

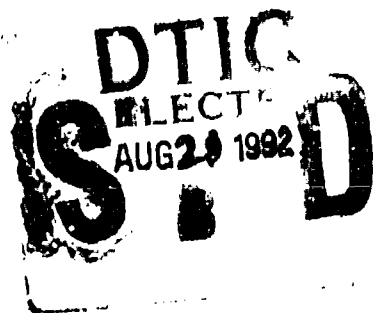
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LOGISTIC IMPLICATIONS OF NATO'S
NEW STRATEGIC CONCEPT



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LOGISTIC IMPLICATIONS OF NATO'S
NEW STRATEGIC CONCEPT

AN INDIVIDUAL STUDY PROJECT

by

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INTRODUCTION

In November of 1991 the Alliance leadership announced with a great show of solidarity, the new Strategic Concept that would lead NATO into the 21st Century. The new strategy fully incorporated the direction dictated by the London Declaration and recognized the major changes in the world situation over the last two years. From a political perspective, the strategy clearly addresses the new realities facing the Alliance such as a reduced threat of a large scale attack in the Central Region; a shift from a bi-polar to a multi-polar world; a less predictable and definable threat; reduced defense budgets; more emphasis on crisis management; and a shift from forward defense posture to one of forward presence, with emphasis on mobility and flexibility.

Even before the formal announcement of the new Strategic Concept there was general agreement among Alliance members on the new military force structure. Many nations had already offered combat units for the newly announced Reaction Forces and publicly acknowledged their support of increased reliance on multinational forces. Numerous articles on the new strategy have been written providing insight on the political requirements and the need for a new military strategy, emphasizing the need for smaller and highly mobile multinational forces. What has been missing from the public debate has been an analysis of the "achilles heal" of the new strategy - logistics. There has been general references to an increased requirement for mobility and standardization, but very limited discussion of the logistic implications of the new Strategic Concept.

The purpose of this paper is to help fill this void by providing an in depth look at the logistic implications of the new strategy.

While there has been a lack of public discussion on this topic, fortunately, the NATO logisticians have been aggressively pursuing the issue. Within the Alliance logistic community there is almost unanimous agreement that the new strategy will have major logistic implications in the areas of logistics principles and policy, Host Nation Support, sustainment, mobility, medical support, and standardization.¹ It is these issues that I will focus on in this paper. While these issues apply equally to the air, sea and land forces of the Alliance, I will limit my discussions to the land forces under control of Allied Command Europe.

THE NEW ALLIANCE STRATEGIC CONCEPT

During the meeting of Alliance Heads of State and Government in Rome on 7 and 8 November 1991, the formal demise of Flexible Response was officially announced and the new Alliance Strategic Concept introduced. This was the culmination of 16 months of effort by the Ad Hoc Group on the Review of NATO's Military Strategy, commonly referred to as the Strategic Review Group. Their efforts included 12 drafts and full participation by France in preparation of the final document.²

In the new Strategic Concept four core security functions were identified:

I. To provide one of the indispensable foundations for a stable security environment in Europe, based on the growth of democratic institutions and commitment to the peaceful resolution of disputes, in which no country would be able to intimidate or coerce any European nation or to impose hegemony through the threat or use of force.

II. To serve, as provided for in Article 4 of the North Atlantic Treaty, as a transatlantic forum for Allied consultations on any issues that affect their vital interests, including possible developments posing risk for members' security, and for appropriate coordination of their efforts in fields of common concern.

III. To deter and defend against any threat of aggression against the territory of any NATO member state.

IV. To preserve the strategic balance within Europe.³

In addition to assigning the traditional mission of guaranteeing the security and territorial integrity of member states, it also places emphasis on new roles for the military in times of peace, crisis and war. In peace, the new emphasis is on contributing to dialogue and cooperation throughout Europe by participation in confidence-building activities, including those which enhance transparency and improve communications; as well as in verification of arms control agreements. It further foresees military contributions to peace by providing forces for United Nations missions. During crises it calls for the military forces to have a capacity for measured and timely responses; the capability to deter action against any Ally; and in the event that aggression takes place, to respond to and repel it as well as to re-establish the territorial integrity of member states.⁴

In summary, the new Strategic Concept calls for the military forces to continue to play a major role in the Alliance. The missions of the military include the traditional defense of Alliance territory and deterrence plus, a new emphasis on support of crisis management and peace-keeping roles. General Galvin, Supreme Allied Commander Europe (SACEUR) and other leaders have also identified humanitarian assistance as another future mission for the Alliance's military forces.⁵

Under the new Strategic Concept the characteristics and posture of the Alliance's military forces will significantly change. Specific changes and increased area of emphasis include:

a. A reduction in the overall size, and in many cases, the readiness of the Alliance's forces.

b. The elimination of the requirement for maintenance of a comprehensive linear defensive posture in the Central Region.

c. Enhanced flexibility and mobility with an assured capability for augmentation. The enhanced mobility requirement includes deployment within and between the regions of the Alliance.

d. The maintenance of sufficient logistic stocks to sustain all types of forces in order to permit effective defense until resupply is available.

e. An increased reliance on multinational forces complementing national commitments to Alliance.⁶

THE NEW NATO COMMAND AND FORCE STRUCTURES

To implement the changes mandated by the new Strategic Concept NATO has initiated major realignments in its command and force structures. The number of Major NATO Commanders has been reduced from three to two with the elimination of the Commander-and-Chief Channel and the retention of the Supreme Allied Commanders for Europe and the Atlantic. Within Allied Command Europe, three Major Subordinate Commands will be established with responsibilities for the Southern, Central and Northwest regions. Under this new arrangement the area of responsibility for Allied Forces Southern Europe (AFSOUTH) will remain unchanged; Allied Forces Central Europe (AFCENT) will expand their area of responsibility to include Schleswig-Holstein and the entire land mass of Denmark; Allied Forces Command Northern Europe (AFNORTH) will be replaced by Allied Forces Northwest Europe, with responsibility for the Baltic Straights, the Channel, Norway and the United Kingdom. Within the Central Region, the Central Army Group (CENTAG) and the Northern Army Group (NORTHAG) will be combined into one Principal Subordinate Command (PSC). The two Allied Tactical Air Forces in the Central Region will also be eliminated and combined under one PSC.⁷

The new Alliance force structure will consist of Reaction Forces, Main Defense Forces and Augmentation Forces. The Reaction Forces will be according to General Galvin, "... multinational, highly trained, rapidly deployable and available at short notice to provide an early military response. They will be divided into immediate reaction forces and more capable rapid reaction forces, both consisting of

land, air and sea components."⁸ It appears at this time that the land component of the Immediate Reaction Forces will consist of an enlarged ACE Mobile Force Land (AMF(L)).⁹ The land component of the Rapid Reaction Forces will be a multinational corps called the ACE Rapid Reaction Corps (ARRC). The corps will be commanded by a British general and probably consist of two British divisions, one multinational airmobile division (Belgium, Germany, United Kingdom, Netherlands) from the Central Region and one multinational light division (Italy, Greece, Turkey) from the Southern Region.¹⁰ In addition, divisions are also being offered by Germany, Greece, Turkey, United States and Spain.

According to General Galvin, "The Main Defense Forces will be regionally oriented in-place forces, and form the major portion of the force structure. They will consist of national and multinational units with active and mobilizable land, air and sea components."¹¹ While national and multinational units make up this force, the current plans call for multinational corps to be the predominant units in the Main Defense Forces. To date, six multinational corps have been proposed: two German corps, one with divisions from Germany and the U.S. and one with divisions from Germany, the U.K. and The Netherlands; one Dutch corps with Germany and the Dutch providing divisions; one U.S. corps with divisions from Germany and the U.S.; one Belgium corps with Belgium, German and US brigades; and the Jutland Corps with a German and a Danish division, which is already in existence. The only other unit specifically identified as a Main Defense Force is a national German corps designated for deployment in the eastern

part of Germany.¹²

The final category of the new force structure, Augmentation Forces, will come primarily from North America but there will be some participation from European nations. The augmentation forces will provide the strategic and operational reserve for the Alliance and be composed of both active and reserve units.

From even a cursory analysis of the new Strategic Concept and its associated changes in military force structure, it is obvious that the environment for the NATO logistician has become more complex and demanding. None of the old logistic requirements have really disappeared and to those are added the new challenges of increased mobility and sustaining operations in a multinational environment. The core security functions will require the continued need for strategic mobility to ensure the timely arrival of reinforcements from North America; the need to sustain the forces in combat or deterrent operations any where within territory of the Alliance; and the increased requirement for inter- and intra-regional mobility.

When analyzing the new military force structure, the first and most obvious logistic implication is the requirement to provide logistic support in a multinational environment with its inherent difficulties. Some of the more critical difficulties are the lack of standardization in Alliance equipment; the traditional lack of unity of command for logistic units in multinational organizations; language difficulties at the mechanic/supply technician level; lack of compatibility of automated logistic systems; different

national and cultural standards for services such as medical care and graves registration; financial accounting systems and national laws that make mutual support often illegal, or at best, extremely bureaucratic; and of course, the traditional blind obedience in NATO to the misguided doctrine that "logistics is a national responsibility".

Before discussing these and other logistic implications of the new Strategic Concept in more detail, I want to address two points of concern to logisticians. The first being the issue of warning time. Much has been said and written about the long warning times the Alliance will now enjoy with the demise of the WARSAW Pact and unraveling of the Soviet Union. Senator Nunn has even proposed that for selected units their mission could be simply to "be ready to get ready."¹³

While there is almost universal agreement that the warning time for a large scale attack in the Central Region has definitely increased, it is equally acknowledged that such an attack is the least likely option for the Alliance forces. A crisis generating from turmoil in central or eastern Europe or security threats to the Southern Region are the most probable risks to the Alliance. Crises of these types will involve the full spectrum of warning times from days to months depending largely on how quickly the politicians gain a consensus for action.

A key issue with warning time that logisticians must remember is the difference between warning time and reaction time. A simple definition of reaction time is what is left of warning time after the politician has taken his slice. Logisticians must be weary of politicians and operational

planners bearing gifts of "long warning times". The bearer often keeps the vast majority of the gift for himself, leaving the logistician with little time to respond.

The final point I want to make before discussing the above logistic implications is the issue of detail versus ad hoc logistic planning. With the lack of a well defined visible threat or detailed operational plans, such as the old General Defense Plans (GDPs), there is a tendency to take the position that detail logistic planning is impossible and ad hoc planning is the only recourse. Nothing could be farther from the truth. In the unpredictable situations that will be facing the Alliance in the future, it is imperative that logistic planning proceed in an aggressive and as detailed manner as possible. In the middle of a crisis is no time to start thinking about deployment plans, Host Nation Support, sustainment, etc. We know, for example, that the most likely deployment areas are the flanks for crisis or war, central or eastern Europe for peacekeeping; that maximum use of Host Nation Support will be essential; that sustainment will be necessary, even though complicated by multinational formations; that deployment will require use of all available transportation resources including air, rail, sea, barge and road; that refugees and humanitarian aid will be a critical mission in many crises; and that numerous other "knowns" can be determined when logistic planning is aggressively pursued. Obviously, there will be a need to include maximum flexibility in the logistic plans but the lack of GDP's or specific threats is no excuse for resorting to ad hoc logistic planning.

NATO LOGISTIC PRINCIPLES AND POLICIES

Due to their critical impact on logistic planning and on the other logistic implications of the new Strategic Concept, I will discuss NATO logistic principles and policies first. To avoid any confusion let me provide a definition of principle and policy as developed by the Staff Level Meeting (SLM) Working Group on Logistics Principles and Policy.

Principle: A general law which guides action; a fundamental truth as the basis of reasoning.

Policy: A prudent course of action or conduct to be applied in the application of a principle.

After spending several years working in NATO logistics, I am convinced there was a communist spy involved with initial writing of the logistic principles and policy for the Alliance. His or maybe even her, specific contribution was the phrase, "logistics is a national responsibility." I am sure that one phrase and its misinterpretation has probably done more damage in terms of wasted resources, standardization, and interoperability than any espionage event of the entire Cold War. Fortunately, there are winds of change and people are actually starting to discuss and rethink their positions on this basic principle.

In April of 1991, the SLM Working Group on Logistics Principles and Policy (LOGPRIPOL WG) was established by the Senior NATO Logisticians' Conference (SNLC). Their charter was to conduct a review of existing NATO logistic principles and policy, in light of the developing strategy and force structure, to determine their application in the mid-1990s and beyond.¹⁴

In their efforts to date, the LOGPRIPOL WG has agreed upon eight logistic principles and twenty statements on logistic policy for endorsement by the SNLC and final approval by the Defense Planning Committee.¹⁵ Most of the proposals are not radical changes but instead provide clarification and modification to existing principles and policy based on recent changes in forces structures and strategy. There are, however, three areas that the working group did propose some long overdue and in NATO terms, somewhat radical changes. They deal with the logistic principles of responsibility and authority and the logistic policy on the NATO commander's authority with Host Nation Support.

The working group's proposal for the logistic principle of responsibility is "Nations and NATO authorities have a collective responsibility for logistic support of NATO's multinational operations."¹⁶ Hopefully, this will be just the first step in ridding the Alliance of the perception that logistics is purely a national responsibility. In a article written by the LTG Franks, commander of the U.S. VII Corps, he clearly states the issue,

Since allied units arrive in the corps sector with a host of unique needs, dismissing the problem with the catch phrase, "logistics is a national responsibility", poorly serves the needs of a multinational corps. Relegating logistics to a national responsibility will clearly not survive wartime demands and will too easily create animosities between allied formations when a cooperative effort is critical.¹⁷

Under the old logistic structure where units had the luxury of essentially national lines of communication (LOC) and relatively large defense budgets, the Alliance's military strategy could survive with logistics as basically a national

responsibility. Under the new Strategic Concept with its reliance on multinational units and the reality of major reductions in defense budgets, the inefficiency of treating logistics as purely a national responsibility is no longer affordable.

The second significant change proposed by the LOGPRIPOL WG deals with the principle of authority. Their proposal states, "The NATO commander at appropriate level must be given sufficient authority over the logistics resources necessary to enable him to employ and sustain his forces in the most effective manner."¹⁸ Depending on how this proposal is implemented, this could eliminate the most significant obstacle existing in the Alliance for ensuring responsive combat logistic support.

Under current procedures the NATO commander does not have the authority to reallocate logistic resources under his command unless there is a declared "emergency in war". For an emergency in war to be declared there must be,

...an operational contingency in a limited area caused by a critical aggravation of combat operations and requiring special and immediate action by National and Allied Commanders. The existence of such an emergency shall be determined by the Allied Commander responsible for the limited area involved in consultation with the National Commander concerned.

Even with an emergency in war declared, the NATO commander's authority is further limited, "by bilateral peacetime negotiations with respect to the maximum quantities of supplies to be reallocated between NATO commanders and the nations concerned."¹⁹ By the time the commander has worked his way through this procedure, the emergency in war would have probably turned in to "a defeat in war".

While discussions of this logistic principle generally concern materiel, the principle actually addresses all logistic resources. This includes command over logistic units. "Unity of command" is a universally accepted principle for the success of any military unit. Why in NATO is this principle assumed to be not applicable to logistic units? The old arrangements for control of logistic units such as "co-ordinating authority", "obligatory co-operation", or "good will" will not work in times of crisis and especially in multinational units. Logistic support under the new Strategic Concept will be difficult enough, we don't need to make it more challenging by preventing NATO commanders from having adequate control over their assigned logistic resources.

NATO commanders must have the authority to logistically weight the battle, especially with the new emphasis on multinational units. Every national commander has this authority, why have we held it back from the NATO commander? It has always amazed me how easily nations entrust the lives of their young men and women to a NATO commander but are so resistant to give him the same authority over their "materiel assets". If emergencies in war are to be prevented, NATO commanders must be given the authority to utilize their combined logistic resources in the most efficient and effective manner possible to accomplish the mission.

HOST NATION SUPPORT

This final proposal from the LOGPRIPOL WG that I consider to be extremely critical if the new Strategic Concept is to be logistically supportable, deals with the policy on Host Nation Support (HNS). The LOGPRIPOL WG proposes that, "The NATO Commander has the authority to establish HNS requirements, to initiate and participate in bilateral and multilateral negotiations and where appropriate, to conclude HNS arrangements."²⁰ What makes this somewhat of a radical proposal is that it gives the NATO Commander the authority and responsibility for initiating Host Nation Support Agreements (HNSAs). With the exception of the commander of the ACE Mobile Force (Land) (AMF(L)), NATO Commanders have not been given the authority to be directly involved with negotiation of HNSAs. This has been a national responsibility, with agreements usually made on a bilateral basis. NATO commanders were limited to the role of monitoring. Even this limited role was difficult to achieve because the nations involved are often reluctant to share the details of their bilateral HNSAs.

Under the new Strategic Concept it will be critical for the NATO Commanders, specifically the commanders of the multinational corps, to have the authority and responsibility to negotiate HNSAs. This allows the commander, who is responsible for developing the HNS requirements and for utilizing HNS, to be the key player in negotiating the agreements. This system has worked very effectively in the AMF(L). Currently the AMF(L) has detailed HNSAs with Norway, Denmark, Italy, Greece and Turkey.

Besides allowing the commander to ensure his requirements are included in the agreement, this proposal also allows the commander to establish priorities when resources are limited, instead of a "first come first serve" approach and it places the direct responsibility on one commander for both requirements determination and negotiating the HNSA. This last advantage should not be underestimated because as any experienced HNSA negotiator will testify, the most difficult task is obtaining timely and accurate requirements from using units.

Here are additional suggestions I have for HNS under the new Strategic Concept:

a. The commander of the ACE Rapid Reaction Corps should be given complete authority to negotiate HNSAs. For the multinational corps of the Main Defense Forces with out-of-region deployment options, the gaining Major Subordinate Command (AFNORTH, AFSOUTH, AFNORTHWEST) should have the authority/responsibility for negotiating HNSAs. For Augmentation Forces negotiation HNSAs should remain a national responsibility.

b. The Major Subordinate Commands (MSCs) need to aggressively obtain information on all HNSAs currently in affect in their respective regions. The agreements could be the basis for new ones and, most importantly, they could be used in the interim for crisis management until new HNSAs can be developed. If a nation is hesitant to provide all details on a specific HNSA, then as a minimum the types and quantities of services provided should be shared. Agreements on costing

and other sensitive information can be retained at national level. The objective is for the MSCs to have this information available to use in the event of a crisis and to help reduce the lead time in developing new HNSAs to support the new Strategic Concept.

c. Every opportunity needs to be taken to exercise the HNSAs. The implementation of HNSAs is a complicated and difficult task. They are too critical to the success of the new strategy to be left untested until an actual crisis occurs.

d. The reduction in military budgets will require the maximum use of dual purpose and purely civilian assets for HNS. The critical issue will be the ability to quickly activate these HNS resources in times of crisis. With the Alliance forces playing a larger role in crisis management, disaster relief and peacekeeping missions, there will be increased requirements for HNS in periods of crisis, short of a national emergency. Mechanisms must be in place so HNSAs can be implemented in a timely manner without declaration of a formal NATO alert or national state of emergency.

e. Requirements determination for the ACE Rapid Reaction Corps (ARRC) should begin as soon as a planning staff is formed. To expedite the process existing bilateral agreements and HNSAs of the AMF(L) could be used as a basis for initial planning.

Existing bilateral agreements could also be amended to support the ARRC deployments until new agreements can be developed specifically for the ARRC.

While HNS has always been critical in the Alliance, under its new Strategic Concept it will become even more critical. Reinforcing nations, which now include the majority of the members, will be unable to implement the new strategy without the receiving nations providing enhanced HNS. The success of new HNSAs will be a major indicator of the commitment of the nations to making the new Strategic Concept a viable strategy.

SUSTAINMENT

As with Host Nation Support, sustainment has always been a critical issue in the Alliance and it too will take on increased importance under the new Strategy Concept. The NATO Logistics Handbook defines sustainment or specifically sustainability as, "The ability of a force to maintain the necessary level of combat power for the duration required to achieve its objectives."²¹ In its broadest definition, sustainment encompasses all aspects of logistics. However, in NATO, the term sustainment generally refers to stockage of supplies and equipment to the support Alliance forces. The official title is "operational stocks" which are defined as, "Expendable and non-expendable supplies over and above national peacetime levels which are required by MNCs [Major NATO Commands] to support forces allocated to NATO for the execution of approved operational plans..."²² Operational stocks are further sub-divided into basic stocks ("Those stocks required by MNCs to support the execution of approved

operational plans for an initial predetermined period.") and sustaining stocks ("Those stocks required by MNCs to support the execution of approved operational plans beyond the initial predetermined period until resupply is available for support of continued operations within each area.")²³

The problem areas of sustainment are numerous, but they can be consolidated into two general categories:

1. Requirements determination. How much and what types of supplies and equipment need to be maintained in peacetime to support the new strategy? In NATO, requirements determination is referred to as stock planning guidance (SPG).

2. Implementation. What stockage levels are politically and economically feasible and where should they be stored?

In the area of requirements determination, SHAPE is developing new models/methodologies driven by changes in strategy, force structure and threat. The lack of specifics on the force structure and complete Alliance agreement on the threat is complicating this process. Despite these difficulties, the importance of timely and supportable models can not be overstated, since the nations use this information as the basis for developing their national positions on sustainment and developing their defense budgets.

All nations agree on the desire to achieve adequate sustainability, they just differ on their definitions of adequate. Most nations will consider the quantities produced from the new SHAPE models as optimum, not necessarily adequate and definitely not necessarily feasible in the new political environment. The challenge facing SHAPE is to develop models that gain the widest support throughout the Alliance.

Without agreement on the validity of the requirements produced by the SHAPE models there will be little hope of progress in the quest for improved sustainment.

While the major challenges of requirements determination are technical in nature, with the exception of threat analysis; the implementation issue is very political, often emotional and ultimately comes down to money. The traditional difficulty in improving sustainment is its lack of glamour and strong proponents from the industrial sector or the legislatures. Sustainment isn't nearly as glamorous or newsworthy as a new tank or helicopter, so it doesn't generate as much interest or support in the legislatures. In the United States, many of the munitions plants are either government run or at least government owned and contractor operated, which inhibits the traditional congressional lobbying process. Politicians have also been more willing to accept risks in sustainment. As long as new tanks, planes and ships are being added to their military arsenals, the general public believes their defense needs are being satisfied. With no public pressure to force the issue of sustainment, the politician has been able to let it take a lower priority. The military leadership is often an equal accomplice with the politician in preferring the new big-ticket weapon system over sustainment.

Understanding the causes for inadequate efforts in sustainment is easy. The difficult aspect is how to overcome these circumstances. Obviously the efforts must be political as well as technical. The Alliance leadership must keep sustainment as a highly visible issue in both Alliance fora and in the press.

The maintaining, and in some cases, the developing of an adequate surge capability within the defense industrial base is another method of improving sustainment. The major advantages of this approach are that it is often more economical than the actual procurement of sustainment stocks; it reduces the problems and costs associated with maintaining sustainment stocks with limited shelf-life; and it helps prevent the problem of obsolescence with the rapid changes in technology. So there are alternatives to buying large stocks of items to achieve sustainment but the alternatives are not cost free. They may require subsidies or purchase of production equipment by the government to ensure the surge capability is maintained in the defense industrial base or negotiation of dormant contracts. Regardless of which approach it takes, it is time for the military leadership and politicians of the Alliance to honestly start supporting sustainment, even if at the expense of their favorite "new toys".

In addition to the general issue of support for sustainment, there is the sub-issue of where to store the stocks once they are procured. The primary options include storage in the owning nation or prepositioning near or in the actual deployment area. Theoretically, if there is enough transport to deploy the forces with their basic stocks and enough transport to meet the deployed forces' daily consumption rate, there is no need for prepositioning. Unfortunately, this situation doesn't exist in the Alliance, nor will it anytime in the near future.

The obvious advantage to prepositioning is that it greatly reduces the need for transport during the critical deployment period of a crisis. The major disadvantages are loss in flexibility for deployment of the stocks, especially for critically short high-tech munitions; increased costs if storage facilities are not available in the deployment area; and some reduction in national control of the prepositioned stocks.

While the disadvantages of prepositioning cannot be ignored, the overriding fact is that with the critical shortage of transportation assets, the Alliance cannot deploy and maintain a credible combat force without a major effort in prepositioning. The challenge is in determining the proper proportion of sustainment stocks for prepositioning. Factors such as availability of transportation; security of the lines of communication; availability of storage sites; surge capability of the defense industrial base; and availability of stocks from the Host Nation must be consideration in the analysis.

Another consideration is where to place the prepositioned stocks. The three major options are storage in the specific deployment area, centralized in each of the three regions, or maritime prepositioning. Given unlimited quantities of materiel, prestocking in the deployment area would be the first choice and should be considered as the desired option whenever possible. The maritime option provides the greatest flexibility but it is usually the most costly especially in terms of maintaining stocks due to the harsh marine environment. Stocking at a central location within a specific

region provides increased flexibility for scarce stocks but does not significantly reduce the mobility problem, especially in the Southern Region. The final answer will undoubtedly include a combination of all three alternatives. The proper mix will and must be tailored to each region. Some recommendations for conducting the analysis are;

a. Study closely the experiences of the US Army and Marines with their maritime prepositioned stocks during the Gulf War. Initial indications are that there were significant problems with serviceability and storage configurations.²⁴

b. Conduct a detailed and realistic analysis of transportation assets available for movement of sustainment stocks. All forms of transport must be considered, including rail and road shipments to the Southern Region. A formal mobilization plan for civilian aircraft in Europe similar to the US Civilian Reserve Aircraft Fleet (CRAF) could significantly reduce the requirement for prestocking.

c. Maximum use must be made of existing storage facilities to include NAMSA's Southern Depot which is currently underutilized.²⁵

d. The existing restrictions on using infrastructure funds for projects to store sustainment stocks such as the Regional Stocks under CINCSOUTH Control (RSCC) needs to be eliminated. Projects for the storage of prepositioned sustainment stocks should be one of the highest priorities for infrastructure funding.

e. Storage costs can be reduced by incorporating innovative storage techniques such as field-adaptable dry storage, which enables storage of materiel in moisture-controlled environments without expensive infrastructure.²⁶

f. While acknowledging the overall goal of trying to reduce prepositioning requirements, don't lose sight of the fact that prepositioning provides the only risk free guarantee that the stocks will be available when needed. It forces the nations to deliver on their commitments prior to a crisis, which has its advantages in the new environment where the desire for the "peace dividend" reigns supreme.

The bottom line on sustainment is that it will be critical to the success of the new Strategic Concept. Prestocking on the flanks will be necessary because of the severe shortage of transportation assets.

In addition to enhancing sustainment, prestocking on the flanks will also send a very strong message to the Alliance members and to potential adversaries, that the Alliance is truly committed to the security of the flanks. This message will strengthen the solidarity within the Alliance and increase its deterrence capability. The previous US Army Chief of Staff, General Vuono, reinforced the importance of prepositioning when he said, "... we must look at ways to preposition supplies and equipment to enhance the infrastructure in regions where we see the greatest risks. The lessons of Operation Desert Storm underscore this point. The ability to project significant combat power was greatly facilitated by a decade of work done to develop the infrastructure in Saudi Arabia."²⁷

MOBILITY

As mentioned several times in the discussion of sustainment, increased mobility is another critical logistic implication of the new Strategic Concept. Like most of the logistic implications of the new strategy, mobility has always been an area of concern in the Alliance. However, the new strategy with its reduced reliance on forward deployed forces and its increased emphasis on flexibility and mobility, creates an even greater need for mobility than in the past.

The scope of the mobility mission in the Alliance has always been enormous. It was estimated just for SACEUR's Rapid Reinforcement Plan the initial mobility requirements approached 1,000,000 men and 1,000,000 tons of supplies and equipment for the initial deployments from the United States and an additional 130,000 men and 100,000 tons of supplies and equipment from the U.K.²⁸ With the possibility of a major conflict in the Central Region all but eliminated, the likelihood of having to implement a mobility plan of this magnitude is all but nonexistent. Under these conditions, there is the danger that the Alliance will become complacent in its mobility planning and correcting mobility shortfalls.

With the new Strategic Concept, any reduction in strategic mobility requirements will be offset by the significant increase in inter- and intra-regional mobility requirements. To obtain a basic understanding of the inter-regional mobility requirements that would be needed just for the ARRC, a review of the transportation assets required to deploy the US VII Corps from southern Germany to Saudi Arabia during the Gulf War is helpful. It took approximately 60 days

and 413 aircraft missions to deploy the 70,000 troops of VII Corps. It required an additional 523 barges, 334 trains, and 73 wheeled convoys to move VII Corps equipment to three primary ports for loading on 107 ships. The total ship loading time was 62 days.²⁹ This effort completely consumed all of the considerable US national logistics and command and control assets in Europe and required major efforts from the military and civilian transportation agencies in Germany, Belgium and The Netherlands, just to move this one corps! It is clear that no less effort would be required to move the ARRC. In addition, the deployment would probably have to be accomplished in at least half the time taken for VII Corps, if the ARRC is going to be a truly effective crisis management tool.

To meet the mobility challenge of the new strategy, two broad areas need to be addressed; an increase in transportation assets and a more responsive and flexible transportation management system. The need for more transportation assets is nothing new in the Alliance. The significant difference is the new strategy is far more dependent on mobility and flexibility than the old strategy with its emphasis on forward deployed forces.

The most obvious shortfall is the lack of air transport, specifically cargo aircraft that can transport out-sized cargo. The U.S. is the only Alliance nation with aircraft capable of handling out-sized cargo. It is unrealistic and a misuse of Alliance resources for other nations to try fill this shortage. What is needed is for the United States to augment its aging C-5 fleet with the new C-17. Also, NATO and

the European nations need to pursue aggressively gaining access to the Soviet (or whoever controls it now) Antonov AN-124 fleet to help move out-sized cargo. To avoid complications during an actual crisis, arrangements should be made to utilize the Antonov fleet during NATO exercises. This would be an expedient and relatively inexpensive method (when compared to buying) of gaining access to this type of aircraft. It also has the added benefit of providing an opportunity for closer military contact between the Alliance and members of the former Soviet military. This is not a new idea as during the Gulf War the Antonov AN-124 was used to fly equipment from the Central Region to eastern Turkey, it just needs to be formalized.

In addition to shortage of aircraft capable of handling out-sized cargo, there is also a critical shortage among the European Alliance members of military cargo aircraft. According to information provided by The International Institute for Strategic Studies in their publication, The Military Balance 1991-1992, the European members of intergraded military structure have only 281 aircraft in their military inventories capable of transporting military cargo:

<u>NATION</u>	<u>TYPE</u>	<u>QUANTITY</u>
BELGIUM	C-130	12
	B-727	2
DENMARK	C-130	3
GERMANY	C-160	84
	B-707	4
GREECE	C-130	11
ITALY	G-222	38
	C-130	12
THE NETHERLANDS		0
NORWAY	C-130	6
TURKEY	C-130	7
	C-160	20
UNITED KINGDOM	C-130	60
	VC-10	13
	TRISTARS	9

Since it took 413 missions of C-141 or larger aircraft to deploy VII Corps troops, plus an additional 2,000 intra-theater missions of C-130/C-160 type aircraft to support their deployment, without including any sustainment/resupply missions, it is apparent that there is a significant shortage of airlift among the European members. The United States with their large airlift fleet can help offset this shortfall but it does not eliminate the requirement for a greater contribution from the Europeans.

This does not mean the total shortfall should be overcome solely by the military. There needs to be a combined effort with the civilian aviation sector. A good starting point would be the establishment of a European program similar to the U.S. Civil Reserve Air Fleet (CRAF). A European CRAF would enhance the availability of civilian aircraft, especially during major crises short of war. Another advantage of this type of program is that it would allow preagreements on pricing to avoid price gouging during an actual crisis. Again, this is not a new idea and I am sure it has been considered by the NATO Civilian Aviation Agency in the past, but with the change in Alliance strategy and the success of the U.S. CRAF program in the Gulf War, it deserves to be reconsidered. ³⁰

Another approach to reducing the aircraft shortfall is to increase the utilization of inland waterways and road movements for deployments to the flanks. With the fall of the Warsaw Pact the option of deployments via road and rail to the Southern Region is no longer impossible.

If a requirement for Austrian membership in the EC is to forego her neutrality, rail and road movements to the south would also be simplified.

While the shortage of transportation assets remains critical in the Alliance, there is some good news in the transportation management arena. That good news is called ADAMS (Allied Deployment and Movement System). ADAMS is SHAPE's future management plan for movement planning and exchange of information in support of NATO force deployments. The Joint Reception and Movement System has been replaced by ADAMS.

The concept envisioned for ADAMS is that,

...[it] will be developed into a network of national and NATO computer systems that will provide national and NATO movement staffs with the capability for rapid communication, evaluation and planning of movement and transport operations in support of force deployments throughout the Alliance territories. At the same time the system is intended to provide commanders with timely decision support information on force deployment, transportation assets and the LOC situation; i.e. tracking of forces and transportation assets."³¹

In basic terms ADAMS will allow nations to conduct their movement planning and execution monitoring as they see fit while allowing selected information to be shared in a common data base by SHAPE, MSCs, NATO Civil Wartime Agencies, and receiving nations. The system is being designed to correct the following three major problem areas as identified in the 1987 SHAPE LOGMAN initiative entitled, Detailed Studies Report for the Joint Reception and Movements System:

a. Nations and Major Subordinate Commands formulate integrated movement plans using mostly manual tools and time consuming methods of information exchange.

b. Movements planners are unable to provide NATO commanders with timely and evaluated key information concerning the status of movements within ACE. The standardized system of information exchange and reporting regarding the actual situation on movements networks and ACE transport capabilities is inadequate.

c. Capabilities for exchange of key information between NATO Military Commanders and NATO Civil Wartime Agencies are inadequate. Both parties must have the capability to transfer information relevant to transportation support, the status of the developing military situation, and transportation support capabilities for military operations in minimum time.³²

While ADAMS is providing a quantum improvement over the existing movement management systems, it currently fails to address specifically the tracking and onward movement of follow-on supplies and equipment. This was a major problem in the Gulf War for both the United States and the United Kingdom. At the ports of Dammam and Al Jubayl, mountains of sealand containers were built up because of the lack of an efficient system to determine their contents and ultimate destination. The solution has two components; a need for an automated management system, which ADAMS could provide and an efficient data collection system such as LOGMARS (Logistics Applications of Automated Marking and Reading Symbols). The solving of this problem is well within the capabilities of current technology and at relatively little cost. Other suggestions to enhance mobility include:

1. Ensuring adequate port handling equipment is readily available to facilitate the rapid loading/unloading of equipment and supplies. These assets should be obtained through a combination of Host Nation Support and prepositioning.

2. With the emphasis on increased mobility and crisis management in the new strategy, it is time to reconsider the issue of a common funded NATO airlift unit. This unit could consist of C-130 type aircraft with the primary mission of supporting initial deployments of Reaction Forces and providing dedicated resupply missions. A unit of this type would greatly enhance the flexibility and responsiveness of Reaction Forces during the early stages of a crisis. It could also ensure a more efficient use of aircraft for resupply by allowing consolidation of critical national resupply requirements. Once again, this is not a new or original idea, but one that needs to be reconsidered.

3. It is also time to reconsider the establishment of a common funded NATO aircraft tanker unit. Only three nations (Canada, United States and the United Kingdom) in the integrated military structure currently have tanker aircraft in their inventories. These two nations cannot be expected to meet the increasing requirement for tanker support in the Alliance. The major advantage of a tanker fleet is that it reduces the total requirement for transport aircraft by reducing transit time. It also has the advantage of providing greater flexibility for all Alliance air missions since it reduces the dependence on access to ground facilities and allows greater payloads.

4. A complete review should be conducted of all transportation agencies and movement control centers in NATO.

The purpose of the review should be to ensure all existing organizations are necessary under the new strategy and to ensure they can effectively perform in times of crisis, without declaration of a formal NATO alert or national emergency.

5. Detail deployment planning needs to be conducted as soon as force structures are confirmed for the ACE Rapid Reaction Corps. ADAMS could be the tool used for this planning. Once requirements are developed, the inter-regional transport of the ARRC should be limited to one or two nations to facilitate planning and crisis management.

6. Even though the new political environment will not support large scale troops exercises such as the past REFORGERS, there is still a critical requirement to exercise deployment plans. These exercises will need to maximize use of computers but there is still the need to exercise the actual movement of personnel and equipment from time to time.

In the area of mobility, the Alliance is making good progress in improving its management system. The concern is whether the nations will commit themselves to correcting the serious shortfall in transportation assets, specifically transport aircraft. The mobility of Alliance forces is not an area to provide a "piece dividend".

MEDICAL

Another logistic implication is the impact of the new strategy on medical support within the Alliance. The increase of multinational forces and the increased emphasis on

enhanced mobility and flexibility on a non-linear battlefield will create a complicated environment for medical support under the new Strategic Concept.

To provide a better understanding of medical support within the Alliance let me first discuss the key issues:

1. Mobility of medical units and equipment: Both strategic and tactical mobility are critical to the new strategy. Many nations have failed to modernize their medical units and take advantage of the latest in equipment developments, especially in miniaturization.

2. Cultural differences in medical care: Every nation within the Alliance places a different emphasis on the type and quality of medical care provided to its soldiers. This is a very emotional issue that will generate major problems if not adequately addressed, especially during operations short of a major war.

3. Patient tracking: Next to the issue of quality of care, the most emotional medical issue is patient tracking. Commanders and families become very emotional when the location and status of their soldier cannot be accurately provided. The task sounds simple, keep track of patients as they are evacuated through the medical chain, but it becomes extremely difficult during any deployment. In the Gulf War, once soldiers were evacuated above the division level, it became almost impossible to maintain accurate accounting at the unit level. Many a commander lost all track of soldiers evacuated until receiving a phone call from Germany or from the home station acknowledging the presence of their lost soldier. In basically a national environment, it was a

significant problem for the United States in Operation Desert Shield/Storm. In a theater of operation with multinational units it will be a major problem area unless the Alliance develops an accurate patient tracking system.

4. Interoperability and standardization in medical care: Daniel P. Rignault states this problem very well in his article entitled "Is War Surgery A Specialty?", when he wrote,

A certain degree in standardization in that choice [of operation] is highly recommended so that, each echelon, successive surgeons will easily guess what has been done and what to expect. This is not the time for any innovative techniques that may mislead the next physician....the simplest and safest [operation] must be preferred, especially for the initial lifesaving or stabilizing surgery...It is better to save the patient with three successive 'nonglorious' operations, rather than kill him with a brilliant but complicated one. As has been stated in the past, this type of surgery is lesson in humility.³³

5. Operations in a NBC environment: The possibility for use of chemical and biological weapons by third world countries is a reality that will not go away. All nations must face this reality and train and equip their medical personnel to operate in an NBC environment.

6. Availability of a safe and adequate supply of blood products. Stringent storage requirements for whole or frozen blood products, expense and lack of mobility for equipment to process blood products, and adequate field blood testing are some of the major problems in this area.

7. Refugee and Prisoner of War care: Under the new strategy, Alliance forces and their medical units will be more involved with this type of care.

It will require thorough planning and in some cases special training to successfully accomplish this mission without degrading care for the Alliance military forces.

8. Casualty evacuation (CASEVAC): Across the Alliance there is a shortage of armor protected field ambulances and with some nations a shortage of dedicated helicopter CASEVAC assets.

9. Shortage of beds in a major conflict: This has always been a problem area for the Alliance and will continue to be a problem under some scenarios of the new strategy.

While solutions to many of these problems will require large commitments of funds, there are many that can be solved through greater emphasis on combined training and proper organization of medical units, especially in the multinational forces. For example, the problem of cultural differences in medical care can be resolved without each nation providing independent medical facilities by utilizing the medical structure of the ACE Mobile Force (Land) (AMF(L)) as a model. In the AMF(L) one nation provides the field hospital and the other nations provide medical liaison teams that augment the one hospital. Under this model needless duplication of facilities is avoided, yet there are medical personnel from each nation present to ensure their national standards for medical care are maintained. This is the model that should be used at corps level for the multinational corps under the new force structure.

The AMF(L) model will help ensure the quality of medical care in field environment meets national requirements. However, the same guarantee doesn't exist throughout the

medical evacuation chain, depending on the deployment areas. The standard solution to this problem is the rapid evacuation of casualties to facilities in their home countries. This is still the preferred solution in conflicts short of a major war. Another solution could be the expanded use of hospital ships. The United States has two of these ships and deployed them very effectively in the Gulf War. Due to the expense involved it would be impractical for any other nation to individually procure a hospital ship. A better approach would be for the EUROGROUP ³⁴ to initiate a study on the feasibility of procuring a hospital ship under the joint control of the EUROGROUP members. While extremely expensive, it would help provide and ensure the quality of health care met the standards of each nation. Other advantages of a hospital ship would be enhanced mobility; greater flexibility in support of disaster relief operations; its deployment would provide a non-threatening crisis management measure; it would provide an excellent training environment for Alliance medical personnel; and it could readily be utilized for out-of-area missions. Depending on its bed capacity, a hospital ship would only meet a small portion of the requirement for a major conflict. It could, however, easily meet the casualty requirements of the more probable scenarios under the new Strategic Concept of peacekeeping, crisis management or disaster assistance.

Another area that would greatly enhance mobility would be the upgrade of field hospitals to take advantage of the latest advances in technology, especially miniaturization. The ideal solution would be for the nations to jointly develop and

procure new field hospitals, especially for deployment with the multinational units. A joint project would ensure standardization; reduce support costs by sharing spare parts/components and reducing the number of specialized maintenance personnel required in the corps; and reduce procurement costs if a joint buy is utilized.

Since all nations readily agree on the need for responsive and quality medical care for the Alliance forces, the main issue will be how they intend to resolve the current problem areas. They can continue to address medical support as primarily a national issue which will result in significant duplication of efforts, especially in the multinational units; or they can broaden their views on the issue and start combining efforts and enjoy the resultant savings in manpower, equipment, and ultimately costs. Whichever approach is taken, the medical support system must be operational before hostilities begin.

STANDARDIZATION

While critical to medical support, standardization is an issue that impacts on every aspect of logistic support in the Alliance. It is beyond a doubt, the most studied and written about issue in NATO. Everybody is for it and nobody is against it as long as no jobs or industries are threatened in their neighborhoods. So I will not waste any effort expounding on the virtues of standardization, other than to provide the

following quote from an International Military Staff

Memorandum:

The credibility of the future force structures will depend largely on a potential enemy's perception of their operational effectiveness. Since they are designed to exploit multinationality and the flexibility of widely deployable and employable reaction and augmentation forces, operational effectiveness will be heavily dependent on the levels of standardization achieved in doctrine, procedures and materiel. At the same time, reduced defence budgets demand that Alliance defence must be achieved at minimum cost. Controllable overheads, such as those for logistic support, must be kept to a minimum. One way of reducing logistic costs is to reduce unnecessary duplication in supplies and spares i.e. increased standardization. There are therefore two main aspects of standardization; that which is essential if the force is to move and fight effectively and that which increases efficiency by reducing costs and logistic burdens.³⁵

Equally well documented is the lack of true progress in standardization, especially within the Alliance's land forces. The major successes achieved have been in the areas of doctrine and operational procedures. Standardization of equipment continues to be a critical problem as noted by Sir Brian Kenny's observation that,

Five nations in NORTHAG had five different tanks using three different guns and types of ammunition. Five different attack helicopters, firing between them six different types of missiles; six different ground launched anti-tank missiles; and five different rifles with two and potentially three different calibers of ammunition.³⁶

There are numerous reasons for the failure in equipment standardization within the Alliance. Some of the more significant ones include protection of national defense industries and their associated jobs; national desires to ensure reliable and secure sources of supply during crisis or war; the military's belief that their equipment requirements are unique; restrictions on transfer of technology; nations'

desires to use arms supply as an instrument of foreign policy; lack of confidence in the quality of "foreign" military products; and belief that international status is increased if a nation possesses its own defense industries.

Brigadier General D.H. Smith provided another view on standardization when he stated,

The difficulty is that the main thrust in the field of co-operative arms production has been towards developing national economic and technological benefit rather than addressing the needs of the NATO Commander. Success or failure of the projects has been not by the benefit to the Alliance land, sea, or air forces but by the work share/ cost share ratios, technology transfer benefits, impact on national defense production industries and a balance of payments equations. While these are all important concerns, they should not be allowed to overshadow the military reason for such co-operation efforts which is to improve interoperability and flexibility by reducing the differences between the equipment in use by the fighting troops. ³⁷

What is not a factor in the lack of progress in standardization is a shortage of bureaucracy. A partial list of the groups that profess to be involved with standardization would include EUROLOG, Military Agency for Standardization, NATO Industrial Advisory Group, Conference of National Armaments Directors with its six main groups, all of which have their own sub-groups and panels; FINABEL, a group consisting of the Chiefs of Staff of the Armies of France, Italy, Netherlands, Belgium, Luxembourg, Germany and United Kingdom; NATO Conventional Armaments Review Committee; NATO Standardization Group; Cooperation and Standardization Directorate of the International Staff; Armament and Standardization Division of the International Military Staff; and Independent European Programme Group.

The workings and interactions of these agencies is beyond the scope of this paper but a review of the bureaucracy would be an appropriate action for the Alliance.

While the proliferation of agencies dealing with standardization may complicate the issue, there are basic fundamentals that needed to be addressed if true progress is to be made in standardization. First of all, the European members must acknowledge that a "two way street" doesn't exist and it won't anytime in the near future. (From 1977 to 1987 the U.S. purchased \$2.3 billion from Europe, during the same period the European members of NATO purchased \$24.5 billion from the U.S.³⁸) It is time for the European members of the Alliance to move forward with the development of a viable European defense industrial base. The United States has been an unreliable partner because of its desire for tight control over technology transfer; the protectionist and "pork barrel" actions of the U.S. Congress³⁹; the world-wide military commitments of the U.S. requiring different technical specifications than the European armies with their western Europe orientation; and the economic reality that in most cases the U.S. military requirements and associated foreign military sales will produce large enough workload for profitable productions runs without European participation.

Given this situation and the known reduction in future European military budgets, the only viable alternative for the survival of European defense industry is its consolidation. The European members of the Alliance need to form an integrated defense market that is supported by an open and competitive defense industry.

As noted by Rainer W. Rupp, a member of the NATO International Staff, "... the principle of "juste retour" which will be increasingly seen as an anachronism in a 1992 Single European Market, in which the defense equipment market cannot live as a protected enclave in order to support national defense industries which are otherwise not viable."⁴⁰

A viable European defense industrial base will also bring about major improvement in standardization among their military forces due to the inherent consolidation of requirements and reduction in manufacturers of defense equipment this action will require. This action may be the only hope for true progress in standardization of equipment within the Alliance. It will only affect the European Pillar; but that will be significant progress and could very easily determine the ultimate success of the ACE Rapid Reaction Corps, since the vast majority of the units and possibly all the divisions, will be provided by the European members.

While somewhat idealistic, there is also the possibility that with elimination of numerous marginally viable defense manufacturers, there will be fewer companies pushing their arms on third world countries in order to achieve economically feasible production runs. Any effort in reducing weapons sales to third world countries will only enhance the world security situation.

Obviously, the formation of an integrated European defense market is a long term goal. There are however, actions that can be taken to make improvements in standardization that are much easier to attain but still very significant. One such action is the better utilization of existing organizations

that enhance standardization. A specific example is the NATO Maintenance and Supply Agency (NAMSA). This organization has been in existence since 1958, with the mission to carry out logistics support functions which can be performed in common, more effectively than can be achieved individually by countries. Its primary task is to assist nations by supplying repair parts and providing maintenance support on various weapon systems. While the scope of its mission has grown over the years and more nations are utilizing its services, its potential contributions to logistic standardization and interoperability have never been fully realized.

Projects that have been proposed by NAMSA that could enhance standardization of logistic support, but not fully implemented or accepted by the nations include the Surplus Holding and Asset Redistribution Exchange (S.H.A.R.E.) project. The aim of this project is to establish a common database of all NATO expendable repair parts for the purpose of determining the range and depth of items used by more than one nation; the potential benefits of centrally managing these assets; the degree of surplus stocks that could be subject to redistribution; and the potential benefits from consolidated provisioning.⁴¹ Significant improvements in interoperability and sustainment could be achieved just by determining which repair parts currently stocked in the Alliance are interchangeable. If fully supported by the nations this NAMSA project could make a significant improvement in standardization and interoperability, at relatively little cost. Other programs that have received only limited support from the nations include centralized procurement of common

ammunition and storage of stocks by Southern Region nations in NAMSA's southern depot in Taranto, Italy.

I acknowledge that these proposals for improvements in standardization are nothing new or original but as I mention at the beginning of this section, the main shortfall in standardization is not a lack of ideas or agreement on the necessity of standardization. The main problem with standardization is the lack of commitment to implement it.

However, there is one new area that I believe NAMSA could play a significant role in enhancing standardization and interoperability. The role is in support of resupply operations for the Reaction Force and possibly for the multinational corps of the Main Defense Forces. That role would be to function as a materiel management center for these forces. Its primary mission in this role would be to receive and process resupply requests, to include arranging/coordinating transportation for delivery of the supplies. Under this proposal the AMF(L), ARRC or any other multinational corps would pass all their resupply requests directly to NAMSA via best available means, hopefully computer link. NAMSA could either fill the request from stocks under their control, pass it to the appropriate nation, fill it by conducting an Alliance-wide check on availability utilizing the S.H.A.R.E. developed data base; or fill it through local procurement from the most responsive vendor available in their source file that currently has over 2,500 contractors. Utilizing their transportation expertise gained through annual shipments currently averaging between 5,000-6,000 tons, they could then arrange for shipment to the deployed units. If an

airlift unit was established directly under SHAPE control, it would be the primary source of airlift for NAMSA shipments.

The advantages of this proposal include:

1. Providing the units with a single point of contact for resupply requests, instead of having to work with each individual nation.

2. Unlike the ACE Logistic Co-ordination Center, the ACE Logistic Readiness Center, or any of the logistic co-ordinations centers at the MSC or PSC level, NAMSA performs this type of mission throughout the year, in peace, crisis and war. In the Gulf War NAMSA confirmed their ability to accomplish just this mission.

3. NAMSA actually controls stocks and has daily experience in working Mutual Emergency Support requests.

4. NAMSA's Transportation Division works daily with military and civilian transportation agencies throughout the Alliance. (Their expertise was invaluable in solving the transportation problems encountered in the deployment of Patriot equipment from the Central Region to eastern Turkey during the Gulf War.)⁴²

5. The computer systems to support this mission are on hand and would probably only need software adjustments and upgrading of communications links.

6. Minimal additional manning would be necessary if the nations ensure that the liaison officers they normally assign to NAMSA are qualified in their national supply systems.

7. It allows for complete standardization and integration of the resupply process for multinational forces.

In summary, the key advantages of this proposal are that it maximizes the opportunity for standardization and integration in resupply operations. It also assigns this critical mission to an organization that performs it daily. No more ad hoc or part time agencies involved in resupply.

The success of the Alliance's military strategy has always been dependent on and enhanced by standardization. Under the new Strategic Concept and the reality of reduced military budgets, this dependency will become a prerequisite for the success of the new strategy. The Alliance can no longer just talk about standardization. It must achieve significant gains in standardization if the military force structure is going to be capable of supporting the new strategy at an acceptable cost. Colonel James Rank from the U.S. Delegation to NATO clearly stated the importance of standardization when he said: "Levels of standardization will directly influence the combat effectiveness of NATO's forces, in particular of multinational formations. Therefore, standardization of equipment, supplies and procedures is an overall logistics force multiplier and should be taken in account, in particular when considering Reaction Forces contributions. The interoperability of main equipment, interchangeability of combat supplies and commonality of procedures are the minimum objectives needed to attain combat effectiveness."

CONCLUSIONS

None of the logistic implications of the new Strategic Concept are really new to the Alliance. They have just taken on new importance in light of the changes in force structure and the new emphasis on mobility and flexibility inherent in the new Strategic Concept. After extended debate, there appears to be an almost unanimous agreement that there is a continued need for NATO, both from within and outside the Alliance. It is recognized that the Alliance provides a stabilizing influence on a very unstable European environment. The real issue is whether the nations are willing to commit the resources and increase the cooperation and coordination necessary to ensure the new strategy is logistically supportable.

The simple statement, "Adequate logistics is a combat multiplier. Inadequate logistics is a war-stopper." ⁴³, clearly places the issue of logistics in a proper perspective. Even in a non-combat situation, the importance of logistics to the Alliance cannot be overstated. Under the new Strategic Concept, many of the missions such as disaster assistance, peacekeeping and humanitarian aid are primarily logistic missions.

The new Strategic Concept appears to be the right approach to successfully carry the Alliance into the 21st Century. Whether it will be successful will depend primarily on the commitment of the nations to adequately address and fund the logistic implications of the new strategy.

ENDNOTES

1. These issues were initially identified to the author in an interview with WG CDR Morten, Chief Policy Cell, LOGMAN Division at SHAPE and later during interviews with Col Doering, LTC Postell and Col Orsak of the Logistics Branch of the International Military Staff.
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3. "The Alliance's New Strategic Concept", printed in the document section of, NATO Review, December 1991, p. 27.
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5. General John R. Galvin, "From Immediate Defence Towards Long-Term Stability", NATO Review, December 1991, p. 15.
6. "The Alliance's New Strategic Concept," printed in the Documentation Section of NATO Review, December 1991, p. 30-32.
7. Final communique from the Ministerial session of the Defense Planning Committee in Brussels on the 12th and 13th December, 1991, Press Communique M-DPC-2(91)104, 13 December 1991, p.3.
8. General John R. Galvin, "From Immediate Defence Towards Long-Term Stability," NATO Review, December 1991, p. 17.
9. See, North Atlantic Treaty Organization, North Atlantic Treaty Organization Facts and Figures, 1989, p. 351-352, for more information on the AMF(L).
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13. Senator Sam Nunn, Nunn 1990: A New Military Strategy, p. 57.
14. NATO International Military Staff memorandum, "Logistics Principles and Policy: Report to the SNLC (3rd draft)," 6 December 1991, p. B-1.
15. Ibid., p. B-7 to B-10.
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19. North Atlantic Treaty Organization, NATO Logistics Handbook, p. 158.
20. NATO International Military Staff memorandum, "Logistics Principles and Policy: Report to the SNLC (3rd Draft)," 6 December 1991, p. B-8.
21. North Atlantic Treaty Organization, NATO Logistics Handbook, p. 86.
22. Ibid.
23. Ibid.
24. Base on observations and discussions by the author during his seven months in the Gulf, three of which were spent OPCON to the 2d U.S. Marine Division.
25. NATO Maintenance and Supply Agency, 1990 Annual Report from the General Manager to the Board of Directors 1 January to 31 December 1990, p. 17-18.
26. Field-adaptable dry storage is a system that uses a small, portable dehumidifier, either with or without heavy-duty plastic wrapping materiel to cover the items being stored, to provide a moisture controlled storage environment. See article by CPT Thomas P. Dengler, "Dry Storage Improves Readiness," Army Logistician, July-August 1991, p. 14-15.
27. Taken from statement by General Carl E. Vuono, Chief of Staff United States Army before the Subcommittee on Appropriations, United States Senate, First Session 102d Congress on the Fiscal Years 1991/1993 Department of the Army Budget, 6 March 1991.
28. North Atlantic Treaty Organization, NATO Logistics Handbook, p. 118.
29. Presentation by LTC K. Johnson to the Planning Board For European Inland Surface Transport (PBEIST) entitled, "HQ USEUCOM Logistics Support and Implications in Operations Desert Shield/Desert Storm," 29 May 1991.
30. See James W. Becker's work entitled, European Civil Air: Can NATO Count On It?, for a more in-depth discussion of this topic.
31. SHAPE Technical Centre , Allied Deployment and Movement System (ADAMS) Initial Testbed Working Document, p. 1.
32. Ibid., p. 100.

33. Daniel P. Rignault, "How to Train War Surgery Specialists; Part II," Military Medicine, April 1990, p. 143-147.
34. The EUROGROUP is a grouping of European governments within the framework of NATO, open to all European members of the Alliance. Its primary goal is to strengthen the European pillar of the Alliance.
35. NATO International Military Staff memorandum, "Future Force Structures - Standardization Principles," 24 September 1991, Enclosure 1, p. 1.
36. Sir Brian Kenny, "Interoperability on the Battlefield," NATO's Sixteen Nations, January 1990, p. 10.
37. BG D.H. Smith, "Common Logistics - A NATO Commanders Dream." NATO's Sixteen Nations, June 1990, p. 40.
38. U.S. Arms Control and Disarmament Agency, World Military Expenditures and Arms Transfers 1988, p. 117-118.
39. See article by William Matthews, "Congress Holds on to the Pork While Trimming the Fat," Army Times, 6 January 1992, p. 27.
40. Rainer W. Rupp, "Europe 1992 - Potential Implications for the North Atlantic Alliance," NATO's Sixteen Nations, January 1990, p. 24.
41. Information on S.H.A.R.E. obtained from briefing provided author during visit to HQ, NAMSA, 18 December 1991.
42. Information on NAMSA's activities during the Gulf War provided to author from briefings received during visit to HQ, NAMSA, 18 December 1991.
43. Colonel Gilbert S. Harper, "Army Logistics in 2010," Army Logistician, September/October 1991, p. 19.

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