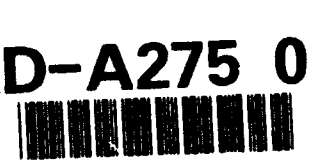
NPS-56-89-002

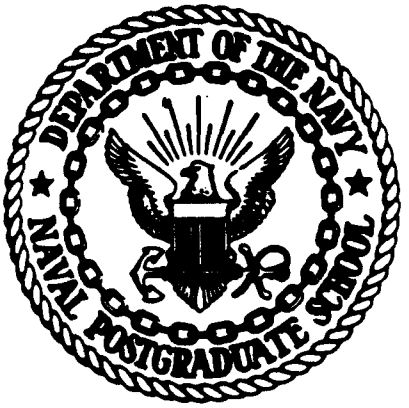
AD-A275 052



PL (1)

NAVAL POSTGRADUATE SCHOOL

Monterey, California



DTIC
ELECTE
JAN 27 1994
S
C
D

STRATEGIC MANAGEMENT

OR

STRATEGIC PLANNING FOR DEFENSE?

by

JAMES J. TRITTEN
&
NANCY C. ROBERTS

1 FEBRUARY 1989

94-02584

Approved for public release; distribution unlimited

Prepared for:
Director, Net Assessment
Competitive Strategies Office
Strategic Planning Branch
Office of the Secretary of Defense
Washington, DC 20301

Defense Policy Office
National Security Council Staff
Washington, DC 20506

94 1 26 049

NAVAL POSTGRADUATE SCHOOL
MONTEREY, CALIFORNIA

Rear Admiral Robert C. Austin
Superintendent

Harrison Shull
Provost

The work reported herein was supported and funded by the Director, Net Assessment, Competitive Strategies Office, and Strategic Planning Branch, Office of the Secretary of Defense and the Defense Policy Office of the National Security Council Staff.

Reproduction of all or part of this report is authorized.

This report was prepared by:

James J. Tritten
Associate Professor

Nancy C. Roberts
Associate Professor

Reviewed by:

JAMES J. TRITTEN
Commander, U.S. Navy
Chairman
Department of National
Security Affairs

Released by:

KNEALE T. MARSHALL
Dean of Information and
Policy Sciences

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b RESTRICTIVE MARKINGS
2a. SECURITY CLASSIFICATION AUTHORITY	3 DISTRIBUTION/AVAILABILITY OF REPORT Distribution unlimited
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE	
4. PERFORMING ORGANIZATION REPORT NUMBER(S) NPS-56-89-002	5 MONITORING ORGANIZATION REPORT NUMBER(S)
6a. NAME OF PERFORMING ORGANIZATION National Security Affairs Department 6b. OFFICE SYMBOL (If applicable) Code 56	7a. NAME OF MONITORING ORGANIZATION
6c. ADDRESS (City, State, and ZIP Code) Naval Postgraduate School Monterey, CA 93943-5100	7b. ADDRESS (City, State, and ZIP Code)
8a. NAME OF FUNDING/SPONSORING ORGANIZATION Director, Net Assessment 8b. OFFICE SYMBOL (If applicable) OSD/NA	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER MIPR DWAM 70105/80078/90005
8c. ADDRESS (City, State, and ZIP Code) Office of the Secretary of Defense Washington, D.C. 20301	10. SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO. / PROJECT NO / TASK NO / WORK UNIT ACCESSION NO

11. TITLE (Include Security Classification)
STRATEGIC MANAGEMENT OR STRATEGIC PLANNING FOR DEFENSE?

12. PERSONAL AUTHOR(S)
James J. Tritten and Nancy C. Roberts

13a. TYPE OF REPORT	13b TIME COVERED	14 DATE OF REPORT (Year, Month, Day)	15 PAGE COUNT
Final	FROM Oct 87 TO Feb 89	1989 February 01	34

16. SUPPLEMENTARY NOTATION

17. COSATI CODES			18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	
			Strategic Management; Long Range Planning; Strategic Planning; Military Organization; Competitive Strategies; Curriculum reform; Education; DoD

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

This report describes problems associated with strategic planning and strategic management within DoD. Authors offer a series of suggested reforms to enhance mono-level planning and management within DoD, primarily by closer ties with industry planning groups, education, organizational structure, management information systems, and better integration. Additional sponsors are: OSD Competitive Strategies Office, OSD Strategic Planning Branch, and the National Security Council Staff.

20 DISTRIBUTION/AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS	21 ABSTRACT SECURITY CLASSIFICATION Unclassified
22a. NAME OF RESPONSIBLE INDIVIDUAL James J. Tritten & Nancy C. Roberts	22b TELEPHONE (Include Area Code) (408) 646-2521/2949 22c OFFICE SYMBOL Code 56Tr

DD FORM 1473, 84 MAR 83 APR edition may be used until exhausted
All other editions are obsolete

SECURITY CLASSIFICATION OF THIS PAGE

☆ U.S. Government Printing Office 1986—606-243

UNCLASSIFIED

STRATEGIC MANAGEMENT OR STRATEGIC PLANNING FOR DEFENSE?

James J. Tritten & Nancy C. Roberts

In military organizations planning is a finely tuned art if not a well developed science. Each major organization in the military establishment has planning sub organizations. Some indulge in "wish list" planning, some are involved with long-range planning, some concern themselves with the near-term planning cycles of the Planning, Programming, and Budgeting System (PPBS), some with war and campaign planning, and others with specific weapons systems or types of forces. Still other planning organizations in the Department of Defense (DoD) include planning portfolios on mobilization, the industrial base, rules of engagement, military exercise programs, and crisis responses.

Despite the wide spectrum of these efforts and the human and material resources devoted to the planning process, we constantly hear about the need for more thorough and precise planning within DoD. Whatever planning is currently being envisaged and developed, however heroic the effort, apparently is viewed as unsatisfactory. We have, it would seem, a major "planning gap."

Planning Gap

This planning gap is difficult to describe. What exactly is missing from our planning systems that provokes calls for more or better planning? One view, and the one we present in this paper, is that the planning gap represents a lack of coordinated effort to integrate DoD's major goals, policies and action sequences into a cohesive whole. It is the lack of a mechanism to marshal

and then allocate DoD's resources into a unique and viable posture based on its relative internal competencies and shortcomings, anticipated changes in the environment, and contingent moves by intelligent opponents.[1] What is missing is not long-range planning, nor is it the "silent P" of PPBS, but the planning that integrates DoD's disparate internal units into a coherent entity.

The business world uses the phrase strategic management or strategic planning (we will use these terms interchangeably throughout the paper) to describe the effort to integrate an organization's major goals, policies and action sequences into a cohesive whole. The concern is with managing the whole enterprise, not just its functional components or its sub parts. It is the challenge of the organizational leader (referred to as the general manager in business and industry) to direct the efforts and activities of the other members of the organization and to integrate the functional components toward the successful completion of the organization's stated mission and purpose.

In comparison to other types of planning, strategic management also analyzes an organization's external environment and internal climate, and searches for new trends, discontinuities, surprises, and competitive advantages. Since its scope is broader than other types of planning, it typically embodies more qualitative shifts in direction than anticipated from the long-range planning process. Also guided by an idealized vision of the future, strategic management tends to be

much more action oriented. The organization attempts to keep its options open, considering a variety of possible alternatives to respond promptly to unforeseen contingencies as it moves toward its ideal.[2]

Long-range planning, in contract, focuses more on specifying goals and objectives and translating them into current budgets and work programs. The objective of long-range planners (and short-range planners for that matter) is to work backward from goals to programs and budgets so as to map out the sequence of decisions and actions required necessary to achieve the desired future embodied in the goals. Long-range planning, as a consequence, assumes that current trends will continue and plans tend to be linear extrapolations of the present.[3]

From our observations, we believe that the current emphasis in DoD is on planning, both long-range and short-range planning, and not on strategic planning nor strategic management. For example, the Joint Staff Officers Guide[4] issued by the Armed Forces Staff College, describes the Joint Strategic Planning System as coping with a series of six primary planning documents with direct ties to the PPBS. The armed forces, tend to view planning as either deliberate or time sensitive, driven by requirements or capabilities, and organized on a global, regional, or functional basis; not with planning for managing the total system, however that system is defined. In sum, we view the planning gap as deriving from a lack of coordinated efforts to integrate DoD's major goals, policies and action sequences into a coherent whole.

DTIC QUALITY INSPECTED 5

on For
CRA&I
TAB
ounced
ation
By
Distribution /
Availability Co
Dist
Avail and /
Special
A-1

Evidence of the planning gap can be be found in four major criticisms of DoD planning: DoD's strategic goals and objectives lack clarity; it has a functional organizational design which impedes mission integration; it overemphasizes budgets and programming needs to the detriment of overall policies and strategies; and it tends to ignore its competitors and the external environment.[5]

Lack of clarity of strategic goals. Inattention to mission-oriented strategic planning at the Washington headquarters level has dimmed the clarity of DoD's strategic goals. The stated goals are ambiguous and vague and vary depending on whether one is planning to support programming, deliberate. crisis, or war planning. The general international goals of United States foreign policy have probably not changed since World War II. Despite this consistency in obvious national goals, there is often a lack of agreement among the military Services and between the Commanders-in-Chief (CinCs) and the Washington headquarters over what the national goals should be in a crisis or in the allocation of forces during a major multi-theater conflict with the USSR. Making the connection between political goals and military capabilities is central to sound strategic planning and advice to decision-makers.

Washington headquarters must be involved in setting national goals. Complicating this imperative is that a future war is likely to be fought under an alliance structure (i.e. NATO) rather than alone. Washington's major role in a global war may

actually be that of allocating resources to alliance military organizations and remaining national theater commanders.

In an international organization such as DoD, the clear articulation of overall strategic goals in peace or war can play an important role in coordinating allied efforts toward these goals. Clarity enhances efficiency and capability, and without this unifying mechanism, DoD loses the benefits that integration can bring.

DoD has been criticized widely, and incorrectly, for not having a strategy. The lack of a strategy has not been the problem. DoD needs a well designed and highly interactive strategic planning process that involves more than just military capabilities. We see a need for an integrated process, not only internal to DoD, but integrated in terms of the entire Executive Branch and all of its agencies and offices. Yet a major problem exists in that our organizational systems were designed to be decentralized, both in the Executive Branch and in DoD. Ad hoc coordination rather than institutionalized integration has been the the norm. The challenge has been and continues to be achieving integration within a system that was designed to be as decentralized as possible, to avoid the dangers inherent in centralized authority, especially centralized military authority.

Functional Organizational Design. The principal organizations of the Washington headquarters of DoD are the Office of the Secretary of Defense (OSD) headed by the Secretary of Defense, the Joint Chiefs of Staff headed by the Chairman of

the Joint Chiefs of Staff (JCS), and the Military Departments each headed by a Service Secretary and a career military officer who also is a member of the JCS. These Washington organizations focus primarily on functional areas, such as manpower, tactical air forces, armor, submarines. Each agency in the DoD Washington headquarters also maintains its own duplicate organizations for each of the functional areas for which it has forces.

Each Military Department has multiple and separate headquarters staffs: the Secretariat serving the Service Secretary and the military headquarters staff supporting the Chief of Staff or Chief of Naval Operations. This arrangement results in unnecessary layers of supervision and duplication of effort. The separate staffs lead to unnecessary supervision, delays, micro-management, and inefficiency. Organization along functional lines makes OSD micro-management easier. Some of these problems have been resolved by recent reorganization and consolidation. The organization of Military Departments reflects an earlier era when the Service Secretaries headed separate, cabinet-level departments which is no longer true.

Organization by function inhibits integration of Service capabilities along coordinated mission lines. This in turn hinders the attainment of a primary goal when DoD was created in 1947; roles and mission integration. Headquarters organizational activity strives for functional efficiency and management and control of functional activities, not on overall politico-military and warfighting missions and objectives.

Perhaps the best example of the DoD orientation is that material inputs, not mission outputs, are emphasized. While DoD exists to maintain and employ the Armed Forces, including timely and effective actions to ensure the security of the United States, its possessions, and areas vital to its interests, the general focus of its Washington headquarters is not on war-fighting. The focus on operational missions, where the Armed Forces may actually have to compete with an adversary, is lost in the functional orientation. At the end of a day of military strategic planning, it is quite likely that no mention is made of another country. The focus more likely has been on programs, budgets, and obstacles.

Corporate-like strategic planning at DoD headquarters is inhibited by this lack of overall organizational focus on major missions and strategic goals. Planning is undertaken to support organizational positions vis-a-vis Congress, the Office of Management and Budget, the Secretary or his staff, the JCS or the Joint Staff, or other Services. Service interests and programming rather than overall strategic needs play the dominant roles in shaping planning decisions.

Tradeoffs are seldom made between different capabilities or programs of discrete Services that can contribute to an overall DoD mission. For example, Air Force officers might find it difficult to get accolades for suggesting that destruction of enemy targets could be more effectively performed by Navy missiles than by land-based bombers.

Routine functions that support other Services, especially airlift, sealift, or close air support, which are not central to a Service's own definition of its missions, tend to be neglected. The best example of this is the attention devoted to strategic sealift. Tongue-in-cheek suggestions have been made that perhaps the Army would be better served by having its own fleet! In defense of the Reagan Administration, furnishing the afloat forces for strategic sealift mission was recently elevated to one of the Navy's primary missions.

Non-traditional contributions to war-fighting missions outside the normal area for each Service (e.g., Air Force contributions to sea control) have not always been pursued. Interoperability and coordination requirements of forces from the separate Services, who must be able to operate together, are not readily identified. Again, to the credit of the Reagan Administration, some cross-service cooperation has occurred in the last eight years.

Headquarters organizations have been accused of being out of touch with the operational, especially readiness, requirements of the Unified, Specified, and Allied commanders who actually direct combat. Although the public perceives that the Service Chiefs or the JCS direct wars, and despite the press coverage of recent crisis management and the opportunities afforded by modern communications systems, war-fighting is directed by Allied and national CinCs in the field, not from the Washington headquarters. Until a more appropriate balance is struck between functional and mission orientation in the Washington headquarters

of DoD, effective mission integration will remain limited and flawed.

Overemphasis on Programming and Budgets. DoD suffers from the predominance of routine organizational activity during the programming and budgeting phases of the resource allocation process. As a result, the attention of DoD senior civilian and military officials is on near term issues and inputs rather than outputs. Consequently, insufficient attention is paid to corporate-type strategic planning, war planning, operation matters, and execution and implementation of policy decisions. The DoD Secretary, the critical civilian link in the chain of command, and one of only two individuals who constitute the National Command Authority, probably pays insufficient attention to planning for his wartime and other operational responsibilities.

Comparing the numbers of officers and civilians assigned to programming functions in the various Washington headquarters with those assigned to war planning or long-range planning, the bias can actually be documented. Arguably, in a war, many of these officers would transfer to allied military organizations or to the CinCs. It is not self-evident, however, that the skills of national Service programmers are transferable to conduct allied or joint wars and campaigns; hence, even if this large population of programmers was shifted in time of war, the necessary experience and background might be lacking.

For example, programmers generally are officers concerned with the acquisition of weapons systems. Programming has failed if the weapon is not going to be procured. Serious planning for divestiture rarely takes place inside any bureaucracy. Campaign and war planners, however, always must address tactical, operational, and strategic withdrawls and defeats when doing their contingency planning. Military planning for war is not simply managing a series of territorial acquisitions.

Even within the category of programming, emphasis is generally accorded to the purchase of major weapons systems and not for routine and mundane materials required to sustain actual combat operations. Simply put, the "star" performers are assigned to acquire "sexy" new weapons systems, not bullets and beans. Questions concerning mobilization requirements for long-conventional conflict or civil defense preparations are generally relegated to second and third level offices.

The overemphasis on programming and the underemphasis on planning for operational matters are reflected in the professional development of military officers. The development of perceptive planning and decisive execution skills needed in wartime has received a low priority in the resource-oriented Services; technical, managerial and bureaucratic skills are rewarded instead. We think this imbalance between headquarters staff functions and Allied/CinC operations is a major illogical discontinuity, and it is certainly a major difference with industry where line operations tend to be emphasized and

theoretically have the power to set corporate strategic direction.

The gathering of data on one's own capabilities is another issue related to the overemphasis on programming and budgeting and the lack of attention to strategic planning. DoD's inability to agreed upon capabilities and data bases of its own forces contributes to planning problems. Programmers need capability assessments to reflect those in systems specifications. War planners must have realistic assessments of own force capabilities. Yet every service is guilty in this area. Air Force estimates for manned bomber penetration have always been seriously questioned by outsiders. The kill rates each U.S. submarine must attain against Soviet combined arms forces in "bastions" are higher than most outside analysts would concede. The ability of ground forces to hold turf in Europe has been politicized to the point that models exist to support anyone's biases. The result is that DoD is unable to gather trustworthy information on its own forces.

Lack of an External Focus. Because of the attention on programming and budgeting and the functional orientation of DoD, the focus on operational missions where the Armed Forces may actually have to compete with an adversary is often neglected. Most business people understand that the environment in which they operate is competitive. One can make the same case for the international environment; the Soviet Union is a political actor representing a distinct ideology competing with democratic governments representing capitalism and free enterprise. Whereas

the Soviets understand this competition and are actively engaged on many fronts, who is in charge of the competition at our end?

It is rare to find coordinated international responses to Soviet political-military competition. While we can learn from business and industry how difficult it is to strategically manage the complex, modern corporation, those of us schooled in foreign affairs or international relations still tend to view nations as single actors; the United States will do this or that and the Soviet Union may respond in the following way. Yet the reality of modern international affairs is that while government might be implementing one plan, businesses may be effecting others that could be the antithesis of the government's position.

The world international political and economic environment constitutes a major input to the planning process. Accurately forecasting the future is obviously difficult. Within the DoD, the major agencies charged with such tasks -- the intelligence services -- are too narrowly focused on military matters to provide adequate advice to the Secretary, the President, and the Congress. Emphasis is needed in the full range of methodologies available to explore alternative futures. Corporate strategic planners appear to use a much broader horizon for considering alternative futures, perhaps due to economic incentives. Thus, if the private sector is doing the serious work in futures, then government strategic planning must involve them or be prepared to develop their own groups internally.

Strategic Planning and Its Obstacles

Having briefly summarized the criticisms of current planning activity within DoD, the question logically follows: How can we fill this planning gap? There are substantive obstacles to overcome to make strategic planning a viable option for DoD. The sheer size of DoD makes strategic planning a daunting prospect. Reporting to the Secretary, there are twelve major defense agencies, eight major DoD field activities, the Chairman of the JCS, ten Unified and Specified combat commands, three (four if you count the Marine Corps) Military Departments, and thirty-three major officials within OSD. In war, one additional uniformed Service would come under DoD, the Coast Guard. Over five million active duty, reserve and civilian employees work directly for, and over three million additional personnel in the private sector provide services or products to, DoD.

The DoD has some 1265 military installations and properties with 870 in the U.S., 375 overseas in 21 countries, and 20 in U.S. territories. One quarter of all active duty military personnel are stationed outside of U.S. The FY-88 DoD budget included $290.8B budget authority requested and $285.5B budget outlays expected; roughly 5.7% of GNP, 26.1% of federal outlays, or 17% of net public spending. Also included under DoD's aegis are just under $7B in foreign military sales, $906M in foreign government grant aids, and $56M in international military training and education.

What all these figures comprise point to is a pictograph of the largest and most complex organization in the free world. In business jargon, DoD is a very large multi-national corporation, with an extremely diverse portfolio. How can anyone or any single group strategically manage an enterprise of this size?

In contrast, Exxon, the premier Fortune 500 company, has around 139,000 employees, and sales only half of DoD outlays. Even AT&T at its largest, in 1982,[4] had fewer than one million employees before its breakup. Planning in large diversified companies like these tends to be at the divisional level, while corporate activity is focused on "balancing the portfolio" of interests and businesses. There is no comparable effort in American business which would serve as a guide to the strategic planning for an organizational entity such as DoD.

Approaching the challenge of strategic planning from smaller organizational units, what is the appropriate organizational level? If we take the Navy alone, it is still a large organization. The Department of the Navy is a major military department, with the legacy of once having been a cabinet-level organization. The Secretary of the Navy, or the Chief of Naval Operations, has forty-four major organizations reporting to him, including two full military services (increasing to three in time of war with the transfer of the Coast Guard from the Department of Transportation).

Current Navy long-range planning efforts (OPNAV Instruction 5000), acknowledge that strategic planning is critically important for the future, while recognizing that decentralized planning is the norm. This Navy effort at planning provides programmers with a justification in the form of "Master Plans" for families of weapons systems. This proves helpful in dealing with OSD, the White House, and Congress, as the North American Air Defense Master Plan did for the Air Force. Yet it is also a high risk strategy, since such plans can be used against the Navy as well. Former Navy Secretary John Lehman did not provide Congress with supporting analysis to justify 600 ships, relying instead on that number having been generated by the 1980 Republican Party platform. Unfortunately, what OPNAV Instruction 5000 focuses on is specific programs <u>not</u> on the overall strategic planning for the Navy as an integrated organization.

Perhaps we should concern ourselves with strategically managing even smaller and smaller organizational units. After all, business and industry rarely successfully conduct strategic management at the corporate level, but instead tend to manage strategically at the divisional level, if at all. But what should that level be? If we select smaller and smaller organizations or units, do we not violate the very principles that started this effort in the first place -- greater integration and coordination of the whole defense effort through some kind of strategic management process?

How can we apply strategic management principles to a system that is decentralized, made up of semi-autonomous units, which

ideally should coordinate their efforts, but practically -- because of their size, their separate traditions, and the American culture which insists on shared power among the major branches of government -- probably will have enormous difficulty in doing so? How, and with what means and mechanisms, can we develop an integrated Defense policy? What will it take to get us there?

Other Considerations.

In applying strategic planning to DoD there are other considerations that suggest the road to greater DoD policy integration will be difficult. One of the major questions that comes to mind is "Who should do the strategic planning for DoD?" The military has been criticized for failing to provide sound military advice that crosses Service boundaries. The Secretary often has resorted to using civilians, qualified or not, for advice on issues for which military recommendations should have been demanded. The military was quick to criticize the direction of the Vietnam War from the OSD but proved incapable of reorganizing to provide the Secretary and the President with the policy recommendations and politically astute leadership required at the Washington headquarters level.

When politico-military leadership was provided, it frequently came from the ranks of individuals who lacked educational backgrounds or experience in national security affairs. The assumption is totally false that any good staff officer should be able to fill such strategy positions, even if

his Washington headquarters experience was in programming (or lacking altogether). The selection of Admiral William J. Crowe as Chairman of the JCS was a welcome exception but one man alone cannot make up for deep-rooted institutional deficiencies.

While civilian control of the military remains a national objective, there is no clear division of work between civilian and military officials and organizations. The National Security Council Staff, the State Department, and OSD contain many serving military officers. Providing military advice to civilian officials is not problematic, but military officers have been placed into positions normally considered political appointments.

In addition, problems are inevitable with the quality of DoD strategic planning or politico-military personnel seconded to political appointee positions, the Service Secretariats, joint duty military positions and, especially, duty assignments with Allied military organizations. Political appointees are a concern because of their relative inexperience (in some cases), high turnover rates, and uncertain tenure.

Currently, extended periods of on-the-job training attempt to substitute officers for a military officer's education and previous experience in strategic planning. For over forty years, DoD has given insufficient attention to the development of officers capable of effectively performing politico-military and strategic planning duty assignments. Substantial disincentives persist to making such duty a career path.

Strategic planning education and training have been addressed by the Congress as well as the DoD since the passage of the Goldwater-Nichols Act. The recent emphasis on "joint" education misses the mark since it addresses only part of the problem. Although efforts to improve "joint" education and training are welcomed and move us in the appropriate direction, they do not address more advanced concepts of strategic planning.

If we assume that military personnel should be more involved in strategic planning, to what extent should their efforts be co-joined with other strategic planning experts? Should the planning be conducted with in-house assets or should some planning responsibilities be contracted out to rely upon the undeniable talents found in the private sector.

The Navy prefers to have serious planning done in-house, preferably by personnel in uniform. The State Department is similarly biased. The Navy does have outside "experts" brought into the system from time to time, such as those in the Chief of Naval Operations Executive Panel; but once those "experts" have left, complete staffing and execution of plans is done by uniformed officers. Many active duty officers intuitively distrust civilian think tanks (even the Center for Naval Analyses) and defense contractors. State Department regional experts likewise have little use for outsiders who have never experienced field work inside the system.

On the other hand, OSD appears biased in the opposite direction, placing perhaps pathetic faith in external studies.

OSD ad hoc, study groups, and Blue Ribbon panels abound and proliferate. Certainly the final decisions are made by officeholders, but participation by outsiders appears to be the norm, diluting the active duty military officer's role in OSD and reducing it to managing contracts rather than actual long-range or strategic planning.

Who should do strategic planning involves decisions on where that planning is to be done. If war planning is performed at the CinC staff level, it is probably best that military personnel take the lead. Some CinCs, however, cannot do all their planning without the participation of non-military agencies, Allied governments, and the private sector. For example, serious planning by Transportation Command must involve more than just military personnel.

Yet can the government do serious strategic planning with the private sector? If industry is involved, can this be done without conflict of interest? There is a definite bias by some personnel in uniform to keep strategic planning divorced from government contracting types, perceived as having an interest only in turning a profit. Tough conflict of interest laws discourage a strong interaction between contractors and government employees.

However, some of the best strategic planning minds in the country are outside of government. To believe that strategic planning can be done without active participation by the private sector is to deprive the government of a wealth of talent.

Despite the reality of active cooperation between the private sector and government at the highest levels of DoD, the services have taught strategic planning from the purblind perspective of the Joint Strategic Planning System -- all planning is to be done on the inside. The myth is perpetuated by case studies and texts ignoring the private sector contributions. War college curricula focus on historical and military strategy, and an understanding of defense organization; rarely addressing concepts found in the Harvard Business Review.[6]

There will always be a need for in-house planners with access to certain types of sensitive classified material, and limitations on the release of war plans and actual war planning concepts. Since the military executes war plans, which are strategic plans, then in-house personnel must bridge the gap between military capabilities and political desires.

Is there a role for strategic planning at the Military Department level, or should it be done by Allied military organizations, the CinCs, and the JCS? The answer is difficult. The services must train, educate, and designate strategic planners who wear their uniforms but strategic planning is done above the service level. If we shift all strategic planning to Allied staffs, the CinCs, JCS, and OSD, then do we have the same problem in programming? How do diversified corporations handle similar problems? Many major corporations avoid corporate-level strategic planning for mission integration. They do, however, have extremely good strategic planning cells at the division level.

Another consideration regarding strategic planning in DoD is deciding whether planning should be a continuous effort or aperiodic? If done continually, where should it begin? With the goals of the organization, the threat, the resources available? There is no real consensus on how to start the planning effort, yet obviously there are logical starting points for different planners.

For war planners, a logical starting point is assessing available resources. For programming planners, a logical starting point is the set of desired goals. Often, experience dictates the actual starting point to be current resources, as expressed in the budget, although the formal Joint Strategic Capabilities Planning System officially starts with the threat. As a starting point the threat is very often the focus of corporate strategic planners. Like their business counterparts, politico-military planners tend to focus on threats -- the Soviet Union --but too often are criticized for an obsession with only this threat.

Running counter to the military desire to actually strategically plan is the natural tendency by political leadership to vacillate, obfuscate goals, and cloud objectives to keep options open. It is not that political leaders are incapable of articulating goals and objectives, but rather to recognize that once they do, the vast federal bureaucracy automatically reacts and attempts to attain those specific objectives. Political leaders recognize that goals often do not

have clearly defined objectives that are helpful in a programming system that may measure in decades the transition from concept to full operational capability for a major weapons system.[7]

If strategic planning is done continually, what prevents it from becoming a routine standard operating procedure which those in the line organizations fail to take seriously? A failing of the Joint Strategic Planning System is that it is so bureaucratic, crusty, and regularized that creative thinking may be neither appreciated nor desired. Yet, if strategic planning is not regularized but instead done in spurts, what is the detection mechanism for the need to change? Often, a signal is a changing threat. In the political-military world, changes in plans (and even the planning process) are a logical outgrowth of changes in the political leadership of the country. Program planners change plans and the execution of plans once the budget process has run its full course. War planners change plans during the plan approval process and the integration of individual CinC's plans with others.

Planning does not necessarily mean that plans (or even operations) will be completed successfully. Poor planning can derogate both the vision of a plan and its execution. The inter-war years provide excellent case studies of poor analysis (estimates of strategic bombing damage following World War I) that were perpetuated and resulted in faulty plans, poor recommendations for programs, fatuous political decisions, and imperfect execution of plans.[8]

Other British inter-war examples, however, demonstrate that good planning can be done at the inter-agency level. Planning by industry, the Royal Navy, and the Ministry of Defense before the outbreak of hostilities indicates that pre-war preparation is useful. In each critical decision, however, an external threat signal was sent and caused a revision of planning estimates.[9]

Throughout history, all military organizations, like all large organizations, are noted for their inertia and resistance to change. The U.S. military establishment is no different regarding resistance to change. However, in DoD, this tendency is magnified by certain systemic problems, discussed previously. Key among these is the inability to avoid roles and missions disputes despite bureaucratic agreements among the Services which should have solved them; the Key West Agreement, the Unified Command Plan, and other JCS Publications and agreements being key examples.

As a result of these systemic problems, DoD has no effective mechanisms for change; it cannot correct certain deficiencies on its own. Despite frequent substantial evidence of poor performance, DoD, like most organizations, expends much of its energy on defending the status quo. The absence of an effective process of internal self-correction and self-modification has caused an undesirable rigidity in DoD organization and procedures, and generated further Congressional intervention.

Related to insufficient mechanisms for internally generated change is the absence of useful feedback from and to many

activities in DoD. This particular criticism seems astounding to the average line officer since so much of his time is consumed with the compilation and reporting of information to seniors in the chain of command. Effective management control is not possible without useful and timely feedback on actual operations and implementation of plans. There is a strong need to simplify gathering data and to find a mechanism to simplify it's presentation to key decision-makers.

Complicating data gathering in strategic planning is the existence of "proprietary" information. Although we will fight any future war in Europe under the command of long-established Allied military organizations and in conjunction with Allies, not all the Allies have been willing to share information with each other in peacetime. France, for example, maintains a war-ready stockpile of materials and supplies but the United States cannot obtain the contents of those reserves and therefore conduct adequate pre-war planning for mobilization needs. Over the years, numerous Allies have asked whether forces normally assigned to the U.S. Pacific Command would "swing" to Europe in the event of a war, only to receive conflicting responses.

The absence of useful feedback reduces management control of the planning and the resource allocation processes. It also precludes learning important lessons from poor staff preparation and inadequate organizational performance. Past mistakes do not receive the critical analysis and review that might prevent them from recurring. DoD has a tradition of comprehensive, critical,

and internal evaluation of its own performance in many areas of politico-military affairs. Rather than concentrate on the outcome of crises in which military forces were used, most flag and general officers prefer to discuss the number of times a particular force was employed. The proper measure of effectiveness would be whether the use of force, or that particular force, had an effect on the long-term outcome of the crisis. Flag officers should become more familiar with the types of forces that proved useful in attaining short-term and long-run political goals than with how often the fleet was used.

Conclusions

Much thinking passes for strategic planning/management. The emphasis is on "thinking grand thoughts" or conceptualizing in a broad macro sense. Some techniques for strategic thinking are expert opinion and the delphi technique. Expert opinion is available to virtually everyone; i.e. books such as former President Richard Nixon's new work 1999 or Zbigniew Brzezinski's Game Plan.[10] Interestingly, both books actually contain comprehensive plans of action to manage the competitive inter-state relationship. These are recommendations from experts who have a vision of "the problem", a desired future, and are willing to share it with the public for the price of a book. There will always be a venue for authors and consultants but merely thinking through a problem is not enough.

Much analysis also passes for strategic planning/management. Analysis emphasizes alternatives and the consequences of

alternative courses of action. Moving from thinking into analysis, we use modern analytic tools in addition to expert judgment to develop alternative futures, alternative courses of action, and consequences. Cross-impact matrices are created to show the relationship of variables. Simple trend extrapolation is used to predict short-term futures. Scenario building can be used as a stand-alone methodology or as an input for games and simulations which help analysts in prediction, sensitivity and contingency analysis. An example of analysis is the recently published Discriminate Deterrence and the National Security Strategy of the U.S..[11] There will always be a need for analysis, but the analysis of a problem is still not enough.

Much planning also passes for strategic planning/management. Planning is logical exercise that works backward from goals to programs and budgets so as to map out the sequence of decisions and actions required to achieved a desired future embodied in the goals. Planning can be done on different levels: crisis planning, deliberate planning, short-term planning, mid-term planning, long-range planning, planning in support of PPBS, planning in support of campaign and war plans, global planning, regional planning, national planning and functional planning, all of which are used in DoD. There always will be a need for planning, however planning is still not enough.

DoD needs strategic planning/management. We earlier defined strategic planning/management as the management and integration of the total organization or system in pursuit of common goals and a coherent strategy. While thinking, analyzing, and

planning are important components, strategic planning/management also includes the execution phase, where the strategy and ultimately the plan is managed, implemented, monitored, and then modified whenever necessary, based on new information, opportunities or threats.

Yet military officers are not comfortable with strategic planning/management. While they perform all of the elements required -- thinking, analysis, planning, and management -- their efforts are not coordinated nor integrated, and their work tends to be segmented, focusing on one of these components without linking them to the others. For example, the focus of the planning education at war colleges often includes the execution phase but usually from a historical perspective, not necessarily from that of the general manager who has to integrate and coordinate an entire organizational effort.

A sub-set of the military planning community did not always address successful execution of plans; the plan was generally considered to be a finished product. This was a major criticism of military planning under the Carter Presidency; defense of the United States was viewed as being best achieved by deterrence which, in turn, was thought best achieved by the ability to punish aggression. Serious nuclear war-fighting plans were given scant attention. Carter-era military and political leaders were criticized for failing to think through "what is required if deterrence fails"?

Under the Reagan administration, the military addressed the execution of war plans; leading, in turn, to criticism of plans to fight and win nuclear wars. To mollify critics, the Commander-in-Chief himself declared that there could be no winners in a nuclear war. Yet military planners needed to think through all the options, including victory, so that they would be able to offer sound military advice when required.

Planning is in evidence in the programming side of military where the DoD is executing plans every day of the year. Due to the long time for concept formulation, contracting, research and development, testing and evaluation, manufacture, and fielding new weapons systems, long-range planning is required and done in the field of programming. The services also do an adequate job of educating future program managers in concepts of program management, but generally without the political-military background that would let them understand why forces are required in the first place. The lack of crossover to the policy side that would connect these activities to DoD's goals, objectives, and strategies is astonishing.

Military programming also tends to view the pure politico-military planner as afloat in an unconstrained dream world creating a wish list for what they would like if they could have it all. The politico-military planner actually creates such lists, but another group of them is engaged solely on current or near-term plans that depend totally upon the output of the programming process. The disconnect appears to be in the front end - between determining requirements and creating programs.

Thus, the DoD has been criticized widely for its lack of planning, poor planning, and for poor implementation of plans. We have suggested in this paper, however, that it is not planning, per se, that is the problem. What is missing, from our perspective, is a mechanism to integrate the current efforts and the elements of thinking, analysis, planning, and management into an integrated whole. Drawing on business and industry, we have argued that the basic principles of strategic management are a way to address the planning gap and serve as a unifying mechanism to build the whole.

What can be done? To start, those of us in military organizations, together with experts from industry, must begin a dialogue on these issues. The leading roles should belong to those military academic organizations already charged with the education and training of Service planners.

Letting civilian academic organizations take a leading role would likely result in overemphasis on current political science or business school methods, and lack of attention to the combination of both that would meet the needs of DoD. Although many aspects of nuclear strategic planning can be found at civilian universities, the type of strategic planning we have discussed is not being addressed by civilian political science nor history departments.

When civilian schools teach strategic planning, they tend to focus on international or national political or social science

aspects, nuclear strategic planning and arms control, defense organization, or historical military strategy. The DoD needs strategic planners/managers who can manage at the regional or CinC level with an appreciation of strategic planning and management concepts currently taught at business schools.

Military academic institutions offer faculties with unique in-government strategic planning experience, such as war planning, that is difficult to duplicate by those not in uniform. Science, engineering, and business schools all suggest that their faculties have experience tours so that they can appreciate the art of the possible. However, due to the classified nature of military strategic planning, civilians, even those in government service, seldom participate in some of the key aspects of joint planning - a key to understanding.

Educating such military strategic planners and managers will take a skilled faculty with experience in both traditional military and defense studies as well as corporate-style strategic management. We also need developed case studies and course materials that can be used to support such education. Developmental efforts on both fronts need to begin immediately.

At the same time we must explore the ramifications of strategic planning ranging from the dangers inherent in greater centralized authority, especially centralized military authority, to those inherent in our present decentralized path. If strategic planning is a viable course of action, and the Military Services, JCS, and OSD believe it is, then we should begin to map out

changes to build the foundation on which strategic planning/management in DoD can rest.

We also should be aware that strategic management assumes certain necessary and sufficient conditions to be effective. Among the conditions, but by no means all, are: an agreement on goals and objectives or at least a mechanism by which the dominant coalition can develop a consensus on goals and objectives; a process by which the organization scans its environment, monitors trends, and assesses its competitors so the organization can assume and an advantageous posture; control over the budget process which permits a reallocation of resources to fit the organization's strategy; a management information system which evolves into an integrated communication and control system; and a review and monitoring process to ascertain whether current strategies are viable or should be revamped.

We need to investigate to what extent do these conditions obtain in the DoD. While ideally it may be beneficial to strategically manage DoD, we need to make sure that is it practically possible given the constraints and conditions of the current situation. There may be very real obstacles and special considerations that need to be considered before applying strategic planning to DoD. The issues of size and decentralization serve to illustrate that the task will not be an easy one. Most people would agree that the DoD mission requires greater integration and coordination, not only in terms of our military capability, but in terms of the Executive Branch and all of its attendant offices. Yet the very conditions that

make strategic planning in business and industry successful are lacking or underdeveloped in DoD. We are facing a "catch 22": our current planning efforts are not adequate; we need strategic management and planning; but we face obstacles and lack the necessary and sufficient conditions to make either effective. This are critical issues that need immediate analysis and study.

We also have to recognize the additional disincentives for strategic planning within DoD, then prepare to neutralize or offset them. The lack of political guidance and the difficulty in determining the future were previously addressed. Other disincentives include "turf" protection, an unwillingness to expose vulnerabilities, and the lack of a dedicated strategic management community.

Ultimately, the military must integrate its existing strategic planning community (oriented toward politico-military and nuclear issues) and program planning efforts. More importantly, it should devise a reward structure for the creative people who can best serve decision-makers by challenging the existing structure, but from within the system. We caution that the answers are not to be found by selecting "gurus" as National Security Affairs Advisors or as cabinet-level positions, nor by re-defining the role of the National Security Council or its staff. Although certain organizational and personnel changes are required to create the environment whereby the DoD could exercise strategic management, the key to the solution is creating an interdisciplinary field and manpower specialty within DoD for

officers who are experts in strategic management/planning for public institutions.

Strategic planning within the DoD and the Navy offers exciting possibilities for new concepts and renewed efforts to enhance the combat potential of the military. There is a long history of attempted strategic planning by the military. Between the wars, the services cooperated and developed war plans that formed the basis for the campaigns that were actually fought in the Pacific. The Navy once had an extremely good strategic planning organization, used by the Chief of Naval Operations and Secretary of the Navy for the purposes described herein. With a new Administration, we should avail ourselves of the opportunity to not only assess what our strategic plans are, but, more importantly, how we go about making those plans and shaping those individuals who are to serve as strategic planners and managers.

The existing system has created excellent programmers and adequate politico-military planners but few strategic planners or strategic managers. It is not likely to educate, socialize, utilize, and retain the type of individuals necessary to manage the conduct of foreign and military affairs in a 21st century global environment that is unlikely to be like what we have experienced in the era since World War II. We need those individuals now.

NOTES

1. James B. Quinn, Strategies for Change: Logical Incrementalism, Homewood, Illinois: Richard D. Irwin, 1980.

2. John M. Bryson, Strategic Planning for Public and Non-Profit Organizations: A Guide to Strengthening and Sustaining Organizational Achievement, San Francisco, California: Jossey-Bass, 1988, pp. 7-8.

3. See Bryson for a further elaboration between long-range and strategic planning.

4. Armed Forces Staff College, Joint Staff Officer's Guide - 1988, AFSC Pub. 1, Washington, D.C.: U.S. Government Printing Office, July 1, 1988, 354 pp.

5. For a further discussion of these and other criticisms of DoD, readers should consult James R. Locher, III, Defense Organization: The Need for Change, Staff Report to the Committee on Armed Services, United States Senate, 99th Cong., 1st Sess., Committee Print 99-86, Washington, D.C.: U.S. Government Printing Office, October 16, 1985, 645 pp.

6. The Industrial College of the Armed Forces is perhaps the only exception.

7. Paul Y. Hammond, "Disincentives for the Development of National Strategy: The Executive Branch," unpublished paper, December 1988, 23 pp.

8. Paul Bracken, "Unintended Consequences of Strategic Gaming," Simulations and Games, Vol. 8, No. 3, September 1977, pp. 301-312.

9. G.A.H. Gordon, British Seapower and Procurement Between the Wars: A Reappraisal of Rearmament, Annapolis, MD: Naval Institute Press, 1988.

10. Richard Nixon, 1999: Victory Without War, New York, NY: Simon and Schuster, 1988; and Zbigniew Brzezinski, Game Plan: How to Conduct the U.S.-Soviet Contest, Boston, MA: The Atlantic Monthly Press, 1986.

11. Discriminate Deterrence: Report of the Commission on Integrated Long-Term Strategy, Co-Chairman: Fred C. Ikle and Albert Wohlstetter, January 1988; and National Security Strategy of the United States, The White House, January 1988.

DISTRIBUTION LIST

		No. Copies
1.	Dudley Knox Library Naval Postgraduate School Monterey, CA 93943-5100	2
2.	Director of Research (Code 012) Naval Postgraduate School Monterey, CA 93943-5100	1
3.	Andrew Marshall Director, Net Assessment OSD/NA Room 3A930 Office of the Secretary of Defense Washington, DC 20501	5
4.	CDR Michael McCune, USN Competitive Strategies Office OSD/ES (CSO) PNT Room 1E801/5 Office of the Secretary of Defense Washington, DC 20301	2
5.	CAPT Jerry Murphy, USN Chief Strategic Planning USD A PI/SP Room 3E10 Office of the Secretary of Defense Washington, DC 20301	2
6.	COL Donald Snider, USA Director, Defense Policy OEB Room 308 National Security Council Staff 17 Pennsylvania Avenue Washington, DC 20506	2
7.	Dr. James J. Tritten Commander, U.S. Navy Chairman Department of National Security Affairs (56) Naval Postgraduate School Monterey, CA 93943-5100	20
8.	Dr. Nancy C. Roberts, Associate Professor Administrative Science Department (54Rc) Naval Postgraduate School Monterey, CA 93943-5100	20
9.	Dr. Darnell Whitt, Associate Professor Defense Resources Education Management Center Code 6417 Naval Postgraduate School Monterey, CA 93943-5100	5

10. Dr. David Whipple 1
Chairman
Administrative Science Department (54)
Naval Postgraduate School
Monterey, CA 93943-5100

11. CAPT James Mueller, USN 17
Curricular Officer - NSA/Intelligence Programs
Code 38
Naval Postgraduate School
Monterey, CA 93943
(forward to students previously enrolled in NS 4230)

12. Dr. Ben Adams 1
Deputy Commissioner
U.S.-Soviet Standing Consultative Commission
Pentagon Room 5A670
Washington, D.C. 20301

13. Dr. Richard T. Ackley 1
Commander, U.S. Navy (Ret.)
Director, Natiional Security Studies
California State University, San Bernardino
5500 University Parkway
San Bernardino, CA 92407

14. LTC Ken Allard, USA 1
DACS-ZBAS (Pnt Room 3C641
Office of the Chief of Staff
Department of the Army
Washington, D.C. 20310-0200

15. COL David J. Andre, USA 1
Special Assistant for Analysis
ODUSD (Planning and Resources)
Pentagon, Room 3A7&8
Office of the Secretary of Defense
Washington, DC 20301-2100

16. Clarence E. Armstrong 1
Rear Admiral, U.S. Navy (Ret.)
Executive Director
Northrop Corporation
Electro-Mechanical Division
500 E. Orangethorpe Ave.
Anaheim, CA 92801

17. Dr. Roger Barnett 1
Captain, U.S. Navy (Ret.)
National Security Research
Suite 330
3031 Javier Road
Fairfax, VA 22031

18. BG Harry H. Bendorf, USAF (Ret.) 1
Director, Washington D.C. Office
Boeing Helicopter Company
1700 N. Moore Street
Arlington, VA 22209

19. Dr. Alvin Bernstein 1
Chairman, Strategy Department
Naval War College
Newport, RI 02840

20. Jose M. Bestard 1
Director of Corporate Planning
Florida Power & Light Company
P.O. Box 029100
Miami, FL 33102

21. MAJ Robert M. Blum, USA 1
HQ TRADOC ATCG-P
Fort Monroe, VA 23651-5000

22. Dr. John F. Brahtz 1
Code L03B
Naval Civil Engineering Laboratory
Port Hueneme, CA 93043

23. Dr. Thomas Brown 1
Manager, Strategic Analysis
K100/IP
Northrop Corporation
8900 E. Washington Blvd.
Pico Rivera, CA 90660-3737

24. Dr. Phillip Butler 1
Captain, U.S. Navy (Ret.)
President
Camelot Enterprises
1330 Castro Court
Monterey, CA 93940

25. Michael J. Cahill 1
Advanced Program Manager
Unmanned Vehicle Systems
Aircraft Division
Northrop Corporation
One Northrop Avenue
Hawthorne, CA 90250-3277

26. William M. Charles 1
Manager, Business Assessments
Strategy Planning and Analysis
Boeing Military Airplanes
P. O. Box 7730, MS K14-37
Wichita, KS 67277-7730

27. Dr. Steve Cimbala 1
Political Science Department
Penn State University
Delaware County Campus
Media, PA 19063

28. John Coan, Program Manager 1
National Defense Executive Reserve
HCHB room H8378
U. S. Department of Commerce
Washington, DC 20230

29. Mack Cottler 1
1238 Benedict Canyon
Beverly Hills, CA 90210

30. Seth Cropsey 1
Deputy Under Secretary of the Navy
(Special Reviews & Analysis)
Pnt Room 4E780
Office of the Secretary of the Navy
Washington, D.C. 20350

31. Dr. Donald C. Daniel 1
Chairman, Campaign and Strategy Department
Center for Naval Warfare Studies
Naval War College
Newport, RI 02841-5010

32. Dr. Brad Dismukes 1
Center for Naval Analyses
4401 Ford Avenue
Alexandria, VA 22301

33. Dr. Michael A. Freney 1
SECNAV Fellow
U. S. Naval War College
Newport, R.I. 02841

34. Dr. Robert Friedheim 1
#4
6505 Esplanade
Playa del Rey, CA 90293

35. Erik M. Fromm 1
Manager, Strategic Planning
Boeing Aerospace
P. O. Box 3999, MS 84-22
Seattle, WA 98124-2499

36. Sarah W. Fuller, President 1
Arthur D. Little Division Resources
20 Acorn Park
Cambridge, MA 02140

37. Ms. Devon Gaffney, Director of Research 1
The Smith Richardson Institute
210 East 86th Street
New York, NY 10028

38. Dr. Robert G. Gard, Jr. 1
Lieutenant General, U.S. Army (Ret.)
President
Monterey Institute of International Studies
425 Van Buren Street
Monterey, CA 93940

39. Dr. James George 1
Center for Naval Analyses
4401 Ford Avenue
Alexandria, VA 22301

40. Anthony George Gero, Vice President 1
Prudential-Bache Securities Inc.
100 Gold Street
New York, NY 10292

41. Frederick Haag 1
P. O. Box 590
Ranch Santa Fe, CA 92067

42. Dr. David K. Hall 1
National Security Decision Making Department
Naval War College
Newport, RI 02841

43. Dr. Paul Y. Hammond 1
Graduate School of Public & International Affairs
University of Pittsburg
Pittsburg, PA 15260

44. COL David G. Hansen, USA 1
Chairman
Department of National Security and Strategy
U.S. Army War College
Box 484
Carlisle Barracks, PA 17013-5050

45. Dr. Frederick Hartman 1
2060 Quartz Hill Place
Gold River, CA 95670

46. Dr. Richard Head 1
Lieutenant General, USAF (Ret.)
Director of Advanced Planning
Washington Operations
SRS Technologies
1500 Wilson Blvd., Suite 800
P.O. Box 12707
Arlington, VA 22209-8707

47. COL John J. Hickey, Jr., USA — 1
Attn: AWCI Root Hall Room A218
Strategic Studies Institute
U.S. Army War College
Carlisle Barracks, PA 17013

48. J. Andrew Hutchison — 1
Boeing Corporation
MS 8R-83
P. O. Box 3999
Seattle, WA 98124-2499

49. CAPT William S. Johnson, USN — 1
OP-06A
Pentagon Room 4E592
Office of the Chief of Naval Operations
Washington, DC 20301

50. Dr. Francis X. Kane — 1
Strategic Defense Center
Rockwell International Corporation
2230 East Imperial Highway
El Segundo, CA 90245

51. COL Thomas A. Keaney, USAF — 1
Chairman, Department of Strategy
National War College
Ft. Leslie J. McNair
Washington, D.C. 20319-6000

52. AMB Rodney O. Kennedy-Minott — 1
Senior Research Fellow
The Hoover Institution
Stanford University
Stanford, CA 94123

53. CDR John Kenny, USN — 2
The Brookings Institution
1775 Massachusetts Avenue, NW
Washington, DC 20036

54. Dr. Steven Kime, Director — 1
Captain, U.S. Navy
U. S. and International Studies
U. S. Naval Academy
Annapolis, MD 21402

55. Paul Kozemchak — 1
6507 Lakeview Drive
Falls Church, VA 22241

56. Raymond E. Kozen — 1
Staff Vice President - Special Projects
General Dynamics Corporation
Suite 1000
1745 Jefferson Davis Highway
Arlington, VA 22202

57. LTC Edward Lewis, USMC (Ret.) — 1
2796 Alton Hotel Court
Woodbridge, VA 22192

58. Wallis M. Logan — 1
Commander, U.S. Navy (Ret.)
Program Manager, Space Based Radar
Satellite & Space Electronics Division
Rockwell International Corporation
2600 Westminister Blvd.
P.O. Box 3644
Seal Beach, C 90740-7644

59. Cameron N. Lusty — 1
7560 Bay Island Drive, #241
St. Petersburg, FL 33707

60. Dr. J. J. Martin — 1
Senior Vice-President
Science Applications International Corp.
10260 Campus Point Drive
San Diego, CA 92121

61. CAPT Michael Martus, USN — 2
OP-603
Pentagon Room 4E486
Office of the Chief of Naval Operations
Washington, DC 20350

62. Dr. Kleber S. Masterson — 1
Rear Admiral, U.S. Navy (Ret.)
Vice President - Booz Allen & Hamilton
Crystal Square #2, Suite 1100
1725 Jefferson Davis Highway
Arlington, VA 22202-4158

63. Rodney B. McDaniel — 1
Science Applications International Corp.
1300 Crystal Dr., #902
Arlington, VA 22202

64. CAPT Michael A. McDevitt, USN — 2
Executive Director
OP-OOK
CNO Executive Panel
Center for Naval Analyses
4401 Ford Avenue
Alexandria, VA 22302

65. Myra S. McKitrick 1
Corporate Manager - Special Projects
General Dynamics Corporation
Suite 1000
1745 Jefferson Davis Highway
Arlington, VA 22202

66. Dr. Jeffrey S. Milstein 1
Strategic Analyst and Planner
Organization of the Joint Chiefs of Staff
Plans and Policy Directorate
Strategy Division
The Pentagon, Room 2E949
Washington, DC 20301

67. Ambler H. Moss, Jr. 1
Dean, Graduate School of International Studies
University of Miami
1531 Brescia Street
Coral Gables, FL 33124

68. CAPT Charles Pease, USN (Ret.) 1
United Technologies
1825 Eye Street, NW, Suite 700
Washington, DC 20006

69. Robert E. Pendley 1
Associate Center Director
Center for National Security Studies
Mail Stop A112
Los Alamos National Laboratory
Los Alamos, NM 87545

70. Dr. Elizabeth Pickering 1
Federal Executive Institute
1301 Emmet Street
Charlottsville, VA 22901-2891

71. George E. Pickett, Jr. 1
Northrop Analysis Center
2 Lafayette Centre
1133 21st Street, NW
Washington, DC 20036

72. Dr. Bruce Powers 1
Special Assistant for Technology, Plans, & Analysis
OP-05/50W Pnt Room 4E367
Office of the Chief of Naval Operations
Washington, DC 20350-2000

73. Michael Rich 1
Vice President
The RAND Corporation
1700 Main Street
P.O. Box 2138
Santa Monica, CA 90406-2138

74. Dr. James Roche 1
Captain, U. S. Navy (Retired)
Northrop Analysis Center
2 Lafayette Centre
1133 21st Street, NW
Washington, DC 20036

75. Dr. Steven P. Rosen 1
Strategy Department
Naval War College
Newport, RI 02841

76. J. W. Russel 1
Rear Admiral, U.S. Navy (Ret.)
Manager, Systems Analysis
Boeing Aerospace
P. O. Box 3999, 8R-83
Seattle, WA 98124-2499

77. Dr. Scott Sagan 1
Department of Political Science
Building 160
Stanford University
Stanford, CA 94305

78. CAPT Ronald C. St. Martin USN (Ret.) 1
Northrop Analysis Center
1133 21st St., N.W.
Suite 700
Washington, D.C. 20036

79. CAPT Paul Schratz, USN (Ret.) 1
Sea Breezes
141 Dalkeith Glen
Arnold, MD 21012

80. COL William M. Sheperd, USA 1
Office of the Deputy Chief of Staff for Doctrine
TRADOC
Fort Monroe, VA 23651

81. Dr. Perry Smith 1
Major General, U.S. Air Force (Ret.)
7217 Van Ness Court
McLean, VA 22101

82. Dr. Richard F. Staar 1
Coordinator
International Studies Program
Hoover Institution on War, Revolution and Peace
Stanford, CA 94305-6010

83. CAPT Peter Swartz, USN 1
USNATO/DoD
Box 102
APO New York, NY 09667-5028

84. Andrew Swire 1
The Fletcher School of Law & Diplomacy
P.O. Box 71
Medford, MA 02155

85. Dr. Ronald J. Versic, President 1
Ronett T. Dodge Company
P. O. Box 9481
Dayton, OH 45409

86. Dr. Michael Vlahos 1
Director, Center for the Study of Foreign Affairs
Foreign Service Institute
U.S. Department of State
1400 Key Blvd.
Arlington, VA 22209

87. LTC Barry Watts, USAF (Ret.) 1
Northrop Analysis Center
Suite 700, 2 Lafayette Centre
1133 - 21st Street, NW
Washington, DC 20006

88. CAPT Robert B. Watts, USN (Ret.) 1
Coordinator, Strategic Studies Project
Naval War College Foundation
U.S. Naval War College
Newport, R.I. 02841-5010

89. Larry K. Wentz 1
Technical Director
National C-2 Systems Division
The MITRE Corporation
7525 Colshire Drive
McLean, VA 22102

90. Francis J. West 1
The Gamma Corporation
1818 North Lynn Street, Suite 804
Arlington, VA 22209

91. Dr. Charles Wolf 1
Director, RAND Graduate School
RAND Corporation
P. O. Box 2138
Santa Monica, CA 90406-2130

92. Dr. Michael Yarymovych 1
Vice President and Associate Center Director
Strategic Defense Center
Rockwell International Corporation
2230 East Imperial Highway
El Segundo, CA 90245

93. Defense Technical Information Center 1
Cameron Station
Alexandria, VA 22314