DEFENSE SYSTEMS MANAGEMENT SCHOOL

PROGRAM MANAGEMENT COURSE
INDIVIDUAL STUDY PROGRAM

IMPLICATIONS OF THE NMARC REPORT ON
NAVY PROGRAM MANAGEMENT

STUDY PROJECT REPORT
PMC 75-1

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DEFENSE SYSTEMS MANAGEMENT SCHOOL

STUDY TITLE: Implications of the NMARC Report on Navy Program Management

STUDY PROJECT GOALS: The primary emphasis for this study project was to provide the author with an understanding of the NMARC Report and to attempt to determine the likely evolution of program management due to the influence of the NMARC.

STUDY REPORT ABSTRACT

The study project report contains abridged portions of the Navy and Marine Corps Acquisition Review Committee (NMARC) Report which pertain to program management in the Navy. These areas of the NMARC study are amplified by the Navy's proposed implementing actions for the various recommendations as of the date of this report. The study work is organized in the same general fashion as the NMARC Report (i.e., Overview, Research and Development, Test and Evaluation Procurement, Production, and Cost). This study report concludes that the emphasis of the NMARC recommendations, with only a few exceptions, is to increase the emphasis on decentralization in the management of the Navy's material acquisitions.

MATERIEL ACQUISITION RESEARCH AND DEVELOPMENT PROGRAM MANAGEMENT NMARC

NAME, RANK, SERVICE	CLASS	DATE
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Study Project Report

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by

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May 1975

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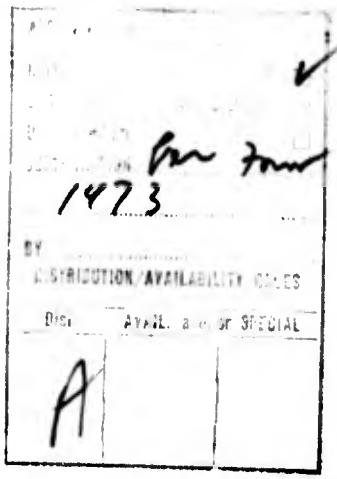

EXECUTIVE SUMMARY

The purpose of this study project was to provide the author with the understanding of the recent Navy and Marine Corps Acquisition Review Committee (NMARC) Report as it pertained to Program Management within the Navy. During the course of obtaining information on the report the Action/Status reports on the NMARC recommendations were obtained. This information was incorporated to provide a view of the likely outcome of the various recommendations.

The approach used in generation of this report was to select pertinent recommendations from the NMARC report, extract the key points, and note any appropriate remarks from the Navy Action/Status Reports. This was done for each of the sections of the main part of the report: (1) Overview; (2) Research and Development; (3) Test and Evaluation; (4) Procurement; (5) Production; and (6) Cost. Each of the sections of the report which respectively pertain to the above topics is terminated by the author's conclusions. The final section of the report is the author's interpretation of the likely overall impact of the NMARC Report on Navy Program Managers.

This report may be of value to those who desire an abridged view of the NMARC Report and some understanding of the proposed Navy implementation as of the date of this report. This report contains direct reference to many of the recommendations in the NMARC Report and can therefore serve as an aid in finding some selected topics in that basic document.

ACKNOWLEDGEMENTS

The conduct of this study was greatly facilitated by Dr. A. Mosier of the Defense Systems Management School (DSMS). He provided me with one of the few available copies of the NMARC Report for the duration of the study effort.

Appreciation is also extended to Mr. F. Kelley of the DSMS for being the faculty sponsor of this effort and providing information as to sources of information.

Special gratitude is extended to LCDR J. Dolina of the Naval Material Command (MAT-0233A) for providing copies of the Action/Status Reports on the NMARC recommendations.

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SECTION I

INTRODUCTION

Purpose of the Study Project

The material covered in this report is an analysis of the findings of the Navy and Marine Corps Acquisition Review Committee (NMARC) Report to determine the likely effect on Navy Program Managers. This analysis also includes, where available, comments on the status of the various recommendations contained in the NMARC Report.

Mr. James M. Roche, the Study Director of the NMARC, in stating the rationale for the NMARC Report indicated:

> .....the NMARC made a conacious decision to concentrate on issues that would result in potentially high payoff recommendations. Farther, the NMARC set the objective of developing practical recommendations that could be implemented by the Navy with existing personnel and financial resources, and that would achieve measurable results (1:1).[1]

The report was the result of a six month effort by high level executives from Defense related industry, former DOD civilian executives, and retired naval flag officers. This committee was chartered on 8 August 1974 in accordance with the provisions of Public Law 92-463, the Federal Advisory Committee Act. The charter became effective with its publication in the Federal Register on 9 August 1974. The duties of the NMARC listed in the charter were:

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[1]This notation will be used throughout the report for sources of quotations and major references. The first number is the source listed in the bibliography. The second number is the page in the reference.

.....to examine the organization, management staffing and procedures used by the Navy in acquiring weapons systems. The NMARC will advise the Secretary of the Navy, by preparation of an action plan, of recommended steps to be taken to improve responsiveness to Fleet and Marine Corps requirements (2:1).

This charter seemed to be a continuation of efforts started by David Packard when he was the Deputy Secretary of Defense. In an appearance before a Congressional subcommittee he said:

> We have just begun to look at the organizational problems in each of the Services as they relate to new weapons programs..... To be brutally frank about this situation, the services need to be organized so that the development and production of new weapons systems is managed by people who are experts in that business. This is not the practice in the services. Instead, the weapons management job is performed under a system in which too much responsibility is given to officers whose special expertise is not development and procurement..... I conclude, therefore, that it is going to require a major change in the organizational structure of all three Services to straighten out the management of new weapons programs (3:5).

To carry out its broadly scoped task, the NMARC was organized into five functional panels and a report integrating group under the direction of the study director. The five panels were:

(1) Research and Development

(2) Test and Evaluation

(3) Procurement

(4) Production

(5) Cost

The entire study was performed under the guidance and supervision of a steering group consisting of the Undersecretary of the Navy, the Assistant Secretaries of the Navy, the Vice Chief of Naval Operations, the Assistant Commandant of the Marine Corps, the Chief of Naval Material and the NMARC study director.

The NMARC followed an orderly pattern of activities to allow it to complete the assigned task within the allotted six months. Its schedule included, in order, the following activities:

(1) Organization

(2) Identification of Issues

(3) Plan Studies

(4) Obtain Program briefings

(5) Participate in Field Trips

(6) Conduct Panel Deliberations

(7) Draft Panel Reports

(8) Integrate the Report

The committee was assisted in performing these functions by a staff assigned from the Naval Material Command. In addition, several contractors were hired to perform various supporting investigations.

The succeeding sections of this report deal with each of the major subject areas of the NMARC Report in the same order as they are encountered in that document. This report does not cover all of the topics included in the NMARC Report. It covers only those topics which should provide a major impact on the organization, staffing or functions of a typical Navy Program Managers Office. However, this report does not consider those topics which are only of interest to the Navy's two large self-contained, vertically organized, programs, the Strategic Systems Project (PM-1) and the NAVSEA Nuclear Power Directorate (SEA-08). Since the most concise statement of the NMARC investigations is contained in the recommendations at the end of each chapter, they will provide the format for most of the NMARC Report information quoted in this report. The last section of this report consists of the overall conclusions drawn from the other sections.

SECTION II

OVERVIEW

The Overview chapter of the NMARC Report is intended to provide:

> ..... an integrated overview of the major issues and conclusions from the studies carried out by the NMARC and its five component panels.....(4:II-1).

To provide this integrated overview, the NMARC included discussions of preprogram management activities, program management phase activities, shipbuilding and government/industry relations. These synthesized views of the study resulted in ten recommendations. Those deemed most important to this work are:

> (1) Recommendation OVRVW-1: Establish as fundamental Navy policy that commitments to concepts and decisions in the acquisition process by the Navy Secretariat, OPNAV, and NAVMAT will be binding for extended periods, thus restoring some measure of program stability (4:II-44).

This has been taken by the Navy to mean:

> In major acquisition programs there should be an agreed understanding of what is achievable and useful.....(5:1).

with action planned as follows:

> CNO (OP-90), in coordination with CNM (MAT-01), will chair a committee which will develop a plan to increase program stability and will present this plan for approval (5:2).

> (2) Recommendation OVRVW-4: The usable authority of the individual project managers should be strengthened, primarily by constraining extraneous demands, reallocating and consolidating assets, improving training, reassigning existing personnel, and possibly consolidating the number of projects that are presently separately identified and managed (4:II-45)

NAVMAT has indicated that:

> No specific implementing action (is) proposed. ... The recommendation is a good statement of existing Navy Policy.....(6:1).

(3) Recommendation OVRVW-5: Constraint should be exercised in the total number of projects formally designated (4:II-45).

This recommendation implies that the Navy has gone too far in using intensive management on some systems. As a result of this recommendation NAVMAT has planned the following actions:

Disestablish PM-18, PM-19 and PM-20 accommodating (their) functions and responsibilities within SYSCOM's project management offices and functional groups.

Task SYSCOMs to conduct a review of all projects for possible consolidations (7:1).

(4) Recommendation OVRVW-9: The Navy requires a project manager during the conceptual phase of the weapons acquisition process to develop an integrated logistic support plan that contains a detailed resource analysis. Once this plan is completed, an explicit decision should be made by the users and producers to determine and fund the appropriate level of support for the weapon system (4:II-45).

This indicates that Integrated Logistic Support (ILS) plans should be prepared after development has progressed to the point where logistic needs can be forecast. To implement this idea the following actions are planned:

Consider the need to adjust budget submissions to identify and fund for logistic costs.

Modify budget submissions as necessary.

Emphasize the need for assuring progressive implementation of ILS plans and establish a monitoring system if funds and personnel can be made available (8:1).

The only common thread that can be drawn from the overview recommendations included above, is that there should be continuing efforts to ensure that the system is not made too complex to work efficiently and also that nothing of importance should be left out.

SECTION III

RESEARCH AND DEVELOPMENT

The Research and Development Chapter of the NMARC Report was based on:

> .....a close examination of the Navy's initial requirements- setting process, wherein decisions are made that are of far-reaching consequence for the acquisition process, as it uncoils from exploratory developments to prototype evaluation and production is today's limited-budget environment (4:III-1).
>
> .....the (Research and Development) panel selected and then concentrated its efforts upon a few areas: the generation of requirements, the use of laboratories, the use of industry, the use of personnel and the management of funds (4:III-5).

In this far reaching portion of the NMARC study, several recommendations were produced which should have considerable impact on the early stages of the life of a Navy program, thereby marking it for its entire existence. The following items are deemed most significant in this regard:

> (1) Recommendation R&D-1: A proper balance should be established between OPNAV and NAVMAT in consonance with their respective primary roles of user and supplier (4:III-13).

This recommendation is one of the most significant of the entire study. Its implications/interpretations are:

- Implies need for increased authority and capability for NAVMAT to discharge its acquisition responsibility.
- Implies need for diminished supplier roles for DOD, ASN (RID), and especially OPNAV.
- Results in the question of what is the optimum balance of responsibility and authority.
- Is interpreted to have reached such conclusion based upon an inspection of only one of the several organizations (with interlocking missions/functions) involved.
- Is interpreted to prompt examination of the nature and extent of DOD management of Navy RDT&E.

- Finally- is interpreted to motivate a study of the ASN(R/D), OPNAV, NAVMAT and SYSCOM roles/missions/organization and procedures related to the requirements/acquisition (user/producer) functions (9:1).

The Navy response to this item is that a "Study for Joint Action" (9:1) has been planned. This study is scheduled to begin on 1 July 1975. A major implication of the recommendation is that authority now exercised at the OPNAV level could be passed to NAVMAT and, possibly, to the respective program managers.

(2) Recommendation R&D-7: The eight NAVMAT laboratories should continue to operate under the DCNM(D) only if NAVMAT is strengthened in accordance with recommendation R&D-1.....If the strengthening implied.....is not achieved, these laboratories should be transferred to the Systems Commands (4:III-35).

This recommendation indicates the alternative action which may occur if the Navy does not implement the recommendation to remove producer responsibilities from OPNAV. If this alternative is followed, it will give the Systems Commands a freer hand in directing the activities of the laboratories. This would presumably increase the Navy Program Managers influence over laboratory activities.

(3) Recommendations R&D-10, R&D-13 and R&D-14: A central point of guidance should be established under DCNM(D) for coordinating the systems engineering efforts at the Navy laboratories and for expanding the systems engineering discipline within the Navy laboratory community (4:III-35). The definition and elimination of undersirably duplicative efforts at two or more laboratories.....should be completed (4:III-36). The development of practical means to negotiate the program of technology base work in the NAVMAT laboratories in major blocks so as to promote the clear assignment of product responsibilities.....(4:III-36). A discipline should be established that will ensure serious attention by laboratory management to providing technical input to the Navy's corporate technical planning process.....(4:III-36).

These recommendations have been grouped because they demonstrate what seems to be NMARC's preference for the establishment for a centralized "corporate" R&D establishment in the Navy, organized into specific areas

of "product responsibilities". This series of recommendations, which is complementary to the idea of more control over "producer" functions in NAVMAT, seems to be contrary to the concept of decentralized management expressed in DOD Directive 5000.1, and other current policy documents. Implementation of these three recommendations seems to be well under way. In fact, a new organization, MAT-03T (Director of Naval Technology) has been established to deal with these matters (10:1).

(4) Recommendations R&D-11 and R&D-12: Building on the skills available from RDT&E activities and Navy Programming Centers, a capability should be established to provide for systems integration of ship weapon system/command and control interfaces for the conceptual phases of a program and the late evolutionary phases (4:III-36). The most appropriate location and organizational arrangement for activities that provide the core of technical support for combat system design, integration, and test should be determined (4:III-36).

In response to both of these recommendations NAVSEA has taken action to:

.....expand the use of existing talent, both military and contractor including the tasking of specific RDT&E laboratories to perform those portions of the total CSI (Combat Systems Integration) which lies within their area of expertise. It is expected that a total Integrated Combat System Test Site (ICSTS) will soon be established at Pt. Loma, California (11:1).

This should provide many programs with a means for determining and minimizing the risks of system integration in their developments.

(5) Recommendation R&D-22: RFPs (Requests for Proposal) and ensuing contracts should require cost-reducing tradeoffs where feasible between the use of best commercial practice and MILSPEC requirements, and such tradeoffs should be considered in the source selection criteria (4:III-50).

Recommendation R&D-22 and many of those which follow it indicate the Navy should make greater efforts to ensure that adequate studies are conducted for each program to ensure that the lowest cost system, which meets the constantly reevaluated requirements, will be selected. If this recommendation and those similar to it, are carried out, there should be a clear

case for increasing the funding of the early phases of development of each program to pay for such trade-off studies. However, there is no clear indication at this time of the degree of support which will be provided to implement this conclusion.

The remainder of recommendations of the R&D panel either did not directly involve Navy Program Managers or were similar in scope to those mentioned. However, the main thrust of the R&D recommendations is to clarify the R&D planning and execution roles of OPNAV and NAVMAT; to further centralize control of the NAVMAT laboratories; and to ensure that the potential benefits of the use of commercial practices in implementing a design-to-cost philosophy are considered in Navy designs.

SECTION IV

TEST AND EVALUATION

The Test and Evaluation (T&E) panel report based their evaluation of Navy T&E requirements on the premise that there are five basic areas of requirement for such activity. They are:

- Prior to final selection of materials and equipment and their applications.

- During the engineering design phase.

- During the component or subsystem assembly.

- During trials or inspections that are conducted to determine specification compliance.

- And finally, operationally to determine performance, limitations, and effectiveness against the threat which generated the requirement (4:IV-1).

During the conduct of their investigations, the T&E panel were impressed with the breadth of the Navy's mission, the complexity of the systems required to deal with this mission, and the diverse test base required to deal effectively with this diversity (4:IV-3). Many of the observations and conclusions of the T&E panel were in areas other than those which impact program managers. However, the following items require attention in this report:

(1) Recommendation T&E-2: The capability for seaborne simulation should be developed further in such a manner that future test and evaluation is accomplished in a simulated hostile environment.

This recommendation implies that simulators are necessary and that they are not sufficiently available at the current time. It also implies that:

> .....during initial stages of development the requirement/development of simulators for test and evaluation should be addressed (12:1).

This latter implication will be of concern to program managers because of the major funding required.

(2) Recommendation T&E-3: .....an auditable trail of requirements versus performance should be maintained.

The recommendation leads directly to the following requirement:

COMOPTEVFOR needs to be brought in during the early stages of a development project to ensure proper planning for the COMOPTEVFOR tests (13:1).

(3) Recommendation T&E-7: A specific approval authority should be designated for TEMPs in each program category. This aspect is particularly pertinent to the Less-than-Major programs which are not subjected to Major program monitoring. Further, an annual review process for Less-then-Major programs should be established.

OPNAV has indicated that the recommendation will be complied with as it was written. To aid in accomplishment of this compliance, the following interpretations of the recommendation were offered:

- In the test and evaluation planning process there should be a formal approval process of the test and evaluation master plan.

- TEMPs should be reviewed by an authoritative body annually.

- The less-than-major programs, not subject to DSARC show the greatest need for this review.

Navy should subject program under its cognizance to the same requirements that the DSARC requires of the major programs in accordance with DOD 5000.3 (14:1).

Implementation of the corrective action for recommendation T&E-7 will add additional reporting duties to the program managers schedule.

In addition to these recommendations the NMARC addressed the need for establishment of a Test Facilities Manager in NAVMAT (4:IV-13. This topic will be addressed in more detail by a paper similar to this one by another DSMS student.

The T&E panel found that the Navy was making good progress in test

and evaluation. However, the area requiring most attention is in surface warfare systems (4:IV-24). The recommendations in this area were not included since they were primarily problems of the functional organizations rather than requiring action by program managers.

SECTION V

PROCUREMENT

The Procurement Panel report covered more than just the formal act of buying a product. It addressed systems acquisition, procurement practices, program management and included a specific section of ship acquisition (4:V-2). Such problems as:

> .....the diffusion of authority, the Subversion of the Defense Systems Acquisition Review Council (DSARC) process, "layering", the dilution of authority and the resultant instability of program requirements.....

were examined. The recommendations primarily addressed to program managers functions are as follows:

> (1) Recommendation PROC-1: The Secretary of Defense (SECDEF) or the Deputy Secretary of Defense (DEPSECDEF) should reinforce the decentralization principles of DOD Directive 5000.1 and its derivative policies by preventing OSD staff involvement in and constraint of the Navy's studies of alternatives----. (4:V-50).

This recommendation has great implications insofar as the Department of Defense and the Navy are concerned. It is an attempt to shift more control of Navy programs back to the Navy. The importance of this recommendation is evidenced by the fact that the action officer designated for this item is VADM Hayward. However, the detailed status on this item has not yet been published (15:1). It is noted that further recommendations aimed at minimization of higher level intervention into Navy affairs were included in the NMARC Report. These additional items have not been covered in this study since they serve mainly to reinforce PROC-1.

> (2) Recommendations PROC-4, PROC-5, PROC-6, PROC-7, and PROC-8: SECNAV, CNO and CNM should take immediate, positive steps to improve major system planning, programming, budgeting and acquisition data---. The Navy should closely examine the problems associated with downward pressures on program estimates with a view to formulating policies aimed at elimination of such practices --- (4:V-52).

In this group of recommendations, the NMARC indicated that the Navy does not clearly state the correlation between its budget requests and the Navy mission and requirements. It is also intimated that this lack of clarity leads to much high level monitoring and manipulation and results in a downward pressure on program estimates. This downward pressure is seen as the genesis of cost growth and claims and ultimately of congressional antipathy (4:V-52). The Navy response to these items indicates that committees are being formed to address the required improvements in major systems planning, programming and budgeting while also attempting to minimize pressures to revise the program estimates (16:1). This is being done while the Navy is also requesting relief from the levels and types of detailed OSD monitoring, in an attempt to move toward more decentralized management of military procurements (17:1).

> (3) Recommendation PROC-9: The Secretary of Defense (SECDEF), DEPSECDEF, and SECNAV must effect improved accommodation between OSD and Navy views as to the appropriate balance to be struck between OSD/Navy responsibilities, interests, and prerogatives as intended by the principals of DOD Directive 5000.1 (4:V-53).

The Navy recognizes the importance of this recommendation and those other items which support it by indicating:

> Implementation would imply a significant shift in current OSD management philosophy, i.e., from the currently observed centralization trend, back toward a decentralized management philosophy espoused by DEPSECDEF Packard (17:1)
>
> > (The planned action to implement this recommendation is to)... initiate a series of memos for SECNAV signature to SECDEF/DEPSECDEF setting forth Navy views and recommended action which can be undertaken jointly by OSD/Navy--- (18:2).

The NMARC Report included as its next series of recommendations on procurement, a section which was aimed at the incremental improvement of

existing procurement functions, each having a minimal effect on the operations of a program management office but, in total, providing an indication of a needed increase in emphasis, are:

- Procurement Practices
- Need for Improvements in Procedures
- Deficiencies in Source Selection Process
- Selection of Contract Type
- Government/Contractor Adversary Relationships.

The generalized implication of this group of recommendations is to eliminate redundancy, improve the method of conducting business, and to insure that the system doesn't build pitfalls into its method of operations. There were no actions uncovered, to date, for any changes to these situations.

The report then covered Navy Program Management from several different points of view:

- Advantages and Disadvantages of the Matrix Organization (4:V-58)
- Excessive Layering (4:V-60)
- Funding Constraints (4:V-60)
- PM Relationships with Contracting Officer (4:V-61).

The recommendations, in essence, indorsed the Navy's use of the matrix form of organization and indicated that: (1) the program manager should have control of the funds for his project; (2) his direct staff should be sufficiently large to allow him to determine cost, schedule, and technical conditions; and (3) the Navy should assign dynamic rising officers to PM billets with promotional opportunities commensurate with their performance as a PM (4:V-58). The Navy response to these recommendations was that it considers the current practice to be in full compliance with the

recommendation (19:1). However, the recommendations on layering were not clear cut in pinpointing difficulties nor was the Navy response so definite. The following is typical of the NMARC statements in this area:

> Recommendation PROC-28: Each Headquarters should examine every exercise it puts the PM through to determine if that task is really necessary---(4:V-60).

The response to this recommendation indicates that the expected outcome is:

> .....dependent upon outcome achieved relative to related packages of recommendations.....

In addition, the NMARC Report and the Navy responses indicate that the current mutually supportive, but separate functions of the program manager and his Procuring Contracting Officer (PCO) should remain as they are.

The last major portion of the Procurement Section covered ship acquisition. The report indicates that the following areas of concern should be addressed by the Navy:

- Definition and Stability of Performance Requirements.
- Adequacy of Funding.
- Acquisition Approach.
- Adequacy of the Data Package on Which Shipbuilders Base Their Cost Proposals.
- Realistic Contract Pricing.
- Concurrency in Combatant Ship Procurement.
- Economic considerations in Ship Procurement.
- Improved Shipbuilder/Government Business Relationships.
- Integration of Combat Systems.

This lengthy section of the report suggests that the Navy should spend more time at the initiation of ship acquisition programs to ensure that the ships being procured meet the operational need of the Navy, that they are

produced in an economically realistic environment, that the terms of the construction contracts do not place unreasonable constraints on either the Navy or the contractor, and that a maximum opportunity be provided to prove out the functional capability of the lead ship in a class before locking in all details of the entire construction program (4.V-62 through 4.V-67). For the most part the Navy planned action is typified by the following planned action statement:

> .....the recommendation is a reflection of existing policy which is enforced through APP (Advance Procurement Plan) reviews (21:1).

The overall impression of the Procurement Section of the NMARC Report and the Navy anticipated actions is that the Navy should be given more latitude to govern its own procurement matters and that it should take action to rethink a great many of the procedures and policies regarding procurement. However, it seems as though the Navy is not responding too vigorously to these recommendations.

SECTION VI

PRODUCTION

The Production Panel in assessing the difficulties in producing and delivering defense material aimed their efforts to four main areas:

- Utilization of personnel and organization, particularly in project management.
- The acquisition environment.
- The production impact of planning and procurement strategy.
- Field contract administration (4:VI-3).

The first of these areas is central to the purpose of this study. The NMARC Production Panel looked at the NAVMAT program offices, those of the SYSCOMs and similar organizations in the other services. It is noted that:

> There is general agreement among both Navy personnel and contractors that the matrix form of project management has served the Navy well in most areas of acquisition (4:VI-6).

This praise of the Navy's organization for program management was not universal. There were questions raised about the effectiveness of the matrix form of project management but the Production Panel noted:

> NAVSEA's project offices do not vary significantly from those in NAVAIR with respect to overall approach or staffing levels. The NMARC Production Panel, therefore, concluded that recent problems in naval ship acquisition might be attributed to primary causes other than the use of matrix-type project management (4:VI-6).

It was therefore concluded that the Navy should continue such staffing of most of its project management offices (4:VI-77). The conclusions of the Production Panel in regard to program management varied little from the recommendations of the procurement panel in that it indicated that program management organizations should continue much as they have with the exception

that excessive reviews and interference with their operations should be minimized and that key personnel should be collocated with the program manager (4:VI-77).

In the area of planning the report was very specific. It said that increased emphasis was necessary for planning shipbuilding and rework efforts. One of the most specific recommendations in this area was:

> Recommendation PROD-14: The Navy should devise means of improving planning discipline for ship maintenance and modernization so that late changes to alterations and repairs in overhaul work packages are minimized. In order to achieve this, the Navy should find ways to ensure that technical, logistical, and production considerations carry adequate weight relative to military requirements in the Navy's decision making processes, and that those responsible for the execution of depot-level maintenance of ships may be permitted to carry out their responsibilities according to plan (4:VI-78).

This recommendation raised many questions in the planning process for ships production activities and resulted in the chartering of a special study group which is to report on the situation by 1 October 1975 (22:2).

The Production Panel pointed out many problems of lack of capacity in Navy and civilian shipyards and advocated a procedure whereby the Navy would retain certain facilities for use either by the Navy or to be leased to the civilian shipbuilders (4:VI-78). However, NAVSEA indicates that such action is not anticipated (23:1). The report also reiterated previous suggestions for combat systems integration; it stated the need for more flexibility in the regulations regarding civilian employees (4:VI-80); and the need for expeditious handling of changes and claims (4:VI-81).

There was one final area of the Production Section that stated ideas of significance to program managers that had not surfaced in previous portions of the report, that is that the relationship of the Program Manager to his Contract Administration Office (CAO) should receive additional attention.

There were several recommendations to this effect but their primary implication was that the CAO should be brought into a closer functioning relationship with the program management office (PMO) by participation in such activities as evaluation of proposals and that the CAO should be more clearly identified as the "single Government face to the contractor" (4:VI-81). This was agreed to by the Navy and indicated as being a matter of current policy (24:1).

The conclusion reached upon analysis of the report of the Production Panel was that the subject matter, insofar as it pertained to program managers, was essentially a reemphasis of items previously noted in the NMARC Report, with the exception of the comments on ships planning and the resultant new Navy study group.

SECTION VII

COST

The Cost Panel was primarily concerned by the loss of credibility of the Department of the Navy with the American people in regard to the cost overruns on weapons programs. The panel traced the history of the Navy weapon systems acquisition process from World War II to the present time. They reached the conclusion that the ever-increasing technical complexity of Navy weapon systems combined with changed procurement procedures and economic pressures have caused some of current difficulties (4:VII-5). A detailed analysis of "Cost Credibility" resulted in the listing of the following major issues:

- Cost Estimating and the Use of Cost Estimates
- Assessment of Financial Impact of Risk
- Design to Cost and Life Cycle Cost
- Proper Interface of DOD and Navy Internal Systems
- Contractor Reporting
- Navy Laboratory Reporting
- Navy/DOD Cost Reporting- Selected Acquisition Reports (SAR)
- The "Buzz-in" problem.

As a result of reviewing these issues the Cost Panel concluded that:

> .....the Department of the Navy needs to strengthen the overall financial management function in its Systems Commands and its weapon systems project offices. The Panel believes that the quality of financial management personnel must be enhanced so they can adequately monitor the cost and financial aspects of each project (4:VII-7).

The first major recommendation of the Cost Panel which affects program managers is:

> Recommendation COST-4: Provide the three SYSCOMs estimating groups.... with the independence and top management support necessary for the preparation of quality estimates by having these groups report at an appropriate level in the SYSCOM that will ensure this support and independence.

These cost groups can be of vital importance in establishing a reasonable basis for a program managers budget presentations as well as providing a sound basis for measurement of his progress. This area is of such importance that the Assistant Secretary of the Navy (Financial Management) has chartered an Ad Hoc Study Group to provide recommendations for improved cost estimating in the Navy (25:1).

The next major area presented was an analysis of the assessment of the financial impact of risk on cost factors. The primary recommendation is this area was:

> Recommendation COST-11: Continue to place emphasis on risk assessment. Make risk assessments in quantitative terms and use them in decision making, especially in budgeting and contracting.

The planned action in this regard is for NAVMAT and the SYSCOM to issue instructions to emphasize the assessment of risks (both technical and business) in weapons systems acquisitions (26:1).

Design to Cost and Life Cycle Cost received attention in several significant recommendations. As a general statement the cost panel said:

> Recommendation COST-19: Competition and alternate designs are the touchstones of design to cost. The Navy should provide adequate time and money in the early design phases to assure the success of design to cost .....(4:VII-125).

However, they noted that shipbuilding was a special case and that studies should be undertaken to evaluate the possible benefits of competition of preliminary ship designs (4:VII-125). The Navy response on these items isn't too enthusiastic since NAVFAC doesn't consider these recommendations

necessary, NAVAIR will study the matter, NAVELEX will implement the recommendations and NAVSEA disagrees with the Cost Panel (27:1) (28:1).

There is a block of recommendations, COST-44 through COST-53, covering business/financial management in program management offices. This group of recommendations includes such ideas as: including in all program offices a special staff, under an assistant program manager, which deals with business and financial management (4:VII-131); special career patterns should be established for military and civilian personnel in business and financial management; and establish procedures to ensure that only better qualified individuals are selected for business and financial management and that their careers be enhanced by such an assignment (4:VII-132). A group, chaired by ASN(FM), has been established to review this situation. This group is chartered to study such as the business/financial management functions in project offices for possibly costly or counterproductive impacts (29:1).

The Cost Panel also included many major policy issues such as layering and means of dealing with economic escalation (4:VII-135 through 4:VII-139). Most of these items were covered, in principal, in the other sections of the report.

The essence of the Cost Panel efforts for Navy program managers is that a discipline be established in business and financial management. Also, the military and civilian personnel trained in this discipline should occupy major, influential positions on the staffs of program managers.

SECTION VIII

CONCLUSIONS

The conclusions reached in the analysis of the NMARC Report, with amplification provided by the various Action/Status Reports, fall into two basic areas: direct impressions gained from specific items in the report and the anticipated corresponding Navy actions; and the general feeling gained from an overall impression of the effort.

In the area of specific impressions it is most certain that the various NMARC panels agreed on the need to strengthen Navy program managers by assuring them control over their programs with minimum outside interference. This essential philosophy of decentralization, while most strongly applied to the various program managers systems was also suggested for operations of the Navy. That is, NMARC suggested that the Department of Defense should allow the Navy more latitude in determining its needs and allocating its resources to meet these needs without excessive external guidance and constraint. The only areas of the report which contradicted this philosophy of decentralization occurred in the recommendations to centralize the management of much of the Navy's research and development (R&D) efforts in NAVMAT and to centralize the management of the Navy's Test and Evaluation efforts. The preceding actions would tend to increase the autonomy and freedom of action for Navy Program Managers except for the actions involving R&D and T&E.

In these areas the program manager would be, to some degree, at the mercy of the Navy corporate management.

Another recommendation of far reaching significance is to more clearly separate the Navy's operations and material support functions. The

suggestion was that of removing responsibilities in the material support area from the Office of the Chief of Naval Operations and turning them over to the Chief of Naval Material. If this happens, it will possibly mean elimination of one reporting layer for the program manager.

Finally, in the area of direct recommendations, there were two areas of the Navy's material acquisition effort which required additional emphasis. They were the areas of planning, especially in the areas of ships construction, and in the staffing for more capable business/financial management. These last two areas mean that additional personnel will be required to support the various program offices. This will enhance the capability of the program managers to exercise control over their assigned systems.

An overall impression of the NMARC Report was that it attempted to reinforce those areas of the Navy's material acquisition process that it deemed worthwhile while also pointing a finger at those specific areas which could bear improvement. However, the impression gleaned from the various Action/Status Reports is one of basic conservatism on the part of the Navy. There is a cautious approach to many of the NMARC suggestions even though the Navy has, at one time or another, tried many of them. This caution seems mainly due to a realization that the circumstances which permitted the relatively independent Bureaus to operate in the Navy may not suit the current situation. As a result the full realization of the impact of the NMARC is expected to be slow in coming.

GLOSSARY

ASN(FM)- Assistant Secretary of the Navy (Financial Management)

ASN(R&D)- Assistant Secretary of the Navy (Research and Development)

CAO- Contract Administration Office

CNM- Chief of Naval Material

CNO- Chief of Naval Operations

COMOPTEVFOR- Commander, Operational Test and Evaluation Force

CSI- Combat Systems Integration

DCNM(D)- Deputy Chief of Naval Material (Development)

DEPSECDEF- Deputy Secretary of Defense

DNT- Director of Naval Technology

DOD- Department of Defense

DSARC- Defense Systems Acquisition Review Council

ICSTS- Integrated Combat System Test Site

ILS- Integrated Logistic Support

MILSPEC- Military Specification

NAVAIR- Naval Air Systems Command

NAVELEX- Naval Electronic Systems Command

NAVFAC- Naval Facilities Engineering Command

NAVMAT- Naval Material Command

NAVSEA- Naval Sea Systems Command

NMARC- Navy and Marine Corps Acquisition Review

OPNAV- Office of the Chief of Naval Operations

OSD- Office of the Secretary of Defense

PCO- Procuring Contracting Office

PERA- Planning and Engineering for Repairs and Alteration

PM- Program Manager

R&D- Research and Development

RDT&E- Research, Development, Test and Evaluation

RFP- Request for Proposal

SECDEF- Secretary of Defense

SECNAV- Secretary of the Navy

SYSCOM- Systems Command

T&E- Test and Evaluation

TEMP- Test and Evaluation Master Plan

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