronautical

Mr. P. Wright
Division Vice President, Engineering
RCA Government Systems Division

Dr. R. Ying
Hughes Aircraft Company

US GOVERNMENT AND OTHER EXPERTS

The following persons briefed the DSB Study Group members on selected aspects of NATO RSI and armaments collaboration.

MG T. Ahern
Assistant Deputy Chief of Staff for Research, Development, and Acquisition, USAF

LTG R. Baer
Deputy Commander for Materiel Development
US Army Materiel Development and Readiness Command

Mr. M. Boretsky
Department of Commerce

BG R. Boverie
Assistant Deputy Director of Plans, USAF

MG R. Bowman
Director, NATO Affairs
Office of the Assistant Secretary of Defense/ International Security Affairs

Mr. R. Calaway
Assistant for Program Planning
Office of the Under Secretary of Defense for Research and Engineering

Mr. T. Callaghan
Center for Strategic and International Studies
Georgetown University

Mr. D. Church
Deputy Under Secretary of Defense for Research and Engineering/Acquisition Policy

Ms. E. Frost
Deputy Assistant Secretary of Defense for International Economic Affairs

Dr. V. Garber
Director, International Programs
Office of the Under Secretary of Defense for
Research and Engineering

Mr. R. Gessert
Principal Scientist
General Research Corporation

Mr. J. Goodby
Deputy Assistant Secretary of State/Europe

Dr. R. Hermann
Deputy Under Secretary of Defense for Research
and Engineering/C^3I

RAdm R. Hilton
Director, Strategy, Plans and Policy, USN

RAdm F. Johnson
Director, Undersea and Strategic Warfare and
Nuclear Energy Development, USN

Ambassador R. Komer
Advisor to the Secretary of Defense/NATO Affairs

RAdm J. Lyons
Office of the Joint Chiefs of Staff

Dr. J. Martin
Assistant Secretary of the Air Force/Research,
Development and Logistics

GEN D. Starry
Commanding General
US Army Training and Doctrine Command

Dr. J. Walsh
Assistant Secretary General for Defense Support
NATO

THE UNDER SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

RESEARCH AND
ENGINEERING

31 MAY 1979

MEMORANDUM FOR CHAIRMAN, DEFENSE SCIENCE BOARD

SUBJECT: DSB Summer Study on RSI, Implementation of Recommendations

During the Defense Science Board session on 4 November 1978, it was agreed that my office would prepare a coordinated DoD response on the recommendations contained in the DSB report "Achieving Improved NATO Effectiveness Through Armaments Collaboration," December 1978.

Attachment 1 contains the statements of DoD positions with respect to each of the recommendations. These recommendations provided an excellent forum for in-depth examination of controversial RSI related issues throughout the DoD community, several iterations on the proposed response were necessary to reconcile differing views and propose what we consider the optimum course of action. Where appropriate, an outline of implementation actions has also been included. Most of these actions are already well under way.

In sum, the report of the subject Summer Study has been extremely well received throughout DoD. It has stimulated constructive discussions and new management initiatives. Please convey my compliments to all participants on the DSB Study task force for a very fine effort.

7

William J. Perry

Attachment
a/s

DSB Recommendation #1

Prepare for signature by the Secretary of Defense armaments collaboration policy statements or directives, including the following points:

a. The strong US commitment to interoperability with the forces of the NATO Alliance, and that efforts in DoD to achieve interoperability are of equal importance to those for standardization of complete weapons systems.

b. Programs of international co-development and co-production should be one of the principal long-term methods of achieving Alliance equipment standardization supplementing Memorandums of Understanding which facilitate mutual trade and dual or joint production of currently available Alliance hardware.

c. To the degree possible, industrial competition, will be the basis for international cooperation and that primary technology transfer will be by holder industry company rather than by governmental exchange of data packages.

d. The Department of Defense will consider the potential impact on the US economy (military and commercial trade) when authorizing technology transfers in the military interest of the Alliance.

Action Office: USD(P)

DoD Response:

a. Acceptance in Principle. DoD agrees that policy statements should be developed for armaments cooperation. DoD comments on specific DSB policy recommendations are as follows:

1a. DoD agrees with the need to achieve interoperability as a primary means of enhancing military effectiveness. DoD also believes standardization of entire weapons systems insures interoperability as well as reduces inefficient and redundant expenditure of scarce resources. Interoperability and standardization both deserve the best

efforts of all concerned.

1b. DoD concurs with the emphasis on codevelopment and coproduction. The original Defense approach to long term armaments cooperation was revised in accordance with the DSB recommendation that codevelopment and coproduction be used as implementing techniques with the family of weapons concept.

1c. Competition based on both price and technical excellence is a cornerstone of DoD acquisition policy. DoD objective is to maintain the competitive environment in international cooperative programs.

The concept of firm-to-firm licensing and technology transfer has advantages to Government as well as to industry. On the other hand, when cooperative programs are initiated by Government -- not industry, technical data is a working tool in the hands of Governments in shaping those programs. Thus Government must have the necessary rights to perform the legitimate functions of program development and national security -- foreign policy review. To this end, it may be necessary for Governments to be an intermediary in the flow of technology. But for the most part, we see the role of industry as the principal channel of transfer once the basic parameters of programs are established.

Finally, to ensure that coproduction efforts succeed, provisions must be made in new policies for the release of required caveated intelligence data to foreign contractors. Such new policies should follow the same guidelines established for the release of comparable data to US contractors.

ld. DoD will assess the implications for the US economy of technology transfers authorized in the military interest of the Alliance.

b. Implementation Actions:

- o Policy statements for armaments cooperation will be included in the revision of DoD 2010.6 to be published in 1979.
- o The development of a data base (see recommendation #8) will help provide (1) the assessments of the potential impact on the US economy of the technology transfer, (2) an understanding of European industrial dependency on arms export, and (3) data for cost analyses of alternative modes of industrial development and production.
- o Existing policies and procedures governing the release of information to foreign contractors will be reviewed (see recommendation 6c).

DSB Recommendation #2

Initiate implementation of a plan, with SecDef and NSC approval, which puts into effect the DSB recommended program for co-development and co-production. This would include:

a. The selection of initial pilot programs from PAPS.

b. The preparation of draft MOUs including the specification of:

- o the conduct of source selection
- o the conduct of development
- o guidelines for initiation of production
- o guidelines for logistic support

Action Office: USDR&E
with OJCS

DoD Response:

a. Acceptance

b. Implementation Actions:

- o The DoD implementation of the Family of Weapons incorporates the DSB recommendation for co-development and co-production. The general guidelines for this form of cooperation have been agreed by the Deputy Armaments Directors of France, Germany, U.K. and U.S. Candidate weapon families have been proposed to France, Germany, and the U.K. and relative national responsibilities have been suggested to them. Based predominantly on drafts prepared by the DSB, we have provided a draft MOU to these countries for their comments in parallel with conduct of further discussion in the U.S. The Army and Air Force are meeting with their

counterparts from these three countries with the objective of reaching agreement on objectives and requirements for the air-to-air and anti-tank guided weapon programs to be implemented by these MOUs. Our plan is to reach agreement on one or more pilot programs during CY 1979 provided all issues can be resolved.

- As PAPS is implemented, co-development and co-production programs will be systematically developed within CNAD for National Armament Director consideration. MOUs developed under PAPS will include specifications such as those recommended by the DSB.

DSB Recommendation #3

Put into effect a specific set of actions to increase emphasis on interoperability for approval of the Secretary of Defense which will:

a. Provide for achieving increased Alliance agreement on common military tactics and doctrine.

b. Provide for obtaining a military judgment of priorities for interoperability in order to emphasize programs of greater benefit.

c. Provide for developing within NATO, criteria for hardware interoperability and how NATO should monitor individual national programs for compliance to these criteria.

d. Establish procedures to ensure that appropriate NATO-wide interoperability criteria are included in U.S. requirements documentation, mission element needs statements, RFP's and implementing contracts.

e. Establish procedures to ensure formal review of interoperability requirements as part of Service System Acquisition Review Council's (SSARC's) and OSD DSARC's.

f. Establish procedures for appropriate interoperability demonstration/certification as part of operational testing of new weapons systems.

Action Office: USDR&E with USD(P) & JCS

DoD Response:

a. Acceptance. DoD Directive 2010.6 is to be revised to state the policy of armaments cooperation. (DoD Directive 5000.2 will be revised as required as well.) Significant efforts are also underway to achieve these ends in a NATO framework, and it is to the NATO framework that the DSB recommendation is principally addressed.

b. Implementation Actions:

- The JCS promulgated their view of the five highest priority categories for standardization and interoperability in JCSM MJCS 274-77, 13 September 1977. At JCS request, the NATO Military Committee endorsed the JCS priorities on 3 February 1978 (MCM 5-78). These priorities, and their ranking go far to meet DSB recommendation 3b.
- The Alliance nations formulated the Long Term Defense Program. One of the items therein reinforced the need to study, and if appropriate introduce a Periodic Armaments Planning System (PAPS). As this system has developed, it uses mission needs, identified by national or NATO military authorities as catalysts to set into motion the activities of the CNAD main groups. The Study Group is developing linkages between the PAPS and the NATO force planning process, as well as with national acquisition processes. The objective is a systematic procedure to identify alliance mission needs setting forth problems for which CNAD would seek cooperatively developed equipment solutions. PAPS will be given a trial during calendar 1979.. Specifically, with respect to the individual items the plan of action is as follows:

  1. Item 3a. Military tactics and doctrine, and mission needs are the responsibility of the national military staffs and the NATO Military Authorities. PAPS will focus attention on current actions to coordinate tactics

and doctrine by recognizing the essential impact of these mission needs and thereby provide an explicit channel for these into the combined weapons planning and acquisition process of the Alliance.

2. Item 3b. will be provided for in the PAPS where mission need documents are transmitted to the CNAD and military authorities. Those documents would be refined by working groups to assess the need and identify cost, schedule and other considerations. At later stages, a project MOU would be signed by the nations and a responsible project office established. In addition, now under trial in NATO is the NATO Armaments Planning Review which helps to identify requirements and priorities for interoperability.

3. Item 3c. The STANAGS are generated and reviewed by the Military Agency for Standardization (MAS). These are the basic documents for interoperability criteria. AC 301 Committee under the chair of the US is looking at establishment of a NATO specifications and standards office which would provide a clearing house for all NATO systems.

4. Items 3d/3e. DoD mission needs analysis and the DSARC procedures are intended to achieve this purpose. To this end we are revising DoDD 2010.6 dated 11 March

1977 and will expand DoDD 5000.2 to include measures required in support of NATO RSI.

5. Item 3f. The importance of this need is recognized. However, development of procedures remains to be addressed. Detailed action plan will be developed by USDR&E with USD(P) and JCS.

Recommendation #4:

Implement a program to improve US industry participation in armaments collaboration including the following:

a. Establish a mechanism for industry and labor communication with the USG on issues of armaments cooperation.

b. Establish incentives for US industry to seek cooperative programs which make US technology available to the Alliance, and Alliance technology available to US industry.

Action Office: USDR&E

DoD Response:

a. Qualified Acceptance. It should be noted that the problem to which recommendation 4a is addressed is not so much one of developing new or additional mechanisms for communication with industry as it is one of giving focus to or rationalizing existing mechanisms. There are numerous on-going ad hoc activities which are now and will continue to be sponsored either by DoD or by industry; a good example is our Senior level DoD-industry dialogue with the aid of the American Defense Preparedness Association (ADPA). In addition there also exists the NATO Industrial Advisory Group (NIAG) with strong US industry participation. As for recommendation 4b, the incentives for US industry to seek cooperative programs that make US technology available to the Alliance and Alliance technology available to US industry depend on the long-term evolution of policy on NATO RSI in the US Executive Branch and Congress as well as the Alliance. The basic incentive to US industry will be the increasing awareness that intra-Alliance industrial participation will be a factor in Allied acceptance

of the US programs and may be a factor in US source selection.

b. Implementation Actions:

1. Recommendation 4a

A. Continue to have DoD officials participate in and address meetings and seminars sponsored by industry associations; labor organizations; technical societies and management groups. This activity will assure current dissemination and exchange of ideas on policy development, implementation plans, significant projects, accomplishments and objectives.

B. Continue to have ADPA sponsor their annual NATO RSI symposia for DoD, industry, Congress and foreign officials to discuss current and future NATO RSI initiatives and plans.

C. Encourage, when appropriate, further selected studies in specific high-priority program areas to be performed by industry associations such as the C^3 study now being performed by the NSIA for the office of DUSDRE/C^3I. It should be understood, however, that when such studies are requested and performed, senior industrial personnel invest valuable time and effort and develop high expectation that their conclusions and recommendations will be taken seriously and, hopefully, acted upon. This step, therefore, will be encouraged and undertaken only when there is an urgent need and a reasonable expectation

that the sponsoring office will be prepared to act on recommendations received.

2. Recommendation 4b

   o With respect to the longer term aspects of and actions to implement this recommendation, DUSDR&E/Acquisition Policy will take steps to ensure that, where appropriate, intra-Alliance industrial participation will be listed and weighted among the evaluation factors in future RFPs. This is in accord with the suggestion above that the principal incentive for US industry to enter cooperative programs is contract award. Requests for Proposal (RFP) will require prime contractors' responses contain a detailed proposal for subcontracting to NATO industry. This submission should then be evaluated as a part of the Management section of the ranked evaluation criteria. Finally the contract will include an agreed upon plan for NATO subcontracting to assure that NATO industries will have an equitable opportunity to compete for such contracts. In addition to the above, the information flow as outlined in 4A above will contribute to a general environment in which US industry will find additional incentives for strengthening individual company operations by freer, more open and competitive opportunities to form teaming arrangements with individual

European companies that have complementary technologies and business activities. Finally, DUSDR&E/Acquisition Policy--through its participation in the AC-94 study on intellectual property rights, with NIAG participation--will continue to develop policies that minimize some of the current disincentives to transatlantic industrial cooperation.

DSB Recommendation #5

Draft and submit to the NSC a Presidential Decision Memorandum on NATO Armaments Collaboration including the following:

a. Specify the forum or fora through which the US will deal with its NATO Allies on armaments collaboration.

b. Provisions for minimizing, on a case-by-case basis, restraints on our Allies, in programs of mutual cooperation, of the US policy on limitation of arms sales directed by the President and Congress.

c. Provisions by which the US, through the DoD and Congress, can make long-term program commitments which are credible to our Allies; and which seek improvements in Allied commitments.

Action Office: USD(P)

DoD Response:

a. Qualified Acceptance. DoD agrees that a Presidential Decision Memorandum on NATO Armaments Collaboration focusing on items b and c could be helpful. However, there is no need to address item a; the fora through which the US deals with its NATO allies are already well established.

b. Implementation Actions:

o Detailed action plan will be developed by ASD(ISA).

DSB Recommendation #6

Prepare a plan and draft implementing directives for the approval of the Secretary of Defense to enhance armaments collaboration. These will provide:

a. Prior to attempts at collaboration, military assessments of what aspects of a system can be designed against a US worldwide requirement, and what aspects of a system may be designed to a less encompassing NATO specification.

b. Explicit definition of staff authority and responsibility within OSD and DoD related to international armaments collaboration.

c. Improvement of the information release process to ensure:

- o The timeliness of information release authorization.
- o The appropriateness of application of existing release criteria especially in the areas of performance data and EW vulnerability data.

Action Office: USDR&E

DoD Response:

a. Acceptance. Recommendations 6a and 6b are already part of the existing procedures and responsibilities called for in DoD Directive 2010.6, 11 March 1977 entitled "Standardization and Interoperability of Weapons Systems and Equipment Within the North Atlantic Treaty Organization". Consequently, additional directives do not appear warranted. As for recommendation 6c, DoD agrees that there is a need to review the information release process; an implementation plan is outlined below.

b. Implementation Action for 6c:

- o An "ad-hoc" committee will be formed chaired by a representative of the ASD(ISA) and co-chaired by USDR&E

with a membership to include representatives of DIA, the Services and JCS. The charter for this group will be based in part upon the Secretary of Defense memorandum of 16 May 1977 pertaining to the US-UK MOU on Reciprocal Defense Procurement but broadened to encompass all NATO countries. Specifically, the group will review existing criteria and where appropriate develop new procedures for the improvement of the timeliness of the information release process governing the release guidelines for technology, threat data and weapons or systems vulnerability information consistent with the requirements of International Traffic in Arms Regulations (ITAR), Foreign Military Sales (FMS) and National Disclosure Policy (NDP).

DSB Recommendation #7

Prepare a report to the Secretary of Defense on the utility of the several hundred established NATO organizations and agencies operating in support of armaments collaboration, including recommendations for agencies to be abolished, consolidated, or reorganized, and where appropriate, revised terms of reference.

Action Office: USDRE

DoD Response:

a. Acceptance in Principle.

b. Implementation Actions:

- o To capitalize on the existing structure and to follow through on activities which are already underway, DoD intends to implement the DSB recommendation by:
  - Suggesting that NATO begin actions which would lead to a consolidation of communication and electronic activities.
  - Supporting fully the NATO plan to review the Military Agency for Standardization in order to improve the quality and effectiveness of NATO standardization agreements.
  - Providing strong US leadership at all levels to improve the effectiveness of the CNAD organization.
- o We propose the following approach:
  - Communications-Electronics (CE): Proceed with the US initiative that will suggest NATO study and determine the best way to reorganize in the CE area.
  - Military Agency for Standardization (MAS): Support and

encourage follow-through on the LTDP recommendation that NATO improve the quality and effectiveness of NATO standardization agreements. To this end, the North Atlantic Council (NAC) will consider arranging for a combined military committee/CNAD review of the MAS. This review will study:

(A) Revising terms of reference of the MAS Service Boards;

(B) Providing the MAS chairman with a small management and coordinating section; and

(C) Determining the coordination and relationship between the MAS and the CNAD in the development of STANAGS.

CNAD continued emphasis on the development and implementation of PAPS. In addition:

(A) The US could more effectively use the existing structure by insuring that the US reps to the MAG bodies provide leadership on those actions which are particularly important to the Alliance, i.e., LTDP follow-through, Family of Weapons implementation, Long Term Planning (NAPR and PAPS), and specific cooperative projects. In some cases it should prove beneficial for US reps to prepare written proposals and provide them to their international counterparts several weeks prior to scheduled meetings so that the limited meeting time can be more effectively used to discuss concrete action-oriented proposals. To this end, it is also necessary to conduct prebrief and debrief meetings with US reps and the Director of International Programs.

(B) The US NADREP and the Mission staff who monitor the MAGS will continue to be alert for duplication as well as for MAG and CADRE bodies which seem to be marginally effective. Mission staff will plan to discuss these matters with the US reps to the MAG bodies when they are at NATO headquarters and flag problems for Washington as appropriate. Significant problems could be explored by NADREPS and, if necessary by NADS. As the last step, US participation in marginally effective groups will be discouraged.

DSB Recommendation #8

Establish responsibility for establishing and maintaining information and data bases in OUSDR&E, but with the support of the Intelligence Community in the following areas:

a. Foreign Allied weapons and technology.

b. Foreign trade statistics and projections on military and non-military high technology products and exports.

Action Office: USDR&E

DoD Response:

a. Acceptance in Principle.

b. Implementation Action:

- o A working group will be established to study the feasibility. This will include the list of requirements to be satisfied by the data bases, the development of a work plan and identification of required resources. The group will be chaired by OUSDR&E/IP and comprised of OSD, the three Services and DIA.

REPORT OF THE
DEFENSE SCIENCE BOARD
NATO FAMILY OF WEAPONS
STUDY GROUP

Richard D. DeLauer, Chairman
L. Michael, Executive Secretary

JANUARY 30, 1979

DEFENSE SCIENCE BOARD
OFFICE OF THE UNDER SECRETARY OF DEFENSE
FOR RESEARCH AND ENGINEERING
WASHINGTON, D. C. 20301

7-86

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January 30, 1979

Report of the DSB NATO Family of Weapons Study Group

I. BACKGROUND

In early August 1978, the Defense Science Board Summer Study developed a model of co-development and co-production for implementing the "family of weapons" concept in concert with our NATO Allies. Certain aspects of this model were taken into account by the U.S. in recent four-power discussions on how to proceed with improving collaboration among NATO Allies in order to enhance force effectiveness in the collective security of NATO.

Then, at Dr. Perry's request, the Defense Science Board was tasked to develop specific guidance and recommendations for the implementation of this concept for two designated categories of advanced weapon systems. The study effort was to reflect the views and positions of both industry and appropriate DoD elements, and was to proceed in response to the following problem statement:

> The U.S. has proposed to France, Germany, and the UK that these four powers take the lead in implementing a specific "family of weapons" approach with respect to two categories of systems: (1) Air-to-Air missiles and (2) Guided Anti-Tank weapons. In both categories, development/production responsibilities will be divided between (A) U.S. prime for certain categories, and (B) European consortium prime for other categories. In each case, the prime contractor would choose 20 percent of the subcontractors from the other side of the Atlantic (if A is prime, 20 percent of the subs will come from B; if B is prime, 20 percent of subs from A).
>
> -- The U.S. would be responsible for beyond visual range air-to-air systems.
>
> -- A European consortium would be responsible for short range air-to-air systems.
>
> -- The U.S. would be responsible for the next generation of indirect-fire guided anti-tank weapons.
>
> -- A European consortium would be responsible for the next generation of direct-fire guided anti-tank weapons.

With the above as "givens", a study group of both industry and DoD officials was organized at two levels: a Working Group level, and at the Senior Review Group level. An organizational meeting was held in the Pentagon on November 3, 1978, attended largely by Working Group members. At this meeting, a preliminary outline of the planned end product of the study was discussed, tentative assignments of responsibility for inputs in various areas were made, and a study schedule was adopted. The schedule called for the completion of draft MOU's (Memorandums of Understanding) on December 4, 1978. A review draft of the MOU's, with accompanying discussion of

various issues which had arisen, was issued on November 30, 1978, and was used by Dr. Garber in preliminary discussions with the Deputy Armaments Directors in Europe on December 12 and 13, 1978.

Preparation of the November 30 review draft was the result of intensive efforts by many individuals, notably a group of experts from Boeing Aerospace Company, Hughes Aircraft Company, Ford Aerospace and Communications Corporation, Northrop Corporation, General Dynamics, McDonnell Douglas Astronautics Company, TRW, and various DoD elements. A meeting of industry working group representatives was held in Los Angeles on November 14 to review a first draft MOU which had been prepared by a team of Boeing specialists under the direction of Mr. Melvin R. Paisley. A second meeting of this group took place in Los Angeles on November 17, at which a revised draft was reviewed. This draft was then circulated among other industry and DoD members of the working group, and was the basis for a meeting held in the Pentagon on November 27, as a result of which the November 30 review draft was circulated.

Following receipt of comments on the November 30 review draft, a revised draft was issued on December 28, 1978, and was the basis for a meeting of the Senior Review Group in the Pentagon on January 9, 1979. At this meeting, essential agreement was reached on the form and content of the draft MOU's, and the major issues and discussion points covered in the remainder of this report were identified by the Group.

II. DISCUSSION

Two proposed model MOU's, one for a family of air-to-air missiles, and the other for a family of future generation anti-tank guided missiles, are presented in Attachment 1 and 2 to this report. It is important to note that these model MOU's are designed as policy documents, as opposed to the more detailed implementing agreements which will undoubtedly be necessary for the implementation of each individual program. While additional, more specific, governmental agreements may be needed to initiate a major joint program effort, it is the recommendation of the Study Group that most of the implementing agreements required beyond the initial policy MOU's should be industry-to-industry agreements, to be negotiated between the particular contractors involved in the program. Such implementing agreements should spell out in considerable detail the various programmatic aspects to be undertaken (e.g., program management, subcontractor management, program schedules, funding, logistics, reliability and maintainability, security, applicability/waivers of laws and regulations, configuration and data management, etc.). While some of these elements are referred to in the attached model policy MOU's, others are not, and all will require more definitive agreements in order to implement each program effectively.

The following are the major areas of concern identified by the Study Group as a result of the foregoing deliberations.

A. Selection of Systems for the Family of Weapons

The attached MOU's are responsive to the original Terms of Reference provided to the Study Group. That is, one MOU is a model document for a family of complementary air-to-air missile systems—the Advanced Medium Range Air-to-Air Missile (AMRAAM) system, and the Advanced Short Range Air-to-Air Missile (ASRAAM) system; while the other pertains to a family of two complementary anti-tank guided missile systems. With respect to the latter, it should be observed that the original definition of these anti-tank systems, whereby the U.S. would be responsible for an indirect-fire system while the Europeans would develop a direct-fire system, was modified during the course of study to the extent that the European direct-fire system would be paired with a "complementary anti-tank system" to be developed by the U.S.

Although the attached model MOU's are based on the designated pairing of weapon systems, the Study Group concludes that this pattern of two complementary weapon systems of the same general type (e.g., air-to-air or anti-tank) may not necessarily be the best approach to use. Each of the weapon systems selected for the initial family of weapons collaborations has certain disadvantages for assignment to such a cooperative concept (but on the other hand, the Study Group is unable to suggest any better candidates).

At least one member of the working group suggested that the selection and timing of the present set of four systems is inappropriate in the following ways:

- o AMRAAM - A delay of as much as three years (until AMRAAM full-scale development begins) before fully integrating European subcontractor content implies to our Allies that there is no urgency in pursuing transatlantic cooperation as envisioned in the family of weapons concept.

- o ASRAAM - If ASRAAM is to succeed as a program in the future, it must offer something significant beyond the improvements now in development for the AIM-9L, AIM-9M, and 550 "Magic" missiles. It must also offer something complementary to AMRAAM's characteristics. In order to avoid the appearance of not supporting the family of weapons concept later, our Allies should be informed now that we are developing improvements to the AIM-9L and feel we must continue to do so. This should be no real threat to ASRAAM if the project is done well.

- o Direct Fire Anti-Tank System - Since the U.S. Army perceives the need to replace TOW by 1984 or 1985 while France and the FRG plan not to replace HOT until the 1990's, European sponsorship of a direct fire system is inappropriate until IOC dates are agreed on.

- o "Complementary" Anti-Tank System - While this project is only vaguely defined at the present time (it could potentially mean anything from the neutron bomb to chemical warfare), it could provide a good test case for requirements harmonization since it opens up opportunities for conceptual tradeoffs of technology, performance, cost, and schedule on both sides of the Atlantic in the process of struggling with an unstructured mission. The model MOU presented in Attachment 2 has been drafted with this in mind.

Particularly in the case of the anti-tank systems, the Study Group believes it is extremely important for the DoD and the NATO Allies to come to rapid agreement as to the requirements and performance to be achieved in future generation anti-tank missiles, whether they are developed as a pair of complementary systems (designed to be sensitive to different threats, perhaps) or a single future generation system which satisfies the harmonized requirements of all the Allies. Even the model MOU presented in Attachment 2, which provides a framework for cooperative effort to arrive at a conceptual definition of a future generation family of anti-tank guided missile systems, is probably not adequate to serve as a basis for the initiation of cooperative development programs without further joint definition of requirements, threats, and system concepts. The Study Group believes that agreement should be sought on the nature and definition of the future generation anti-tank systems before an MOU is offered.

It also appears to the Study Group that, while the AMRAAM system is a good candidate for a collaborative effort, and should provide reasonable opportunities for substantive European contributions to both development and production, it is not yet clear that the ASRAAM system will be an equally good candidate for a complementary effort under European sponsorship. ASRAAM is not yet fully defined and does not reflect the requirements of all potential users. Similarly, and even more to the point, the two designated anti-tank systems may not be logical fits as two complementary systems in a single family. It may well be that the industrial resources of our European allies may be better devoted in the next few years to an intensive product improvement effort on current generation anti-tank missiles, such as HOT, while the U.S. concentrates on improvements to the TOW. These improved missile systems might meet the direct fire anti-tank needs of the next decade or so, while collaborative efforts are directed to the definition of a next generation indirect fire concept which could perhaps be implemented under European sponsorship as one co-developed system in a family of weapons of which AMRAAM is the other half. As another possibility, perhaps two indirect fire system concepts could be defined to be sensitive to different threats, and cooperatively developed as two complementary programs under the family of weapons concept.

B. Scope and Duration of MOU's

The family of weapons concept offers the promise of a stronger U.S. defense posture through improved NATO RSI as well as more and better weapons procurements within the defense budget limits of the NATO Allies. These benefits are achieved by eliminating redundant R&D expenditures, but not meaningful parallel technology efforts, and by exploiting the economies of scale in larger production runs. To encourage the latter objective, the model MOU's are drafted in such a way as to offer incentives for the direct purchase of production systems from the Sponsoring Government, then by co-production of the system by a transatlantic participant (hopefully, by a consortium in the case of European co-production) with a second prime contractor utilizing the same subcontractor team as the original prime, and, finally, dual production by a participating nation (or consortium) where a complete new team of subcontractors (presumably domestic sources) is utilized. All these options, plus second sourcing, are permitted by the MOU's.

In any event, a strong U.S. defense posture also requires the U.S. to strive for technological superiority in key weapon technologies. The danger of the family of weapons concept is that by assigning broad weapon technology areas to our European NATO Allies for extended periods of time, U.S. technology capabilities in these areas will atrophy due to a lack of incentive for U.S. industry to continue to invest in technology development and capital facilities when there is no long term potential for return on that investment. Loss of this industrial investment in technology, when considered in the aggregate, would eliminate a major source of DoD leverage in technology expenditures. While increased DoD funding for technology development in these areas could partially offset this trend, such increased technology support could not be expected to counter the absence of a long term market. The Study Group believes this issue is one which requires much more comprehensive study than was possible in the short time available to carry out the present examination of family of weapons implementation. It is recommended that the long term impacts of the family of weapons concept on the U.S. technological base be the subject of a thorough study to be undertaken by the DoD in conjunction with various other government agencies as appropriate. Such a study should be undertaken without delay.

The Study Group also feels that, if both the scope and duration of a transatlantic agreement to cooperate in the development and production of a particular weapon system is carefully limited to include only a specific and clearly defined weapon program, rather than a broad class of weapons, the industry incentive to continue to develop related technologies would probably be strengthened because of the potential for future competition or for competition in closely allied programs using similar technologies. For example, electro-optical seeker technology effort in the U.S. could be supported by improvement programs to the Sidewinder AIM-9 missiles even though development responsibility for ASRAAM is assigned to Europe. This would permit the advantages of the family of weapons concept while alleviating, to some extent at least, the dangers of U.S. loss in technology leadership.

In addition to a stated limitation on the time duration of the MOU (as proposed in Section 9.7 of the attached model MOU's), the agreement must also be explicitly limited to certain system performance requirements as set forth in the agreed-to multi-national program requirements document (i.e., a multi-national document equivalent to a JSOR), and should not be extended to future growth versions or block changes even though development of such block changes could be expected to start before the duration of the MOU (proposed in the model MOU's to be 12 years) has expired.

Also, even though product improvement of current weapon systems is allowed (to the extent defined in Section 1.3 in the proposed Model MOU's), the limits on product improvement must be explicitly defined and agreed to in order to avoid future debate on compliance with the agreement of Participating Governments not to undertake development of systems which would duplicate that assigned to the Sponsoring Government.

In this regard, it is noted that the Army's proposed procurement concept called Modular Evolutionary Development, involving government-planned evolutionary developments with competitive development of subsystems, may not be entirely compatible with the limitations on product improvement effort reflected in the attached model MOU's.

C. Transatlantic Work Sharing

The model MOU's (Section 2. 4) propose that the parties to the agreement accept as a goal subcontracting of not less than 20 percent of the total subsystem design, development, and test effort of the development program to subcontractors of the transatlantic Participating Governments. It must be recognized that 20% of the subsystem effort in the typical complex system development program is equivalent to only about 10% of the total program effort; a relatively small proportion of the total. At least one member of the working group expressed the view that this is, in fact, too little for significant involvement, and has suggested as an alternate approach that the provision should be for transatlantic subcontracting of between 20 and 60 percent of the total contracted effort with a goal of 40 percent.

In any event, such a provision is essentially meaningless unless there is also a level set on the number (or value) of the subsystems involved. By referring only to the subsystems rather than the total contracted effort, another degree of freedom is introduced which may further add to misunderstandings.

The Study Group discussed various alternatives to the provision as proposed in the model MOU's, including (1) a fixed percentage of transatlantic participation, say 20%, (2) a fixed minimum threshold, say 20%, (3) a range or band, say 15% to 40%, or (4) no stated requirement for a specific level of transatlantic subcontracting.

The first alternative risks being artificial and arbitrary; for example, at least one of the present AMRAAM validation phase competitors has already integrated about 40% NATO subcontractor content into his proposal, while others have little or no such transatlantic participation at present. The best results for AMRAAM may well derive from a percentage above or below the one arbitrarily established. The third alternative would very likely be viewed as a threshold at the lower edge of the band, rather than a range. The fourth alternative risks the possibility of no transatlantic teaming, and would undoubtedly be viewed as a disincentive for our European partners to join in the family of weapons concept.

The second alternative, of a minimum fixed threshold, tends to avoid some of these risks, but may be too restrictive for this initial experiment with the family of weapons concept. For this reason, the model MOU's have been phrased to express the Sponsoring Government's intent to encourage his prime contractor to maximize the level of transatlantic subcontracting with a minimum acceptable level of 20% of the total subsystem effort. This does little to develop in-country advocates for these systems, particularly when one considers the desirability of advocates in France, the FRG, and the UK. However, in-country advocacy can be expected from the Participating Prime Contractor selected for co-production or from the Participating Government dual production team.

It should also be recognized that international content will probably cost more during R&D, even though there should be a later payoff through enhanced interoperability and standardization. Because of this increased development cost, DoD should recognize the need for specific provisions to handle the additional costs of European subcontracting as an element in the source selection criteria. Otherwise, the pressures of competition will tend to minimize European involvement by competing U.S. primes.

In any event, the model MOU's require the prime contractor to furnish his rationale for the level of subcontract content he has elected. Although not within the scope of these model MOU's, it appears desirable to include the item of transatlantic work sharing among the source selection criteria to be applied in the implementation of family of weapons programs. The family of weapons concept will partially succeed or fail on the basis of intent and efficiency, and the most desirable goal of subcontracting a portion of the effort should be to obtain the best technology available, regardless of its nation of origin. Partially for this reason, Section 2.4 of the model MOU's also includes provisions to encourage subcontracting of additional portions of the effort (beyond the 20% with transatlantic Participating nation subcontractors) with other NATO nation subcontractors.

If the U.S. is the Sponsoring Government, there will be several different competitors for the prime contract. Each will have different subcontract requirements based on his own in-house capability. Since each subsystem has a different value, the resulting percentage of transatlantic subcontracting can be expected to be different in each case. For this reason, it appears desirable that the competitors not be unduly constrained in their normal competitive process and strategy by the imposition of a fixed percentage of transatlantic subcontracting. But if the MOU provided only that the Sponsoring Government will encourage his prime contractor to maximize the transatlantic subcontracting, it might be sufficient incentive for each prime bidder to develop his own strategy, balanced between maximizing the use of European subcontractors and the potential added cost/risk. In the case of European-sponsored programs, however, there could be a danger if the prime contractor is selected on the typical non-competitive basis.

Although not universally viewed as the best solution by the Study Group, the model MOU's propose the provision that "20% or more" of the total subsystem design, development, and test effort be conducted by transatlantic subcontractors, including ground and airborne support and interface equipment; also that the parties will agree as to the total money value of the subsystems in determining the 20% threshold figure.

The Terms of Reference for the Study Group indicated that there should be comparable levels of transatlantic subcontracting in each of the two complementary programs in a family. The Study Group has concluded that such a constraint is impractical in the case of the particular systems in question, and has not included such a provision in the model MOU's. Due to dissimilarities in the air-to-air missile systems in the one case, and due to the significant lack of system definition in the case of the anti-tank missile systems, a requirement for such "mirror imaging" between complementary system programs appears to be unrealistic

of achievement. For example, ASRAAM might be deprived of desirable U.S. technological content if the U.S. subcontract participation were limited to the level of the likely European involvement in AMRAAM. On the other hand, it can be argued that the Europeans may be less willing to enter into the MOU if they sense that the U.S. assumes it will play a large role in ASRAAM while subcontracting only about the "threshold" level of 20% on AMRAAM. The Study Group concluded that the provision should be deleted from the MOU, however, on the basis that the counter-productive aspects of its inclusion probably outweigh the possible reluctance of the Europeans to enter into an agreement without such a provision.

D. Fund Sharing

As recommended by the DSB Summer Study, the model MOU's provide (Section 10.1) that the Sponsoring Government shall provide 100% of the development program funding by funding its prime contractor in accordance with its customery practices. Such funding would include the transatlantic subcontractors to the prime contractor.

Various members of the Study Group are also of the opinion that it would be advantageous to provide for some method of joint funding by all the Participating Governments. This position is based on the belief that fund sharing would insure program continuity, create greater program advocacy by all participants, and enhance the likelihood that the system will be procured for the inventories of the participating countries. If the very large development costs of advanced systems can be shared among the participants, the probability of successful completion of such programs might be enhanced.

It was suggested that a possible fund-sharing approach might be to require each Participating Government to contribute to the Sponsoring Government an amount equal to the total estimated value of the subcontract work to be placed in his country by the Sponsoring Government prime contractor. Such an initial contribution would be the only funding requirement placed on the Participating Government; he would not later be asked to supplement his original contribution in the case of program cost growth or over-runs. For reasons of simplicity, it was felt desirable in such a case for the prime contractor to disburse the funds to each of his subcontractors, even though a portion of the total funding had been contributed to the Sponsoring Government by the other Participants.

However, it appeared to the Study Group that, at the present time at least, there is greater support for the concept of 100% funding by the Sponsoring Government, since this presents the least complex approach from the standpoint of defense budgeting and financial management. Also, the Sponsoring Government would thereby assume full responsibility for the successful implementation of the program; available development funds of the other Participants would be available for carrying out other important defense programs; and there would be "insulation" of the Sponsoring Government prime contractor from undue influence by the Participating Governments since "it is not their money that is being spent."

In the case of a European-sponsored program, the Study Group believes it is desirable to allow the participating European governments to implement the program through a consortium if they so desire, in which case they may wish to agree among themselves on some form of fund sharing of the total effort. This possibility is provided for in Section 10.1 of the model MOU's, but is not a mandatory requirement.

E. Licensing and Data Rights

The DSB Summer Study clearly recommended that the family of weapons concept should be implemented by technology transfer directly by industry-to-industry negotiations, rather than by government-to-government transfer of data packages. The model MOU's reflect this philosophy in Sections 7.1 and 7.2.

It was also suggested by certain members of the Working Group that the philosophy for technical data should emphasize government acquisition of a complete data package (both prime and subcontract) for government-to-government transfer to the transatlantic participants with a minimum of royalties and fees. The Study Group sees three major problems which would be likely to arise if this latter approach were taken:

1) While foreground data (data developed under government-funded contract) is clearly government property, background data (data developed by industry funding) usually represents a key part of the overall data package. Compensation for background data is possible, but in practice is difficult to implement. The early phases of a competitive program are frequently underfunded with little allowance for paying for private data, as would be necessary to support any Participating Prime Contractors who may be involved in the program. Even more importantly, in the early stages of a program, it is difficult to define clear limits on private data or the value of such technical innovation, since the technical concepts may be a key competitive element of other competitive programs which have important but not well defined long term value.

2) The second major problem with government transfer of data packages is associated with the implicit assumption that subcontractor background data can be obtained as a part of the data package. Background technical data necessary for European production of non-system peculiar components purchased against specification control drawings is probably not attainable, since the sales value of components used in the programs covered by the model MOU's will, in many cases, represent only a very small fraction of the total sales potential protected by the subcontractor proprietary data.

3) Finally, government-to-government data transfer will likely cause additional delays in the program schedule since a full and complete data package must be obtained prior to transfer whereas in the case of an industry-to-industry arrangement, licensing can be initiated with only a partial data package and data transfer can subsequently be facilitated by joint actions.

Because of concerns such as these, the Study Group recommends that the philosophy of industry-to-industry licensing agreements be retained in the MOU's. Appropriate compensation in the form of royalties and fees for technical data transfer is also provided for in the model MOU's.

F. Applicability of Laws and Regulations

During the course of this study, the Study Group was presented with a number of inputs, primarily from government sources, which may be characterized as reflecting the viewpoint that the family of weapons concept just isn't going to work because it violates many applicable laws and regulations. It is the assumption of the Study Group that implementation of this concept will indeed require the changing or waiving of a number of U. S. laws and regulations (anti-trust statutes, for one example). Various ASPR's are also probably involved and may require suitable modification. However, the assessment and analysis of this area of concern is clearly beyond the capability of the industry members of the Study Group. Little or no positive input was received on this matter from the government participants during the past two months of intensive study. Thus, it is strongly recommended that the government should undertake, without delay, an intensive and detailed study to define the nature and extent of necessary changes and waivers in U. S. laws, including those relating to technology transfer and export control policies, DoD regulations, ASPR's, and other such documents. If such a study is not carried out without delay, it is almost certain that implementation of the family of weapons concept will meet with future delays and complications, and any international agreements which are negotiated in the near future may be discovered to be unworkable.

The Study Group only recently was informed that there is apparently a draft MOU under discussion between the U. S. and FRG governments which would waive certain U. S. ASPR's and other regulations in the case of German subcontractors who may participate on the RAM program. It has not been possible to obtain a copy of this MOU for examination, but obviously, if such a document is under preparation, it should be included in any subsequent study of the applicability of U. S. laws and regulations in the context of the family of weapons.

G. Third Country Sales

Section 8. 1 of the model MOU's provides that Participants in the family of weapons agreement may sell the systems produced under the cooperative program to other NATO nations, and also that the Participants will meet annually to discuss and agree upon expansion of the agreed sales territory. All of the Participants must explicitly agree to the sale by any Participant of these systems to any nations outside the agreed-to sales territory (i. e., non-NATO or third country sales).

The treatment of third country sales is viewed by the Study Group as being one of the most controversial and potentially troublesome features of the family of weapons concept. Many of those who reviewed earlier drafts of the MOU's have commented that Section 8. 1 is not sufficiently definitive and that the third country sales issue needs to be clarified in the MOU. While there seems to be agreement that a firm position must be devised, it also seems likely, given the existing U. S.

Presidential limitations on third country sales, that the U.S. is not in a position to agree to any provision other than a case-by-case determination. This fact notwithstanding, the Study Group feels strongly that early resolution of third country sales policy and reconciliation of the conflicts between Presidential limitations on arms sales is needed in order to allow industry to decide on an investment strategy. A mechanism whereby the government can avail itself of industry views on this process may be desirable.

The rhetoric that says these issues can be treated later on a case-by-case basis seems to at least some members of the Study Group to be questionable. It is recommended that the DoD recognize the need for placing substantial emphasis on the necessity of reaching an acceptable compromise with our Allies with respect to this issue. Otherwise, it is possible that the Administration will fail to appreciate the degree of importance which our European partners place on this matter.

H. Source Selection Criteria

Although not specifically dealt with in the attached model MOU's, the Study Group observes that the success of the family of weapons concept will be critically dependent upon the degree of effectiveness with which the selection of contractors is executed by the Participants. To this end, it will be very important that comprehensive source selection criteria are established and agreed to by all of the program Participants at the outset. The model MOU's propose that this be a responsibility of the multi-national program steering committee described in Section 2.2.

While the industry members of the Study Group are obviously not in a position to set forth detailed source selection criteria, it should be noted that an assignment to define the requirements for such criteria in some detail was accepted by Mr. Moore (OUSDRE/TWP) and Mr. Church (OUSDRE/AP) during the January 9, 1979 meeting of the Senior Review Group.

I. European Subcontractors in the AMRAAM Program

As proposed, the MOU for the air-to-air missiles (Attachment 1) requires that the transatlantic subcontractors for the ASRAAM program be identified before the end of the concept definition phase, but in the AMRAAM program, such subcontractor identification is not called for until proposals are submitted for the engineering development phase. There are two strongly-held positions on this issue in the case of the AMRAAM program, and the sentiment within the Study Group seems to be about evenly divided. The two views are:

(1) Failure to include European subcontractors prior to the engineering development phase which is scheduled to begin in 1982 could seriously endanger the family of weapons concept, since the Europeans may interpret such a delay as insincerity on the part of the U.S. Also, failure to integrate European subcontractors in AMRAAM now (i.e., at the start of the validation phase)

could tend to deter the Europeans from seeking early U.S. subcontractor participation in the ASRAAM program. A three year delay is just not acceptable.

(2) Breaking the momentum of the AMRAAM program at this time to accomplish the integration of European subcontractors during the validation phase (or at least prior to the start of engineering development) could imperil the entire program due to lost time, increased costs, added bureaucratic delays, and critical Congressional scrutiny.

The Study Group believes that this is an issue which must be decided by the DoD. If no change in the model MOU as presented in Attachment 1 is made, it must be recognized that (a) the Europeans may not concur in this provision, and (b) one or more of the present AMRAAM contenders will be displeased.

DSB NATO FAMILY OF WEAPONS STUDY
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ATTACHMENT 1
January 30, 1979

MEMORANDUM OF UNDERSTANDING
BETWEEN

THE UNITED STATES OF AMERICA
REPRESENTED BY
THE UNITED STATES DEPARTMENT OF DEFENSE

AND

THE FEDERAL REPUBLIC OF GERMANY
REPRESENTED BY
THE FEDERAL MINISTRY OF DEFENSE

AND

THE REPUBLIC OF FRANCE
REPRESENTED BY
THE MINISTER OF DEFENSE

AND

THE UNITED KINGDOM OF GREAT BRITAIN AND
NORTHERN IRELAND
REPRESENTED BY
THE MINISTRY OF DEFENCE

CONCERNING POLICIES FOR

A COOPERATIVE PROGRAM FOR

A FAMILY OF ADVANCED AIR-TO-AIR MISSILE SYSTEMS

CONTENTS

PREAMBLE

The governments of the Republic of France, the Federal Republic of Germany, the United Kingdom of Great Britain and Northern Ireland, and the United States of America, as represented by their senior defense officials whose signatures appear below:

- Recognizing the need for an Advanced Medium Range Air-to-Air Missile (AMRAAM) System and an Advanced Short Range Air-to-Air Missile (ASRAAM) System to help counter the military threat to NATO; and

- Intending to exploit advantages to be gained by the introduction of standardized/interoperable weapon systems into their respective military forces and those of the other NATO allies; and

- Recognizing the potential conservation of NATO assets to be achieved from economies in development and production through multinational cooperation; and

- Desiring to undertake a collaborative effort in the development and production of such Air-to-Air Missiles in the pursuit of such common purpose;

The four governments have, accordingly, reached common understanding with respect to the provisions of the following Articles I through XI comprising this memorandum.

ARTICLE I: DEFINITIONS

Section 1.1 "Sponsoring Government" shall mean that government which undertakes responsibility for the funding and management of the development for production of a weapon system.

Section 1.2 "Participating Government(s)" shall mean the government(s) which agree(s) to collaborate with the Sponsoring Government in the development program, and which further agree(s) not to undertake the development of a weapon system which would duplicate or essentially be similar in performance to the system to be developed by the Sponsoring Government. However, it is understood and agreed that product improvements to current existing air-to-air missile systems to improve their operational effectiveness prior to the introduction of the advanced systems described herein are allowable to the extent defined in Section 1.3.

Section 1.3 "Product Improvements" shall mean those modifications and changes which are introduced into current systems, but which fall short of some or all of the performance characteristics defined in accordance with Article III herein.

Section 1.4 "Participants" shall mean all of those governments, both Sponsoring and Participating, which have agreed to collaborate in a weapon system program.

Section 1.5 "Co-Production" shall mean assembly and test of the weapon system by a Participating Government(s) wherein such government(s) elect(s) to have a prime contractor within its territory perform the same assembly and test tasks performed by the Sponsoring Government prime contractor, while retaining as suppliers the same subcontractor structure employed by the Sponsoring Government prime contractor.

Section 1.6 "Dual Production" shall mean production of the weapon system by a Participating Government(s) wherein such government(s) elect(s) to have a prime contractor within its territory perform the same tasks performed by the Sponsoring Government prime contractor, but with complete freedom to establish his own subcontractor structure.

Section 1.7 "Participating Prime Contractor" shall mean a contractor within the territory of a Participating Government selected by that government to participate in the engineering development effort to the extent necessary to prepare for co-production or dual production.

ARTICLE II: SCOPE

Section 2.1 It is agreed that it is in the best interest of the Participants, individually and collectively, to collaborate in programs of international industrial cooperation to develop and produce AMRAAM and ASRAAM Systems. These programs are limited to achieving the performance characteristics and operational capabilities defined in the multi-national program requirements documents developed in accordance with Article III, and do not extend to block changes or system growth programs which exceed these performance requirements.

Section 2.2 A multi-national program steering committee, composed of one principal member and one alternate member from each Participant, shall be established. This committee shall define and initiate the actions to implement any government agreements required to carry out these programs, including criteria for source selection, allocation of work among the Participants, and monitoring of program progress. Issues which cannot be resolved by the multi-national program steering committee will be referred to the Armament Directors of the Participants for resolution. Final authority with respect to management and direction of the program rests with the Sponsoring Government.

Section 2.3 It is agreed that the program for a system will be managed by the Sponsoring Government. In the case of ASRAAM, the European Participants will designate one Participant to be the Sponsoring Government even though the program may be conducted through a consortium. The Sponsoring Government will establish a system program office for the management and control of the program. Participating Government(s) may assign personnel to such program office for the purpose of monitoring the progress of the program and participating in configuration control actions as required. The activities of the program office shall be those necessary to enable the Program Manager to administer the overall development and procurement planning program for the system. The Participating

Governments shall authorize the Program Manager to direct the activities of their representatives in the program office in support of program activities.

Section 2.4 The parties hereto agree that it is their intent that the Sponsoring Government prime contractor shall engage the services of transatlantic subcontractors in the territories of the Participating Governments in order to enhance the cooperative aspects of the effort, and in order to make available to the program the most cost-effective technology residing in the industrial organizations of the Participants. As a goal, the prime contractor shall subcontract not less than twenty (20) percent of the total subsystem design, development, and test effort of the development program to transatlantic subcontractors, taking into account the availability of technology and facilities in the territories of Participating Governments. This subcontract effort will include both ground and airborne support and interface equipment as well as the missile-related subsystems themselves. The Participants will agree as to the total money value of the total subsystem effort as a basis for determining the agreed percentage to be so subcontracted to transatlantic subcontractors. In addition to such subcontracting, the Sponsoring Government will ensure that the industries of other NATO nations have an opportunity to compete for the remainder of the subcontracted portion of the total program.

Section 2.5 Wherever practicable, the Sponsoring Government prime contractor shall be selected competitively, with each competing prime selecting its own subcontractor team on an industry-to-industry basis as it sees fit. In cases where only a single prime contractor is available, that prime shall select its principal transatlantic subcontractors on a competitive basis with the Sponsoring Government overseeing and approving the source selection.

Section 2.6 NATO nations not signatory to this memorandum of understanding are not precluded from becoming Participating Governments for one or both of these air-to-air missile systems, particularly by joining in a consortium to co-produce these weapon systems. Such participation would be subject to acceptance of the appropriate provisions of this MOU in a separate instrument to which all Participants are signatory.

Section 2.7 It is anticipated that each weapon system program will be performed in phases equivalent to: (1) concept definition, (2) validation, (3) engineering development, (4) initial production (ASRAAM only), and (5) full production. Acceptable levels of performance, cost growth, and schedule slips shall be negotiated and agreed upon by the Participants. If these levels are exceeded or appear to be in danger of being exceeded, Participants may submit in writing their intentions to resolve their concerns in accordance with the provisions of Section 9.8. The Sponsoring Government shall establish a program that meets the multi-national program requirements, key program milestones, operational need dates, and agreed-to cost thresholds of the Participating Governments.

Section 2.8 Participating Governments may establish national or consortium program offices to plan for system introduction into their inventories and/or to direct any Participating Prime Contractor planning for co-production or dual production.

ARTICLE III: CONCEPT DEFINITION AND VALIDATION

Section 3.1 The U.S. Government will be the Sponsoring Government for the AMRAAM System, which program is now entering into the validation phase. In parallel with the completion of the validation phase, the U.S. Government intends to develop a multi-national program requirements document for AMRAAM according to the following plan. Within thirty (30) days of the effective date of this memorandum, the U.S. AMRAAM Joint Service Operational Requirement (JSOR) will be released for review by each of the other Participants and by NAFAG Subgroup 13. Each of the other Participants shall, within nine (9) months after receipt of this JSOR, inform the U.S. Government of its approval of the JSOR or its recommended modifications to permit its agreement to become a Participating Government or of its decision not be to a Participant in the AMRAAM program.

Section 3.2 Within sixty (60) days after receiving the approval and agreement from the Participating Governments, the U.S. will issue an appropriate multi-national program requirements document which defines the coordinated AMRAAM operational requirements to be achieved by its prime contractor(s) which will include the identity of the Participating Governments. It is intended that this operational requirements document will satisfy the U.S. requirements, accommodate the requirements of the Participating Governments, and will provide for standardization and interoperability among the Participants.

Section 3.3 It is the intent of the Participants that, by mutual agreement, the United Kingdom, France, or the Federal Republic of Germany will be designated within 120 days after the effective date of this memorandum to be the Sponsoring Government for the ASRAAM System. The agreed-to Sponsoring Government may act on behalf of a consortium subscribed to by some or all of the European Participants if they so agree.

Section 3.4 No longer than eighteen months after the effective date of this memorandum, the Participants shall submit their ASRAAM requirements for review and comment by NAFAG Subgroup 13 and by the Sponsoring Government. No longer than two years after the effective date of this memorandum, the Sponsoring Government will issue a draft multi-national program requirements document which harmonizes the operational requirements of the Participants and provides for NATO forces standardization and interoperability. Each of the other Participants shall, no longer than ninety days after the date this draft operational requirement is issued, inform the Sponsoring Government of its approval of the requirements or its recommended modifications to permit its agreement to become a Participating Government or of its decision not to be a Participant in the ASRAAM program.

Section 3.5 Promptly after learning the identity of the Participating Governments, the Sponsoring Government for ASRAAM shall contract with one or more prime contractors to conduct a concept definition study to be completed within a period of three years after the effective date of this memorandum of understanding. The end product of such a concept definition study shall be a baseline system specification defining the performance, technical, and mission requirements of the proposed system and the test provisions to assure that the requirements are achieved.

Section 3.6 As soon as contractor selection for the ASRAAM concept definition study has been made, the Sponsoring Government shall advise the selected contractor(s) of the identity of the Participating Governments and of the Sponsoring Government's intention to involve transatlantic subcontractors as well as subcontractors from other NATO nations in accordance with the provisions of Section 2.4.

Section 3.7 In both AMRAAM and ASRAAM, the prime contractor(s) will be required to identify the transatlantic subcontractors used or to be used in compliance with Section 2.4, and the portion and value of the total subsystem effort involved. This identification shall be accomplished before the end of the concept definition phase of the ASRAAM program. In the case of the AMRAAM program, the validation phase prime contractors will be directed to include transatlantic subcontractors in their proposals for the engineering development phase in accordance with the provisions of Section 2.4.

Section 3.8 By the end of the validation phase of both programs, the Sponsoring Government shall acquire a missile system specification with firm performance requirements, schedules, cost limits, and risk thresholds to be achieved in the engineering development phase.

ARTICLE IV: ENGINEERING DEVELOPMENT

Section 4.1 The Sponsoring Government, with the advice of the Participating Governments, will issue a contract to its selected prime contractor for the engineering development phase of each program. The prime contractor will be required to use the transatlantic subcontractors identified in accordance with Section 3.7.

Section 4.2 The prime contractor will be responsible for developing a data package for each program, the content of which will be defined in his contract with the Sponsoring Government. This data package will be sufficient to permit the identification and selection of qualified Participating Prime Contractors for co-production or dual production if these production options are elected by one or more of the Participating Governments.

ARTICLE V: INITIAL PRODUCTION

Section 5.1 At the present time, the U.S. Government does not contemplate an initial production phase in the AMRAAM program. In the case of ASRAAM, however, it is the present intent of the Participants that the contractor team selected for engineering development will be continued into the initial production (low rate or preproduction) phase of the program.

Section 5.2 Upon reaching a decision to enter production, the Sponsoring Government will award to the prime contractor a contract to implement facilities and fabricate the initial production quantities.

Section 5.3 The prime contractor will enter into contracts with his subcontractors to implement facilities and manufacture production hardware.

ARTICLE VI: FULL PRODUCTION

Section 6.1 In the case of AMRAAM, Sections 5.2 and 5.3 are applicable to the full production phase.

Section 6.2 While it would ordinarily be anticipated that the contractor team in the engineering development phase would be continued into full production, the Sponsoring Government retains the option(s) to produce the entire system domestically, and possibly to select a second source prime contractor.

Section 6.3 The European Participating Governments on AMRAAM retain the option to co-produce or dual produce the entire system as does the U.S. as a Participating Government on ASRAAM. However, in the event that more than one Participating Government elects to exercise this option on AMRAAM, the Participants agree that they should give every consideration to doing so as a consortium in order to promote economic production.

ARTICLE VII: PRODUCTION RIGHTS

Section 7.1 Upon entering into the engineering development contract, the Sponsoring Government will require its prime contractor to agree to negotiate and enter into such license agreements with other contractors as are necessary to permit the implementation of the production options specified in Section 6.2 or 6.3.

Section 7.2 It is desired and intended that such license agreements be accomplished on an industry-to-industry basis, and that negotiations will be conducted in good faith to derive fair and equitable terms for all of the parties including the payment of fees and royalties. These agreements shall be subject to government review by the Participants. The Participating Prime Contractors, if any, shall be selected according to appropriate national procedures of the Participating Government(s).

Section 7.3 When required, the License Agreement shall provide that:

(a) For co-production, licensor shall grant to the licensee the necessary patent and data rights and transfer the know-how and data on the system, system integration, acceptance and testing of subcontracted items, assembly and testing, final assembly and checkout, and logistics integration to permit the assembly and test of the system by the Participating Prime Contractor and to perform such other tasks as are performed by the Sponsoring Government prime contractor.

(b) For dual production, licensor shall grant to licensee the patent and data rights, transfer know-how and data, and provide technical assistance relating to the products and services of both the licensor and his subcontractors (or, if applicable, facilitate the granting of direct subcontractor-to-subcontractor license agreements) to assist the licensee and his selected subcontractors in the production of the system.

(c) Licensor shall grant to licensee the right to disclose limited rights data to potential second source prime contractors for the purpose of bidding and to sublicense a selected second source prime contractor to manufacture the system and sell the system to the Participating Government(s) for its own use.

(d) If the Participating Government(s) elect dual production, the existing subcontractor shall grant the right to his prime contractor to license a contractor within the territory of the Participating Government to make, use, and sell the product manufactured by him and shall transfer such rights, data, know-how, and assistance as are necessary to permit such manufacture.

(e) These license agreements shall become effective upon the receipt of written notification of the decision of any of the Participating Governments to exercise the production options specified in Section 6.2 or 6.3, but only those provisions of such agreement(s) which are necessary to implement such decision shall become operative.

ARTICLE VIII: SALES RIGHTS

Section 8.1 The Participants agree that each Participant may sell or otherwise deliver the program package systems, subsystems, and components to other NATO nations. The Participants will meet annually to discuss and agree upon expansion of the agreed sales territory. The terms of sale or transfer to nations in the agreed sales territory shall include the agreement not to sell or otherwise transfer the program package systems, subsystems, or components to other nations outside the agreed sales territory without the prior written approval of all Participants.

Section 8.2 A Participating Government which elects to purchase the system from the Sponsoring Government or from its prime contractor for its own use shall have the first option (first right of refusal) to resell the system for use on or with vehicles of national origin (defined as vehicles designed within that country and manufactured in that country or in a third country under license), and shall also have a nonexclusive right to resell the system to all countries in accordance with the provisions of Section 8.1. A Participating Government may use an industrial entity for this purpose.

Section 8.3 If a Participating Government elects to co-produce the system, its prime contractor shall have, together with such government, the nonexclusive right to sell the system it produces to all countries for use in such countries in accordance with the provisions of Section 8.1.

Section 8.4 If a Participating Government elects to dual produce the system, its prime contractor shall have, together with such government, the nonexclusive right to sell the system it produces to other Participating Governments for their own use.

Section 8.5 The Participants will review the need for a modified version of the system which is adapted for delivery to non-NATO countries.

ARTICLE IX: GENERAL

Section 9.1 This memorandum of understanding is subject to the NATO Standardization Agreements as approved by all Participants, Mutual Defense Agreements, the Mutual Security Agreements, the Agreements to Facilitate the Interchange of Patent Rights and Technical Information for Defense Purposes, and such other agreements in existence between the various Participants which relate to the mutual defense of the Participants. If any of the provisions of this memorandum conflict with those of the above-mentioned agreements, the provisions of this memorandum shall control.

Section 9.2 Each Participant in the development program shall use its best efforts to grant or cause to be granted to each of the other Participants the right to use and authorize others to use such development program information as may be required to implement the effort, in accordance with the national laws of the Participants, designed to protect security interests and proprietary rights. Such information may not be released or disclosed to a third party without the express written consent of the originating Participant.

Section 9.3 The controlling laws and regulations of the respective Participants will be observed.

Section 9.4 The procurement policies and procedures used for the Sponsoring Government prime contractor's development or production of a particular system shall be those of his own government. Similarly, procurement policies and procedures used for the Participating Prime Contractor's production of a system shall be those of his government. However, where such national policies or procedures would seriously affect achievement of the desired collaborative goal, every reasonable effort shall be made to obtain such waivers as may be necessary. The systems developed and produced under this memorandum of understanding shall utilize applicable Allied Quality Assurance Publications (AQAP) and NATO Standardization Agreements (STANAG) as the basic documents for quality control requirements. AQAP and STANAG documents shall be supplemented by the Sponsoring Government's procurement instructions to his prime contractor. Participating Governments shall retain the right to conduct lot acceptance tests on missiles procured from the Sponsoring Government prime contractor.

Section 9.5 It is the intent of the Participants that the flow of data and equipment related to these weapon systems shall be free of customs duties, tariffs, value added taxes, and other charges.

Section 9.6 The processing of classified material and information will be subject to and in accordance with the relevant security agreements between the Participants.

Section 9.7 This memorandum of understanding shall remain in full force and effect for a period of twelve (12) years from its effective date unless terminated earlier or extended by mutual agreement of the Participants. Termination of this memorandum of understanding shall not affect the provisions agreed to under Section 8.1 regarding sales to non-NATO nations.

Section 9.8 The Participants agree to make all reasonable efforts to resolve any issues or problems that may arise among them in connection with the implementation of these programs. However, this agreement may be terminated by any Participant by informing all other Participants in writing not less than ninety (90) days prior to the planned date of termination. Such notice shall be cause for immediate consultation by all Participants, as a result of which the remaining Participants may agree to continue their involvement in the program in accordance with the terms of this agreement. Data rights established during the course of the program will remain in full force and effect, and may be utilized by the continuing Participants. In any event, termination by a Participant in one of the programs covered by this memorandum of understanding shall not automatically result in any termination actions with respect to the other program covered by this agreement.

ARTICLE X: FUNDING

Section 10.1 The Sponsoring Government shall fund its prime contractor in accordance with its customary practices. In the event the European Participating Governments elect to form a consortium for the ASRAAM program, they shall agree among themselves as to any fund sharing arrangements they may wish to make with their designated Sponsoring Government.

Section 10.2 Participants shall bear, individually, the direct costs of their national personnel assigned to the Sponsoring Government's program office or to national project offices. Such direct costs shall include salaries, benefits, housing, station supplements, personal allowances, travel on change of assignment, and similar expenses.

Section 10.3 It is the intent of the Participants that no Participant, prime contractor, or subcontractor shall benefit or suffer as a result of currency exchange fluctuations.

Section 10.4 There shall be no development cost recoupment applied by a Participant or a Participant's prime contractor on behalf of his government on the sale of the system to a Participating Government for its own use. Development cost recoupment for sales to non-participating nations will be considered by the Participants on a case-by-case basis.

Section 10.5 Any Participating Government or consortium of Participating Governments desiring to establish a co-production or dual production capability shall fund the Participating Prime Contractor for his interfacing costs and for adaptation of the production data package.

ARTICLE XI: SIGNATURES AND EFFECTIVE DATE

This Memorandum of Understanding comprises Articles I through XI.

Section 11.1 In consideration of the obligations set forth in this memorandum of understanding to be assumed by the United States of America, the United Kingdom of Great Britain and Northern Ireland, the Republic of France, and the Federal Republic of Germany, this memorandum will become effective upon the date of signature by the representatives of these governments.

Section 11.2 Authoritative Texts: This memorandum is signed in twelve copies, four copies each in English, French, and German; all three texts to be equally authoritative.

For the Government of the Federal Republic of Germany:

_____

Date_____

For the Government of the United States of America:

_____

Date_____

For the Government of the Republic of France:

_____

Date_____

For the Government of the United Kingdom of Great Britain and Northern Ireland:

_____

Date_____

MEMORANDUM OF UNDERSTANDING
BETWEEN

THE UNITED STATES OF AMERICA
REPRESENTED BY
THE UNITED STATES DEPARTMENT OF DEFENSE

AND

THE FEDERAL REPUBLIC OF GERMANY
REPRESENTED BY
THE FEDERAL MINISTRY OF DEFENSE

AND

THE REPUBLIC OF FRANCE
REPRESENTED BY
THE MINISTER OF DEFENSE

AND

THE UNITED KINGDOM OF GREAT BRITAIN AND
NORTHERN IRELAND
REPRESENTED BY
THE MINISTRY OF DEFENCE

CONCERNING POLICIES FOR

A COOPERATIVE PROGRAM FOR

A FAMILY OF FUTURE GENERATION

ANTI-TANK GUIDED MISSILE SYSTEMS

CONTENTS

PREAMBLE

The governments of the Republic of France, the Federal Republic of Germany, the United Kingdom of Great Britain and Northern Ireland, and the United States of America, as represented by their senior defense officials whose signatures appear below:

- Recognizing the need for the development and production of a family of future generation close combat anti-tank guided missile weapon systems which complement each other in their performance capabilities and operational characteristics in order to achieve more efficient use of Alliance resources and to help counter the military threat to NATO; and

- Intending to exploit advantages to be gained by the introduction of standardized/interoperable weapon systems into their respective military forces and those of the other NATO allies; and

- Recognizing the potential conservation of NATO assets to be achieved from economies in development and production through multi-national cooperation; and

- Desiring to undertake a collaborative effort in the development and production of such anti-tank guided missiles in the pursuit of such common purpose;

The four governments have, accordingly, reached common understanding with respect to the provisions of the following Articles I through XI comprising this memorandum.

ARTICLE I: DEFINITIONS

Section 1.1 "Sponsoring Government" shall mean that government which undertakes responsibility for the funding and management of the development for production of a weapon system.

Section 1.2 "Participating Government(s)" shall mean the government(s) which agree(s) to collaborate with the Sponsoring Government in the development program, and which further agree(s) not to undertake the development of a weapon system which would duplicate or essentially be similar in performance to the system to be developed by the Sponsoring Government. However, it is understood and agreed that product improvements to current existing anti-tank missile systems to improve their operational effectiveness prior to the introduction of the future generation systems described herein are allowable to the extent defined in Section 1.3.

Section 1.3 "Product Improvements" shall mean those modifications and changes which are introduced into current systems, but which fall short of some or all of the performance characteristics defined in accordance with Article III herein.

Section 1.4 "Participants" shall mean all of those governments, both Sponsoring and Participating, which have agreed to collaborate in a weapon system program.

Section 1.5 "Co-Production" shall mean assembly and test of the weapon system by a Participating Government(s) wherein such government(s) elect(s) to have a prime contractor within its territory perform the same assembly and test tasks performed by the Sponsoring Government prime contractor, while retaining as suppliers the same subcontractor structure employed by the Sponsoring Government prime contractor.

Section 1.6 "Dual Production" shall mean production of the weapon system by a Participating Government(s) wherein such government(s) elect(s) to have a prime contractor within its territory perform the same tasks performed by the Sponsoring Government prime contractor, but with complete freedom to establish his own subcontractor structure.

Section 1.7 "Participating Prime Contractor" shall mean a contractor within the territory of a Participating Government selected by that government to participate in the engineering development effort to the extent necessary to prepare for co-production or dual production.

ARTICLE II: SCOPE

Section 2.1 It is agreed that it is in the best interest of the Participants, individually and collectively, to collaborate in programs of international industrial cooperation to develop and produce future generation anti-tank guided missiles. These programs are limited to achieving the performance characteristics and operational capabilities defined in the multi-national program requirements documents developed in accordance with Article III, and do not extend to block changes or system growth programs which exceed these performance requirements.

Section 2.2 A multi-national Anti-Tank Steering Committee composed of one principal member and one alternate member from each Participant shall be established. This committee shall define and initiate the actions to implement any government agreements required to carry out these programs, including criteria for source selection, allocation of work among Participants, and monitoring of program progress. Issues which cannot be resolved by the steering committee will be referred to the Armament Directors of the Participants for resolution. Final authority with respect to management and direction of the program rests with the Sponsoring Government.

Section 2.3 It is agreed that the program for a system will be managed by the Sponsoring Government. In the case of the program assigned to the European Participating Governments, the European Participants will designate one Participant to be the Sponsoring Government even though the program may be conducted through a consortium. The Sponsoring Government

will establish a system program office for the management and control of the program. Participating Government(s) may assign personnel to such program office for the purpose of monitoring the progress of the program and participating in configuration control actions as required. The activities of the program office shall be those necessary to enable the Program Manager to administer the overall development and procurement planning program for the system. The Participating Governments shall authorize the Program Manager to direct the activities of their representatives in the program office in support of program activities.

Section 2.4 The parties hereto agree that it is their intent that the Sponsoring Government prime contractor shall engage the services of transatlantic subcontractors in the territories of the Participating Governments in order to enhance the cooperative aspects of the effort, and in order to make available to the program the most cost-effective technology residing in the industrial organizations of the Participants. As a goal, the prime contractor shall subcontract not less than twenty (20) percent of the total subsystem design, development, and test effort of the development program to transatlantic subcontractors, taking into account the availability of technology and facilities in the territories of the Participating Governments. This subcontract effort will include both ground and airborne support and interface equipment as well as the missile-related subsystems themselves. The Participants will agree as to the total money value of the total subsystem effort as a basis for determining the agreed percentage to be so subcontracted to transatlantic subcontractors. In addition to such subcontracting, the Sponsoring Government will ensure that the industries of other NATO nations have an opportunity to compete for the remainder of the subcontracted portion of the total program.

Section 2.5 Wherever practicable, the Sponsoring Government prime contractor shall be selected competitively, with each competing prime selecting its own subcontractor team on an industry-to-industry basis as it sees fit. In cases where only a single prime contractor is available, that prime shall select its principal transatlantic subcontractors on a competitive basis with the Sponsoring Government overseeing and approving the source selection.

Section 2.6 NATO nations not signatory to this memorandum of understanding are not precluded from becoming Participating Governments for one or both of these anti-tank guided missile systems, particularly by joining in a consortium to co-produce these weapon systems. Such participation would be subject to acceptance of the appropriate provisions of this MOU in a separate instrument to which all Participants are signatory.

Section 2.7 It is anticipated that each weapon system program will be performed in phases equivalent to: (1) concept definition, (2) validation, (3) engineering development, (4) initial production, and (5) full production. Acceptable levels of performance, cost growth, and schedule slips shall be negotiated and agreed upon by the Participants. If these levels are exceeded or appear to be in danger of being exceeded, Participants may submit in writing their intentions to resolve their concerns in accordance with the provisions of Section 9.8. The Sponsoring Government shall establish a program that meets the multi-national program requirements, key program milestones, operational need dates, and agreed-to cost thresholds of the Participating Governments.

Section 2.8 Participating Governments may establish national or consortium program offices to plan for system introduction into their inventories and/or to direct any Participating Prime contractor planning for co-production or dual production.

ARTICLE III: CONCEPT DEFINITION AND VALIDATION

Section 3.1 Under the auspices of the Anti-Tank Steering Committee, discussions will be held among the Participants on the needs and desired characteristics for the future generation anti-tank guided missile systems, as well as programmatic time-frame aspects, focusing on the definition of a family of such weapon systems which complement each other in performance capabilities and operational characteristics. Concept definition for these systems, one to be developed by the European Participants and the other by the U.S., each with major participation in the development program of the other, will be contingent upon an agreement on future threat and requirements. Definition of the missile systems to be developed in accordance with this agreement must consider different techniques to reduce susceptibility to countermeasures so that one missile system will have operational characteristics which complement those of the other system (e.g., different guidance, mode of attack, alternate kill mechanisms). The solutions recommended by the Steering Committee for development in the two complementary programs will be presented to the Armaments Directors of the Participants for their review and approval.

Section 3.2 Following agreement on the operational need, time frame, and performance requirements for these future generation anti-tank guided missile systems, it is the intent of the Participants that, by mutual agreement, the United Kingdom, France, or the Federal Republic of Germany will be designated to be the Sponsoring Government for the development of a future generation anti-tank guided missile system, now contemplated to be a direct fire weapon system to be deployed as the follow-on to the TOW and HOT anti-tank missiles. The agreed-to Sponsoring Government may act on behalf of a consortium subscribed to by some or all of the European Participants if they so agree.

Section 3.3 It is the intent of the Participants that, by mutual agreement, the U.S. Government will be the Sponsoring Government for a future generation anti-tank guided missile system designed to complement the performance capabilities and operational characteristics of the system defined in Section 3.2; for example, a system which would be sensitive to different threats, or immune to countermeasures to which the other system is susceptible, or is provided with different capability.

Section 3.4 The Participants shall release their requirements for each anti-tank guided missile system for review and comment by NATO and by the respective Sponsoring Governments. Following review of these requirements, each Sponsoring Government will issue a draft multi-national program requirements document which harmonizes the requirements of the Participants for each system and provides for NATO forces standardization and interoperability. Each Participant shall, within ninety (90) days of the date this draft operational requirement is issued, inform the Sponsoring Government of its approval of the requirements or its recommended modifications to permit its agreement to become a Participating Government or of its decision not to be a Participant.

Section 3.5 Promptly after learning the identity of the Participating Governments, the Sponsoring Government for each program shall contract with one or more prime contractors for a concept definition study to be completed within a period of two (2) years after the effective date of this memorandum of understanding. The end product of such a concept definition study shall be a baseline system specification defining the performance, technical, and mission requirements of the proposed system and the test provisions to assure that the requirements are achieved.

Section 3.6 In issuing its Request for Proposals for its concept definition study, each Sponsoring Government shall advise the prospective contractor(s) of the identity of the Participating Governments and of the Sponsoring Government's intention to involve transatlantic subcontractors as well as subcontractors from other NATO nations in accordance with the provisions of Section 2.4.

Section 3.7 In each program, the prime contractor(s) will be required to identify the transatlantic subcontractors used or to be used in compliance with Section 2.4, and the portion and value of the total subsystem effort involved. This identification shall be accomplished before the end of the concept definition phase of the programs.

Section 3.8 By the end of the validation phase of both programs, the Sponsoring Government shall acquire a missile system specification with firm performance requirements, schedules, cost limits, and risk thresholds to be achieved in the engineering development phase.

ARTICLE IV: ENGINEERING DEVELOPMENT

Section 4.1 The Sponsoring Government, with the advice of the Participating Governments, will issue a contract to its selected prime contractor for the engineering development phase of each program. The prime contractor will be required to use the transatlantic subcontractors identified in accordance with Section 3.7.

Section 4.2 The prime contractor will be responsible for developing a data package for each program, the content of which will be defined in his contract with the Sponsoring Government. This data package will be sufficient to permit the identification and selection of qualified Participating Prime Contractors for co-production or dual production if these production options are elected by one or more of the Participating Governments.

ARTICLE V: INITIAL PRODUCTION

Section 5.1 It is the intent of the Participants that the contractor team for engineering development will be continued into the initial production (low rate or preproduction) phase of the program.

Section 5.2 Upon reaching a decision to enter production, the Sponsoring Government will award to the prime contractor a contract to implement facilities and fabricate the initial production quantities.

Section 5.3 The prime contractor will enter into contracts with his subcontractors to implement facilities and manufacture production hardware.

ARTICLE VI: FULL PRODUCTION

Section 6.1 While it would ordinarily be anticipated that the contractor team in the engineering development phase would be continued into full production, the Sponsoring Government retains the option(s) to produce the entire system domestically, and possibly to select a second source prime contractor.

Section 6.2 The Participating Governments on each program retain the option to co-produce or dual produce the entire system. However, in the event that more than one European Participating Government elects to exercise this option, the Participants agree that they should give every consideration to doing so as a consortium in order to promote economic production.

ARTICLE VII: PRODUCTION RIGHTS

Section 7.1 Upon entering into the engineering development contract, the Sponsoring Government will require its prime contractor to agree to negotiate and enter into such license agreements with other contractors as are necessary to permit the implementation of the production options specified in Section 6.1 or 6.2.

Section 7.2 It is desired and intended that such license agreements be accomplished on an industry-to-industry basis, and that negotiations will be conducted in good faith to derive fair and equitable terms for all of the parties including the payment of fees and royalties. These agreements shall be subject to government review by the Participants. The Participating Prime Contractors, if any, shall be selected according to appropriate national procedures of the Participating Government(s).

Section 7.3 When required, the License Agreement shall provide that:

(a) For co-production, licensor shall grant to the licensee the necessary patent and data rights and transfer the know-how and data on the system, system integration, acceptance and testing of subcontracted items, assembly and testing, final assembly and checkout, and logistics integration to permit the assembly and test of the system by the Participating Prime Contractor and to perform such other tasks as are performed by the Sponsoring Government prime contractor.

(b) For dual production, licensor shall grant to licensee the patent and data rights, transfer know-how and data, and provide technical assistance relating to the products and services of both the licensor and his subcontractors (or, if applicable, facilitate the granting of direct subcontractor-to-subcontractor license agreements) to assist the licensee and his selected subcontractors in the production of the system.

(c) Licensor shall grant to licensee the right to disclose limited rights data to potential second source prime contractors for the purpose of bidding and to sublicense a selected second source prime contractor to manufacture the system and sell the system to the Participating Government(s) for its own use.

(d) If the Participating Government(s) elect dual production, the existing subcontractor shall grant the right to his prime contractor to license a contractor within the territory of the Participating Government to make, use, and sell the product manufactured by him and shall transfer such rights, data, know-how, and assistance as are necessary to permit such manufacture.

(e) These license agreements shall become effective upon the receipt of written notification of the decision of any of the Participating Governments to exercise the production options specified in Section 6.1 or 6.2, but only those provisions of such agreement(s) which are necessary to implement such decision shall become operative.

ARTICLE VIII: SALES RIGHTS

Section 8.1 The Participants agree that each Participant may sell or otherwise deliver the program package systems, subsystems, and components to other NATO nations. The Participants will meet annually to discuss and agree upon expansion of the agreed sales territory. The terms of sale or transfer to nations in the agreed sales territory shall include the agreement not to sell or otherwise transfer the program package systems, subsystems, or components to other nations outside the agreed sales territory without the prior written approval of all Participants.

Section 8.2 A Participating Government which elects to purchase the system from the Sponsoring Government or from its prime contractor for its own use shall have the first option (first right of refusal) to resell the system for use on or with vehicles of national origin (defined as vehicles designed within that country and manufactured in that country or in a third country under license), and shall also have a nonexclusive right to resell the system to all countries in accordance with the provisions of Section 8.1. A Participating Government may use an industrial entity for this purpose.

Section 8.3 If a Participating Government elects to co-produce the system, its prime contractor shall have, together with such government, the nonexclusive right to sell the system it produces to all countries for use in such countries in accordance with the provisions of Section 8.1.

Section 8.4 If a Participating Government elects to dual produce the system, its prime contractor shall have, together with such government, the nonexclusive right to sell the system it produces to other Participating Governments for their own use.

Section 8.5 The Participants will review the need for a modified version of the system which is adapted for delivery to non-NATO countries.

ARTICLE IX: GENERAL

Section 9.1 This memorandum of understanding is subject to the NATO Standardization Agreements as approved by all Participants, Mutual Defense Agreements, the Mutual Security Agreements, the Agreements to Facilitate the Interchange of Patent Rights and Technical Information for Defense Purposes, and such other agreements in existence between the various Participants which relate to the mutual defense of the Participants. If any of the provisions of this memorandum conflict with those of the above-mentioned agreements, the provisions of this memorandum shall control.

Section 9.2 Each Participant in the development program shall use its best efforts to grant or cause to be granted to each of the other Participants the right to use and authorize others to use such development program information as may be required to implement the effort, in accordance with the national laws of the Participants, designed to protect security interests and proprietary rights. Such information may not be released or disclosed to a third party without the express written consent of the originating Participant.

Section 9.3 The controlling laws and regulations of the respective Participants will be observed.

Section 9.4 The procurement policies and procedures used for the Sponsoring Government prime contractor's development or production of a particular system shall be those of his own government. Similarly, procurement policies and procedures used for the Participating Prime Contractor's production of a system shall be those of his government. However, where such national policies or procedures would seriously affect achievement of the desired collaborative goal, every reasonable effort shall be made to obtain such waivers as may be necessary. The systems developed and produced under this memorandum of understanding shall utilize applicable Allied Quality Assurance Publications (AQAP) and NATO Standardization Agreements (STANAG) as the basic documents for quality control requirements. AQAP and STANAG documents shall be supplemented by the Sponsoring Government's procurement instructions to his prime contractor. Participating Governments shall retain the right to conduct lot acceptance tests on missiles procured from the Sponsoring Government prime contractor.

Section 9.5 It is the intent of the Participants that the flow of data and equipment related to these weapon systems shall be free of customs duties, tariffs, value added taxes, and other charges.

Section 9.6 The processing of classified material and information will be subject to and in accordance with the relevant security agreements between the Participants.

Section 9.7 This memorandum of understanding shall remain in full force and effect for a period of twelve (12) years from its effective date unless terminated earlier or extended by mutual agreement of the Participants. Termination of this memorandum of understanding shall not affect the provisions agreed to under Section 8.1 regarding sales to non-NATO nations.

Section 9.8 The Participants agree to make all reasonable efforts to resolve any issues or problems that may arise among them in connection with the implementation of these programs. However, this agreement may be terminated by any Participant by informing all other Participants in writing not less than ninety (90) days prior to the planned date of termination. Such notice shall be cause for immediate consultation by all Participants, as a result of which the remaining Participants may agree to continue their involvement in the program in accordance with the terms of this agreement. Data rights established during the course of the program will remain in full force and effect, and may be utilized by the continuing Participants. In any event, termination by a Participant in one of the programs covered by this memorandum of understanding shall not automatically result in any termination actions with respect to the other program covered by this agreement.

ARTICLE X: FUNDING

Section 10.1 The Sponsoring Government shall fund its prime contractor in accordance with its customary practices. In the event the European Participating Governments elect to form a consortium to conduct their program, they shall agree among themselves as to any fund sharing arrangements they may wish to make with their designated Sponsoring Government.

Section 10.2 Participants shall bear, individually, the direct costs of their national personnel assigned to the Sponsoring Government's program office or to national project offices. Such direct costs shall include salaries, benefits, housing, station supplements, personal allowances, travel on change of assignment, and similar expenses.

Section 10.3 It is the intent of the Participants that no Participant, prime contractor, or subcontractor shall benefit or suffer as a result of currency exchange fluctuations.

Section 10.4 There shall be no development cost recoupment applied by a Participant or a Participant's prime contractor on behalf of his government on the sale of the system to a Participating Government for its own use. Development cost recoupment for sales to non-participating nations will be considered by the Participants on a case-by-case basis.

Section 10.5 Any Participating Government or consortium of Participating Governments desiring to establish a co-production or dual production capability shall fund the Participating Prime Contractor for his interfacing costs and for adaptation of the production data package.

ARTICLE XI: SIGNATURES AND EFFECTIVE DATE

This Memorandum of Understanding comprises Articles I through XI.

Section 11.1 In consideration of the obligations set forth in this memorandum of understanding to be assumed by the United States of America, the United Kingdom of Great Britain and Northern Ireland, the Republic of France, and the Federal Republic of Germany, this memorandum will become effective upon the date of signature by the representatives of these governments.

Section 11.2 Authoritative Texts: This memorandum is signed in twelve copies, four copies each in English, French, and German; all three texts to be equally authoritative.

For the Government of the Federal Republic of Germany:

_____

Date_____

For the Government of the United States of America:

_____

Date_____

For the Government of the Republic of France:

_____

Date_____

For the Government of the United Kingdom of Great Britain and Northern Ireland:

_____

Date_____

AMERICAN DEFENSE PREPAREDNESS ASSOCIATION

NATO RSI REFERENCE BOOK

SECTION 8

THE PRINCIPLES AND GUIDELINES FOR TRANSFER OF INTELLECTUAL PROPERTY RIGHTS, AS APPROVED ON JUNE 30, 1979, BY REPRESENTATIVES OF THE CONFERENCE OF NATO ARMAMENTS DIRECTORS (CNAD)

PREAMBLE

1. This paper has been established by the NATO Intellectual Property Group (AC/94). It constitutes the Group's basic response to a request by the Conference of National Armaments Directors for appropriate solutions to intellectual property problems arising in the field of armaments licensing and co-production, with a view to enhancing NATO standardization and inter-operability.

2. It is an objective of NATO and its member nations that equipment procured for national forces be standardized or interoperable with equipment of other members of the North Atlantic Treaty Organisation. However, NATO standardization and interoperability of systems and equipment in the armaments field can become a reality only through co-operation in spirit and practice between and among its members in development and production programmes. This co-operation can only flourish in a climate of information and technology exchanged on the basis of mutual benefit.

3. This technology often represents valuable assets for each nation. Its exchange and use, therefore, must be fostered by mutual trust and confidence which rests on the secure knowledge that terms and conditions of disclosure will be scrupulously observed.

4. Defence authorities within NATO, in the earliest stages of national and international defence programmes, and in all subsequent stages, must think in long range terms and must plan for the possibility of future or extended international co-operation. They must seek ways to make co-operative programmes attractive to industry and to other partners. They must anticipate needs for the transfer of technology in expanded co-operative programmes, and must take deliberate steps to assure the availability of essential technology taking into account the interests of the industries involved.

5. In realising the objective of NATO standardization and interoperability, the defence authorities of each member NATO nation should in their development and procurement programmes for both major and minor equipment:

(a) employ, when necessary, mutually beneficial licensing agreements with NATO Allies to achieve standardization or to facilitate interoperability;

(b) support procurement arrangements with NATO countries designed to achieve an equitable and competitively determined flow of defence trade within NATO;

(c) pursue a mutually co-operative and beneficial policy regarding exchange of information with NATO partners to foster an early mutual exchange of technological information leading to development and adoption of standardized or interoperable weapon systems and equipment by NATO countries.

6. The paper is divided in four Parts, i.e.

(a) Part I identifies the most sensitive intellectual property rights (IPR) problem areas confronting NATO's co-operative efforts and calling for an early solution;

(b) Part II is a "General Statement" introducing the following parts, with a view to ensuring a proper understanding by the user of the principles and guidelines set forth in these parts;

(c) Part III sets forth intellectual property principles for the future which, if given appropriate support by nations as future policy objectives, could contribute significantly towards overcoming the obstacles listed in the first part. In establishing these principles, the AC/94 Group found it necessary to extend its investigations beyond licensing and co-production and to cover the whole field of intellectual property problems in NATO co-operative research, development and production;

(d) Part IV reproduces NATO guidelines outlining ways by which nations should adjust their policies and/or practices as may be required to ensure that they can comply with the intellectual property principles set forth in Part III. As requested by the CNAD(1), the AC/94 Group has established a reporting procedure on the reactions of nations with regard to these guidelines in order to allow CNAD to monitor progress on a continuing basis and initiate any redirection.

7. This paper takes account, to a large extent, of the views expressed by industry during a series of joint meetings between the AC/94 Group and representatives of the NATO Industrial Advisory Group (NIAG).

(1) AC/259-DS/21, Item V(d)13(3).

8. For the purpose of this paper:

(a) the term "Intellectual Property" (IP), whether background or foreground, includes inventions, patented or not, trademarks, industrial designs, copyrights and technical information including software, data, designs, technical know-how, manufacturing information and know-how, techniques, technical data packages, manufacturing data packages and trade secrets;

(b) the term "background information" means information which is necessary to or useful in achieving the objectives of a specific contract, project, programme or agreement, but which was generated prior to or outside the scope of such arrangements;

(c) the term "foreground information" means information which is generated in the course of a specific contract, project, programme or agreement or the like by the parties or their contractors;

(d) the rights to use or have used IP are termed Intellectual Property Rights (IPR) and include rights derived from patents, trademarks, copyrights, industrial designs, contract clauses, disclosure in confidence techniques or other means of control of IP.

I. IPR PROBLEM AREAS IN INTERNATIONAL DEFENCE CO-OPERATION

1. Questions of IPR arise over the whole spectrum of activities involved in international defence co-operation ranging from information exchange programmes, research, feasibility and project definition studies, through development, production, maintenance and repair, post-design services and sales. The problems associated with IPRs involve a variety of interests, parties, pressures and commitments. The following is a summary of difficulties which have been identified from past experience:

(a) IPR questions are not always considered early enough in a collaborative programme, or appropriate personnel involved and all interested parties consulted to enable satisfactory arrangements to be made for international licensing requirements having regard to the overall range of likely activities in the programme.

(b) Because of different timing of requirements or budgetary difficulties, collaboration may not be possible at the outset of a programme and the nation which carries out the early stages alone fails to make adequate IPR arrangements acceptable to prospective partners for it to become a collaborative venture.

(c) The original participants in a collaborative programme fail to make adequate arrangements for IPRs acceptable to prospective additional partners at a later stage.

(d) Nations have not had necessary consultation with their industry prior to signing a Memorandum of Understanding in relation to a collaborative programme with the result that pre-existent obligations entered into by contractors have not come to light until later. MOUs may in consequence assume the availability of IPR which in the event nations cannot deliver; serious problems may therefore emerge during the course of the programme.

(e) Difficulties have arisen between nations (for example as to the extent and terms of availability of IPR) because of imbalances in various aspects of a collaborative programme, e.g. where there is a significant disparity in technical capability, background knowledge or know-how of the firms or government facilities involved, or where there are major disparities in development cost contributions and production requirements.

(f) IPR provisions are not clearly and precisely stated in MOUs (sometimes deliberately to solve an intractable problem by the expedient of a form of words that satisfies each of the partners in their respective interpretations) and can lead to serious problems in international relations or with industry when the partners seek to implement the provisions.

(g) Nations are reluctant to buy equipment already developed by another nation if the latter refuses to allow the purchasing nations themselves to make modifications or improvements, to carry out overhaul or repair or to manufacture spares.

(h) Because the licence agreements between firms permit sales of spares and provision of maintenance services only to the licensee's government, NAMSA has encountered difficulty in setting up common logistic support programmes for some weapons systems.

(i) There have been difficulties in collaborative programmes arising from:

(i) the lack of harmonization as to the scope of user rights obtained from national contractors;

(ii) the disparity between countries in the extent of R&D work carried out in government facilities for which unrestricted rights have sometimes been expected without charge; and

(iii) some nations expecting wide-ranging rights beyond those required for the programme or even national defence purposes.

There has also been lack of precision in terms used to define the scope of user rights.

(j) A deterrent to standardization can be the financial terms of licences and/or the recovery of past R&D cost incurred by the developers.

(k) Nations and their industries are reluctant to disclose technical information when it appears that there are no adequate safeguards against it being used for purposes other than for which it is supplied.

(l) Some nations have statutory or contractual practices which favour the development contractor in the early production stage and which may therefore hinder competition.

(m) In the competitive international selection of systems following development on a national basis, problems can arise about:

(i) how to ease the economic and/or industrial impact on the unsuccessful competitors;

(ii) safeguarding proprietary technical information during and after the evaluation of offers;

(iii) licensing of IPR owned by the winner;

(iv) contribution to R&D costs of the winner's government.

(n) Restrictions placed on sales to third parties of jointly developed products may deter some nations from taking part in collaborative development projects.

(o) A smaller NATO nation or its industry is frequently reluctant to grant larger nations the right to manufacture equipment under licence and the right to sell such equipment to other countries because a small home market does not enable the industry concerned to manufacture such equipment in sufficient quantities to guarantee efficient production and competitive prices. Export of equipment will in such cases be of the utmost importance.

(p) The recoupment of R&D costs and other non-recurring costs (e.g. for tooling and special test equipment) in sale prices to other NATO nations may make the equipment too costly.

(q) National laws and policies requiring the in-country production of weapons for its own requirements can present an obstacle to the achievement of standardization.

(r) Some NATO nations are reluctant to enter into any arrangements for the licensing of other nations to produce equipment developed by them, unless such other nations: (a) make an initial procurement from the licensor nations; or (b) agree to procure a percentage of their requirements from the licensor country.

(s) If licensed production by a NATO nation is restricted to its own needs, it may be uneconomical for that nation to set up a production line.

II. GENERAL STATEMENT

1. It is considered that the implementation by all member nations of the IP/IPR principles and guidelines in Parts III and IV hereafter would significantly help to overcome many of the various intellectual property problems which currently prevent or hinder standardization and interoperability of weapon systems within the Alliance. It should be noted in this connection that the precise impact of the principles and guidelines will depend upon the circumstances of each individual case. In particular, Governments will seek wherever appropriate, insofar as IP/IPR owned by industry are concerned, to rely on the firms involved to make the appropriate arrangements directly between themselves.

2. For a proper understanding of Parts III and IV, the user should bear in mind the following basic points:

- the ensuing IP/IPR principles and guidelines are interrelated and should be considered as a whole with the rest of this document. Each particular paragraph should be construed in the light of the overall context and in conformity with this "General Statement";

- the IP/IPR principles and guidelines are addressed to NATO governments and NATO organizations. Their intent is to set forth policy objectives to be followed in relations between NATO governments, between NATO organizations and between NATO governments and NATO organizations, with a view to enhancing international armaments co-operation.

- in the event of whatever conflict between this "General Statement" on the one hand and the preamble, the principles and guidelines on the other hand, or in the event of any ambiguity in these texts, the provisions of this "General Statement" should prevail.

3. Licensing and disclosure of IP/IPR for NATO purposes must be undertaken by or in collaboration with the owner of the IP/IPR.

4. Governments are not entitled to dispose of IP/IPR in which the rights are owned by industry, unless and to the extent they have the right to do so legally or contractually.

5. Consistent with paragraphs 3 and 4 above, firms must be assured of appropriate safeguards and fair and reasonable compensation, financial or otherwise, for the use of their IP/IPR.

III. NATO INTELLECTUAL PROPERTY PRINCIPLES

1. NATO governments should promote the exchange of information on national requirements and R&D activities to help reduce unnecessary duplication of effort among NATO nations and enhance the feasibility of future standardization and interoperability. Exchange of technical information related to R&D activities should be under bilateral or multilateral arrangements which define the field of information and the purpose of the exchange e.g. for evaluation and assessment.

2. Governments should take all steps possible to ensure that technical information made available to them or to their firms by other governments or firms is used only for the purpose for which it is made available and will not be used or disclosed for any other purpose without the specific consent of the owner. This principle extends only to information disclosed under government auspices.

3. Before embarking on a new programme on a national basis, the government should first consider:

(a) whether its requirements can be met in whole or in part by a weapon system or component equipment already in development or production and be prepared to adopt that system or component unless the premium for so doing is excessive; and/or

(b) whether it should make arrangements to participate in an on-going development programme; and/or

(c) whether it is possible to proceed from the outset on a collaborative basis with other member nations.

4. At the earliest stage of a programme and at each subsequent stage, steps should be taken in co-operation with industry to ensure through appropriate contractual arrangements or options that if other NATO nations later wish to participate in research, development or in production, they will not be prevented from doing so by non-availability of those rights to Intellectual Property relevant to the particular programme. This applies whether the programme

is carried out on a national or collaborative basis. The arrangements in earlier stages should look forward to the requirements of all later stages.

4 bis. The arrangements for any standardization or interoperability programme should among other things address the extent to which it might in a particular case become necessary for production work to be undertaken, under licences made on acceptable terms, by firms other than those which carried out the development task recognizing that generally initial production work should be undertaken as far as possible by the development firm(s).

5. In national contracts with industry relating to research and all programme stages there should at least be provisions for the government to use information generated under the contract (foreground) to promote international collaboration in any subsequent work under the programme and for the contractor to grant such licences as may be necessary to fulfil any international collaborative arrangement. Such licences should be on fair and reasonable terms approved by the governments. To the extent feasible guidance criteria should be established on the terms and conditions that should apply to such licences for any NATO programmes in various circumstances.

6. Where a government transfers IP/IPR which it owns to any person, agency or organization for exploitation, adequate safeguards should be taken to ensure that the rights will be available to promote standardization and interoperability of defence equipment on terms no less favourable than those that would otherwise have been granted by the government.

7. Before concluding an MOU for a collaborative programme that will involve the licensing of rights owned by industry, governments should ascertain by consultation with industry, or otherwise, whether there are any known existing obligations or other reasons which would prevent or restrict the required licensing. Governments should use their best endeavours to overcome any obstacles to such licensing, e.g. by seeking re-negotiation by the parties concerned of existing licenses.

8. Conclusion of negotiation of compensation terms and the establishment of necessary rights with or between owners of IP/IPR known to be involved in a collaborative production programme should be synchronised with the conclusion of the relevant inter-governmental MOU. Proposed

terms of such licence agreements between firms should be notified to the participating governments so that they can be satisfied that the terms are equitable in terms of their effect on the eventual cost to governments and are compatible with the needs of the relevant programme. The agreements should cover the possible IP/IPR requirements for the whole of the collaborative programme and its post-production phase, including technical data and spares required for repair and maintenance, whether on a national or common logistic support basis. They should not be so restrictive as to limit the ability of governments to invite competitive tenders for work, especially repair and maintenance work, relating to items of equipment covered by the collaborative programme. To the extent feasible, the same principle should apply to collaborative programmes involving research and development.

9. MOUs should be drawn up in clear and precise terms based on NATO guidelines and principles. The drafting and negotiating of MOUs should be guided by personnel who have long-term background and expertise in such work.

10. In the case of a collaborative research programme in a particular field, each participating government should have access to and use for at least the purposes of its own armed forces, all information generated in the course of the programme. This should be without mutual payment between participating governments unless a significant imbalance of financial, technical or other contributions and benefits does not justify this. Access to and use of background information should be available by negotiation with the owner thereof.

11. In the case of a collaborative development programme, each participating government should arrange that background information available to it and its firms involved in the programme which is required for the development phase of the programme as defined by the parties, will be made available by negotiation with the owner as necessary to the other participants with respect to the relevant programme, subject to the rights of third parties. Where such background information is owned by a participating government, and unless there is a significant imbalance of financial, technical or other contributions or benefits, this should be without charge to avoid where possible, mutual payment.

12. Regarding the outcome of a collaborative development programme, the participating governments should arrange that each of them obtains rights covering both foreground and background information. The scope of use of such rights

and the terms upon which they will be made available are matters for negotiation on a case-by-case basis. Such negotiation should include industry where such rights involve industry-owned intellectual property.

13. In setting up a collaborative programme the participating governments should aim to obtain an equitable overall arrangement with due regard for all factors. Those factors include both the advantages of standardization and interoperability and the costs, work sharing and other benefits to those governments.

14. Collaborative arrangements should include provisions which will allow other NATO nations to join on reasonable terms with a view to further enhance standardization and interoperability. New participants must, however, be prepared to accept an established programme and not expect materially to change its objectives.

15. When a government sells, or licences the right to manufacture, equipment which it has developed at its own expense, it should be prepared to allow the purchasing or licensee country the right to make modifications or improvements in accordance with negotiated terms. In the interests of standardization and interoperability, there should be close consultation on modifications or improvements and appropriate arrangements made as regards configuration control responsibility. There should be reciprocal rights between the governments concerned to make use of modifications and improvements. In addition, the purchasing or licensee government should have the right, in accordance with negotiated terms, to carry out overhaul and repair and to manufacture or have manufactured spares.

16. Governments should undertake to keep industry appropriately informed about their plans in the field of armaments with a particular view to co-operation in achieving standardization and interoperability. Prospective international firm-to-firm agreements relating specifically to collaborative development and to defence products or work should be notified to national governments who should use their best endeavours to ensure that the terms of agreements do not obstruct the achievement of standardization and interoperability including common logistic support.

17. Governments should take prompt and appropriate action to seek amendments or waivers to their laws, regulations, policies and practices, which prevent or delay the implementation of the principles laid down in this paper, but such action should not lead to a situation in which the general position on ownership of IP/IPR should be altered to the detriment of the owners.

18. MOUs relating to collaborative programmes should define the scope of rights in relation to sales to NATO countries. Such MOUs should take into account, inter alia, contributions made by the parties to the total programme and the work sharing arrangements for the participating governments' defence production with a view to ensuring that there is an equitable sharing of the benefits from the programme and that NATO standardization and interoperability are enhanced. There should normally be no restrictions on sales to NATO countries. It is recognized that sales to non-NATO countries will be subject to political considerations of the individual participating countries concerned.

19. Where there is competitive international selection of NATO standard equipment from equipments developed nationally, all participants in the competition should be assured that the utmost care will be taken to safeguard their intellectual property during and after the evaluation of offers and, in appropriate cases, that unsuccessful competitors will be compensated for example by licensed production of that particular equipment on appropriate terms.

20. Governments should assist other NATO participants in a collaborative programme in negotiations with national firms on the terms for use of IP/IPR.

21. Licensing fees or royalties should take account of the value of the contribution made to the programme by the intellectual property involved and the benefits gained by the licensor.

22. An incentive for being prepared to grant licences to third parties may include a negotiated share of the industrial activity associated with the related standardization and interoperability programme.

IV. GUIDELINES ON THE NATO INTELLECTUAL PROPERTY PRINCIPLES

PURPOSE

1. The purpose of these guidelines is to outline ways by which individual nations should adjust their policies and/or practices as may be required to ensure that they can comply with the principles in the field of Intellectual Property, of Part III, in a way that each nation decides is best suited to its situation.

IMPLEMENTATION

2. In order to be in a position to fulfil the principles, each defence authority should, in respect of all IP/IPR that is generated as the result of a national defence programme, either:

(a) own the IP/IPR; or

(b) ensure, in a manner compatible with the "General Statement" (Part II above), that otherwise it is in a position to grant or cause the owner to grant, through negotiations, on fair and reasonable terms, licences that transfer such IP and IPR to NATO governments and/or their designated contractors as may be required under existing or future co-operative agreements in which it participates.

3. Intellectual property in which defence authorities have neither ownership nor licence rights is often required to support national programmes. In order to be in a position to have access to and use of such IP/IPR in co-operative programmes, each defence authority must, in contracts pursuant to national programmes, ensure that it is in a position to cause the owner to grant, through negotiations, on fair and reasonable terms, licences that transfer such IP and IPR to NATO governments and/or their designated contractors, as may be required under existing or future co-operative arrangements in which it participates.

3 bis. Defence authorities should require industry to grant licences only to the minimum number of partners necessary to effectuate a NATO standardization/interoperability programme, and should not require the disclosure of any IP or the granting of any IPR beyond that which is essential to achieve the objectives of such a programme.

4. Participating nations in a co-operative defence programme must make, with appropriate changes, arrangements similar to those in 2 and 3 above.

5. Defence authorities must not alienate their right to grant or cause to be granted, licences that transfer IP and IPR to other NATO nations and/or their designated contractors, unless it is clear that such IP and IPR will not be required for any co-operative programme.

6. Each defence authority must, as a prerequisite to participating in a particular co-operative programme, secure the availability of IP and IPR that are owned by third parties

and required to implement its part of the programme. If this prerequisite cannot be achieved, the defence authority should immediately notify its co-operative partners. Such availability is not to apply to commercial off-the-shelf items that will be readily available, at reasonable prices, in one or more participating countries.

7. Each government participating in a co-operative programme is normally concerned that there will be a sharing of the overall industrial activity which it considers equitable having regard, inter alia, where appropriate to:

(a) the nature of the particular programme and the known restrictions imposed by IP/IPR;

(b) the origin and nature of the technology regardless of whether it is governmentally or industrially owned;

(c) desires for competition; and

(d) work sharing arrangements of other co-operative programmes.

It is important, therefore, that arrangements be made by governments as early as practicable with the owners of IP/IPR in an endeavour to ensure that IP/IPR will not prevent such work sharing as may be agreed between participants for all phases of the co-operative programme including any post production phase. Similar arrangements should be made between governments to facilitate sales to NATO countries not participating in the programme and to other third parties.

8. In order to promote co-operative programmes, defence authorities and industries must be able to exchange information subject to limitations including those imposed by the owner on disclosure or use. Information thus limited must be clearly marked as such. Defence authorities and industries receiving such information must strictly observe such limitations under adequate procedures and must ensure that others authorised to receive it do likewise. In addition, there must be adequate arrangements for dealing with requests for modification of such limitations.

9. These guidelines will be updated from time to time in the light of experience gained by nations in applying the principles of Part III. To this end, nations should report to NATO the difficulties and experiences in implementing these guidelines.

AMERICAN DEFENSE PREPAREDNESS ASSOCIATION

NATO RSI REFERENCE BOOK

SECTION 9

A SELECTED BIBLIOGRAPHY OF DOCUMENTS, PUBLICATIONS AND ARTICLES ON NATO RATIONALIZATION, STANDARDIZATION AND INTEROPERABILITY WHICH ARE RELEVANT TO THE CURRENT STATE OF THE PROGRAM

A Selected Bibliography on NATO Rationalization, Standardization and Interoperability

The following bibliography of NATO rationalization, standardization and interoperability is not all-inclusive as its composition was governed by the relevance of the selected materials to the subcommittee's inquiry. As a result, most entries date from 1972 and are generally studies of some length or particular relevance to the current state of discussion on this subject. Moreover, in choosing from the vast amount of NATO literature of recent years, emphasis was placed on the standardization and interoperability rather than the readiness aspect of the subcommittee's investigation, although the two could rarely be completely separated.

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DODD 3100.3 Cooperation with Allies in R & D of Defense Equipment.

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AMERICAN DEFENSE PREPAREDNESS ASSOCIATION

NATO RSI REFERENCE BOOK

SECTION 10

MISCELLANEOUS

- A HELPFUL DESCRIPTION OF EUROGROUP, A NUMBER OF EUROPEAN MEMBERS OF NATO, AND THEIR PRINCIPLES OF COLLABORATION IN THE PROCUREMENT OF DEFENSE EQUIPMENT, TRAINING AND LOGISTICS

- A BRIEF DESCRIPTION OF THE INDEPENDENT EUROPEAN PROGRAM GROUP (IEPG), WHICH INCLUDES FRANCE, AND WAS ORGANIZED TO STRENGTHEN COLLABORATION ACTIVITIES

- A PROGRESS REPORT BY A STUDY GROUP TO EXAMINE THE POSSIBILITIES FOR A PERIODIC ARMAMENTS PLANNING SYSTEM (PAPS), DATED NOVEMBER 1, 1979

- A LIST OF HELPFUL POINTS OF CONTACT IN WASHINGTON AND NATO CAPITALS

The Eurogroup

Published by the Eurogroup and issued by the
NATO INFORMATION SERVICE
B-1110 BRUSSELS

THE EUROGROUP

Member Countries:

Belgium
Denmark
Germany
Greece
Italy
Luxembourg
Netherlands
Norway
Portugal
Turkey
United Kingdom

Aim: to strengthen Alliance security by seeking to ensure that the European contribution to the common defence is as strong and cohesive as possible.

FOREWORD

BY THE SECRETARY GENERAL
OF THE NORTH ATLANTIC TREATY
ORGANISATION

The Eurogroup—an informal grouping of a number of European members of NATO—celebrates its tenth anniversary this year.

This booklet describes its aims, the setting in which the Eurogroup works and its current and future programmes. I very much welcome this opportunity to pay tribute to the important contribution which the Eurogroup makes in the defence field to the strengthening of the Alliance.

Operating within and for the Alliance, the Eurogroup, as you will see from the following pages, is engaged in important and innovative work in many fields of defence cooperation and it can already point to a record of solid attainment.

The activities of the Eurogroup give a clear demonstration of the resolve of its members to maintain, improve and make more cohesive the contribution of the European countries to NATO security as an essential counterpart to the defence contributions of the United States and Canada and thereby to enhance the solidarity and strength of the Alliance as a whole.

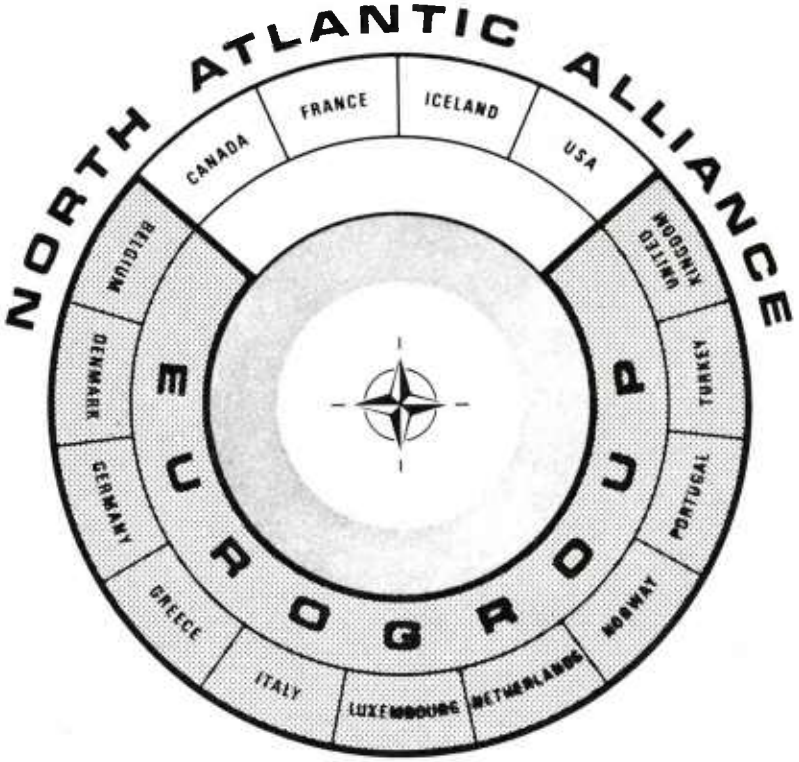
NATO is kept fully informed of the Eurogroup's activities, including regular reports to

the NATO Defence Ministers, and I am gratified by the extent to which the programmes which it promotes dovetail into and support NATO-wide defence planning activities.

As the Eurogroup enters its second decade, I extend to it my own good wishes and encouragement for its most valuable work.

Joseph Luns,

Secretary General of NATO



DEFENCE MINISTERS
PERMANENT REPRESENTATIVES
STAFF GROUP SECRETARIAT

EUROCOM (BATTLEFIELD COMMUNICATIONS)	EUROLOG (LOGISTIC COOPERATION)	EUROLONGTERM (LONG-TERM PLANNING)
EUROMED (MEDICAL SERVICES)	EURONAD (EQUIPMENT COLLABORATION)	EUROSTRUCTURE (FORCE STRUCTURES)
	EURO/NATO TRAINING (JOINT TRAINING)	

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EUROGROUP ABBREVIATIONS

EDIP	European Defence Improvement Programme.
EUROPACKAGE	Annual statement outlining planned force improvements.
EUROCOM	Sub-group on co-operation in tactical communications systems.
EUROLOG	Sub-group on co-operation in providing logistic support for NATO-declared European forces.
EUROLONGTERM	Sub-group on the development and harmonization of tactical concepts.
EUROMED	Sub-group on co-operation in military medical services.
EURONAD	Sub-group of National Armament Directors of Eurogroup countries
EURO/NATOTRAINING	Sub-group on co-operation in training.
EUROSTRUCTURE	Sub-group for the exchange of information on force structures of member countries.

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The Eurogroup

The Eurogroup is an informal association of Defence Ministers of European member governments within the framework of NATO. It is open to all European members of the Alliance. Those taking part at present are Belgium, Denmark, Germany, Greece, Italy, Luxembourg, the Netherlands, Norway, Portugal, Turkey and the United Kingdom.

It was founded in 1968 at the suggestion of Mr Denis Healey (then UK Secretary of State for Defence) as a means of responding to a widespread desire for closer European cooperation within the Alliance. This decision was reinforced by an awareness—emphasised by the invasion of Czechoslovakia—of the formidable and growing strength of the Warsaw Pact.

Aims

The basic aim of the Eurogroup can be simply stated. It is to help strengthen the whole Alliance by seeking to ensure that the European contribution to the common defence is as strong and cohesive as possible.

The Eurogroup seeks to achieve this aim in two ways. It:

— enables its members to improve the effectiveness of their contribution to the Alliance by coordinating their defence effort more closely thereby making the best possible use of resources available for defence;

— provides an informal forum for an exchange of views by Defence Ministers on major

political/strategic questions affecting the common defence.

Meetings of Eurogroup's Defence Ministers provide the focal point for its work. They usually meet just before the regular half yearly ministerial session of NATO's Defence Planning Committee for the purpose of assessing the current state of Eurogroup's work from the political and practical point of view. Between ministerial meetings the business of Eurogroup is conducted by the Permanent Representatives (Ambassadors) of the Eurogroup countries at NATO Headquarters; a coordinating committee (the 'Staff Group') and secretariat; and seven specialist subgroups.

This booklet outlines some of the main elements of the contribution of Eurogroup countries to the Alliance (pages 11-16); the work of the subgroups (pages 16-23); and the organisation of the Eurogroup (pages 23-25).

European Defence and the Alliance

Collective Security

Alliance defence is a joint endeavour of the North American and European allies. Article 5 of the North Atlantic Treaty which gave birth to NATO enshrines the principle of collective security by stating that an armed attack against one or more member states shall be considered as an attack against them all. This theme of interdependence was reflected in the 1974 Ottawa Declaration on Atlantic Relations which underlined the indivisibility of Alliance defence and went on to state: "All members of

the Alliance agree that the continued presence of Canadian and substantial US forces plays an irreplaceable role in the defence of North America as well as of Europe. Similarly the substantial forces of the European Allies serve to defend Europe and North America as well".

Likewise the London Summit of May 1977 and the Washington Summit a year later stressed that the essential purpose of the Alliance is to safeguard collectively the independence and security of its members thereby enabling them to promote the values of democracy and to make possible the creation of a structure for lasting peace.

The Military Contribution

Of the ready forces currently available in the European theatre about 85% of the ground forces come from Eurogroup countries and some 80% of the air forces. Eurogroup countries also make a major contribution to naval forces in European waters and the Atlantic. Overall, the size of the forces of the Eurogroup countries amounts in peacetime to some 2.5 million men compared with rather over 2 million in the forces of the North American allies. They are positioned from the northern tip of Norway to south-east Turkey and are equipped and trained to operate with efficiency and flexibility.

On land, at sea and in the air the forces of Eurogroup countries work closely with one another and with their American and Canadian allies. Norway, Denmark and Germany deploy standing forces for the defence of the Northern Flank while the Netherlands and

the United Kingdom would provide elements for reinforcement in time of emergency. The United States and Canada also earmark reinforcements for the area. In the Central Region allied land forces include Northern Army Group (with forces from Belgium, Germany, the Netherlands and the United Kingdom) and Central Army Group to which Germany makes a major contribution together with the United States and Canada. Their associated air forces—2nd and 4th Allied Tactical Air Forces—contain large elements from Eurogroup countries. In keeping with the Alliance strategy of forward defence, Belgium, the Netherlands and the United Kingdom station a part of their forces permanently in Germany. On the Southern Flank, regional countries provide substantial forces on land, at sea and in the air. As indicated above, the navies of Eurogroup countries have an important part to play in European waters and the Atlantic, including the provision of the Standing Naval Force Channel and the majority of ships for the Standing Naval Force Atlantic. Eurogroup countries also make the largest contribution to the Allied Command Europe Mobile Force, a quick reaction force for use in an emergency.

Defence Expenditure

In 1978 Eurogroup countries were estimated to have contributed over $50 billion to NATO's total defence expenditure. But against the background of the massive and continuously increasing strength of the Warsaw Pact the Eurogroup has recognised that further efforts need to be made. For this reason, almost all member countries have declared their in-

tention of aiming to increase defence expenditure in the coming years in real terms by about 3% annually as called for by NATO Defence Ministers.

Equipment

Every year Eurogroup countries bring into service a wide range of new equipment, both additional and replacement; and make qualitative improvements to equipment already in service.

In some cases their expenditure on major equipment as a percentage of total defence expenditure more than matches that of the United States. For example in 1977 (or the appropriate fiscal year) the proportion allocated by the United States was 17% while the United Kingdom, Denmark and the Netherlands allocated 22%, 21.8% and 20.6% respectively.

Increasingly Eurogroup countries are using standardised or interoperable equipment. A major example is the Leopard 1 tank now in service with the forces of Germany, Belgium, Denmark, Italy, the Netherlands and Norway. Another is the Tornado multi-role combat aircraft which is due ro replace a range of other aircraft in the air forces of Germany, Italy and the United Kingdom; while the F16 is due to supersede the F104 and other aircraft in the air forces of Belgium. Denmark, the Netherlands and Norway.

European Defence Improvement Programme

Eurogroup countries have always participated whole-heartedly in special efforts by the Alliance to improve its defensive capability. In 1970—only a short time after its creation—

Eurogroup made its first collective effort in this direction in the form of a five-year European Defence Improvement Programme (EDIP) designed to improve Alliance capability in specific fields identified as particularly important by the NATO study on Alliance Defence in the Seventies (AD70).

EDIP was a special programme additional to already planned expenditure and valued at about $1 billion (at 1970 prices). Under it the Eurogroup countries funded the construction of some 1,600 specially hardened aircraft shelters and made additional contributions to the financing of the NATO Integrated Communications System. Additional equipment was purchased including Jaguar close support aircraft and CH53 medium-lift helicopters. New support facilities were provided for the Northern Flank; and Germany provided Turkey with a number of Transall tactical transport aircraft. Eurogroup Ministers kept a close personal interest in the implementation of EDIP to ensure that the programme maintained its momentum. The force improvements had been implemented by 1973 and the measures were substantially completed by 1975.

The Short Term Measures

A further example of Eurogroup's full support of special defence improvement programmes was its response to the Alliance's call in May 1977 for measures (in addition to normal improvements) designed to provide early remedies for shortcomings in the selected fields of anti-armour; war reserve munitions; and readiness and reinforcement. Eurogroup countries concerned made a sub-

stantial contribution to the programme announced six months later by the Ministers of NATO's Defence Planning Committee. *Inter alia* they undertook to upgrade and increase war reserve stocks; increase holdings of anti-tank weapons and air munitions; and improve arrangements for mobilisation and reinforcement. The speed with which this programme was developed is an indication of the constructive approach of all participants.

The Long Term Defence Programme

The military strength of the Warsaw Pact is being increased far in excess of reasonable defence needs and is backed in the Soviet Union by an allocation of resources for defence estimated at some 11%-13% of gross national product. Faced with this growing military power, Alliance nations decided that while they would continue to seek a more peaceful and stable order through realistic measures of arms control and disarmament, it was also essential to maintain the forces required for the common defence at an adequate level. At the London Summit of May 1977, therefore, the Alliance's Defence Planning Committee was commissioned to prepare a long term defence programme (LTDP) with the aim of enabling NATO forces to meet the changing defence needs of the 1980s and beyond.

The Eurogroup countries concerned made a constructive contribution to the LTDP which emerged as a wide ranging blueprint for the future. Specific programmes have been agreed in the areas of readiness, reinforcement, reserve mobilisation, maritime and air defence, communications command and control, logistics, electronic warfare, and rational-

isation of armaments planning. These are intended to achieve greater co-ordination of long term defence planning and thereby make more efficient use of the Alliance's resources. Eurogroup has welcomed the LTDP, and has pledged itself to work for its successful implementation by the Defence Planning Committee.

European Defence Co-operation
The Eurogroup Subgroups

Practical co-operation is one of the main tasks of Eurogroup. For this purpose it has established a number of specialist subgroups to foster greater harmonisation of the European defence effort in particular fields which benefit from the stimulus of close collaboration. At present there are seven such subgroups: equipment collaboration (EURONAD); common development and harmonisation of operational concepts (EUROLONGTERM); communications (EUROCOM); medical support (EUROMED); logistics (EUROLOG); training (EURO/NATOTRAINING); force structures (EUROSTRUCTURE). They are manned by senior experts from national Ministries of Defence. In each of them one country takes the lead, providing a chairman and any necessary staff support for arranging meetings, keeping records and drafting papers. The Minister of Defence of the country in the chair of a sub-group reports personally on progress in that sub-group to his colleagues at Ministerial meetings which give guidance for further work and, when necessary, resolve difficulties.

EURONAD

Apart from the obvious military advantages of standardisation there are also considerable economies of scale to be gained from the joint procurement of defence equipment. It was in order to encourage closer cooperation in this field that EURONAD was established in 1971 on which the National Armament Directors (NAD) of member governments sit under Netherlands chairmanship.

EURONAD has a number of considerable successes to its credit. One of the first was an agreement that, in future, member countries would regularly exchange information about their plans for acquiring new equipment for their forces with a view to investigating the possibilities for co-ordinating requirements and joint procurement. The text of the Declaration of Principles signed by Ministers is on page 29 of this booklet.

Guided by these principles, EURONAD has provided a major stimulus for co-operative projects among member countries. For example Belgium, Germany, the Netherlands and the United Kingdom have undertaken a joint purchase of the Lance surface-to-surface missile; while Germany, Italy and the United Kingdom are jointly developing towed and self-propelled howitzers. Perhaps most important of all in recent years, Belgium, Denmark, the Netherlands and Norway have decided to replace their F104 and other aircraft with a co-ordinated purchase of the American F16.

It was largely as a result of EURONAD's analysis of the equipment field that Eurogroup Ministers at a special meeting in The Hague in

November 1975 called for improved co-operation and the creation of a new independent forum open to all European members of the Alliance. The independent European Programme Group (IEPG) was created soon after, of which—except for Iceland which has no forces—all the European allies including France are members. Eurogroup has recognised this body as the principal means of extending equipment co-operation among the European members of NATO and of fostering closer and more balanced co-operation with the North American allies. In order therefore to avoid duplication EURONAD has put much of its work in abeyance, while keeping abreast of developments in the IEPG.

EUROLONGTERM

Close consultation at an early stage is a key factor in promoting collaboration in the field of defence equipment. In recognition of this EUROLONGTERM was set up in 1972 under Netherlands chairmanship for the purpose of preparing joint concepts of operations and outline specifications for equipment.

To date EUROLONGTERM has produced a concept on conventional tactical air operations until 1985 in Europe; and subconcepts on anti-armour, mobility and counter mobility, organic army air defence, air-mobile operations, and battlefield reconnaissance, surveillance, and target acquisition. Work is now in hand on a concept of air operations from 1985 until the end of the century, and on subconcepts of armoured and non-armoured operations.

Using these concepts as a basis EUROLONGTERM has produced jointly agreed outline specifications for a number of equipments. These are then passed to NATO and the independent European Programme Group for possible further development. So far five such staff targets have received Ministerial endorsement and others are under preparation. Those completed are specifications for: a man portable surface to air guided weapon; short and longer range anti-tank guided weapons; a minefield marking system and a conventional land minefield system.

EUROCOM

Interoperability of battlefield communications systems is clearly of vital importance in improving co-ordination between Alliance forces. EUROCOM was founded in 1970 under Netherlands chairmanship to work in this area, and has met with considerable success. In essence, rather than trying to agree on a single system—an approach which has been tried in the past and has failed—it has adopted an approach whereby the technical requirements are defined and agreed in such a way that there is complete interoperability between systems built to EUROCOM standards. These standards have been endorsed by Ministers and now constitute the most widely accepted parameters in the Alliance for tactical communications.

Belgium, Germany, Italy, the Netherlands and the United Kingdom all plan to deploy full EUROCOM systems or to modify other systems to EUROCOM standards for introduction in the 1980s and 1990s. Discussions are taking place with the United States with the aim of seeking

interoperability with US battlefield communications systems. EUROCOM is also considering how best to promote co-operation in the actual procurement of equipment conforming to the agreed characteristics.

EUROMED

The desirability of close co-operation in the military medical field was recognised early in the Eurogroup's development; and it has been the task of EUROMED, chaired by Belgium, to explore the possibilities. Work has progressed steadily and a number of worthwhile results have been achieved. For example, following agreement on the establishment of a joint body for the notification of infectious diseases, the EUROMED Epidemiological Reporting Centre was founded in Germany in 1976. In the field of medical training integrated courses have been developed under EUROMED's aegis; and agreement has been reached on the creation of an information exchange system on the medical equipment used by member nations with a view gradually to improving standardisation wherever practicable.

EUROMED has also studied a number of technical issues on a joint basis including the preservation and storage of red blood cells; the treatment of burns and shock; and the psychological problems of troops operating in mountain or arctic climates. At present its main tasks include a study of means of achieving closer co-operation between the medical services of Eurogroup countries in Northern Army Group; and the implementation of standard medical agreements ratified by Eurogroup countries.

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EUROLOG

EUROLOG was established in 1970 under British chairmanship to develop closer co-operation in the logistics field as a means to greater efficiency and economy. It was asked to concentrate initially on logistics in the Northern Army Group in which forces of four of the Eurogroup countries (Belgium, Germany, the Netherlands and the United Kingdom) are deployed side by side, and which seemed therefore to offer prospects for closer co-operation. Following progress in this area, Eurogroup decided in 1973 to extend the role of EUROLOG to the air forces provided by these same four countries in the Second Allied Tactical Air Force and to their navies operating in the Channel and North Sea areas.

In 1975 Eurogroup Ministers signed a Declaration of Principles of Cooperation in Logistics, the text of which is reprinted on page 35 and followed this in June 1976 with guidelines for collaboration in logistics support for major weapons and equipment. Since then EUROLOG has been guided by these Principles in its consideration of a wide range of topics including the reallocation of supplies in emergencies or war; cross servicing of aircraft; repair and maintenance of equipment; interchangeability of equipment; compatibility of logistics systems; and naval logistics facilities ashore and afloat.

It is becoming increasingly clear that joint support will only be at its most effective if it is considered at the earliest possible stage of new collaborative equipment projects. EUROLOG is therefore systematically examining opportunities for introducing co-ordinated

support for collaborative equipment to be introduced in the coming years. This approach has already borne fruit. A recent achievement is the agreement that Belgium, Denmark, the Netherlands and Norway intend to undertake collaborative logistic support of the F16 aircraft.

EURO/NATOTRAINING

EUROTRAINING was established as a Eurogroup body in 1970 under German chairmanship. The work of the subgroup is carried out in accordance with the Principles of Co-operation in Training signed by Ministers in 1973 and reprinted on page 32. Its aims are to improve and expand existing joint training arrangements and to develop new multilateral projects to the point where one nation can assume overall responsibility on behalf of all or some of the nations. It also provides a forum for the exchange of views on training matters in general, including the examination of ways and means of reducing costs and the harmonization of training procedures and doctrine. In 1971, following close NATO interest in joint training, Canada and the United States became associated with the subgroup. It now acts as a joint body reporting to Eurogroup Ministers and the NATO authorities and is known as EURO/NATOTRAINING.

Since its creation the subgroup has developed a wide range of joint training projects. For instance tank training is provided in Germany for personnel from Belgium, the Netherlands and Norway; and the United Kingdom and the Netherlands train naval helicopter controllers from eight countries on anti-submarine warfare. Other projects include

joint training for the Lance surface-to-surface and Hawk surface-to-air missile; a joint school for long range reconnaissance; and basic training for jet aircraft and helicopter pilots. Work is progressing on a number of other possibilities including the 155 mm self propelled and towed howitzers, the F16, and an air/ground operations school.

EUROSTRUCTURE

This subgroup was created in 1974 and works under a German chairman. Its task has been to collect and exchange information on the forces of Eurogroup countries with a view to enabling members to draw on the experience of others where appropriate.

As a first topic, the various national military service systems were studied with special emphasis on the recruitment of personnel. These studies were followed by an exchange of information on current plans for restructuring national armed forces and on the different mobilisation systems in Eurogroup. Since then EUROSTRUCTURE has broadened its scope to examine the organisation of Eurogroup's ground forces with a view to improving their interoperability.

Working arrangements

Working arrangements for achieving the objectives of Eurogroup are—in accordance with its basic principles—flexible and pragmatic. They entail the least possible bureaucratic apparatus and are intended to facilitate the close personal involvement of Ministers

and high-ranking experts thereby ensuring a direct and authoritative influence on the evolution of policy on a wide range of practical issues.

Defence Ministers provide the basic guidance for Eurogroup. At their twice-yearly meetings Ministers consider its recent activities on the basis of reports from Permanent Representatives, and the chairmen of the subgroups. They also give directions for future work. One of the Ministers takes the chair; since 1971, this has been on an annual basis (see page 28 for table of Ministerial chairmen). The choice of chairman is a matter for agreement and invitation among members—there is no fixed rotation. In addition to chairing the Ministerial meetings, he has a general responsibility, on behalf of his colleagues, for supervising Eurogroup business during his year of office.

Below Ministers, the work is overseen and Ministerial meetings prepared by an **ad hoc committee of Eurogroup Permanent Representatives at NATO HQ.** There is no set schedule of meetings—the pattern depends on the business in hand. The chair is taken by each Permanent Representative in turn for six months by alphabetical order of country.

For day to day affairs, the main working body is the **Staff Group.** It is normally composed of the Defence Counsellors from the national delegations of member countries at NATO HQ, but other experts sometimes attend instead or in addition. The role of the Staff Group is to set in hand, under the guidance of the Permanent Representatives, detailed work arising from Ministerial discussions, to co-ordinate the

work of the sub-groups on practical co-operation, to oversee the task of publicizing the European defence effort and to make arrangements for the Ministerial meetings. It normally sits under the chairmanship of the Defence Counsellor of the country providing the Ministerial chairman.

Support for these three bodies is provided by a small **Secretariat** whose task is to ensure the smooth running of day to day business and to keep records. Since the creation of Eurogroup these functions have been discharged by a single delegation—the United Kingdom—in order to maintain continuity.

Outside NATO HQ the work of Eurogroup is conducted by experts in national capitals. Their efforts are concentrated primarily on the seven technical subgroups whose tasks and organisation are outlined on pages 16-23. Experts also contribute to the development of general Eurogroup policy by briefing national representatives on the Staff Group and the Committee of Permanent Representatives.

The Ministerial chairman informs NATO's Defence Planning Committee regularly of the current work of the Eurogroup; and the Secretary General of NATO and NATO countries who are not members of the Eurogroup are briefed on the outcome of the Eurogroup Ministerial meetings. Information on the work of the Eurogroup is distributed throughout the Alliance; and non-Eurogroup authorities of the Alliance often attend subgroup meetings where they are of particular interest to the Alliance as a whole. Put briefly, the Eurogroup operates in an open way at all levels in the Alliance.

Information Activities

Appropriate publicity for the European defence effort within NATO has always been an important goal of the Eurogroup. In recent years, this work has been given particular emphasis.

A number of articles have been written on the Eurogroup's work, and Ministers and NATO ambassadors have given a range of radio and television interviews, particularly directed at North American audiences. Panels of Eurogroup experts have regularly paid successful visits to North America to explain and discuss the defence effort of Eurogroup countries. In the other direction, groups of North American journalists have been given the opportunity to see European defence arrangements at first hand and have visited the forces of almost all the Eurogroup countries. Talks and briefings are given regularly at NATO HQ to a wide range of visitors.

The Future

As has been stressed throughout this booklet, the Eurogroup is a pragmatic organisation operating within the framework of the North Atlantic Alliance. It is concerned above all to reinforce the common security on the basis of partnership and confidence between the European and transatlantic members of the Alliance.

The Eurogroup will continue to seek ways of strengthening the collective contribution of its members to NATO. It will strive towards the achievement of practical results and closer co-operation. Its methods and machinery will continue to be flexible and responsive to the requirements of the Alliance. As it has done in the past, Eurogroup will continue to foster the European defence relationship with the United States and Canada for the benefit of the whole Alliance. The close personal attention of Ministers will remain a key factor in the success of the Eurogroup's work.

The Eurogroup celebrated its tenth birthday in 1978 and is now firmly established as a positive force working for the benefit of the Alliance. The changes in the political and military situation worldwide since 1968 have only served to strengthen the need for European countries to use the resources devoted to defence in the most effective way possible and to co-operate more closely together on European aspects of major defence issues. The Eurogroup will continue to work to this end.

No doubt the years ahead will bring further changes and different challenges. These will be faced with confidence and with the flexibility of mind and practice that has characterised the Eurogroup at all times. Working within the framework of NATO the Eurogroup serves to strengthen the European voice and contribution and through this the effectiveness of Alliance defence as a whole.

TABLE OF MINISTERIAL CHAIRMEN

From the formation of the Eurogroup in 1968 until 1971, the chair at Ministerial meetings was taken on an ad hoc basis by a number of European Defence Ministers. The following Ministers took the chair at various times during this period:

Mr Healey	UK
Mr Segers	Belgium
Mr Den Toom	Netherlands
Mr Schmidt	Germany
Mr Tanassi	Italy

Since 1971, the Ministerial chairmanship of the Eurogroup has been held on an annual basis. The following Ministers have acted as chairman:

1971 Lord Carrington	UK
1972 Mr Schmidt/Mr Leber	Germany
1973 Mr Tanassi	Italy
1974 Mr Fostervoll	Norway
1975 Mr Mason	UK
1976 Mr Vanden Boeynants	Belgium
1977 Mr Møller/Mr Søgaard	Denmark
1978 Mr Scholten	Netherlands

EUROGROUP
PRINCIPLES OF EQUIPMENT COLLABORATION

I. OBJECTIVES

1. It is of the first importance to increase substantially the extent and depth of European collaboration in the procurement of defence equipment. (Throughout this paper the term "procurement" is used in a comprehensive sense, to cover research, development, production and purchase.) This importance derives from two main factors :

a. The execution of numerous separate national projects on the scale common in the past causes wasteful duplication. This will be less and less tolerable in future, and the aim must be progressively to eliminate it.

b. Standardisation of equipment characteristics brings major military as well as economic benefits.

Both these factors are aspects of the basic aim of getting the best possible collective defence output from the economic input which member countries individually make.

2. The concept of a special drive for closer equipment collaboration among European members of NATO is in no way exclusive. It is intended as a pragmatic step towards better rationalisation of effort within NATO as a whole. The Alliance needs to exploit the resources of all its members to the best collective advantage, and the European countries will continue to value, and indeed in many ways to depend on, closer co-operation among all members of the Alliance.

II. PRINCIPLES

3. To further the objective systematically, guiding principles are needed in the following respects :

a. The exchange of basic information.

b. The review of possibilities.

c. Maximum co-operation in procurement.

d. Maximum standardisation.

e. Maximum co-operation in logistic support.

f. Management and cost control considerations.

4. Paragraphs 5-10 below discuss what these guiding principles should be. We emphasise that in general they should be operated to the maximum possible extent through the machinery of NATO. It will be both unnecessary and highly undesirable that Eurogroup countries should seek to duplicate this machinery.

5. **Exchange of Basic Information.** There should be a regular and comprehensive exchange of information on the timing and content of plans for future military equipment. In addition to making full use of the extensive arrangements already existing within NATO for such exchange, the National Armaments Directors of European countries should arrange to maintain collectively a special watch, based on data kept regularly up-to-date, over areas where collaboration seems especially important or promising. They should meet at least annually to review the data on these areas, to promote the maximum harmonisation of concept and timescale, and to identify and exploit opportunities for joint action.

6. **Review of Possibilities.** When any Eurogroup country is preparing or drafting a military planning requirement for any item of equipment which could offer significant prospects for collaboration, it should ascertain from the other countries (either through existing NATO and other machinery, or else by special enquiry) whether they have the same cr similar intentions, and whether they have already initiated a development on the basis of a relevant existing requirement. The member country should not finalise the planned characteristics of the equipment in question until it has satisfied itself that any substantial possibilities of harmonisation have been explored. It should whenever possible test or otherwise assess carefully any equipment developed or produced in another member country which might *prima facie* offer promise of meeting the requirement.

7. **Maximum Co-operation in Procurement.** Once the general possibility of a common need has been recognised, the effort should be made firstly to harmonise equipment characteristics, and secondly to agree how the equipment should be jointly provided. As regards the former stage, the harmonisation of characteristics should be sought together through study and discussion of military, technological and economic factors (including cost-effectiveness), taking account of existing commitments, timescales and financial

situations. As regards the latter stage, there can be no single optimum pattern for a co-ordinated procurement plan; the best solution will vary with circumstances — for example, whether or not one of the potential collaborators already has a relevant national development in progress. Depending on circumstances, the right course may be joint development, joint production, manufacture under licence, straight-forward purchase, or a combination of methods. One nation may take the lead in one or more phases of the project, or the work may be shared. Collaborative procurement may still be highly desirable even where the major development or initial production is undertaken outside the group of member countries. If it proves impracticable to achieve a joint plan for the procurement of a system as a whole the maximum collaboration should still be sought in respect of subsystems and components. The prime aim should be to get the best value for defence expenditure; but it will be important also that all participating countries should have a fair share in the economic, technological and industrial advantages of collaboration, not necessarily on a case-by-case basis but in the context of overall efforts by means of some broadly-based equalising arrangements in defence procurement. It will be important to pursue this objective on the basis of fair opportunity for all countries at each phase of the procurement process, in order to maintain the willingness of all to cooperate.

8. **Maximum Standardisation.** In those areas where standardisation is militarily essential, or where joint NATO or other agreed standards already exist, countries should do their utmost to follow agreed standards. Even where, for valid reasons, collaborative procurement proves impossible, nations should continue to attach high importance to achieving and maintaining standardisation of characteristics and components, especially where joint operation or joint support may be in question. These considerations should continue to weigh heavily in the evaluation of any modifications after equipment has entered service.

9. **Maximum Joint Follow-On Support.** The benefits of collaborative procurement and standardisation cannot be adequately realised unless they are followed through into the field of post-design services and of logistic support - both production logistics (the procurement of spares, support equipment and the like) and maintenance logistics (such as the storage and

distribution of spares, and the provision of servicing, repair and test facilities). The search for co-operation in these areas, on the widest possible basis of participation, should be pursued under the interdependent responsibilities both of National Armaments Directors and of military logistic authorities. In particular, the attempt to evolve co-ordinated arrangements for follow-on support should be an automatic accompaniment of any collaborative procurement projects, making use to the utmost of existing NATO logistics organisations.

10. **Management and Cost Control.** The involvement of more than one country in an equipment project often complicates the problem of effective management control. Special attention will need to be paid to ensuring such control, particularly as regards the cost of development, and appropriate measures will have to be considered. It is also important to keep close control of production costs. The aims of collaboration would be defeated if cost escalation made it impossible for countries (especially the smaller ones) to acquire the product, or damaged other fields of defence effort. In addition, it is desirable that the product should be competitive in the wider markets.

EUROGROUP
PRINCIPLES OF CO-OPERATION IN TRAINING

1. OBJECTIVES

1. In accordance with the overall objective of the EUROGROUP "to achieve savings and stimulate improvements in the defence posture by increased co-operation", the field of training seems particularly qualified for inclusion in such co-operative arrangements. (In this paper the term "training" is used to cover training of individuals or groups of individuals at all levels in the acquisition of basic and applied skills. It does not cover training in an exercise environment.)

2. Training experts from the European countries in the Alliance established EUROGROUP TRAINING (EUROTRAINING) in September 1970, with their Defence Ministers' approval, in order to:

a. improve and expand existing, and as appropriate initiate new, bilateral and multilateral training arrangements;
b. develop these arangements to a point where one nation might assume responsibility for training in specific areas on behalf of all or some of the European partners.

3. The second of the above aims offers the greater scope for savings, in both manpower and finance. In addition to saving personnel, training facilities and money, increased common training would promote better mutual understanding between personnel of different countries, favour standardization of equipment and lead to harmonization of operational and tactical doctrines.

II. PRINCIPLES

4. The adoption of guiding principles is essential for future work on common training and to link the work of EURONAD and EUROTRAINING. With this in view the following principles have been evolved to provide a suitable basis for co-operation in the field of common training:

a. Exchange of information on training matters.
b. Co-operation in planning and establishing new training facilities.
c. Harmonization of training procedures and doctrines.
d. Standardization, finance and cost control.
e. Establishment of Expert Working Groups.
f. Co-operation with NATO authorities and agencies.

Details of these principles are set out in paragraphs 5-10 below.

5. **Exchange of Information on Training Matters.** There should be regular and intensive exchanges of information through the established EUROTRAINING Secretariat on:

a. Training spaces offered or required;
b. Experience gained from carrying out specific types of training.

For the purpose of a. above members of EUROTRAINING will list those existing military installations that offer substantial advantages for common training. The list will indicate training spaces that could be made

available to other member nations and will be kept up-to-date regularly. For the purpose of b. above members will make available to each other reports of major developments in training matters and of any experience that might be of interest. The EUROTRAINING Secretariat will distribute information on training matters on the basis of data furnished by EUROGROUP members. National delegations should arrange to watch collectively over areas where co-operation in training seems especially important and promising to identify and explore possibilities for common training.

6. **Co-operation in Planning and Establishing New Training Facilities.** EUROTRAINING will concentrate in the future on the investigation of new and extensive projects that lend themselves to common training on a centralised or regional basis, especially when new weapon systems are considered for procurement by two or more countries. Member nations agree to consult each other before planning and establishing new or expanding existing national training facilities in order to ascertain whether:

a. any new or additional training requirement can be met by using the existing facilities in other countries, or expanding them at low cost, and,

b. other countries have the same or similar requirement for training, so as to favour the establishment of a common European training facility.

7. **Harmonization of Training Procedures and Doctrines.** Member nations agree that it will be necessary to develop guidelines for common training and to investigate how far national training procedures can be harmonized. They realise the difficulties of implementing this principle owing to differing national characteristics and requirements, but it will be important to pursue this objective in order to maintain the willingness of all to co-operate. The closer members' doctrines come together the greater will be the scope for common training. For example, the common use of tactical trainers may well develop further the harmonization of tactical doctrines which exists already to a considerable degree amongst NATO countries.

8. **Standardization, Finance and Cost Control.** In those areas where standardization is essential, or where NATO or other agreed standards already exist, EUROGROUP countries should follow these agreed standards.

The existing "Guidelines for the Financing of Common EUROGROUP Training Projects" should continue on their present basis until they are incorporated in a STANAG on Principles and Procedures for the Conduct and Financing of Common Training. The Guidelines should also provide a common basis for the determination of costs.

9. **Establishment of Expert Working Groups.** The involvement of two or more EUROGROUP nations in a given or planned training project will generally require the establishment of a Working Group of specialists to co-ordinate investigation, recommendations and follow-on action and to promote continuing co-operation in a particular field of training.

10. **Co-operation with NATO Authorities and Agencies.** Member nations further agree to continue to make available to the greatest possible extent their national or common training facilities to all armed forces of the North Atlantic Alliance in accordance with paragraph 5 above. They consider co-operation between EUROTRAINING and NATO authorities or agencies essential and important to avoid any unnecessary duplication of effort.

III. CONCLUSION

11. It must be stressed that principles in themselves cannot compel co-operation; they can only improve the conditions for it. Although in the final resort training functions are a national responsibility, decisions on the practical implementation of these principles will still require strong direction from EUROGROUP Ministers themselves and determination to accept flexibility in the assessment of national training requirements and constraints in order to achieve the long-term objectives of EUROTRAINING.

EUROGROUP
PRINCIPLES OF CO-OPERATION IN LOGISTICS

I. OBJECTIVES

1. One of the important overall objectives of the Eurogroup is to increase co-operation in defence among member nations. The field of logistics is one in which

there is scope for improvements of this kind. Although the provision of logistic support for NATO-assigned forces is at present a national responsibility, closer collaboration in logistic support will enable member countries whose forces are deployed in the same area with similar or complementary operational responsibilities to make more efficient and economical use of their logistic resources.

2. The ultimate objective is to achieve the closest possible integration of logistics systems among Eurogroup members in respect of the forces they assign to NATO. This is, however, dependent on fundamental changes in the arrangements for financing those logistics systems and for the procurement of equipment; and also on the achievement of much greater standardization of weapons and equipment than exists at present. In the meantime, worthwhile progress towards the objective can be made by developing co-operative logistic arrangements and co-ordinated procedures wherever the opportunity exists and greater efficiency and cost-effectiveness would result.

II. PRINCIPLES

3. The following principles have been drawn up to provide a basis for co-operation in the field of logistic support:

a. **New Collaborative Projects for Weapons Systems and Major Equipments.** Practical possibilities of collaboration in support of weapons systems and major equipments (eg, maintenance, repair and spares provisioning) are limited by the differences between weapons and equipments at present used by the member countries. A major effort is now being made by Eurogroup countries through the work of EURONAD to promote standardization of new weapons and equipment by means of collaborative projects. Member countries have already agreed in the Principles of Equipment Collaboration that the requirement to attempt to evolve co-ordinated arrangements for follow-on support should be an automatic accompaniment of any collaborative procurement project. EUROLOG will work with the relevant agencies to satisfy themselves that appropriate arrangements are being made in each case.

b. **Other New Equipment Projects.** Member countries agree that a similar effort to evolve co-ordinated

arrangements for follow-on support should be made when any new weapon or equipment is under consideration or adopted by two or more countries, whether or not the particular item is categorized as a collaborative procurement project.

c. **Existing Weapons or Equipments.** Member countries agree that consideration should be given to the possibility of co-operation in the logistic support of existing weapons and equipments used by more than one country which are not already the subject of co-operative arrangements.

d. **Harmonization of Logistic Procedures.** Member countries agree that every effort will be made to harmonize/standardize logistic procedures with the object of achieving increased flexibility in logistic support.

e. **Future Logistic Planning.** Member countries agree that they should exchange information regularly about logistics, including information on planned logistic projects, with the general aim of enabling others to join in such projects if this would be of advantage. They agree also that there should be a regular exchange of information on the evaluation of national logistic concepts.

III. METHOD OF IMPLEMENTATION

4. Responsibility for implementation of these principles lies with Eurogroup countries, under the direction of Eurogroup Ministers. The sub-group established in the field of logistics (EUROLOG) has so far devoted its main efforts to examining the possibilities of logistic co-operation between the land forces in the Northern Army Group, between the air forces in the Second Allied Tactical Air Force and between the navies which operate in the Channel and the North Sea. The countries providing these forces are at present represented on EUROLOG. It is open to other Eurogroup countries to join EUROLOG when subjects of interest to them are under consideration.

The Independent European Program Group (IEPG)

Historical background

EUROGROUP Defense Ministers declared in November 1975 that European armaments cooperation and the principles of a "two way street" can only be effective if European countries jointly pool their economic, technical and financial resources. The prerequisite for this was to get France to join. One had to keep in mind that France did not accept the EUROGROUP as a forum of such armaments collaboration. That is why it was thought to create a new body which would enable France to join. In February 1976, the Undersecretaries of 11 European NATO partners agreed to set up an Independent European Program Group, independent of NATO and of the EUROGROUP. Portugal joined the IEPG in November 1976.

Aims and objects and organisation of the IEPG

The work of the IEPG is to be done within the following general political framework :

- to strengthen European collaboration,
- to utilize all sources of the Alliance and
- to maintain conventional forces to a reasonable extent.

It is expressly said that the work of the IEPG should follow the spirit of the Alliance and that national

responsibilities should remain untouched.

The following aims have been fixed :

- to enable an effective use of the financial resources for R&D and for procurement,

- to increase standardisation and interoperability of equipment, by which cooperation in the fields of logistics and training are facilitated, too,

- at the same time to strengthen the European component in the relation with the United States and Canada.

This necessitates the following tasks :

- to harmonize equipment plans and replacement schedules;

- to agree on joint projects and

- to establish guidelines for an adaption - step by step - of the structure and capacity of the European defense industry to the requirements, utilization of possibilities of a fair competition when looking for cost effective solutions, recognition, consideration of justified vested interests of countries without major armament industries.

It was decided, based on the experience gained within the EUROGROUP, that the organisation and procedure of the IEPG should be flexible, pragmatic and without any fixed form. Existing collaboration should not be

hindered by the activities of the IEPG. In order to avoid duplication, one should check whether the results and findings of other bodies of the Alliance could be used.

The set up of the IEPG :

- The political guidance is in the hands of the Undersecretaries of the Defense Ministers of the IEPG member countries. This proves that the IEPG is the only European forum of international armaments cooperation where there does not yet exist a ministerial level. The Undersecretaries meet at least once a year in order to discuss problems of interest and concern and to give guidance for the work of the IEPG;

- The practical work is done under the guidance of the National Armament Directors of the IEPG countries who meet twice a year. They make the necessary decisions in the respective subject matters and give recommendations on principle questions which the Undersecretaries are requested to decide upon.

The IEPG has three Panels :

- Panel I is chaired by the United Kingdom and deals with European equipment planning, with the replacement schedules of the IEPG partners. According to its scheme of data, the armaments plans of the IEPG member states, until about the 1990s, are considered in a comparative analysis. The goal is to identify projects which leave hope for possible and necessary cooperation.

Panel II , with Belgium in the chair, is tasked with coordinating specific projects.
Presently, there are five ad hoc working groups, i.e.

(1) MBT - 105 improved ammunition (Ge)
This group has produced its final reports and recommends the adopting of the British PPL 64 ammunition as the preferred IEPG - round of improved 105 tank gun ammunition and the creation of a Steering Committee

(2) Tactical Combat Aircraft for the 1980s-1990s (UK)
(This seems to be the most important IEPG project)

(3) Short-range unguided anti-tank weapons (It)

(4) Mine hunter (Fr)

(5) Full width mechanically laid minefield system (Ge)

There are eight Exploratory Groups:

(1) Lightweight Torpedoes (UK)
(2) Military Helicopters (UK)
(3) Medium/Long-range guided /unguided anti-tank weapons (Fr)
(4) Man-portable surface-air guided weapon (Ge)
(5) Army mine systems (NL)
(6) Versatile naval exercise mines (NL)
(7) Minesweeping (Fr)
(8) Future Long-range Maritime Patrol Aircraft (Fr)

The exploratory groups are tasked with trying to find possibilities of cooperation. They are to submit recommendations if and under what conditions work is to be continues.

The former exploratory group on fast patrol boats was disbanded in April 1978.

Panel III, chaired by Germany, deals with defense economics and procedures and has the following subgroups:

-Project procedures (Be)

This subgroup has produced peoposals for guideslines on IEPG Common Armaments and Equipment Procurement Procedures which will be presented to the IEPG -NADs on 2/3 April 1979.

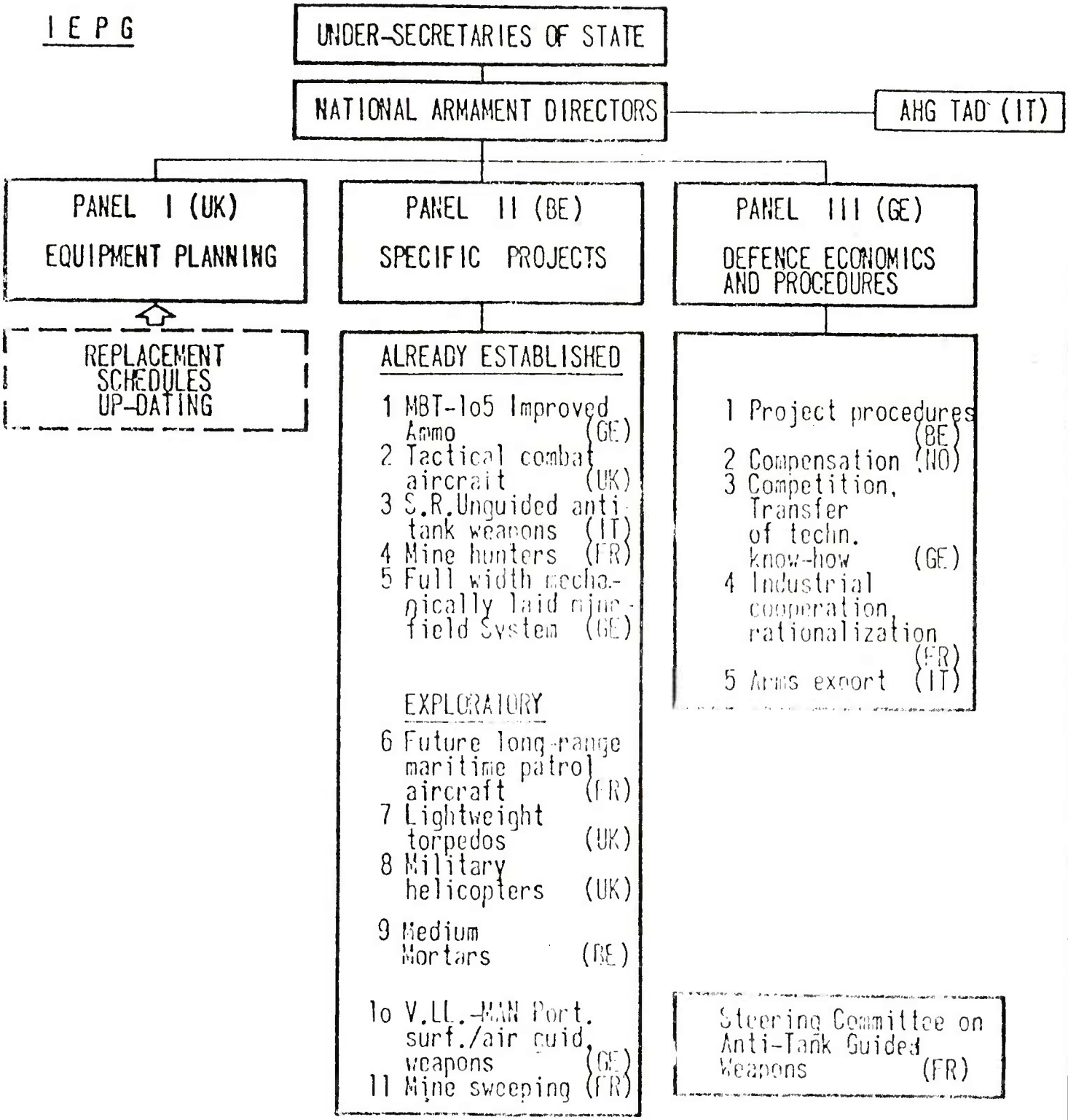
-Compensation (No)

-Competition,Transfer of technical Know-how (Ge)

-Industrial Cooperation - Rationalisation (Fr)
(This is the group I mentioned in connection with the SAC of the WEU)

and

-Arms Export (It)


I E P G
UNDER-SECRETARIES OF STATE
NATIONAL ARMAMENT DIRECTORS
AHG TAD (IT)
PANEL I (UK)
EQUIPMENT PLANNING
PANEL II (BE)
SPECIFIC PROJECTS
PANEL III (GE)
DEFENCE ECONOMICS AND PROCEDURES
REPLACEMENT SCHEDULES UP-DATING
ALREADY ESTABLISHED
1 MBT-105 Improved Ammo (GE)
2 Tactical combat aircrait (UK)
3 S.R.Unguided anti-tank weapons (IT)
4 Mine hunters (FR)
5 Full width mechanically laid minefield System (GE)
EXPLORATORY
6 Future long-range maritime patrol aircraft (FR)
7 Lightweight torpedos (UK)
8 Military helicopters (UK)
9 Medium Mortars (BE)
10 V.LL.-MAN Port. surf./air guid. weapons (GE)
11 Mine sweeping (FR)
1 Project procedures (BE)
2 Compensation (NO)
3 Competition, Transfer of techn. know-how (GE)
4 Industrial cooperation, rationalization (FR)
5 Arms export (IT)
Steering Committee on Anti-Tank Guided Weapons (FR)

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PROGRESS REPORT

CNAD AD HOC STUDY GROUP FOR A POSSIBLE PERIODIC ARMAMENTS PLANNING SYSTEM (PAPS)

1 November 1979

In the fall of 1976 the Conference of National Armaments Directors (CNAD) established an Ad Hoc Study Group to examine a possible Periodic Armaments Planning System (PAPS) for use by NATO. This action stemmed from a general concern on the part of the National Armaments Directors (NADS) that national equipment programs were not sufficiently responsive to the needs of NATO forces, especially in the areas of standardization and interoperability of weapons.

NATO ARMAMENTS PLANNING REVIEW (NAPR)

The first year of study resulted in a procedure called the NATO Armaments Planning Review (NAPR). This procedure (Fig. 1) consists of an annual input from nations of their plans to replace currently deployed equipment. A second input is an assessment by the NATO Military Authorities (NMAs) of the priorities for standardization and/or interoperability in key categories of equipment (mission areas). The European input is provided through the Independent European Program Group (IEPG) and the U.S. and Canadian inputs are provided separately. The replacement schedules and NMA inputs are provided to the NATO International Staff and the Main Groups 1/ to be reviewed for opportunities for cooperation not previously exploited. The review can also identify areas where nations are diverging from standardization or

1/ NATO Army Armaments Group (NAAG)
NATO Naval Armaments Group (NNAG)
NATO Air Force Armaments Group (NAFAG)
Tri-Service Group on Communications and Electronic Equipment (TSGCEE)
Tri-Service Group on Air Defense (TSGAD)

interoperability as a result of independent national decisions. The conclusions and recommendations drawn from this review are then provided to the CNAD for action.

At the fall 1977 meeting the CNAD directed that a trial be conducted using a few equipment categories to determine the utility of these procedures. The results have now been analyzed by the National Armaments Directors' representatives (NADREPS) and final procedures were approved by the CNAD this fall. With these procedures adopted by the CNAD, NATO planners will gain better insight into national equipment replacement plans (a process which has been random at best in the past) and national perspectives should be better reflected in NATO decisions.

Two other benefits should accrue: first the NMAs judgment on priorities will be considered at an early point in the CNADs decision process, thus having more impact on equipment decisions. In many cases collaborative projects have suffered because the NMA's military judgment has been available too late in the decision process. A second benefit is that NAPR elevates progress or lack of progress towards standardization and interoperability to high-level national authorities (NADs) who can take appropriate action at home or within NATO if things aren't getting done.

STRUCTURE FOR NATO PLANNING

A drawback of NAPR is that the data reflect a rather mature stage of national planning. When national equipment replacement schedules are firm it is difficult to accommodate program changes brought about via attempts to collaborate. A major problem has been a lack of early visibility into national military requirements and a NATO review before national commitments were made. A second but related problem was incomplete information on national plans and a lack of discipline in the reporting process for collaborative programs.

Since NAPR partially addressed the second problem area and was under trial, the Study Group focused on developing a solution to the first problem; that of encouraging early discussions of military requirements.

The first task was to reach agreement on what was meant by early. This was achieved by defining the phases of a weapon system's life cycle and the activities embodied within those phases. Six phases were agreed as representative of a typical weapon system life cycle:

(1) Prefeasibility
(2) Feasibility
(3) Development
(4) Production
(5) In-Service
(6) Disengagement

These are shown graphically in Figure 2 with reference to the equivalent phases of the DoD Acquisition Process (DSARC).

There is a great deal of similarity between PAPS and the DSARC process, but two differences are worth noting. First, PAPS defines the start of the weapon system life cycle as the point when military authorities forward the mission need. This is somewhat earlier than the DoD, since we define the start as the point when approval of the need is obtained from the Secretary of Defense. PAPS also recommends attention be given to the in-service and disengagement phases at the mature stages of the weapons system life cycle, whereas DSARC visibility terminates at the production decisions.

The CNAD agreed that procedures for the joint conduct of the first two phases of PAPS should be developed, underlining a concern that national programs were often begun without considering the needs of NATO. There was, however, disagreement on whether a structure for the subsequent phases would be of value. Some NADS believed that an effective NAPR would provide sufficient information to augment existing reporting procedures and provide adequate oversight of mature

programs. At the fall 1978 meeting the CNAD directed further development of the procedures for Phases 1 and 2 and preparation of a trial plan to evaluate their utility. Further work on Phases 3 through 6 was to take second priority.

TRIAL OBJECTIVES

Within Phases 1 and 2 of PAPS, there are four decision points or Milestones (Fig. 3): the first is the point where a Mission Need Document (MND) is forwarded by a military authority through NATO to NADs for review and possible action. The second milestone occurs when two or more nations have agreed to an Outline NATO Staff Target (ONST). This document restates the mission need and identifies technical, financial and schedule factors which form the basis of joint prefeasibility studies. The ONST is roughly the equivalent of the DoD Mission Element Need Statement (MENS). The third milestone occurs at the conclusion of prefeasibility studies, which, in the DSARC would be equivalent to reaching Milestone I. At this time a NATO Staff Target (NST) is completed which forms the basis for feasibility studies. A Memorandum of Understanding (MOU) is also signed by those nations which agree to conduct feasibility studies. The fourth milestone occurs at the completion of the feasibility studies and the drafting of a NATO Staff Requirement (NSR) which details the performance goals of the system to be designed. In the U.S. DSARC process this is equivalent to the completion of the validation phase and Secretary of Defense approval to enter full-scale development (Milestone II).

The trial has two basic objectives. First, to assess the impact of mission needs which are directly transmitted from national or NATO military authorities to the NADs. The second objective is to examine the utility of direct NAD involvement in the decisions that occur at subsequent milestones. This second objective addresses a

perceived decoupling between decisions made by subgroups of the Main Groups on weapons programs and decisions made by the NADs. Decisions now made at the subgroup level may not reach the NAD, who may inadvertently make recommendations or take actions which are contrary to the subgroup agreements. Further, agreements on major programs by MAG Subgroups affect national programs and must have high-level national support to be successful. This support can be provided by the NADs and their staffs thus adding momentum to important cooperative programs. The communication channels established by PAPS on major programs should help keep the NADs and Main Groups closer together.

TRIAL PLAN

Given a trial period of reasonable length it is not possible to follow a program from its introduction as a mission need through the decision to enter full-scale development. The trial examines the decision process in time segments surrounding each milestone (Fig. 3) and the flow of information between NATO working groups and the decision levels within nations. The methods of work employed by the Main Group subgroups between these time segments will not be evaluated. These are a function of the problem at hand, the technology involved and the acquisition strategy followed by the nations and are not an issue for the trial.

Because mission need preparation and processing have characteristics unique from the decision processes at other milestones, this activity is being treated separately in the trial. Also, because the decision processes at subsequent milestones have similar characteristics, the three were combined. For the mission needs, all NATO organizations and nations were requested to provide examples for the trial. It was important that these be actual mission needs and not simulated ones because high-level officials will be asked to make decisions on

national involvement in cooperative efforts and Main Group subgroups will be tasked accordingly. In this sense the utility of mission needs is being evaluated but with "live ammunition". A total of nine Mission Need Documents (MNDs) were received for use during the trial and two or three more are anticipated.

To obtain candidate programs for evaluating NAD involvement at subsequent milestones, the Chairmen of the Main Groups were requested to identify programs which were expected to reach one of the three milestones during the trial period. Again, the intent was to use only actual programs which were planned targets for cooperation. Ten programs were selected to monitor. When decision points are approached, a parallel decision channel will be activated through the NATO structure to the National Armament Directors and back to the action group. Through this channel the NADs will provide decisions on the degree that their nations will participate in the next stage of these cooperative programs.

The trial is scheduled for completion by summer 1980. The processing of the Mission Need Documents and subsequent evaluation should be completed by that time so firm recommendations can be made at the fall 1980 CNAD meeting. If the Main Group subgroups encounter delays in reaching milestones, final recommendations for these milestones may not be available until the spring 1981 CNAD meeting. However, since the mission need processing is largely independent of the events that follow, a two stage implementation should cause no special problems. In fact, it may be beneficial to gain acceptance of the first process (mission needs) before adding the second (NAD involvement).

INTEGRATION OF PAPS AND NAPR

With the conclusion of the trial and possible implementation of procedures for PAPS Phases 1 and 2 by the spring of 1981, one additional item needs attention --- the integration of NAPR into the

PAPS structure. By fall 1980, sufficient information should be available on the success of NAPR and the potential acceptance of PAPS procedures that the CNAD may direct an examination of ways to integrate the two. NAPR should provide the so-called "feedback" on replacement plans and augment other existing reporting procedures within NATO, thus providing the CNAD with sufficient information on major programs, regardless of their state of maturity.

This examination should naturally resolve the disagreement now surrounding the need for further structuring of PAPS Phases 3 through 6. If the process of involving the NADs and obtaining their decisions at early milestones is adopted, it may be applied to the decisions at the final milestone prior to production. This would provide a method whereby nations who have not participated in the research and development phase of a major program will be able to obtain information to make decisions on entering into co-production or dual-production agreements or to simply procure the weapon. This process occurs today, but on an Ad Hoc basis and opportunities for co-production or common procurement are missed because information is not available or is too late to be of value.

If integration is completed along these lines the PAPS process will include three elements:

(1) The receipt and processing of Mission Need Documents from NATO or National Military Authorities with NAD involvement in the initial decision by nations to participate;

(2) A method whereby National Armaments Directors provide the CNAD with national positions on the degree of participation in cooperative activities such as prefeasibility (concept formulation), feasibility (validation) and full-scale development; and

(3) A periodic review of national equipment acquisition plans and assessment of progress made towards enhanced cooperation. This includes the identification

of areas where divergence is beginning to occur so that proper action can be taken.

The goal is to provide this complete package for CNAD approval by spring 1981.

THE DSARC/PAPS INTERFACE

Because of similar definitions and procedures, PAPS and the DoD Acquisition Processes should complement one another. Under DoDD 5000.1 a Service identifies needs and develops a draft MENS for each of those which may become major programs. The MENS is first coordinated within the Service staffs resulting in a document which represents the Services position with regard to the mission need. The MENS is then forwarded to OSD for comment and finally to the Secretary of Defense for approval.

If a particular need has potential NATO application and may represent a target for cooperation within the Alliance, the Under Secretary of Defense for Research and Engineering, acting in his capacity as the U.S. NAD, could forward the draft MENS to NATO as a Mission Need Document (MND) under PAPS. Specifically, the draft MENS (now an MND) would be sent to the Assistant Secretary General for Defense Support. The MND would be transmitted to other nations for review and a decision on their degree of initial participation. The DoD review of the MENS would proceed as usual and in parallel a meeting would be called for a Main Group subgroup to take action on the MND.

The results of a U.S. and a NATO review can then be reflected in the final approved MENS providing a sound basis for collaborative R&D from the start. (The MENS would have a NATO equivalent in an Outline NATO Staff Target.) If this process is conducted in parallel, time will not be lost; in fact, it may preclude delays in new starts due to concerns raised regarding NATO standardization goals in the MENS and specific plans for Concept Formulation (Phase 0).

The process of approval of the DCP for Milestone I, II and III parallels NAD reviews under PAPS. Activation of the PAPS process could form a part of the normal DCP coordination process prior to a DSARC. Although the PAPS trial only considers activities up through completion of feasibility studies (DSARC Milestone II) the concept should be valid through full-scale development (DSARC Milestone III), providing DSARC/PAPS compatibility from the draft MENS to the completion of full-scale development.

PAPS/EUROPEAN INTERFACE

The PAPS structure being developed is compatible with a number of European systems and a concept recently developed within the IEPG. Therefore, the similarities noted between PAPS and DSARC will likely hold for most other nations and the procedures could be widely adopted without major structural changes to national systems.

Figure 1.
NATO Armaments Planning Review

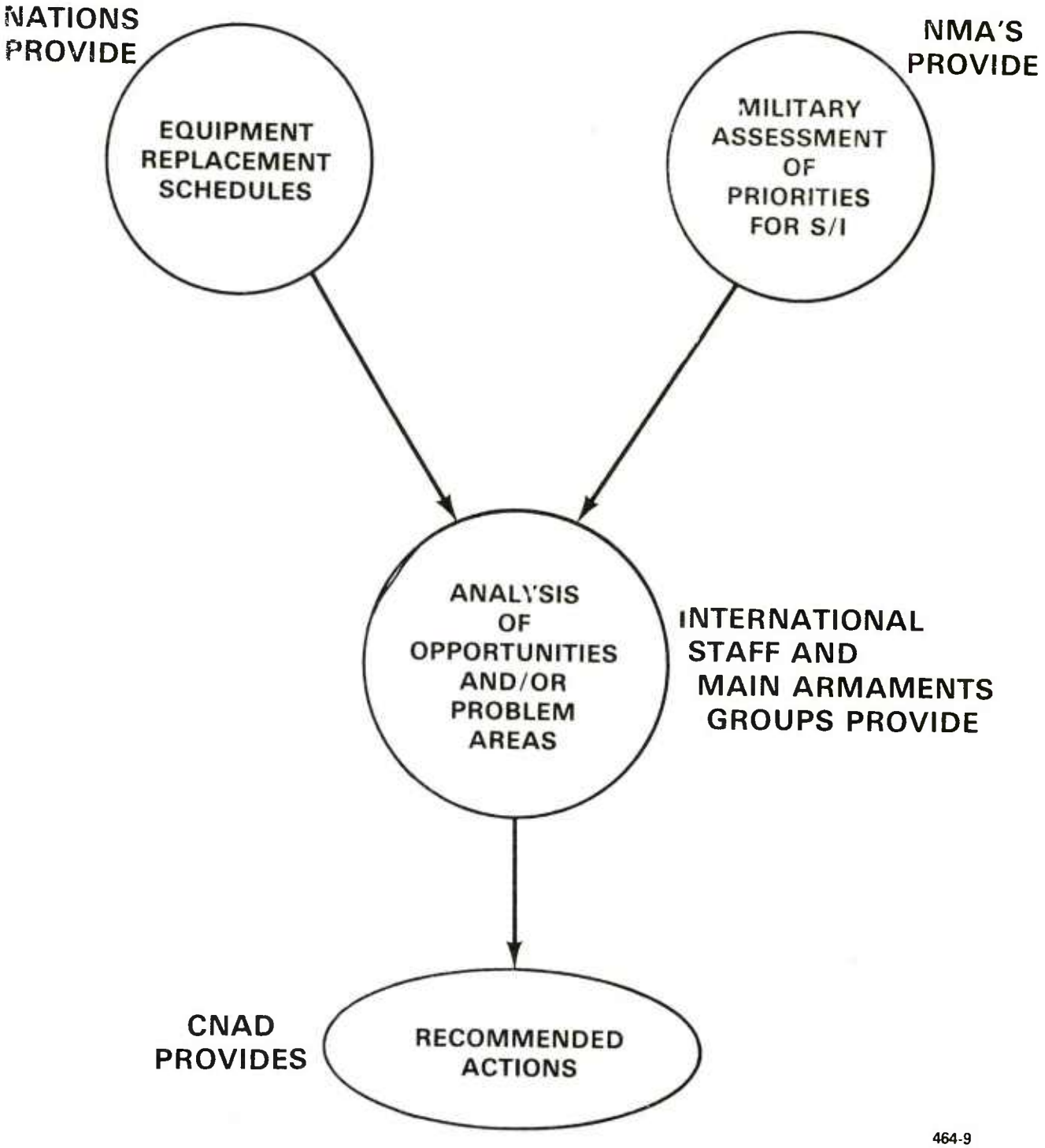

Figure 2. PAPS/DSARC STRUCTURES

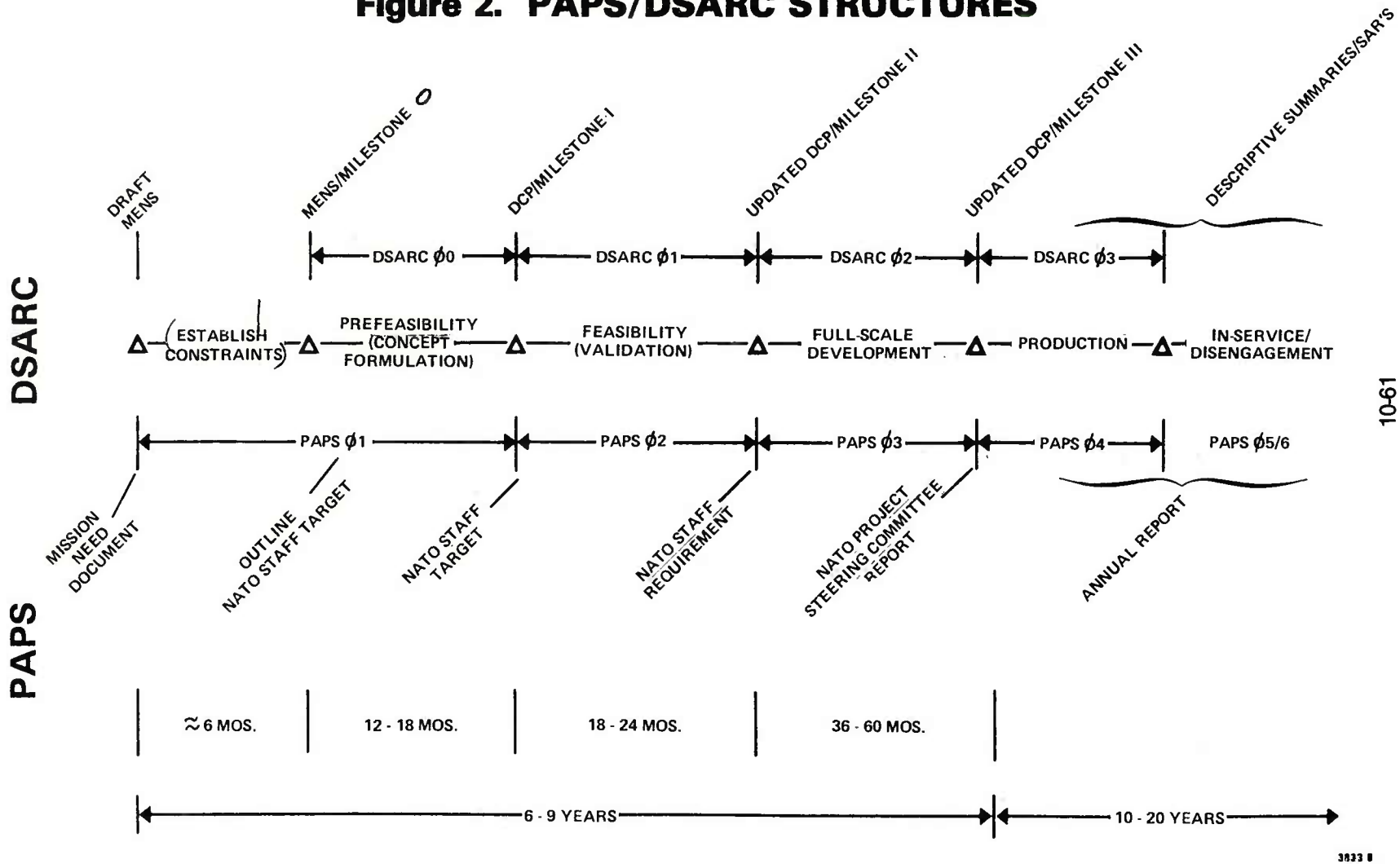

Figure 3. MILESTONES AND TRIAL SEGMENTS FOR PAPS PHASES 1 AND 2