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U.S. Navy

Chief of Naval Operations

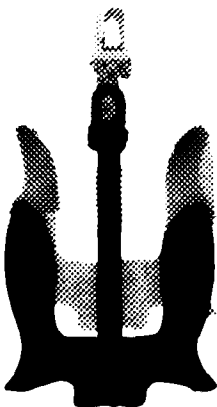


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# First Annual Long Range Planners' Conference

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# **U. S. Navy First Annual Long Range Planners' Conference**

**17—18 September 1985**

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**U. S. Naval Academy  
Annapolis, Maryland**

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 sensitive.  
 Per CDR Thomas R. Fedyszyn, CNO Executive  
 Panel (OP-00K)





## CHIEF OF NAVAL OPERATIONS

Long range planning is a crucial challenge facing all institutions as they plot their course through an uncertain future. Long-term organizational viability depends on strategic planning which enables the chief executive to ask the right questions and consider the appropriate options. The U. S. Navy must excel in this area--the future security of our nation may depend on our ability to understand and shape the world of the future.

We have witnessed the growth of a Soviet war machine which now has a global reach. Our operating forces have proven their ability to contain this menace today. But what of the future?

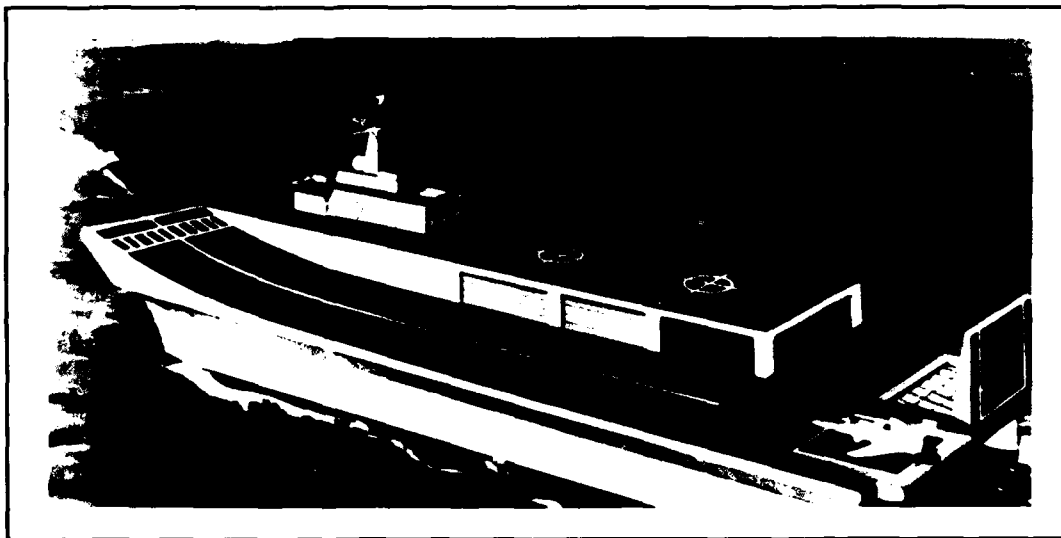
Visionary and innovative long range planning is crucial to our effort. The high cost of technological improvements demands that we spend taxpayer dollars wisely in our pursuit of military excellence. We must strike an intelligent balance between investment in high-payoff programs and high-risk technology. We should anticipate breakthroughs and use them to our advantage. Most importantly, we can ensure the entire Navy is ready for the same goal--successful execution of national military strategy.

I am encouraged by the current state of long range planning in the Navy, and the success of this conference has convinced me that we have the potential to "plan ahead" even more effectively.

*James D. Watkins*  
JAMES D. WATKINS  
Admiral, U. S. Navy

# I

## Conference Summary



# Conference Summary

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*Morning: 17 September*

- **History of Long Range Planning in the U.S. Navy—  
CDR R. Robinson Harris**

Since the turn of the century, the U.S. Navy has utilized a succession of formal and ad hoc groups commissioned to examine the maritime implications of future political and technological developments. The Secretary of the Navy's "General Board," our First Long Range Planning Group (1900-1951), played a substantial role in introducing naval aviation as well as formulating a series of War Plans with which the Navy fought World War II. Following the war, the Chief of Naval Operations assumed the initiative in long range planning through the creation of series of staff groups dedicated to unconstrained, innovative thought, starting with OP-93 in 1955. This group had its greatest impact when it became part of the CNO's personal staff, under Admiral Burke. The McNamara era's emphasis on empirical analysis diminished the importance of conceptual planning in the 1960's. However, Admiral Zumwalt's "Project 60," guided by Admirals Bagley and Turner, began a trend reversal in 1970. Subsequently, the Navy commissioned a series of projects (Project 2000, SEAPLAN 2000) and created organizations (OP-965, OP-603, MAT-09H) to encourage long range thinking. But it was not until 1980 that Admiral Hayward created OP-00X, the Navy's Long Range Planning Group. In 1983, it was merged with OP-00K (CNO Executive Panel), to eliminate duplication of effort and to take full advantage of the talents of the Panel's distinguished members.

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- **Review of Navy Long Range Planning—  
CAPT R. Sheridan**

A Center for Naval Analyses (CNA) survey of a wide range of Navy's long range plans suggests that virtually every part of the U.S. Naval establishment has a "Master Plan" for the future. These plans, while not coordinated in any formal sense, have much in common: they provide a detailed road map for the future development of the branch or division, and are generally not resource-constrained. This situation closely mirrors the corporate world, in which many successful firms allow their operating divisions to administer independently their own long range plans which support the company's central objectives (i.e., the maritime strategy). Such plans lay heavy emphasis on middle management to ensure their timeliness, credibility, and success. The concept of a master long range plan for a "divisionalized" structure such as the U.S. Navy would not likely yield positive results. The main challenge is to ensure that sufficient "headquarters" guidance is provided to the operating divisions and that no internal inconsistencies are generated in the various plans.

- **Long Range Planning Approaches—  
CAPT Michael B. Hughes**

Most naval officers are involved in some form of long range planning since our profession demands preparation for and anticipation of future unforeseen events. Long range planning, however, can be divided into three categories. First, *extended planning*, which deals with proximate issues by extending today's environment incrementally into the future. For example, the Navy's annual POM development employs this planning technique. Second, *descriptive planning* suggests alternative futures and conditions decision-makers to visualize potential discontinuities. Finally, *strategic (or prescriptive) planning* posits a preferred environment in addition to identifying those non-linear developments which can be employed to shape the future. The strategic planner focuses on the future and works back to the present. The Navy uses all three methods, with a majority of the planning effort concentrated in the near-term with the annual POM submission. Since the CNO is the long range planner for the Navy, one of the roles of OP-BOOK is to examine long range planning issues from a strategic perspective and to sensitize him to revolutionary and innovative possibilities. Working in consort with the CNO Executive Panel, issues of particular interest to the CNO can be examined in closer detail.

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- **Sixteen Laws of Long Range Planning—  
Major General Perry Smith, USAF**

Long range planning is not well understood in the military because a very high percentage of all senior officers are operators and implementers. Their jobs do not require visionary thinking, but rather, successful execution of previously approved plans. The “system” must take care not to discourage that small group of innovators if they abide by a set of guiding principles. The two overriding maxims are that the senior decision-makers must be aggressive supporters of long range planning and that the planning group has access to the chief executive, unfettered by normal staff constraints. In all, sixteen laws of long range planning were suggested which represent sound bureaucratic practice in any environment (see Appendix A) In contrast to the current day programmatic world, long range planners must think in a fiscally-unconstrained world and consider a wide range of revolutionary possibilities. No factors can be ignored: political, economic, technological, or demographic. Not only must good, new ideas be explored, but flawed and unproductive concepts must also be discarded, given the fiscally-constrained environment. Although long-range planning in the military Services has not yet been perfected, other governmental agencies lag far behind the Department of Defense in long range planning.

*Afternoon*

- **Long Range Planning Within DOD:  
CAPT R. Sheridan (Chair)**

- U.S. Air Force: LCOL R. Haffa, USAF**

Long range planning in the Air Force was institutionalized less than a decade ago, and is now responsible for the annual production of the USAF *Global Assessment* and the USAF *Planning Guidance Memorandum*, which constitute the first phase the Air Force POM cycle. Its current centerpiece projects are a study of Alternative Futures and its Innovation Task Force which is designed to determine the Air Force’s central challenges of the future.

- U.S. Army: LCOL McEldowney, USA**

The U.S. Army’s *Long Range Planning Guidance* is designed to be used by planners in all Army major commands, research centers, and material

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development commands to ensure unity of effort in the incorporation of innovative warfighting concepts and technology. The Army approach is designed around improving specific total Army "vectors" such as deployability, technological applications, and force balance.

**—U.S. Marine Corps: LCOL J. Hurlburt, USMC**

Long range planning in the Marine Corps is designed around concepts set forth in quadrennial studies which depict the future environment and related Marine Corps missions. Innovative warfighting concepts are examined in detail and a prioritized plan which support specific mission areas, in conjunction with the overall maritime strategy, is promulgated. These long range plans, which look 20-30 years in advance, incorporate the most recent thinking on amphibious warfare strategy.

**—Office of the Joint Chiefs of Staff: LCOL R. Taylor, USA**

The primary product of OJCS strategic planners is the *Joint Long Range Strategic Assessment (JLRSA)*, which postulates an array of plausible alternative environments in which the U.S. military may be required to operate. Not predictive in nature, the assessment tends to minimize the likelihood of revolutionary discontinuities. Its primary role is to ensure that all Service planners see the future environment from the same general perspective and to promulgate and incorporate recent allied strategic thinking which cuts across service lines.

*Evening*

**• Geopolitics and Maritime Strategy—Colin S. Gray**

National military strategy, while observing the winds of technological change, is constrained by the immutable facts of world geography. The United States has inexorably assumed the leadership of an alliance of states on the periphery of the Eurasian land mass joined by vast oceanic lines of communication. American strategic insularity, perforce, requires that it remain the world's pre-eminent maritime power as a counterpoise to its adversarial continental superpower. This strategic imperative is the *sine qua non* of the Western Alliance military strategy because only it can guarantee that Soviet aggression will result in protracted conventional war. Without working control of the sea, the Western Alliance is placed in a

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must-win situation on continental battlefields of the Soviets' choosing. The political implications of this predicament could unravel the Western Alliance prematurely. Western maritime superiority ought then be viewed not only in the context of support for the land battle or its ability to ensure escalatory control, but rather because it is the insurance premium that allows for recovery if the ground war in NATO fails. This fact alone is the crucial underpinning of any western deterrent strategy.

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*Morning: 18 September*

- **Anti-Submarine Warfare (ASW) Strategy and Implementation Plan—CAPT N. Ray**

Disquieting trends in Soviet submarine development created a series of concerns for U.S. Navy warfare planners. In response, a team of Navy experts was commissioned to analyze a comprehensive plan to counter Soviet developments. Based on threat and strategy projections, table-top war games were used to indicate those areas of ASW presenting the most difficult challenge to U.S. and allied war planners. Several technical solutions were determined to have high potential in counteracting these developments in addition to a host of tactical innovations. This cycle of problem identification, threat modeling, and wargaming, which results in specific programmatic (and policy) innovations has been adopted as the technique whereby Warfare Master Plans are continually kept current and relevant to the threat.

- **Surface Warfare Master Plan—CAPT C. Smith**

The surface warfare community has produced a set of planning documents which evaluate the future state of the threat and catalogue the surface warfare systems and platforms programmed to counter it. Key decision-makers are apprised of technological innovations by NAVSEA and laboratory technologists and occasionally spend an entire day in a different setting where they review one warfighting aspect of future development. Additionally, a surface warfare technology assessment panel has been created to ensure that the most productive areas of research are given special emphasis. The philosophy behind this current effort to apply cutting-edge technology to the surface forces is: "think offensive."

- **Navy Long Range Manpower, Personnel, and Training (MPT) Plan—CAPT B. Sehlin**

Manpower is one Navy resource that requires long range planning for its effective utilization. The challenge personnel planners face is twofold: First, a true understanding of future social trends and demographics is necessary to maintain quality accessions during turbulent times, and, second, an understanding of "who" and "how" to retain quality personnel in service for up to thirty years. To tackle these long range goals, the Chief of Naval Personnel has developed a strategy which involves the

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determination of a limited number of broad goals for the entire organization which are augmented by more specific supporting and future goals. With this long term focus, numerous candidate strategies were prepared, evaluated, and prioritized. Of these, twenty-seven strategies have been implemented with clear, discrete plans of action and responsibility assignments within the organization. As the environment changes, the MPT master plan is designed to follow course through a series of zero-based reviews which will re-examine all assumptions, goals, strategies, and update ongoing implemetations.

- **The Soviet Threat and Maritime Strategy**

—Mr. W. Manthorpe (OP-009), CAPT T. Daly (OP-06),  
and CAPT S. Leeds (Naval War College)

Long range plans can adapt to the future as well as shape it. Although military planners desire to shape their environments, they must be keenly aware that they have little or no control over the growth of the threat. An accurate assessment of the current threat can be achieved with formidable—an appreciation of the future threat is qualitatively more difficult, but no less important. The national strategy to counter the threat must also possess a current and future element, of which maritime strategy is one part. A dynamic document, the maritime strategy must evolve as conditions warrant, but it must be the conceptual framework around which we plan future force development and tactics. The strategy must address the best estimate of the threat, but must not be a reactive document. Opportunities to enhance our military capability must be explored so as to place our adversary in a reactive mode. Its utility to field commanders will improve as it becomes more widely understood and as campaign analyses are conducted, which in turn interact with tactical and technological developments at the unit level.

*Afternoon*

- **Long Range Planning and Technology: RADM J.B. Mooney, Chief of Naval Research (Chair)**

—Mr. Moss, Director of Naval Research

Basic research cannot be dictâted, but rather moves in its own directions. In a very real sense, however, all basic research must be

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considered as long range planning because the discoveries made at this level invariably drive the shape of future technological discoveries and environments. The Navy's research program responds both to fleet needs and to the state of science with an investment strategy which advances relevant disciplines while also engaging in high risk/high payoff projects.

**—Mr. Selwyn, Technical Director of the Office of Naval Technology**

Technology is capable of providing the decisive tactical advantage in discrete warfare areas if properly guided and funded. The advent of "strategy stoppers" has provided needed direction to the Navy's technology community by focusing on warfare areas which demand rapid improvements. In areas of common concern, increased coordination among the services' R&D commands is proving both efficient and productive.

**—Mr. Andrews, Technical Director for R&D, NAVAIRSYSCOM**

Systems commands are designed to solve near term problems with programmatic solutions. A strong effort must be made in this arena to bridge the gap between our technology base and systems engineers, allowing for infusion of technological development at all levels. The importance of technology cannot be overstated since it is the primary motor behind tomorrow's tactics.

**—Mr. G. Morton, Director, Navy Laboratories**

The research and development centers of the Navy must be centrally-aimed at improving our warfighting capability through the fullest exploitation of the vast U.S. technological base which includes research being performed by other services, industry, universities, and foreign firms. The more responsive to the demands of the Navy's top leadership, the more laboratories will be allowed to perform as full spectrum research centers. To this end, technologists must make their products understandable and relevant to the "consumer."

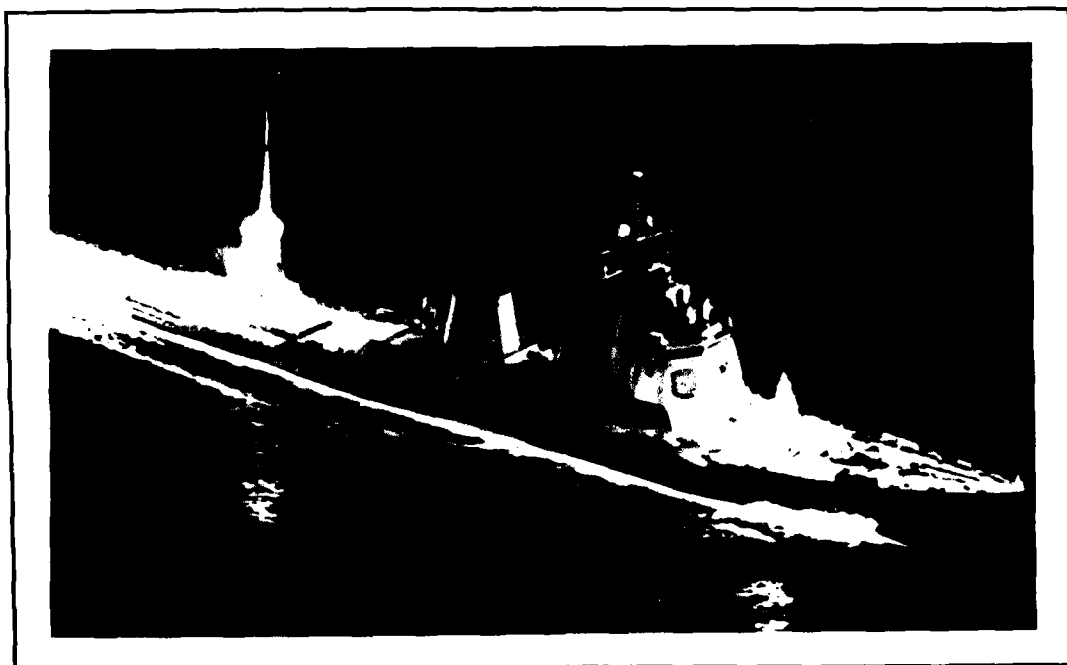
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**—CAPT J. Patton, Former Commanding Officer, Naval  
Ocean Surveillance Center**

Since all plans are merely the best guesses of incumbents, they should not be adhered to inflexibly. Technological opportunities can render the best plans obsolete. Because of technological advances, the implementation time for technological fixes has shortened, thus demanding that the technology community stay well-apprised of operational requirements. The operating forces' perspective only reaches the horizon; the R&D centers must understand fleet requirements and assist in expanding its horizon. Combined arms development teams must view future combat in holistic terms, which render parochialism increasingly anachronistic.

# II

## Articles



# Approaches to Long Range Planning

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Captain M. B. Hughes, USN

Long-range planning may seem like a relatively straight-forward term. In reality, the process is very complex in most large organizations. Perhaps because of this complexity, particularly in the absence of a centralized approach, major institutions are often criticized for their ostensible lack of long range planning. The U.S. Navy has not been immune from such criticism, for example, a *Proceedings* article in August 1984 proclaimed the death of Navy Long Range Planning.

The Navy's long range planners are not highly visible—they are widely dispersed and not formally linked to a planner's chain of command. Yet they have proven to be increasingly effective and criticism of the system stems from a lack of understanding, and certainly a lack of consensus, about what constitutes long range planning.

For example, how "long" is long range planning? Is planning a year in advance good enough or must the problems of the next century be addressed? What constitutes a long range plan? Must it be a detailed and comprehensive plan like the Navy POM, or can it be merely a visionary concept like the President's Strategic Defense Initiative (SDI)? Must it cover all aspects of the organization or just key divisions? Must it be controlled by headquarters organization or may line divisions have autonomy in this regard? How often must it be updated, if at all?

One particularly compelling answer to these questions is that old bromide, "all of the above." No single correct approach to long range planning is likely to suffice for a large organization. Any long range planning

system must be tailored to the size and mission of the organization. In determining the correct approach for any organization, it should be useful to define and classify various approaches to the subject.

### Three Types of Planning

In Figure 1, I have adapted a matrix developed by Herman Kahn to help classify approaches to long range planning. In considering different approaches, it is important to remember that no value is intended nor should be imputed to disparate methods of long-range planning. In fact, different approaches can and should coexist within any organization. The time frames in Figure 1 are deliberately vague, but in general, level of detail declines and scope expands as one moves further into the future.

	1-5 years	10-15 years	20+ years
EXTENDED	• POM	• EPA	
DESCRIPTIVE		• Contract Studies	• Maritime Requirements 20000-2010
STRATEGIC			

Figure 1

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The **EXTENDED** approach concentrates on linear projections of past and present trends. If a development is imaginable but represents a fundamental change in the way an institution does its business, extended planning analyst will not feel free to explore fully its implications. We see this approach applied in many economic and technological long range plans. Extended planning rests on an incremental process which implicitly posits that one understands the future by linear extension of existing political, economic, technological, and scientific environments. It focuses on today, taking present strategies and assets as given. Decision-making focuses on the margin, emphasizing low-risk, short-term alternatives and extending the reach of in-place technologies and approaches. If all changes were evolutionary, extended planning alone would suffice.

The Navy's Program Objective Memorandum (POM) and Five Year Defense Plan (FYDP) are end products of an extended planning process. Some argue that the FYDP is not a long range plan, but a programmatic document. Further, its horizon extends only five years. Such criticisms miss the mark and reflect a shallow understanding of the POM process. Many of the finest and most respected U.S. corporations, e.g., General Electric and Northrop, develop and follow "long range plans" with shorter horizons than five years. Additionally, many FYDP decisions produce platforms and systems which will be a part of the U.S. arsenal for decades and are based on sponsor and warfare area master plans which reach far beyond five years. Moreover, the annual Extended Planning Annex (EPA) extends the FYDP's horizon to nearly two decades. So, in a very real sense, the FYDP represents the Navy's corporate long range plan.

The **DESCRIPTIVE** approach attempts to characterize possible future developments and environments. The long range planner using a descriptive approach is not limited by close adherence to current trends and is free to deal with various conjectural, speculative, and imaginable modes. Typically, a **DESCRIPTIVE** long range planner would provide alternative "futures" to management, who then could select the most likely environment (*not* necessarily most desirable) and posture the corporation to deal with it.

**DESCRIPTIVE** planning generally occurs outside the mainstream of an organization, often with future alternatives provided through contract with a long range planner or futurist. While such approaches can offer a useful adjunct to in-house planning, they would rarely prove sufficient for an organization's long range plan.

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The **STRATEGIC** approach attempts to both define and shape the future. The strategic long range planner projects desirable futures, tests their plausibility, then uses them as catalysts for action. Ideally, the creation of such futures become self-fulfilling prophecies. Unlike extrapolative or extended planning, strategic planning is not necessarily incremental. In fact, strategic planning seeks to identify nonlinearities, discontinuities, and major jumps or changes of direction in strategy, requirements, and technology. Strategic planning, almost by definition, is less constrained and broader in scope than the PPBS model. The strategic planner focuses on the *future* and works back to today whereas the extended planner focuses on *today* and extrapolates to the future. In this concept, a long range planner must ask where the organization wants to be 20 years hence, then identifies and seeks to influence decisions which are necessary today to ensure that the organization is properly postured for the anticipated future. A fundamental tenet of this approach is that only the Chief Executive Officer (CEO) of an organization can make the non-linear decisions envisioned. Therefore, the strategic long range planner must have direct access to the CEO. The President's Strategic Defense Initiative is a good example of strategic planning.

## Current Trends

The matrix provides a framework for tracing the evolution of corporate long range planning in America. In the 1950s and 1960s, the **EXTENDED** approach dominated long range planning. Trend projections into the distant future, in some cases into the twenty-first century, reflected a mentality of stable environments and sustained economic growth. However, the economic perturbations and discontinuities of the 1970s made such exercises seem futile or worse. Today, while planners still engage in such extrapolations, few if any current trends are projected beyond five years with sufficient confidence for resource allocation.

In the early 1970s, futurists gained some acclaim particularly in public institutions such as universities. Today, descriptive analyses do not fare well with corporate decision-makers. With emphasis on earnings-per-share and return on investment, a corporate planner has difficulty justifying scarce resources on future alternatives. Pessimism about forecasting would appear to make corporate thinkers more interested in creative visions of the future rather than expert projections or extrapolations. Nonetheless, purely speculative, descriptive analyses of the future have virtually disappeared from the serious long range thinking of major corporations.

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The strategic approach has gained broad acceptance among contemporary corporate planners. Recognizing the unreliability of extended planning in timeframes beyond five years and the need to consider issues with longer horizons, corporate long range planners have realized the opportunity to be clearer about long range implications of today's choices. This approach tends to focus on the 10-15 year horizon: 1-5 years is usually not long enough to effect major changes, and 20 years or more is normally beyond the discernable impact of even major issues.

This approach to long range planning reflects both recognition of the need to consider longer time horizons and a basically conservative attitude. Rather than formulating comprehensive plans to guide the entire corporate structure in pursuit of an envisioned future environment, today's planners look to the future in a more selective, restricted manner. They attempt to identify key areas which appear most likely to have profound impact on the organization. The planners then seek to define likely developments in those areas, sensitize the CEO to the range of developments and their significance for the corporation, and assist him in posturing the corporation to capitalize on those developments. As General Motor's Roger Smith notes, a long range planning staff should be small, stimulate long range "thinking" (not planning) in the corporate entity, and should serve as the CEO's "catalysts for change."

Each of the approaches to long range planning described here exists to some extent in the Navy today. Given the broad range and complexity of missions we face, multiple approaches to planning the Navy's future are completely appropriate. Further, the complexity of the organization argues against any effort to effect centralized control of long range planning. As I have noted previously, the POM/FYDP is a long range plan. The POM process begins with policy guidance from the Secretary of the Navy and the CNO and a broad assessment of the Navy's capability to execute the Maritime Strategy. Specific appraisals of our ability to execute mission areas are answered by sponsor programs, which, when integrated, constitute the heart of the FYDP. This integrated plan is buttressed by individual master plans and long range plans with each platform and warfare area. As indicated in Figure 2, these plans cross different time horizons but generally fall in the category of extended planning.

A great deal of DESCRIPTIVE planning is done for the Navy, most of it on contract. Alternative politico-military environments and alternative force structures are among studies conducted under contract for the

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*Figure 2*

## **Representative U.S. Navy Long Range Plans**

Sea Plan 2000: Naval Force Planning Study (1978)  
Navy Space Master Plan (1978)  
Science and Technology Objectives (1979)  
CNO Policy and Planning Guidance FY 1983-1987 (1981)  
Alternative Battle Group Concepts Study (1981)  
ASW Master Plan (1982)  
Extended Planning Annex for POM 84 (1982)  
Future Battle Forces (1983)  
Deep Sea Floor Mission Requirements Study (1983)  
Surface Ship Combat System Master Plan (1983)  
DON Long-Term Amphibious Lift Requirements and Optimum Lift  
Seapower Study (1983)  
Outer Air Battle Study (1983)  
Attack Submarine Warfare Plan (1983)  
Naval Surface Fire Support Improvement Study (1984)  
Surface Warfare Plan (1984)  
Naval Special Warfare Master Plan FY 1985 (1984)  
U.S. Navy Electronic Warfare Master Plan FY 1985 (1984)  
DON Policy and Planning Guidance (1984)  
DON Naval Aviation Plan (1984)  
Navy Command and Control Plan (1985)  
Guidance to the Navy's Technical Base (Submarine) (1985)  
Conventional Strike Warfare Weapons Study (1985)  
Master Plan (for each shore installation)

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Navy. Additionally, many program managers either contract or seek external assistance in describing possible environments their particular platform or weapons system might face.

The Navy's Long Range Planner, OP-00K, serves on the personal staff of the CNO. He is responsible for reviewing long range issues of relevance to the Navy and apprising the CNO of their impact. His charter is to survey the horizon, be it technological, political, strategic or social, and attempt to identify those issues which pose significant challenge or opportunity to the Navy. Of particular concern are those which may challenge our fundamental approaches to providing for the nation's security. OP-00K has a further responsibility to alert the Navy's many long-range planners to the existence and possible impact of such issues through mechanisms such as mini-conferences focused on specific technology, for example, laser weapons.

Long range planning in the Navy is not dead. To the contrary, we have a vibrant and extensive long range planning process featuring disparate approaches. Is there more to be done, can long range planning be broadened, integrated and made more effective? Of course there are many areas in which we can strengthen various aspects of the approach which I have described. We do, however, have a valuable base from which to build. Our challenge is to ensure consistency within the process, sensitivity to major, non-linear future trends, and fidelity to the central mission of the maritime strategy.



# The POM and Long Range Planning

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**Captain D. Berkebile, USN**

The Navy's Program Objective Memoranda, or POM, is a complete line-by-line list of every appropriation item that the Navy requires for the next five years, within fiscal limits. Comparable documents are submitted by each Service and defense agency annually in May and are the key inputs in the Department of Defense resource allocation process prior to the creation of the President's budget. The Navy POM matches money and manpower to programs over each of the next five years. It is the basis for the initial aggregation of the Five Year Defense Plan (FYDP) which is updated several times over the next year as the POM review and budget development processes are completed. The POM represents each Service's most concrete statement of a Long Range Plan addressing all major problems foreseen over the five year period. Thus, the POM ties the multiple planning functions together in a single document upon which a budget can be constructed in support of the Services' defined goals and objectives.

## **PPBS**

The Planning, Programming, and Budgeting System (PPBS) is the primary resource allocation system for the Department of Defense and the Navy's POM is produced using its "language." PPBS is a purely internal management system whose end products are: near and mid-term goals and objectives; a linear plan to implement stated objectives to counter defined threats; and an annual budget submission to Congress for implementation of this plan. The process is intended to:

- 
- collect intelligence,
  - appraise the threat,
  - develop strategy to meet the threat based on national policy.
  - determine force levels to support the strategy,
  - program weapons systems, manpower and support over a period of time to attain fiscally achievable force levels, and
  - budget annual allocation of funds to carry out the approved programs.

This system was designed to provide a logical and structured process to evaluate various DOD resource allocation alternatives in support of national military strategy. The idea to tie defense planning and budgeting together, via the programming process, to maintain continuity between the plan and the budget was an ambitious undertaking. Even today, some twenty-five years after its advent, disconnects constantly threaten the effectiveness of the process through changing players, priorities, and divergent perceptions of the resource allocation process. At times, the focus and priorities of the planner often bear little resemblance to those of his budgeter counterparts.

It is the POM—good or bad—that provides the overall guidance and acts as the glue that keeps the train on the tracks. Although it is generally extrapolative and emphasizes linear projections, the POM provides the integration of planning, technology, strategy, and resources into an executable program—i.e., a long-range plan of considerable definition and long-term direction. The involvement of the Navy's top staff and line management, its level of detail, and the expectation of having to implement this plan add to its credibility as a long range planning document.

## **The Pom Cycle**

Navy programming begins in August and continues through May of the following year. It is comprised of three separate phases: Program Planning (August-January); Program Development (January-April); and Final POM Development or End Game (April-May). The POM translates DOD planning guidance into achievable packages, imposes fiscal and resource constraints on the various program packages, and displays proposed resources and programs for the affected five-year period. This process is extended out to ten years for force structure (ships and aircraft) programs.

The programming process in the Navy is an ideal example of participatory efforts, with all key information available to all sponsors up to

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the "end game" when the draft is balanced to ensure executability before submission to the OSD staff. The entire Navy process is accountable to three oversight committees for guidance and resource decisions. This ensures that the developing POM represents the most effective allocation of dollars and manpower, and will support the maritime strategy. These panels, from senior to junior are: the CNO Executive Board (chaired by the VCNO), the Program Review Committee (chair: OP-090), and the Program Development Review Committee (chair: OP-90).

During the program planning phase, initial programmatic and resource guidance is developed through a process of appraisal and assessment which include key areas presented to the oversight panels. The maritime strategy is the base which has provided the POM development direction for the past two years. Individual long range plans and warfare master plans have been developed to support the maritime strategy, and are also major inputs into building the POM. This phase is an intensive period of assessing what the Navy is able to do and whether or not changes in direction are necessary. The impact of new technology is felt at this point in the process. The program planning phase is designed to achieve a consensus as to the direction of the Navy for the next five years, and to agree upon the best guidance for the upcoming POM.

The program development phase is the heart of the POM process. It is during this phase that the resource sponsors attempt to match available resources against their most critical needs in accordance with the guidance developed earlier, and to simultaneously address the issues raised by their claimants. This process is then finalized into a five-year sponsor resource proposal (plan) submitted to the Director of Navy Program Planning (OP-090) for integration and accommodation of any additional CNO/SECNAV guidance. A significant difference between the Navy and our sister Services is that their POM development is scenario driven. Navy philosophy holds that because we are the force of choice eighty percent of the time in peacetime, our planning process must reflect an appreciation that naval forces can be called into action any place, anytime. The maritime strategy provides the basis for evaluating the appraisals, and for identifying problem areas along with possible resource alternatives. The resource sponsor concept allows us to identify strict accountability throughout the process. Most of the changes and modifications of the existing plan (FYDP/EPA) are made at the margin because it is not a bottom-up approach or a "zero based" review. If not in conflict with resource guidance, sponsors may choose to validate or review existing programs with a view towards shifting dollars to higher (new) priority programs.

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Sponsor proposals are integrated and balanced by OP-090 during the final POM development (end game) phase to ensure that the guidance has been followed and that the changes in resource allocation are executable. The POM, when submitted to the OSD staff in May, then becomes the Navy's corporate plan to implement its portion of national military policy and strategy. The Extended Planning Annex (EPA) is then developed as a straight line extension of the POM out to fifteen years and is based on the current political, economic, and technological environment.

This management system does not claim to be perfect or foolproof. It has been criticized because of its marginal approach to resource allocation and because of the difficulty with which programs are removed and replaced. In its defense, the vast scope of the plans involved obviate the effectiveness of an annual "zero-based" review. Any such review could result only in a perfunctory analysis with little expected benefit. Major changes in programming, however, have been made within this system, but only after extensive analysis. Programs are not incorporated into the POM without passing a series of "acid tests" and, therefore, it is not surprising that their displacement is also difficult. Such actions require initiative and fiscal responsibility by the affected resource sponsor.

## **Conclusion**

The POM may be more correctly defined as the Navy's near-term implementation of its comprehensive long range plan. Its level of detail requires a massive effort, yet its level of leadership involvement probably yields a better-balanced package than a representative sample of private sector plans. The issues that affect warfighting are always at the fore throughout the process. The arguments affecting the delicate balance among force structure, modernization, readiness and sustainability are carefully weighed by the Navy's key decision-makers in an environment of fiscal restraint. The process is dynamic and the opportunity to inject new concepts and programs is always available to an innovative resource sponsor. Thus, while the POM may not be considered the Navy's comprehensive Long Range Plan, it is probably its single most important element because it brings to life the Navy's future vision.

# Maritime Strategy and Long Range Planning

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Captain T. M. Daly, USN

The U.S. Navy's challenge is to retain the strategic initiative in a world which presents the United States a limitless variety of unsolicited, albeit unavoidable, problems requiring a military response. For a number of reasons, the Maritime Strategy developed by the U.S. Navy is uniquely designed to meet this challenge and, moreover, to maximize those areas in which we already have a decided comparative advantage. The crucial importance of its continued success is underscored by growing Soviet combined arms strength and the prospect of decreasing U.S. defense expenditures during the coming decade. Although the Maritime Strategy provides the basis for employment of current forces in conjunction with sister Services and allies, it is also the benchmark for gauging the validity of force requirements for the future. Thus, it is a key document for all the Navy's long range planners in that it serves as the framework against which all policy and programmatic changes must be measured. This article will address the importance of the Maritime Strategy to the overall planning process as well as its internal dynamics.

## Role of Maritime Strategy

The Chief of Naval Operations recently described the Maritime Strategy as "the cornerstone of our profession." Originally developed as a conceptual tool to bring coherence to the Program Objectives Memorandum (POM) cycle, the Maritime Strategy has now become the critical link between national policy and Navy force structure and missions.

The Maritime Strategy CPAM (CNO's Program Advisory Memorandum) has been firmly institutionalized as the event which initiates the Navy

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POM cycle. As a result, the Strategy has become the triggering element in the Navy's Planning, Programming and Budgeting System (PPBS). It is the first "P" in the PPBS cycle.

The Maritime Strategy CPAM does not prioritize or identify specific naval programs. Rather, it frames key considerations to ensure that strategy remains executable. In addition to identifying those factors which, if unaddressed, could limit the strategy's effectiveness, the Maritime Strategy CPAM also seeks to define measures or factors which will facilitate the strategy's execution. This search for innovative ways to "fight smarter" includes identifying new and emerging technologies to enhance our overall deterrent and warfighting posture. Thus, there is a direct relationship with the Navy's research and development community.

The concepts introduced by the Maritime Strategy become the cornerstones of the process which ultimately affect Navy programming. The strategy forms the basis for a series of warfare appraisals, which evaluate the effectiveness of the Navy POM in each warfare area. It also acts as the unifying concept behind a series of Warfare Master Plans which guide the Navy programming effort beyond the current POM cycle in search of qualitative long range improvements in all areas of naval warfighting.

The strategy also affects the Navy beyond Washington. In the Fleet, the Maritime Strategy has given new legitimacy to strategic thought and analysis while also influencing OPLAN formulation and tactical development.

What then has made the Maritime Strategy so effective in the development of deterrence and warfighting concepts and in providing long range planning guidance for research as well as resource allocation? Some of the most important factors are these:

- It provides a strategic concept, or set of global options, for the planning of peacetime deterrence, crisis response, and escalation control operations.
- It is a joint-service strategy, providing for coordinated and mutually-reinforcing operations by all U.S. and allied naval, air, and ground forces.

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- It is based upon the concept of coalition warfare. U.S. Allies play a vital role in determining the success of the strategy's execution. This fact is used by the Navy to underscore the necessity for alliance cohesion and to strengthen bilateral relations with foreign navies.

- It emphasizes the necessity of "fighting smart" to compensate for the numerical superiority (and improving quality) of Soviet naval forces. Rational forward deployment and maximization of the synergistic effects of joint service operations are major themes.

- In an environment of probable increased fiscal austerity for military budgets, the strategy underscores economy of naval force development and deployment, as well as the affordability of the strategy today and for the next decade.

- It enables the Navy to articulate the necessity for its force structure to the Congress by providing a well-organized and coherent rationale for naval operations.

- Finally, the Maritime Strategy continues to foster valuable discussion and debate within the Navy regarding operational and programming priorities, and contributes to a heightened awareness of the Navy's strategic objectives.

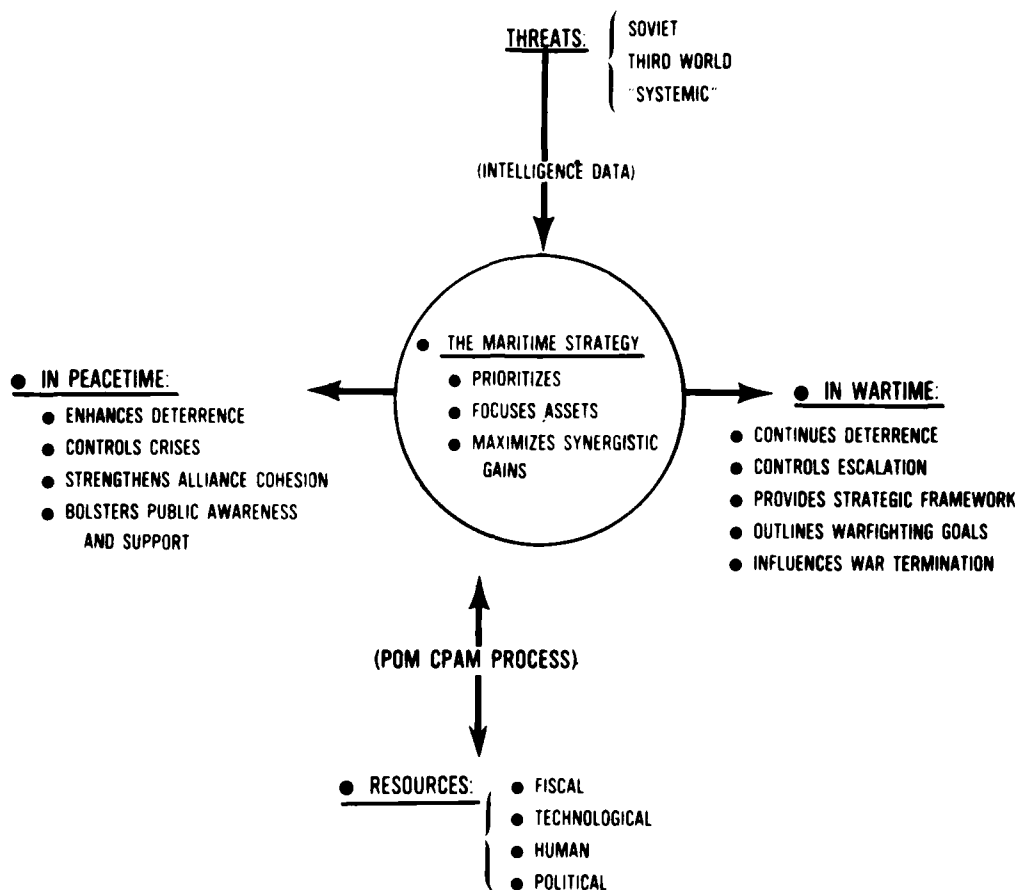
## **Internal Dynamics**

The Maritime Strategy is a dynamic concept which is constantly being tested and evaluated in war games and simulations conducted at the Naval War College and in operations conducted by the Fleet Commanders. This process (see Figure 1) of ongoing evaluation and revision is perhaps the strategy's greatest asset, because it ensures that the strategy remains responsive to an evolving and increasingly complex global threat environment.

Timely and accurate intelligence information also plays a vital role in the evaluation and revision of the Maritime Strategy as it looks to the future. This information must focus primarily upon changes in Soviet policies and capabilities, but also includes data regarding U.S. Allies, Third World nations, and global phenomena such as state-sponsored terrorism, and insurgency. Because the Maritime Strategy is designed to deny the Soviet Union its preferred strategy, continued accurate knowledge of

Figure 1

### THE MARITIME STRATEGY "PROCESS"



Moscow's strategy is central, especially during a period in which new major weapons systems—such as long range, land-attack cruise missiles—are coming on line. For this reason, any evidence of shifting priorities in Soviet naval strategy is central to maintaining the Maritime Strategy's focus and keeping it at the cutting edge.

A look at selected global trends with their possible military implications (see Figure 2) shows that there are a number of particular challenges within the general of thrust retaining the strategic initiative. The seriousness of the trends becomes clear when viewed in the context of the increasing qualitative threat of Soviet military forces, and the potential of decreasing defense budget allocations.

Figure 2

# SELECTED GLOBAL TRENDS WITH MILITARY IMPLICATIONS

TREND	POTENTIAL IMPLICATIONS
● INCREASED OCCURRENCE AND LETHALITY OF TERRORISM	● INCREASED TERRORIST SECURITY ● INCREASED DAMAGE ● HIGHER RISK TO DEPLOYED FORCES
● INCREASED SOVIET POWER PROJECTION CAPABILITY	● DIRECT U.S. SOVIET CONFRONTATION
● ACCESS AND RELIANCE ON SPACE	● MULTISOURCE THREAT TO CRITICAL U.S. ASSETS ● IN SPACE ● SURFACE FROM SPACE
● INCREASED U.S. TRADE AND RESOURCE DEPENDENCE	● INCREASED EXPOSURE OF U.S. CITIZENS AND ASSETS ● INCREASED REQUIREMENT TO PROTECT MARKETS AND LOCs ● LARGER GEOGRAPHIC AREA OF POTENTIAL INVOLVEMENT ● SIMULTANEOUS THREATS TO MAJOR U.S. INTERESTS
● CONTINUED THIRD WORLD COMPETITION AND CONFLICT WITH INCREASED COMBAT CAPABILITY	● SPILLOVER THREAT TO MAJOR U.S. INTERESTS ● INSECURE, UNRELIABLE, OR REDUCED ACCESS AND OVERFLIGHT RIGHTS

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To retain the strategic initiative we must continue to:

- Accurately predict and define the threats posed by our potential enemies;
- Assess the political, economic, and military posture of our allies;
- Maintain our advantage in key military technologies;
- Plan, program, and budget for the appropriate force levels of manpower, weapons, and material; and
- Maintain the required levels of readiness and sustainability for all forces, especially those forward deployed.

This, of course, is an all-Navy effort which cannot be effected without total coordination, and it is the Maritime Strategy again which provides the continuity between strategy, policy, and long range planning.

## **Conclusion**

The Maritime Strategy thus provides the framework and the process which focus the Navy's long range planners on those issues which will continue to enhance the Navy's role in the execution of national military strategy. It brings disparate elements and competing priorities together as we look for force multipliers, better leverage and additional ways of accomplishing our strategic objectives more economically and efficiently without sacrificing effectiveness. Moreover, it provides dynamic guidance to long range planners in all parts of the Navy, encouraging them to plan ahead so that we can retain the strategic initiative.

# Naval Warfare and Long Range Planning

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Captain M. A. McDevitt, USN

The Director of Naval Warfare (OP-095) plays an essential role in Navy long range planning. This role consists of three complementary procedures—planning to support the annual Navy Long Range Plan (i.e., the POM), planning in the form of Warfare Mission Area Master Plans, and finally, warfare requirements planning.

## Warfare Area Appraisals

Planning associated with support of the POM consists of a series of Warfare Mission Area Appraisals. Each year in the November/December timeframe major warfare mission areas—STRIKE, ASW, AAW, AMPHIBIOUS, EW, MINE, TNW/CW, SPACE, SPECIAL WARFARE, and C<sup>3</sup>—are officially appraised by the Director of Naval Warfare (OP-095).

The purpose of Warfare Area Appraisals is to objectively observe trends in warfare capability today, in five, and in ten years (in selected cases projections are made out to twenty years) *versus an evolving threat*. The fact that capability is measured against the foreseeable threat is the key point. The very best intelligence and technical threat projections are used. Shortcomings are identified and solutions—warfighting improvements—recommended. If solutions are not obvious, the appraisal process recommends a course of action that will result in answers on how to cope with the threat.

One great advantage of the Warfare Mission Area appraisal approach is that each appraisal cuts across specific platform lines and addresses operations from the point of view of the Battle Group Commander. For exam-

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ple, when the AAW Appraisal addresses a problem it assesses how long range surveillance, Battle Group organic airborne interceptors, surface launched SAMs, shipboard point defense systems, command and control and electronic warfare all contribute to winning the AAW battle. Similarly in addressing ASW issues the contributions of submarines, ships, aircraft, fixed and mobile surveillance systems are all considered by OP-095's ASW Division.

It is important to understand that the appraisals are not done in a conceptual vacuum. They are all based on the campaigns implied by the Maritime Strategy. To the extent that scenarios are used to illuminate issues, these scenarios are drawn from the Maritime Strategy. This is critical because it is the appraisal process that forms the essential link, or bridge, between the Maritime Strategy and the collection of individual programs that comprise the POM. Using the Maritime Strategy as a benchmark to evaluate the worth of individual programs is a relatively new but essential aspect of the appraisal process. The bottom line is that OP-095 must be able to inform the CNO what programs "make sense" within the context of the Maritime Strategy. In a time of reduced resources it is crucial that we procure wisely; focusing on those programs with the highest pay-off across the range of potential conflict.

Warfare appraisals are done in briefing format. They address shortcomings or problems—issues in "Pentagonese." This issue orientation is deliberate; it allows decision makers to focus on problem solving and it allows the costs associated with solving problems to be clearly appreciated. In fact, a key "ground rule" is that warfare appraisals must be fiscally responsible.

Fiscal responsibility means that you must "pay" for any recommended warfighting improvements by identifying a compensating offset of equal fiscal value. Again there are ground rules—you cannot, for example, recommend paying for an improvement to the MK-48 torpedo by eliminating the Chaplain's assistant. Rather, each warfare mission area has resources that are the sum of programs in that mission area. In essence, this is the warfare mission area OPTAR. "Offsets" can only come from programs in that warfare area. Thus, Warfare Appraisals are not simple wish-lists. Clearly, however, these rules could also frustrate attempts to make an across the board improvement in a given warfare mission area, because it would not be possible to hold on-going programs fast while also improving others in the same area.

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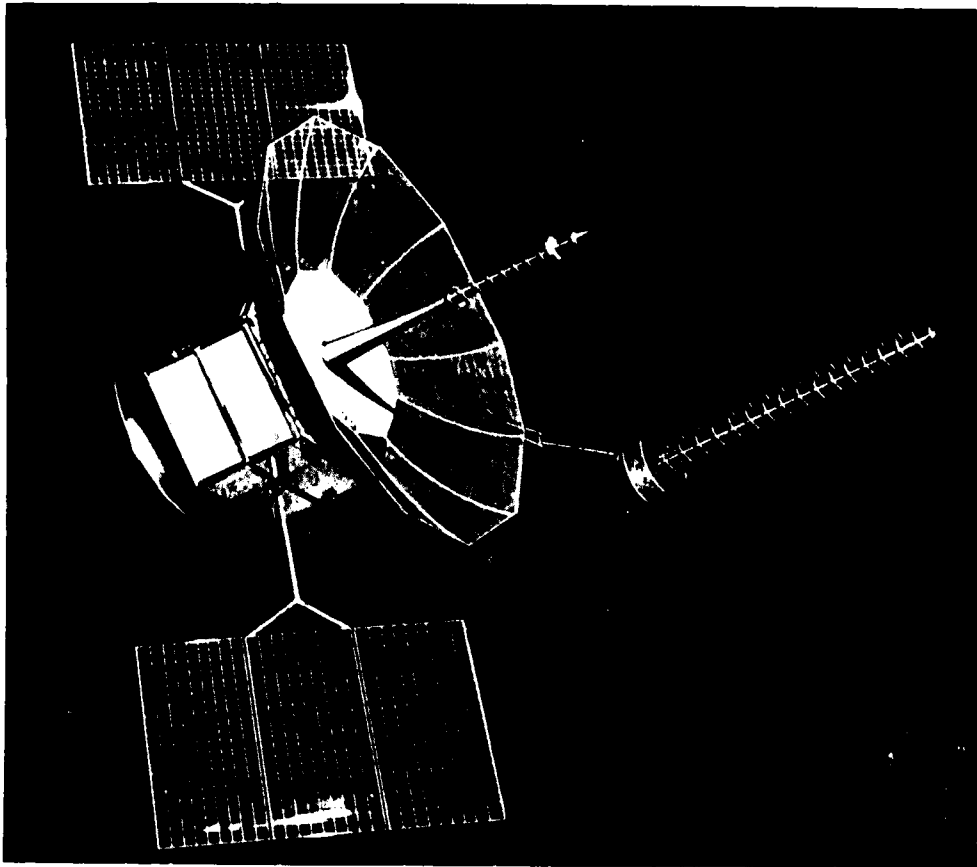
The Summary Warfare Appraisal precludes this problem from occurring. The "Summary" is the warfare appraisal that wraps-up the warfare appraisal process. It is briefed to the CNO each January. Not only does it summarize the key issues from each warfare mission area appraisal, it also serves as the planning mechanism that strikes a balance among the various warfare mission areas. The Summary Warfare Appraisal identifies which warfare areas should receive funding priority. For example, last year the most important warfare issue was "maintaining our ASW advantage." The purpose of the briefing is to obtain CNO concurrence on the warfighting thrust for the POM. He is asked to approve the recommended warfighting improvements. Those recommendations that are approved are then implemented by the POM.

## **Warfare Area Planning**

The second major aspect of planning accomplished by OP-095 is Warfare Area planning. This is an OP-095 initiative undertaken to identify, in a systematic way, the warfighting requirements necessary to execute the Maritime Strategy. The warfare area master planning process is a unique approach to planning because it combines the dynamics of wargaming with proven analytic modeling capability in a streamlined approach that avoids the inflexibility and general cumbersomeness of traditional scenario dependent studies.

The process starts with the development of a coherent *warfighting* mission area strategy. Mission area strategies are based on a small number of broad warfighting concepts. Examples of broad warfighting concepts, perhaps better described as "grand tactics" include; in AAW, destroying missile firing bombers prior to their reaching missile launch range, combined VP-SSN ASW operations in forward areas, or, in EW, the concept of countertargeting which increases battle space by forcing attacking bombers to come inside their preferred missile launch range. These concepts are examined in detail within the context of the campaigns necessary to execute the Maritime Strategy. The Outer Air Battle is an example of a concept that has been translated into warfare area strategy. Over-the-horizon amphibious assault is another good example.

In an iterative process warfare mission area strategies are wargamed, analyzed, and then regamed by teams of naval officer "operators," technical experts, and professional analysts from the Center for Naval Analyses and the intelligence community. Wargaming is a crucial developmental tool because it adds the elements of *professional expertise* and a *dynamic en-*



vironment in which to project and evaluate concepts and weapons capabilities.

Another essential ingredient is a proven analytic modeling capability. The ASW mission area, for example, has a comprehensive model base. There is an interlocking structure of models which provide the capability to analyze issues at the weapon system level, the unit engagement level, the multi-platform level and the campaign level.

The resulting Warfare Area Strategy identifies key operational requirements. These are *must have* capabilities, without which, our ability to execute the warfare area strategy would be frustrated. These necessary capabilities are provided to appropriate laboratory and technical experts to determine what fundamental R&D investments we need to make them a reality. This step in the process identifies critical technologies, areas of technological risk which must be closed, and result in official statements of requirements.

This phase also permits the planner to identify and prioritize his key mission area drivers. These are the essential capabilities which have been

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prioritized based on their effectiveness in successfully executing the mission area strategy.

The final aspect of the warfare area master planning process is a Master Plan itself. This is a *comprehensive* plan to ensure that the requirements identified throughout the process are efficiently and effectively implemented. This is the bottom line—the master planning effort must result in a warfare mission area strategy *that is fiscally and technically executable*.

The warfare area master planning process just described is in place. The ASW Master Strategy and Master Plan are the first products developed by this process, and are considered models of planning.

## **Warfare Requirements Board**

The final facet of OP-095's contribution to the planning process is the Warfare Requirements Board. The Warfare Requirements Board is a new headquarters level organization under the chairmanship of OP-095. It is composed of key Flag Officers from OPNAV and the Systems Commands.

The main purpose of the Warfare Requirements Board is to develop top-level warfare requirements for OP-095 approval. A top-level warfare requirement is a statement of need from the point of view of a Commander—Battle Group, Battle Force, Battle Fleet, or Area—that supports the execution of the Maritime Strategy and is threat-driven.

The major contribution of the Warfare Requirements Board to planning will be the development of top-level warfare requirements. For the first time requirements will be originated that are not platform or hardware specific. Rather, they are oriented toward a desired capability and are for the most part "cross" platforms. In other words, requirements will be generated by the same frame of reference that we employ to fight.

An example of a commanders-eye view top-level requirement might be a need statement that said, "a single CV Battle Group must be capable of destroying 60% of a two regiment raid of cruise missile firing bombers before they reach cruise missile launch range." The role of the Warfare Requirements Board will be to determine what appropriate mix of interceptors and SAM ships would satisfy this requirement. Solutions to the requirement must explicitly consider tradeoffs in determining what is the optimum—in terms of mission accomplishment and affordability—mix of

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platforms, systems and weapons. These top level requirements will be utilized by both OPNAV platform sponsors and the Systems Commands to ensure that individual program developments are related to an overarching requirement and that individual systems are "systems-engineered" and properly integrated.

In sum, the Director of Naval Warfare plays a pivotal role in both the near term and long range planning process because his three planning tools—the Warfare Appraisal Process, the Warfare Area Master Planning process and the Warfare Requirements Board—translate the broad view of the Maritime Strategy into specific warfighting concepts, strategies and requirements.

# Technology and Navy Long-Range Planning

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**DR. R. A. Sutula**

Thomas Jefferson stated that science is important to the preservation of our Republic and our way of life. In view of the fact that the technological gap between the Soviet Union and the United States is shrinking, these words of Thomas Jefferson are as meaningful now as they were when they were written over two hundred years ago. Implicit in his statement is that today's technology gives rise to tomorrow's warfighting capabilities. The Navy's sophisticated and complex technological requirements demand that we harness the warfighting capability made available throughout the scientific community by intelligent long-range planning. Ideally, decisions made today should encourage the Navy's research community to support desired naval warfighting capabilities while learning to incorporate the innovative technologies that can vastly expand the roles and capabilities of the Navy.

In past years, the Navy research community has felt that it was not receiving a sufficient level of warfighting guidance. However, recent events have started to shift the balance to a healthier emphasis on the interactive dynamic of requirements and capabilities. This paper discusses the current status of planning with regard to technology and insights for strengthening the interdependence of long-range planning and technology within the Navy.

## **Current Status**

Central to any discussion of the Navy's long-range planning is the Maritime Strategy. It is a dynamic document that gives direction to the Navy in support of the national military strategy. It is the Navy's preferred

strategy, considering national and coalition guidance, the threat, force levels, and trade-offs among conflicting aims and acts and a baseline strategy, around which our other strategy options are centered. Its central importance to this discussion is that now the Maritime Strategy is one of the key documents used by the Director of Research, Development, Testing and Evaluation (OP-098) and Chief of Naval Research (CNR) is planning and programming basic research, exploratory development and advanced technology demonstration efforts.

Figure 1 depicts the organizational relationship of the Secretary of the Navy and Chief of Naval Operations with the key members of the Navy's technological community: Director of RDT&E (OP-098), Director of Naval Warfare (OP-095), Systems Commands, Office of the Chief of Naval Research (CNR), Office of Naval Laboratories (ONL), Office of Naval Technology (ONT), Office of Naval Research (ONR), and RDT&E Centers. Superimposed on the diagram is the funding flow which is shown as dashed lines. Each of these organizations is involved to some degree in planning, programming, budgeting, or implementing basic research (6.1), exploratory development (6.2) and/or advanced technology demonstration (6.3A) efforts. The CNR is programmatically responsible for basic

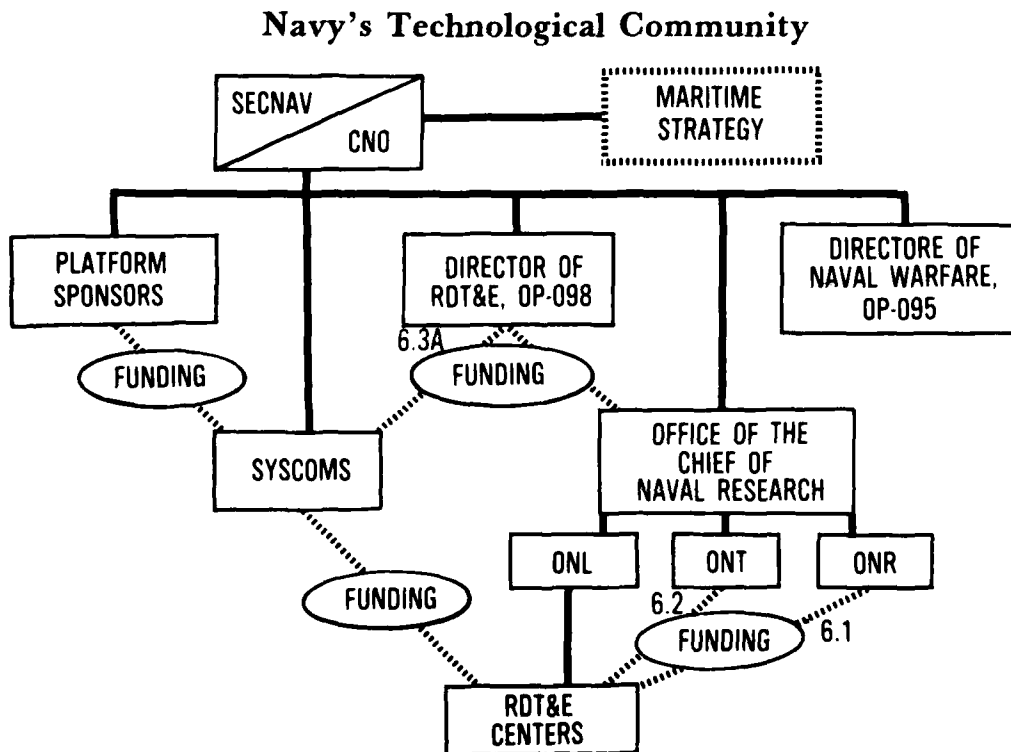


Figure 1

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research and exploratory development while the Director of RDT&E is programmatically responsible for advanced technology demonstration efforts.

OP-095 has the responsibility to conduct appraisals in each of the Navy's warfare areas, to conduct trade-offs across warfare areas, and to mediate and recommend program actions. In conducting the appraisals, OP-095 examines issues relevant to current and planned systems and recommends technical programs needed to address requirements.

OP-098 has responsibility for providing overall direction to the Navy's technology base in developing procedures for transition of promising technologies into advanced development programs. In order to facilitate the transition of promising technologies and coordinate development of basic research and exploratory development programs, OP-098 and OP-095 have formed a close working relationship on technological issues obtained from the warfare appraisal process.

OP-098 in turn develops technology guidance based inputs. Currently, OP-098 is in the process of institutionalizing the Technology Program Analysis Memorandum (TPAM). The TPAM is an attempt to provide clear articulation to the entire R&D community of technological requirements based on new threats and operational problems.

The Office of Naval Research is programmatically responsible for all basic research conducted by the Navy. ONR's mission, to foster and encourage scientific research related to the maintenance of future naval power, is based on the Maritime Strategy, Warfare Assessments, and the identification of critical areas by ONR scientific officers or laboratories. In looking at ONR's investment strategy, resource distribution is divided into three areas:

- 60-65% is dedicated to long term research aimed at advancing the state of knowledge across a spectrum of disciplines relevant to long term Navy needs,
- 15% is focused on long-term high-risk efforts with a high potential payoff, and
- 20-25% is dedicated to those programs that are closely associated with specific applications with well-defined transition potentials.

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Functionally, ONR's research programs fall into the engineering, physical, environmental and life sciences. The disciplines associated with these sciences are:

**Engineering**

Materials  
Mechanics  
Computer sciences  
Energy conversion  
Radiation sciences

**Physical**

Mathematics  
Physics  
Chemistry  
Electronic

**Environmental**

Ocean sciences  
Ocean geophysics  
Atmospheric sciences  
Astronomy and Astrophysics

**Life Sciences**

Biological and Medical  
Behavioral

Unlike basic research, the Office of Naval Technology's exploratory development programs are usually of a shorter term with a lower risk. ONT is responsible for planning, execution and transition of exploratory development programs within 6.2 into advanced development. This transition demands that a continuing dialogue is essential between ONT and OP-098, the organization responsible for Advanced Technology Demonstrations. During the past year several changes have been instituted that effect the way ONT manages the 6.2 program.

The major change was to reorganize ONT along mission area lines by reducing the number of 6.2 program elements from 21 to 14 as shown in Figure 2.

*Figure 2*

**6.2 Program Elements**

<b>AAW/ASUW Technology</b>	<b>Electronic Warfare Technology</b>
<b>Mine &amp; Special Warfare Technology</b>	<b>USMC Air Ground</b>
<b>ASW Technology</b>	<b>Technology</b>
<b>Surface Ship Technology</b>	<b>Aircraft Technology</b>
<b>Submarine Technology</b>	<b>Nuclear Propulsion</b>
<b>C<sup>3</sup> Technology</b>	<b>Technology</b>
<b>System Support Technology</b>	<b>Ocean &amp; Atmospheric</b>
<b>Mission Support Technology</b>	<b>Technology</b>
	<b>Laboratory Independent</b>
	<b>Development</b>

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Not only did this re-alignment allow ONT to align technology areas of program elements with OPNAV mission areas but also allowed ONT to better support the objectives of the Maritime Strategy because now it used the same language. Key technological programs that affected any warfare area could be evaluated in strategic terms. Also, as a result of the disestablishment of Naval Material Command (NAVMAT), ONT has implemented block programming. A block program is defined as a group of technological efforts assigned to a single lead RDT&E Center. Although functional responsibilities have changed, the execution of 6.2 programs remain the same. The bulk of the funding is now directly given to the Centers who fund industry and universities, as opposed to SYSCOMS receiving the initial funding.

ONT uses several guidance documents in the development of its Tech Base Guidance, or long range plan. The Maritime Strategy provides "strategy stoppers" which are translated into ONT's "technology stoppers" and "technology accelerators." This is the basic guidance upon which ONT builds its tech base program. However, other guidance is also forthcoming from the Navy Secretariat, OP-098, and direct communications with the FLTCINCs. Technological opportunities are developed based on what is being developed in the Navy's 6.1 arena, industry, and independent exploratory development. Although the SYSCOMS' responsibilities for fiscal and execution management of the 6.2 budget has been reduced, they serve in a partnership role in developing the program, giving guidance to ONT with regard to system definition, development program needs, and transition planning.

Under the Chief of Naval Research, there are 12 Research, Development, Test and Evaluation (RDT&E) Centers and Laboratories. The mission area responsibilities of these Centers and Laboratories are specialized, with one Center assuming the lead for each of the Navy's main warfighting area. These Centers and Laboratories report administratively to CNR through the Office of Naval Laboratories. The Centers' activities encompass basic research, exploratory development, advanced technology demonstrations, systems development, test, evaluation, production acceptance, and in-service engineering.

## **Observations**

Technology is a key factor in planning the successful execution of all three phases of Maritime Strategy. The Navy's technologists are now working directly with the Naval Strategy Branch of OPNAV on all matters in

which technological opportunities can affect and respond to strategic thinking. Keeping these lines of communication open between the strategic planners and the technologist is an essential ingredient for effective long-range planning. Discussions involving revolutionary technology and technological opportunities will impact the Maritime Strategy by allowing the strategist to look at future strategies which will enhance the Navy's warfighting capabilities.

With the promulgation of the Maritime Strategy, a key element was introduced by the Chief of Naval Operations into the Navy's Planning, Programming and Budgeting System and the Five Year Defense Plan. Besides giving direction to the Navy, the Maritime Strategy has opened the doors to an essential ingredient of long-range planning—communication. As a result, technologists are now able to ask questions such as "What can I do to implement the strategy?, What are its technological needs?, and How can I communicate the technological opportunities?" The fact that these questions are being asked is a tribute to our strategic renaissance.

Finally, to ensure that technological issues are addressed in the Warfare Appraisal process, OP-095 with the support of OP-098, has instituted a process whereby technological issues are addressed during the Warfare Appraisals. This is a significant step since it requires the sponsor to evaluate the technological needs required to achieve successful completion of the program goals. Since this was started only recently, time will be required to assess how well it will work. It may be advantageous for the Warfare Appraisal sponsor to elicit the support of the Warfare Analysis Offices of the RDT&E Centers associated with a given warfare specialty to critically examine and integrate the latest technological developments as part of the technological assessments needed to complete the warfare appraisal.

Thomas Jefferson's appraisal of the Navy's ability to harness scientific energy would likely suggest that there is now a rational process in place to ensure our technological advantage. Although he would probably have been dismayed that communication between the Navy's operators and its laboratories had only recently improved, he could not deny that the Navy is now addressing its challenges correctly.

# III

## Appendices



# Appendix A

## 16 Laws of Long-Range Planning

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### Major General Perry Smith, USAF

1. Long-range planners must answer the "What's in it for Me" question.
2. Long-range planners must get and maintain the support of the Decisionmaker.
3. Long-range planners must have direct access to the decisionmaker.
4. Briefings by long-range planners to the decisionmaker must not go through the normal coordination process.
5. The long-range planning process must lead to some decision in the present.
6. To be effective, the long-range planning process must be institutionalized.
7. Within the framework of an institutionalized process, long-range planning must remain flexible.
8. In addition to an institutionalized process, periodic ad hoc studies are needed.
9. Long-range plans must be readable and short.

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10. Long-range planners must develop implementation strategies.
  11. Long-range planners must avoid constraining the innovation and divestiture process.
  12. Long-range planners must avoid single factor causality.
  13. Long-range planners must avoid determinism—economic, political, technological, etc.
  14. Long-range planners must stay in close contact with the operational, doctrinal, policy, R&D, C<sup>4</sup>, and manpower communities.
  15. Incentives must be provided if innovation is to be maximized.
  16. Long-range planning is risky business.

# Appendix B

## Attendees

Organization	Name	Code	Phone No.
OPA	CAPT P. SWARTZ CDR J. BYRON*		697-9396
OP-01	CAPT D. B. SEHLIN CAPT J. MURPHY CDR R. J. MORIARTY CDR B. D. WYMAN*	OP-01B6 OP-13T OP-01B6E OP-01B6C	694-5580
OP-02	RADM V. HILL*	OP-221	697-8887
OP-03	CAPT C. SMITH CDR R. WALLACE*	OP-32 OP-324C	695-5134
OP-04	RADM W. JOHNSON CAPT J. ABBOT*	OP-40 OP-402A	695-3293
OP-05	CAPT J. W. TAYLOR CAPT D. J. WRIGHT CDR C. BUCHANAN*	OP-508 OP-553 OP-508D1	697-3451
OP-06	CAPT T. DALY* CAPT L. BROOKS CAPT J. PATTON	OP-603 OP-60B OP-646	697-2487
OP-09R	CAPT D. HETHERINGTON*	OP-09R5	697-5201
OP-09X	MR. WILLIAM MANTHORPE*		695-5323
OP-009	CAPT K. ROBISON* MR. A. MAGRUDER	OP-009F OP-009E	697-6071

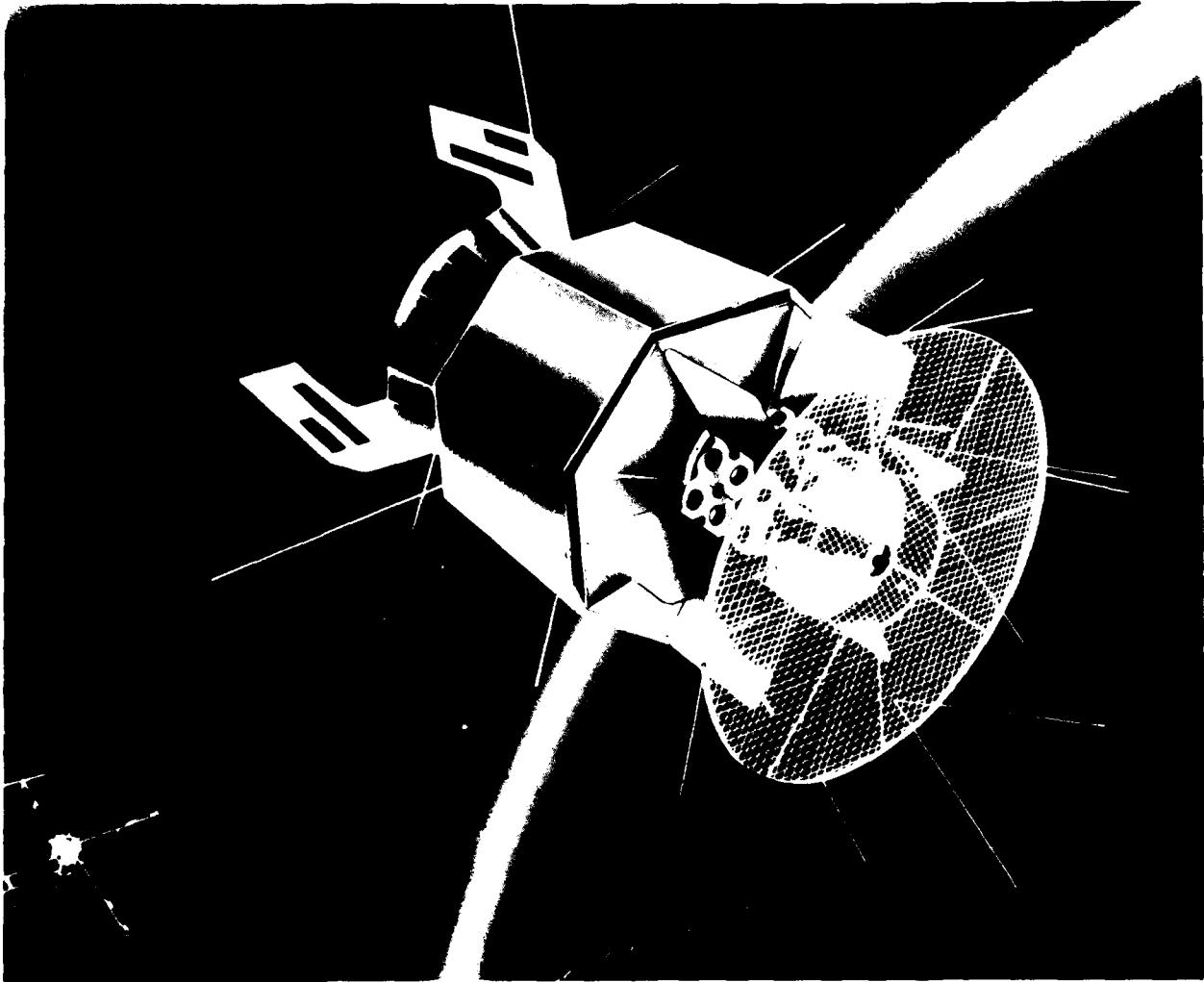
\*Designates Point of Contact

<b>Organization</b>	<b>Name</b>	<b>Code</b>	<b>Phone No.</b>
OP-090	CAPT W. HANCOCK CDR R. ALTIZER*	OP-915 OP-915A3	695-7535
OP-093	CAPT R. MORIN*	OP-932	697-1460
OP-094	CAPT D. PARENT CDR W. DUFRESNE*	OP-940D OP-940CJ	694-8603
OP-095	RADM W. FOGARTY RADM J. FLATLEY III RADM D. WOLKENSCHORFER CAPT M. MCDEVITT* CAPT H. EHRET CAPT N. RAY CAPT R. FRANZ	OP-950 OP-954 OP-951 OP-950B OP-956 OP-951 OP-954	695-4141
OP-098	DR. F. SHOUP CDR D. NORDEAN*	OP-987 OP-098R1	694-5837
NAVAIR	JOHN REIF* L. CUNDARI	AIR-710 AIR-7101	692-7862
NAVSEA	D. SHIELDS* T. SLAUGHTER	SEA-001 SEA-001	692-6531
SPAWAR	CAPT MCFEELY* MR. R. BULLARD	SPAWAR-07	692-1000
CNR	RADM J. B. MOONEY CDR SYNDER	CNR	696-4258 696-4258
DNL	G. MORTON G. SWIGGUM* DR. C. SCHOMAN T. WILLEY A. DAVIS	DNL DNL-053	692-1136  AV 933-7472
CINC- CLANTFLT	CAPT P. E. O'CONNOR*		
CINCPACFLT	CAPT W. MATHIS CDR J. R. ALMONY*		

\*Designates Point of Contact

Organization	Name	Code	Phone No.
CINCUS-NAVEUR	CDR D. V. SMITH*		
CNA	CAPT R. E. SHERIDAN* MR. C. JEHN MR. J. GEORGE		824-2586
NWC	CAPT R. LEEDS CDR MEYERTHOLEN*		AV 948-4274
OP-00K	CAPT M. HUGHES CAPT T. MURPHY CAPT D. BERKEBILE CDR R. HARRIS CDR D. WHITFORD CDR T. FEDYSZYN DR. R. SUTULA LT T. ARNOLD		756-1205

\*Designates Point of Contact



# Appendix C

## Feedback

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Over half of all participants provided feedback on all aspects of the conference. The attendees unanimously agreed that the conference was long overdue and provided a useful forum for members of the Navy's long range planning community to get acquainted. More importantly, the participants suggested a host of areas germane to long range planning that require promulgation, action, or further study:

- \* The future role of the Naval Reserve in an era of shrinking population
- \* Development of a U.S. Navy divestiture strategy
- \* The future of the U.S. Industrial Base
- \* The Role of the Naval War College in Long Range Planning
- \* Lessons Learned from Allied Long Range Planning efforts
- \* Status of FLTCINCS' Long Range Planning
- \* Linkage of Planning and Strategy to warfighting
- \* Interaction of Strategic Long Range Planning and the POM Process
- \* Improving the clarity of Long Range Political objectives
- \* Crisis Response: The challenge to Long Range Planning
- \* Development of a warfighting capabilities plan
- \* Development of a Master Navy Long Range Plan
- \* Joint initiatives and Navy Long Range Planning

END

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