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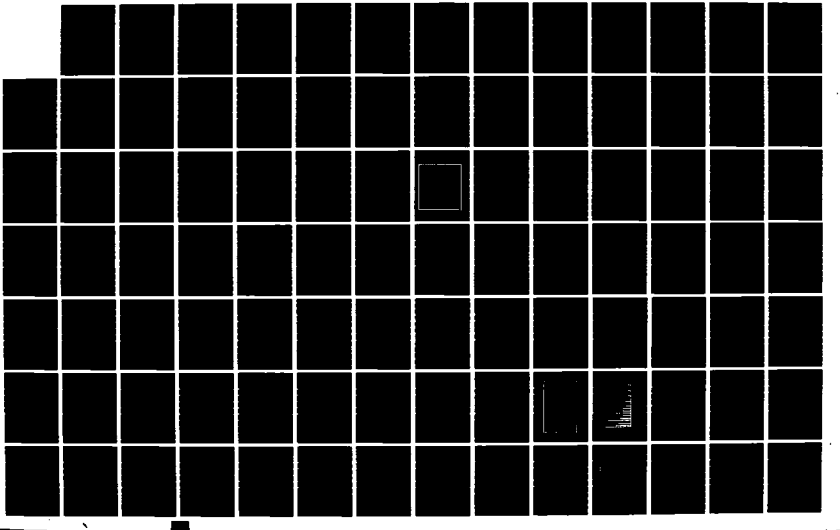

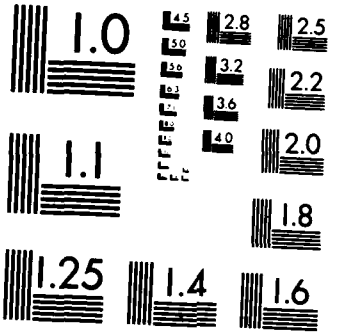

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Defense Systems Management College
Fort Belvoir, Virginia

Evaluation of the Effectiveness of the Defense Systems Acquisition Review Council (DSARC)

Volume I: Technical Report with Appendices A and B

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Prepared for the
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DSARC: DRB: DAE, Defense System Acquisition Review Council; Defense Resources Board; Defense Acquisition Executive; DODD 5000.1; DODI 5000.2; DODD 5000.26; DODD 5000.30; A-10; F-16; ALCM, GLCM, NAVSTAR (GPS); UH-60; FVS: Roland; Copperhead; SOTAS: AV-8B; LAMPS MK III; Trident; FFG; Harpoon TACTAS

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

The objective of this study was to evaluate the Defense System Acquisition Review Council (DSARC) process since its inception and to assess, in a qualitative sense, the degree to which the process has proved to be effective and efficient. The study focused on both the process and the supporting procedures from the standpoint of specific programs.

Although the basic process has remained relatively constant during the 14 years since it was conceived, the procedures have undergoine a continual maturation.

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Changes in the political leadership, various study activities, and the emergence of additional functional management techniques have all contributed to the evolving nature of the DOD Directives and Instructions on Systems Acquisition Management, the DSARC, and the DCP. Within this changing environment, approximately 160 defense acquisition programs were subjected to varying levels of DSARC involvement.

The fundamental question answered in this report was whether experience has shown that DSARC reviews are still the most effective way to manage the transition of a defense system program from one program phase to the next. The experience data base for this study was a fact-finding investigation of 16 programs and interviews with individuals with current and prior defense acquisition management experience.

Based on the observations from the programs studied and information gained in the literature survey, it was concluded that:

- o The DSARC process is effective
- o The DSARC process/procedures are not efficient
- o The DSARC and DRB functional responsibilities should remain organizationally separated.

The sutdy results show that the basic control mechanism envisioned when the DSARC was established are still operative, but the process has been hampered in its performance.

The recommendations made as a result of this study are based on the precept that the DSARC review preparation time can be reduced and less burden placed on the program manager if there is senior management commitment to the process, planning is focused, and all parties have retained a moderate degree of currency on the designated DSARC programs.

Defense Systems Management College
Fort Belvoir, Virginia

Evaluation of the Effectiveness of the Defense Systems Acquisition Review Council (DSARC)

Volume I: Technical Report with Appendices A and B

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FOREWORD

The present DoD acquisition management concepts derive, almost unchanged, from Secretary Packard's memorandum of May 30, 1969. Many previous studies have considered various aspects of this subject during the past fourteen years. These reports all supported the basic concept of controlled decentralization. However, several were critical of the evolving procedures to implement the Milestone review process.

This study differs from previous efforts in that it focuses on the DSARC effectiveness and efficiency of the process and the supporting procedures. The observations and recommendations of earlier efforts have been incorporated in this study for an historical perspective and to provide a basis for evaluating the evolving DoD direction on the DSARC and DCP. However, the primary effort of this study was associated with investigating and evaluating the experiences of sixteen major defense programs with the DSARC process and procedures. Based on a distillation of this investigation's results into descriptions of generalized situations, the study assesses, in qualitative terms, the overall effectiveness and efficiency of the process.

The study team is grateful to the many individuals in the Office of the Secretary of Defense and the Services for their help in identifying and assembling much of the data used in investigating the sixteen defense programs. The team is especially grateful to the specific Program Managers and their staffs for their enthusiastic support in accumulating the data and in the review of their particular program study report.

This research project is the result of a competitive award to Information Spectrum, Inc., by the Defense Systems Management College (DSMC). Mr. David D. Acker was the DSMC Project Officer.

ADDENDUM TO FOREWORD

On March 8, 1983, during the final publication of this report, Deputy Secretary of Defense Thayer signed and released the revised DODI 5000.2. It will be some time before the effects of this revision can be evaluated; however, there are several observations to be made in relation to this study's conclusions and recommendations.

- The administrative burden has not been significantly reduced. The page limit on the DCP/IPS was a step in the right direction, but the exclusion of the Annexes from the page count undermines this effort. In addition, the number of Annexes required for the DCP and the level of detail involved actually has resulted in a regression from the earler drafts of the instruction.

- The discretionary nature of the Milestone Planning Meeting will further exacerbate the early identification of key issues for the DSARC review. The new directive provides no senior level focus on the planning actions for the DSARC review. As such, the previous environment of functional staff autonomy remains and accountability is clouded.

- The requirement to revise the SDDM when there are redirections in programs agrees with this study's recommendation for maintaining a "contract" between the SecDef and Service Secretary. However, previous issues of the DOD instruction have also required the revision to the SDDM, but this provision has not been vigorously pursued.

- The revised instruction recognizes the need of the OSD staff for continuous surveillance during the acquisition cycle. This corrolates with this study's conclusion that there is a need for the staff to maintain a degree of currency on the major programs so as to facilitate periodic reviews. In theory, this is a return to the original concept of OSD being in a monitoring mode once a program is approved. The procedural problem to be avoided, however, is that the monitoring function becomes micro-management; either real or perceived.

EXECUTIVE SUMMARY

The objective of this study is to evaluate the Defense System Acquisition Review Council (DSARC) process since its inception and to assess, in a qualitative sense, the degree to which the process has proved to be effective and efficient. In contrast to earlier studies, this study focuses on both the process and the supporting procedures from the standpoint of the program by examining impacts on programs reviewed.

CONT'D PG. 1

It has been almost 14 years since Secretary Packard formed the DSARC and initiated the concept of Milestone Reviews. Although the basic process has remained relatively constant during this period, the procedures have undergone a continual maturation. Specifically, the process is defined as the basic concept of decentralized management with centralized control of key decisions, while the procedures entail the required supporting activities. Changes in the political leadership, various study activities, and the emergence of additional functional management techniques have all contributed to the evolving nature of the DoD Directives and Instructions on Systems Acquisition Management, the DSARC, and the DCP. Within this changing environment, approximately 160 defense acquisition programs were subjected to varying levels of DSARC involvement. From its inception until the end of 1982, the DSARC was involved in a total of 319 milestone and program reviews.

The fundamental question to be answered is whether experience has shown that DSARC reviews are still the most effective way to manage the transition of a defense system program from one program phase to the next. The experience data base for this study was a fact-finding investigation of 16 programs and interviews with individuals with current and prior defense acquisition management experience. The following is a listing of the programs selected and approved for this study:

Air Force	Army	Navy/Marine Corps
A-10	UH-60	AV-8B
F-16	FVS	LAMPS MK III
ALCM	ROLAND	TRIDENT
GLCM	Copperhead	FFG
NAVSTAR	SOTAS	HARPOON
		TACTAS

Data was gathered on each program from four organizational levels: OSD staff, Service staff, Intermediate Command staff, and the Program Office. An abbreviated history on each program's evolution was developed which concentrated on the DSARC review periods. These review periods, which encompassed both the DSARC preparation and decision implementation time, could cover from one to two years, or more. Analysis of these diverse programs

indicated that certain events, which appeared to be program specific, had in fact, many common characteristics.

Based on the observations from the programs studied and information gained in the literature survey, it was concluded that:

- o The DSARC process is effective.
  - oo Program transition from one phase to the next is subject to reviews and authorization by SecDef.
  - oo The process provides the Program Manager with required decisions.
  - oo The process instills a sense of discipline in systems acquisition management.
- o The DSARC process/procedures are not efficient.
  - oo There are difficulties in the initial planning activities for DSARC reviews.
  - oo The process has not always operated in a manner consistent with existing directives.
  - oo The large number of pre-briefs for a Milestone review is a major factor in Program Office workload and length of preparation.
  - oo Substitution of DSARC principals at reviews detracts from the concept of a meeting for the "deliberation among senior managers."
  - oo Evaluation of programs is hampered by inadequate definition of the program's baseline.
- o The problems and issues associated with the DSARC process encountered in this study have also been identifed by previous studies and panels.
- o The DSARC and DRB functional responsibilities are sufficiently different to warrent organizational separation.

The study illustrates that the basic control mechanism envisioned when the DSARC was established is still operative. However, the study shows that the process is hampered in its performance. Burdensome administrative requirements and increasing demands for information, to apparently regain program currency, result in extended periods of heightened program activity. Although these preparation periods can not be shown to increase cost or to extend the overall acquisition cycle, any period of perceived uncertainty can make a program vulnerable to other for-

ces. The recommendations made by this study are based on the precept that the DSARC review preparation time can be reduced and less burden placed on the Program Manager if there is senior management commitment to the process, planning is focused, and all parties have retained a moderate degree of currency on the designated DSARC programs. The study makes the following specific recommendations, discussed in Section IV B:

- o Continue the DSARC process as currently designed.
- o Improve efficiency by implementing the following:
  - oo The DepSecDef, the DAE, and other selected Senior OSD staff officials should receive routine status reporting on the designated DSARC programs.
  - oo The DAE should provide administrative control and focus on the DSARC preparation activities of the OSD staff.
  - oo The DAE should issue a policy statement on the DSARC principals attendance requirements.
  - oo The SDDM should be modified so that it sets forth the contract between the SecDef and the Service Secretary for the acquisition of a specific defense system.

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I. INTRODUCTION

A. BACKGROUND

In May 1969, the Deputy Secretary of Defense, David Packard, issued a six-page memo that established the Defense Systems Acquisition Review Council (DSARC) to advise him on the status and readiness of new systems acquisitions as they progressed through their life cycle.1/ The memo also established the concept of three basic milestone review points that would occur between the major phases in an acquisition program. The DSARC reviews were "intended to permit coordinated evaluation and deliberation among senior managers...to assure that advice given the Secretary of Defense is as complete and objective as possible prior to a decision to proceed to the next step of a system's life cycle."2/

Fourteen years have passed since the implementation of the Milestone Review concept and the DSARC. There have been over 300 DSARC milestone and program reviews held during this time period. The accomplishment of several major analysis efforts on DoD acquisition management and the periodic revision of published directives have resulted in an environment that has not yet stabilized. Figure 1 provides a comparative chronology of these analyses and directives changes.

Although there have been some structural and procedural changes, the general consensus is that the basic concept of the DSARC process has not changed. However, the recent actions associated with the DoD Acquisition Improvement Program (DAIP) indicate a degree of concern as to the effectiveness and efficiency of the DSARC process.

B. PURPOSE OF STUDY

1. General Objective

This study was undertaken to evaluate the DSARC process since its inception and to assess, in a qualitative sense, the degree to which the process has proved to be effective and efficient. The study focuses on two specific areas: the actual process; and the procedures. The process is defined as the basic concept of decentralized management with centralized control of key decisions. The procedures are defined as those activities required to support the process. The various evolving functional management tools are not evaluated in this study but their

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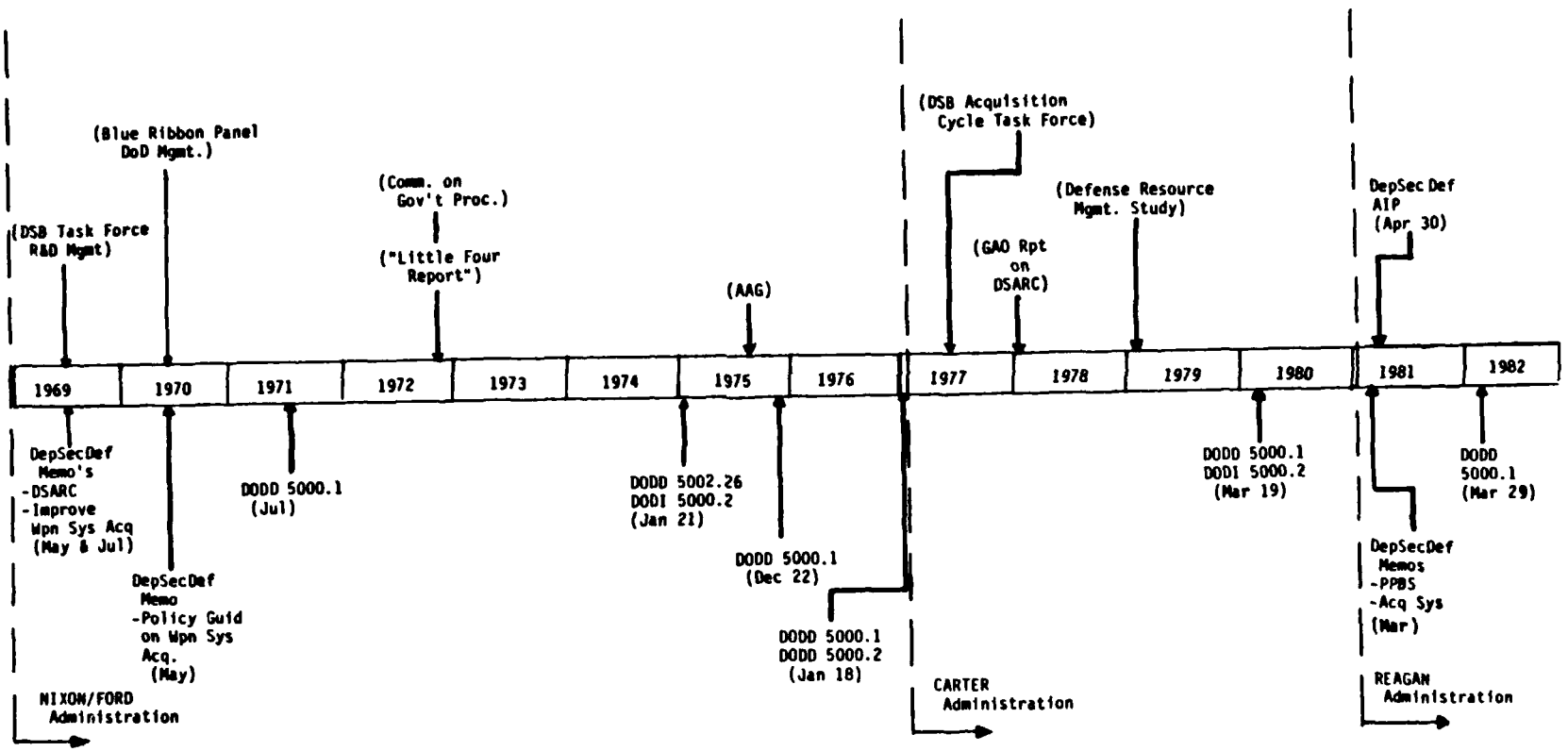
1/ Deputy Secretary of Defense Memorandum, dated May 30, 1969, subject: Establishment of a Defense Systems Acquisition Review Council.

2/ Ibid., enclosure.

ANALYSIS



DIRECTION

FIGURE-1: Chronology of Studies and Directives

interactions are recognized as being fundamental to the overall process.

2. Specific Research Objectives

To satisfy the general objective, the subjects addressed by the research included the following:

a. The basic purpose, objectives, and organization of the DSARC and the changes to its charter and structure since its inception;

b. The preliminary and post DSARC activities in the Services and the OSD and the purpose(s) of each of these activities;

c. The desirable versus undersirable features of the activities identified in (b);

d. The issues associated with the recent policy and procedural changes;

e. An examination of the purpose and need for each program and milestone review, the relationship of each review to the others on a program, and the overlaps/redundancies (if any);

f. The basic purpose, objectives, and organization of the Defense Resources Board (DRB) as it exists today, the relationship of the DRB to the DSARC, and the need for both groups;

g. The impact of the DSARC and DRB reviews on OSD, Services, and program management;

h. Alternative monitoring and control processes worthy of consideration by OSD and the Services, and reasons for consideration of these alternatives; and

i. Changes recommended (if any) to enhance the effectiveness and efficiency of the DSARC process.

C. STUDY METHODOLOGY

1. Literature Search

A literature search was performed to determine: the basic characteristics of the process and procedures; changes that have been implemented; the compatibility of Service implementation with the published direction; and issues identified by other major study efforts. The documents surveyed included DoD Directives, Instructions, publications, and memoranda; DRB guidance and presentation material; as well as Service regulations and guidance. This survey also included the review of other relevant material and related studies pertinent to this

investigation. The results of this effort are contained in Section II of this report.

2. Interviews

A series of non-program specific interviews were conducted with individuals who were or are now involved in DoD systems acquisition management. The objective of this phase of the study was to identify their perception of issues surrounding the DSARC process and to develop a list of candidate weapon system programs to be studied. Section III A documents the results of this activity.

3. Selection of Programs for Study

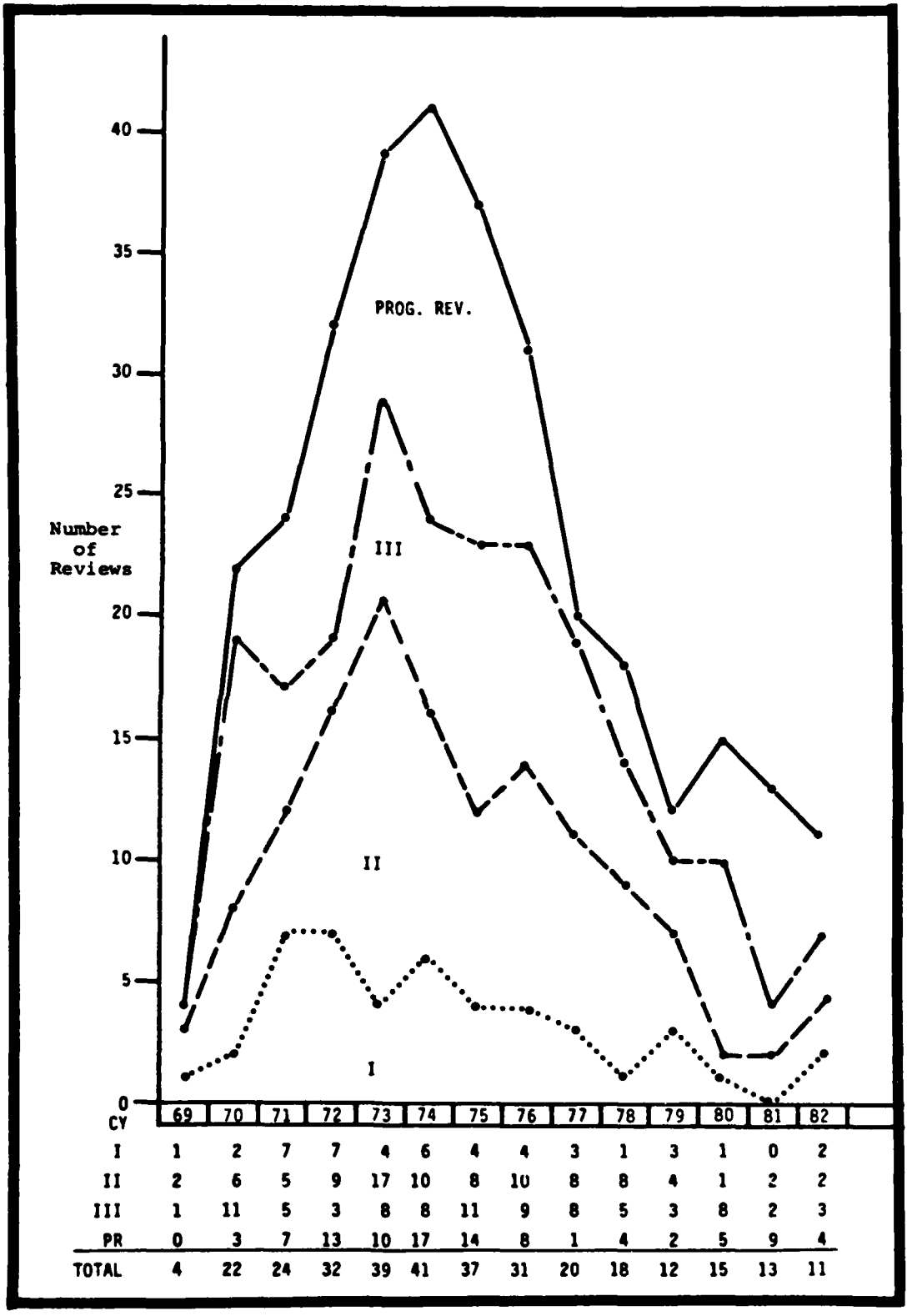
The DSARC process experiences of sixteen weapon system programs were required to be evaluated. The selection of these programs was considered critical to the outcome of this study. Specifically, it was essential that the programs selected be representative, providing an unbiased sample of programs impacted by the DSARC process, to the maximum extent possible.

Since the inception of the DSARC process in 1969, approximately 160 programs have been subjected to this management discipline. Appendix B provides the list of programs and the DSARC Review dates for each. These programs had a total of 319 reviews as shown in Figure 2. The selection of sixteen representative programs for detailed study presented a significant challenge. A procedure was needed that would reduce the overall number of programs for review before final selection. Within the resources available for this study, it was necesary to establish a relatively simple process for "selecting out" programs that would not contribute to the understanding of the DSARC process. An iterative process was envisioned that would yield 20 to 25 programs from which the final selection would be accomplished.

a. First Iteration

The first criterion used for "selecting out" programs was based on DSARC experience. Programs that had no reviews or one review were considered to have insufficient data to determine interactions of decisions and program progress. There are basically three types of programs in this category:

- Mature programs - At the time the DSARC process started, only the Milestone III decision remained for the program. This provided little opportunity for the process to affect the program. Some of these programs did have additional reviews after the DSARC III but these only amounted to periodic production decisions which actually dealt more with resource allocation issues than with systems acquisition management issues.



CY	69	70	71	72	73	74	75	76	77	78	79	80	81	82
I	1	2	7	7	4	6	4	4	3	1	3	1	0	2
II	2	6	5	9	17	10	8	10	8	8	4	1	2	2
III	1	11	5	3	8	8	11	9	8	5	3	8	2	3
PR	0	3	7	13	10	17	14	8	1	4	2	5	9	4
TOTAL	4	22	24	32	39	41	37	31	20	18	12	15	13	11

FIGURE 2: DSARC Milestone and Program Reviews

- o Immature programs - Programs recently initiated. Activities beyond Milestone I have not yet been accomplished.

- o Special Interest programs - Programs selected for DSARC review based on special SecDef interest. Only one review held with no followup.

Application of this criterion selected out the above programs and yielded a list of 56 programs with two or more reviews. Appendix B, Parts I & II, identify the programs that survived the first iteration. This group consists of 35% of all programs considered by the DSARC process and accounts for 62.7% of all the reviews conducted.

b. Second Iteration

Selected Acquisition Report (SAR) data was used as the next evaluation criteria. Systems were eliminated from this list if they had not been, or are not currently reported to Congress by the SAR. This was used as a general indication of a lower level of interest in a group of high interest programs. Based on the SAR data, as of December 1981, the following eighteen programs were removed from further consideration in this study:

Air Force	Army	Navy/Marines
F-5	AHIP*	CH-53E
SCAD	Stinger	Advanced Light Weight Torpedo
MX	TRITAC	Standard Missile II
GAU-8	TACFIRE	Condor
OTH-B		Phalanx
		BQQ-5
		ASPJ
		CLGP II
		JTIDS*

*These programs have subsequently been added to SAR reporting.

SAR data was evaluated for the remaining 38 programs to select programs that indicated either little change or significant change in specific program factors. The criteria selected were that real growth due to Engineering and Estimating (E&E) was either less than 10% or greater than 30%; and, real growth due to Schedule variance was either less than 5% or greater than 15%. Table 1 shows the variances for each of these programs. Thirteen programs were identified which met both criteria; however, the desired balance of Service and mission candidates was not obtained.

c. Final Selection

TABLE 1

Percentage Cost Variance Attributable to Various Program Factors

- o E&E - Engineering and Estimating
- o Sched - Schedule

AIR FORCE	E&E	SCHED.	ARMY	E&E	SCHED.	NAVY/MARINES	E&E	SCHED.
* A-10	3.9	24.3	CH-47D	17.6	0	F-18	25.5	4.3
EF-111	15.0	39.6	AAH	23.5	4.7	* AV-8B	-6.5	2.1
F-15	17.1	14.6	* UH-60	37.8	-5.4	FFG	63.6	8.0
F-16	75.0	7.1	* M-1	67.1	3.4	PHM	11.5	11.8
B-1A	13.3	6.2	* FVS	304.4	-4.1	TRIDENT-1	-3.1	8.7
IIR Maverick	29.1	2.1	* Roland	61.8	4.1	HARM	19.8	12.7
ALCM	14.9	2.0	* DIVAD	6.7	0	Tomahawk	12.6	8.3
*GLCM	47.7	1.0	PATRIOT	11.7	9.7	HARPOON	20.4	0.2
* NAVSTAR	7.0	0	* MLRS	-1.7	-1.2	* LAMPS	47.3	-0.8
DSCS III	36.8	7.5	Lance (Non-Nuc)	3.2	9.0	* TACTAS	51.0	1.1
E-4	12.3	46.2	Pershing II	33.4	10.4	SURTASS	76.1	9.3
E-3A	2.9	28.1	Copperhead	22.8	12.9	AEGIS	11.5	0
			Hellfire	47.7	6.9			
			* SOTAS	2.1	2.2			

* Programs meeting both criteria for selection.

The final selection criteria were somewhat subjective, and tailored for each Service's situation.

- For the Army it was necessary to reduce the list and provide balance between the mission areas. Programs that were under study, or recently studied by DSMC, were eliminated (M-1, MLRS). This reduced the list to five. A Fire Support System (Copperhead) was added and an Air Defense System (DIVAD) was deleted because the remaining Air Defense System (ROLAND) also satisfied the criteria for a multinational program.

- For the Air Force it was necessary to add two programs to provide a sample more representative of its mission. A multinational program and an air launched weapon were added. (F-16 and ALCM).

- For the Navy/Marines it was necessary to add four programs to get a net gain of three, because one of the originally identified programs had a DSARC Milestone review scheduled for November (TACTAS). Therefore, two ships, a weapon, and a C^3 system were added. (FFG, Trident, Harpoon, and AEGIS).

The resultant list of recommended and alternate programs is shown below:

Recommended:

AIR FORCE	ARMY	NAVY/MARINES
A-10	UH-60	AV-8B
F-16	FVS	LAMPS
GLCM	Roland	TRIDENT
ALCM	Copperhead	FFG
NAVSTAR	SOTAS	HARPOON
		AEGIS

Alternates:

IIR Maverick	DIVAD	TACTAS
DSCS III	Hellfire	HARM
E-3A	Patriot	F-18

The following is a distribution of programs by Service and specific acquisition characteristics:

	Number	Single Service	Joint	Multinational
Air Force	5	3	1	1
Army	5	3	1	1
Navy/Marines	6	5	0	1
	16	11	2	3

Subsequent to the approval of the above list, difficulties were encountered in obtaining data on AEGIS. As a result, TACTAS was selected as the alternate system to be reviewed.

II. EVOLVING ENVIRONMENT

A. MILESTONE STRUCTURE

1. Initial Formation

When Mr. Packard issued his memorandum on the establishment of the DSARC,[3] he emphasized that the primary responsibility for systems acquisition and management must rest with the cognizant service and that the program manager would be the focal point within the service. However, he also wanted to ensure that the programs were progressing as originally planned. To this end he created the Defense Systems Acquisition Review Council (DSARC) to review major programs at significant milestone points (contract definition, start of full-scale development, and start of production). These milestone points would subsequently be identified as Milestones I, II, and III. The original DSARC charter provided provisions for reviews at other than program transition points. Basically this could occur when directed by the SecDef or the DepSecDef, or when a DSARC member submitted a memorandum to the DSARC chairman requesting such a review.

The originating memorandum stated that the first milestone review "will support the basic DCP in that it will provide a forum for discussion and possible resolution of the various viewpoints of the participating principals, including the Secretary of the Miliary Service sponsoring the program. The later reviews will serve a function of validating the readiness of a system to proceed to the next stage, i.e., normally full-scale development or production."[4]

The concept provided three distinct decision points, each building on the other. Basically, the first decision considered the question of need and the program plan for its satisfaction. The second decision reviewed program progress, reconfirmed the need, and considered program plans and development risks. The third decision again reviewed program progress and need, with emphasis on resolution of technical problems and practicality of design for production and logistics support.

2. Directive Implementation

The milestone concept was initially incorporated into formal documentation with the release of DoD Directive 5000.1, dated July 13, 1971. This directive established policy for major

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3/ Deputy Secretary of Defense Memorandum, dated May 30, 1969, subject: Establishment of a Defense Systems Acquisition Review Council.

4/ Ibid.

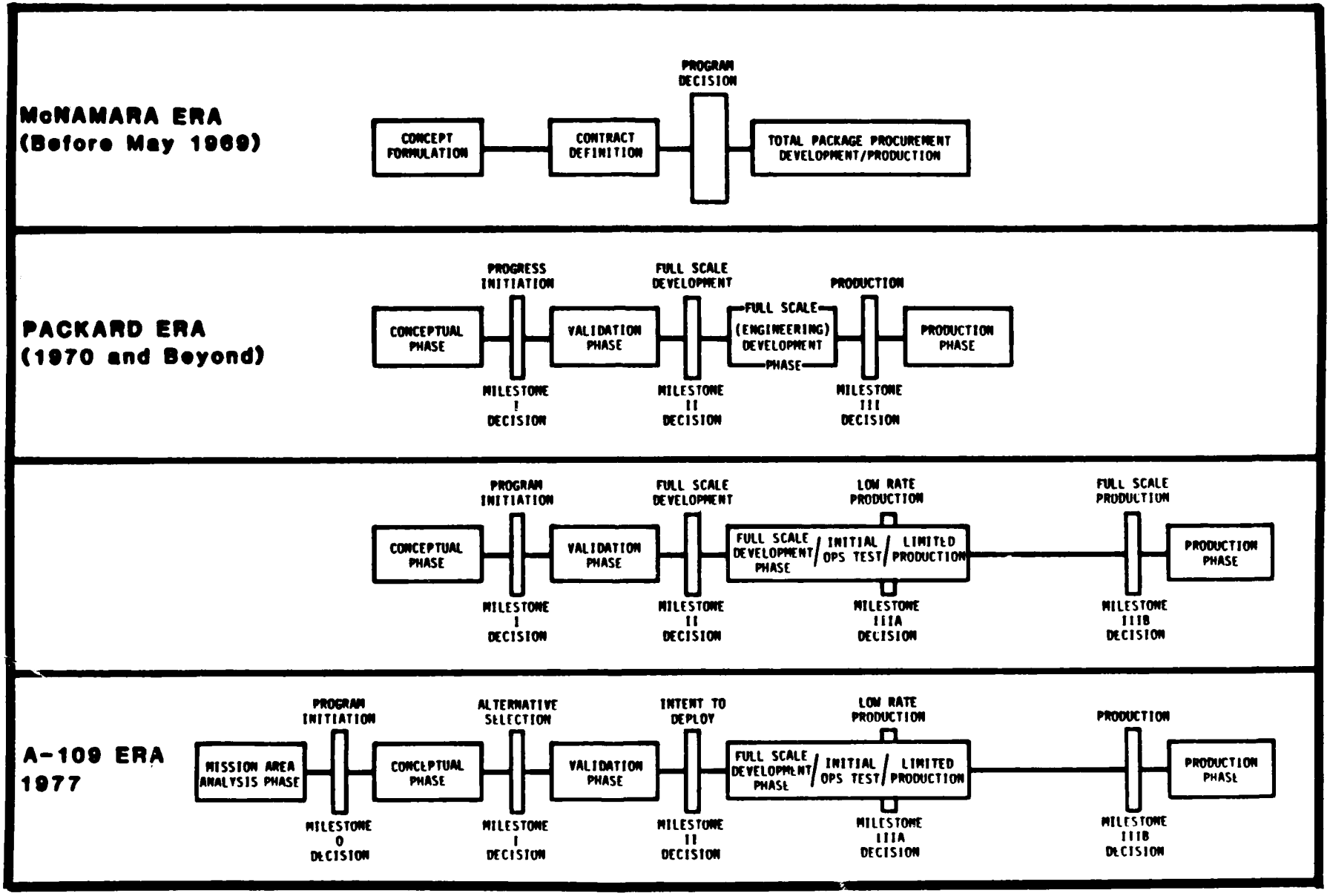

FIGURE 3: Systems Acquisition Process Evolution

defense system acquisitions and drew heavily on the initial Packard memo when discussing "Conduct of Program." The concept and intent of the original guidance appears to have been unchanged by this directive.

DoD Directive 5000.26 and DoD Instruction 5000.2 were issued on January 21, 1975. By reference, DoDD 5000.26 cancelled the Packard memo of May 30, 1969, and thereby became the new permanent charter for the DSARC. These two documents introduced the concept of unspecified "Additional Decision Points." These points were in addition to the three major decision points which may be required because of the structure of the program.

This change in policy to expand the possible number of reviews was, in actuality, a recognition of a situation which had been evolving for several years. Even though some programs were within prescribed thresholds, they were being subjected to more than the three basic reviews. Additional reviews/decision points were being specifically required to assess results of source selections, particular test phases, and initial production preparations. The revised DoDD 5000.1 dated December 22, 1975, recognized the potential for an additional decision point in initiating production but indicated that the SecDef would decide whether a DSARC review and revised DCP would be required.

The revised DoDD 5000.1 in 1975 had not changed the concept or scope of the existing milestone decisions. However, the new DSARC charter, in DoDD 5000.26, provided considerably more detail for the conduct of these reviews. The expansion of the topics to be formally considered by the DSARC caused difficulties in retaining the DCP within its twenty page limit. In addition, it appears that the increased detail at each milestone was establishing the condition whereby various aspects might become redundant from review to review.

3. The Fourth Milestone

On January 18, 1977, DoD Directives 5000.1 and 5000.2 were issued which cancelled previous editions, plus DoDD 500.26. These new directives incorporated the provisions of OMB Circular A-109 dated April 5, 1976. To faciliate the formalization of the requirements process, a fourth milestone was established. Figure 3 shows the evolution of the acquisition process and the relationship of the various milestones. It is interesting to note that the 1977 issues of the directives did not discuss "Additional Decision Points". However, in practice, Milestone IIIA, IIIB, etc., had become commonplace.

The reissuance of DoDD 5000.1 and DODI 5000.2 on March 19, 1980, did not result in any change to the Milestone structure. There were four major sequential decision points for the SecDef with the DSARC normally holding formal reviews at Milestones I, II, and III. The decisions to be made and their implication are as follows:

Milestone 0:	Proceed with concept exploration, initiates program and indicates intent to satisfy an approved need (MENS).
Milestone I:	Select concepts to proceed to demonstration and validation.
Milestone II:	Select systems for full scale development, indicates intent to deploy.
Milestone III:	Proceed to production and deployment.

The 1977 and 1980 versions of DoDI 5000.2 provided continued expansion of the topics to be addressed at the DSARC reviews by expanding the documentation requirements. The introduction in 1980 of the Integrated Program Summary (IPS) - a 60-page document - further exacerbated the perception of overlap or redundancy in the review process.

B. DEFENSE SYSTEM ACQUISITION REVIEW COUNCIL (DSARC)

1. Purpose and Objectives

Secretary Packard was concerned that before a program was transitioned from one phase to the next, all facets of the acquisition process were properly considered. The DSARC was established to advise him "of the status and readiness of each major system to proceed to the next phase of effort in its life cycle. The Council will serve to complement the Development Concept Paper (DCP) system, which continues as a formal DoD management and decision-making system for the acquisition of major systems."[5/]

The basic purpose and objectives of the DSARC were slightly expanded in 1975 with the issuance of DoD Directive 5000.26. The DSARC would now "serve as an advisory body to the Secretary of Defense on the acquisition of major defense system programs and related policies, and to provide him with supporting information and recommendations when decisions are necessary."[6/] The Council would still complement the DCP (now called Decision Coordinating Paper).

Another slight modification, more in tone than substance, occurred in 1980 with the reissue of DoDD 5000.1. This directive stated that the DSARC "shall advise the Secretary of Defense on

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5/ Ibid.

6/ DoDD 5000.26, DSARC, dated January 21, 1975.

milestone decisions for major systems and such other acquisition issues as the Defense Acquisition Executive determines to be necessary."[7/]

2. Organization

The initial composition of the DSARC established by Secretary Packard's memo in 1969 was quite small. The Council consisted of the DDR&E, the ASD (I&L), the ASD (C), and the ASD (SA). The Chairman could invite other staff members, such as ASD (M&RA) and the ASD (ISA), to participate if the review had significant relevance to their responsibilities. The DDR&E was designated as the Chairman for the first two milestone decisions and the ASD (I&L) was designated for the third. The DDR&E or the ASD (I&L) would chair any additional reviews, depending on the action under consideration.

The first major revision to the DSARC organization came with the issuance of DoDD 5000.26 on January 21, 1975. The following summarizes the changes:

a. The ASD (Intelligence) and the Director Telecommunications and Command and Control Systems (DTACCS) were designated as council principals for programs within their areas of responsibility.

b. Other Assistant Secretaries of Defense having interest in a specific program or the General Counsel could be invited to serve as principals.

c. The Deputy DDR&E (T&E) was designated a participant.

d. The chairman of the CAIG was designated as an advisor to the DSARC.

e. The Head of the Cognizant DoD Component and the Chairman of the JCS, or their representatives, were designated as participants.

f. Other key officials could be invited to participate or to serve as advisors. The DSARC Chairman would make a determination on a case-by-case basis.

g. The position of Executive Secretary was formally established.

h. The basic concept of a changing chairmanship remained unchanged. However, ASD (I) or the DTACCS would serve as co-chairman for programs of their primary responsibility.

7/ DoDD 5000.1, Major Systems Acquisition, March 19, 1980.

In 1977 the DSARC organization was again modified with the reissuance of DoDD 5000.2, which cancelled the DoDD 5000.26 of January 21, 1975. The features of the revised organization were now:

Membership

- Defense Acquisition Executive (Chairman)
- DDR&E
- ASD (I&L)
- ASD (C)
- ASD (I)
- Director of Planning and Evaluation
- DTACCS
- Other OSD staff principals when essential to the program under review.

Participants and Advisors

- Senior representative of the Chairman JCS as an advisor.
- Deputy DDR&E (T&E), participant.
- Chairman of the CAIG, participant.
- The DoD Component Head or a representative, participant.
- Other participants as deemed needed by the DSARC Chairman.

DSARC Secretary

Executive Secretary designated by the DAE.

The significant feature of this revision is that the chairmanship was fixed. The DAE would be the permanent chairman. DoDD 5000.30 dated August 20, 1976, established the responsibilities, functions, and authorities for the DAE. The DDR&E was subsequently assigned this function. Another feature of the revision is that the list of designated principals had increased to six with ASD (I) and DTACCS being assigned fulltime.

In March 1980, DoDI 5000.2 was reissued and the DSARC organization was again modified. The following summarizes the changes:

Membership

- o ASD (I) and DTACCS were removed.
- o USDP or a designated representative was added.
- o Chairman, JCS or a designated representative was added.

Advisors

The list of designated advisors for specific areas was increased significantly. The following is the revised listing extracted from DoDI 5000.2.

- o For Communications, Command, Control, and Intelligence (C^3I) research, engineering, and program matters: Assistant Secretary of Defense (Communications, Command, Control, and Intelligence) (ASD (C^3I)).
- o For NATO affairs: Advisor to the Secretary of Defense and Deputy Secretary of Defense on NATO Affairs.
- o For producibility and acquisition strategy matters: Deputy Under Secretary of Defense for Research and Engineering (Acquisition Policy).
- o For program matters: Appropriate Deputy Under Secretary of Defense for Research and Engineering.
- o For defense policy and related operational requirements matters: Appropriate Deputy Under Secretary of Defense Policy.
- o For threat assessment and substantive intelligence matters: Director, DIA.
- o For Test and Evaluation (T&E) matters: Director of Defense Test and Evaluation.
- o For cost matters: Chairman of the Cost Analysis Improvement Group.
- o For Logistics Support: Director, Weapons Support Improvement Group.

DSARC Executive Secretary

- o The function was retained.

The first ten years of the DSARC saw adjustments to its structure. Additional principal members were added, then deleted and others added. Figure 4 portrays this organizational evolution and the political realities of changing incumbents. In addition to the expanding structure of DSARC principals, the list of designated advisors increased significantly.

3. Procedures

a. Major Programs Designation

Central to the DSARC process is the designation of programs to be subjected to this management discipline. Secretary Packard initially defined major programs, which would be subject to DSARC reviews, as those requiring a DCP along with those he specifically designated. Basically, the process has not changed appreciably since its inception. Major programs are those efforts designated by the SecDef or DepSecDef. The various issues of DoD Directives and Instructions have provided adjustments and amplifications as to what factors would be considered in making this determination. Figure 5 provides a summation of the evolution of these factors. The reissuance of DoDI 5000.2 on March 18, 1980, established the requirement for the DSARC Executive Secretary to maintain and distribute a major programs listing. An example of this document, which is now updated quarterly, is shown in Figure 6.

b. Review Preparation Activities

Secretary Packard's memo of May 30, 1969, was a policy statement and provided very little in the way of procedural instructions. The memo did state that "The Council will serve to complement the Development Concept Paper (DCP) system, which continues as a formal DoD management and decision-making system for the acquisition of major systems."[8/] The DDR&E and ASD (I&L) were tasked to jointly prepare the necessary procedures and take the administrative actions necessary to implement the DSARC charter.

The specific procedures have evolved with the various versions of DoDD 5000.1 and DoDI 5000.2. Such items as pre-DSARC planning meetings, functional staff assessment reports, and documentation requirements have all experienced expansion and modification.

8/ Deputy Secretary of Defense Memorandum, dated May 30, 1969, Subject: Establishment of a Defense System Acquisition Review Council.

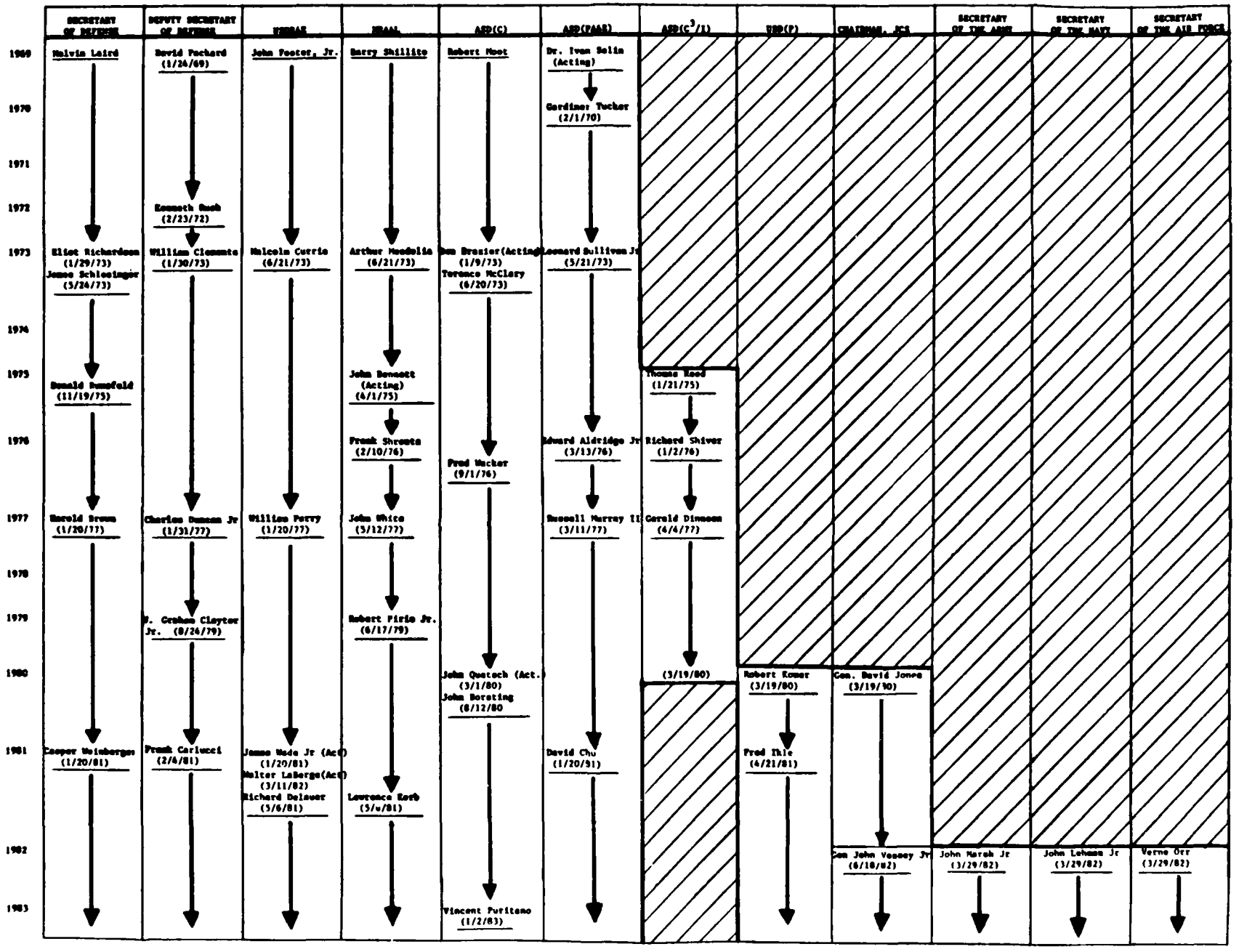
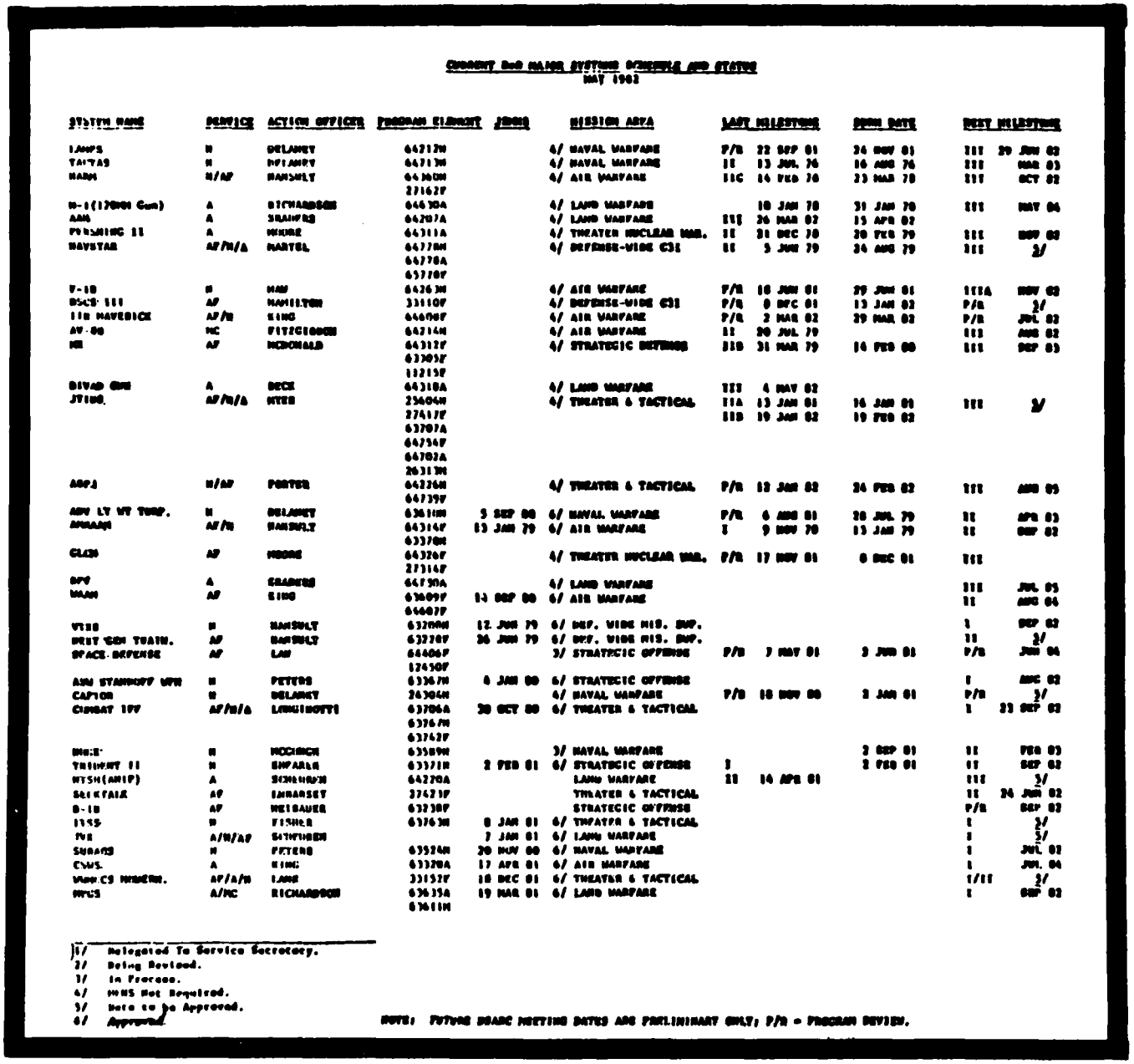


FIGURE 4: DSARC Principals

FACTORS	DOD DIRECTIVE 5000.1			
	Jul'71	Dec'75	Jan'77	Mar'80
Dollar Value (Greater than)				
RDT&E	$50M	$50M (FY72$)	$75M	$100M (FY80$)*
Production	$200M	$200M	$300M	$500M
Program Characteristics				
o Component Head recommends major program status	X	X	X	
o Urgency	X	X		X
o Development Risk				X
o Items of interest to SecDef				X
o Criteria in OMB Circular A-109				X
o Joint or Multi-National Program				X
o Manpower Requirement				X
o Congressional Interest				X

* The dollar amount was not specified in DoDD 5000.1, just that estimated funds requirements for RDT&E and production would be considered. The amounts shown are from DoDI 5000.2 of the same date.

Figure 5: Factors in Designating Major Programs.



CURRENT DoD MAJOR SYSTEMS SCHEDULE AND STATUS
MAY 1981

SYSTEM NAME	SERVICE	ACTION OFFICER	PROGRAM ELEMENT	JDMS	MISSION AREA	LAST MILESTONE		DSARC DATE		NEXT MILESTONE	
LAMPS	N	DELANEY	642170		4/ NAVAL WARFARE	P/R	22 SEP 81	24 NOV 81		III	29 JUN 82
TACTAS	N	DELANEY	647130		4/ NAVAL WARFARE	II	13 JUL 76	16 AUG 76		III	MAR 83
HARM	N/AF	RAMSULT	643600N 271627F		4/ AIR WARFARE	IIC	16 FEB 76	23 MAR 78		III	OCT 82
M-1(120MM Gun)	A	RICHARDSON	646700A		4/ LAND WARFARE		10 JAN 78	31 JAN 78		III	MAY 84
AAH	A	SHANNON	642707A		4/ LAND WARFARE	III	26 MAR 82	15 APR 82			
PERSHING II	A	MOORE	643111A		4/ THEATER NUCLEAR WAR.	II	31 DEC 78	28 FEB 79		III	SEP 82
NAVSTAR	AF/N/A	HARTEL	643708N 643708A 653707F		4/ DEFENSE-WIDE C3I	II	5 JUN 79	24 AUG 79		III	2/
F-18	N	HAM	642603N		4/ AIR WARFARE	P/R	10 JUN 81	29 JUN 81		IIIA	NOV 82
DSCS III	AF	HAMILTON	333109F		4/ DEFENSE-WIDE C3I	P/R	9 DEC 81	13 JAN 82		P/R	2/
IIR MAVERICK	AF/N	KING	646006F		4/ AIR WARFARE	P/R	2 MAR 82	29 MAR 82		P/R	JUL 82
AV-8B	MC	FITZGIBBON	642114N		4/ AIR WARFARE	II	30 JUL 79			III	AUG 82
MX	AF	MCDONALD	643121F 633052F 112151F		4/ STRATEGIC DEFENSE	IIB	31 MAR 79	14 FEB 80		III	SEP 83
BRAD GMV	A	BECK	643118A		4/ LAND WARFARE	III	4 MAY 82				
JTIDS	AF/N/A	MYER	256044N 274117F 633707A 647547F 647702A 263139N		4/ THEATER & TACTICAL	IIA IIB	13 JAN 81 19 JAN 82	16 JAN 81 19 FEB 82		III	2/
ADPJ	N/AF	PORTER	642266N 647399		4/ THEATER & TACTICAL	P/R	12 JAN 82	24 FEB 82		III	AUG 85
ADV LT WT TORP.	N	DELANEY	626111N	5 SEP 80	6/ NAVAL WARFARE	P/R	6 AUG 81	28 JUL 79		II	APR 83
AMRAAM	AF/N	RAMSULT	643146F 633708F	13 JAN 79	6/ AIR WARFARE	I	9 NOV 78	13 JAN 79		II	SEP 82
GLCM	AF	MOORE	643206F 273146F		4/ THEATER NUCLEAR WAR.	P/R	17 NOV 81	8 DEC 81		III	
SFW	A	SHANNON	644730A		4/ LAND WARFARE					III	JUL 85
WAAM	AF	KING	636099F 646077F	14 SEP 80	6/ AIR WARFARE					II	AUG 84
VTOL	N	RAMSULT	633111N	12 JUN 79	6/ DEF. WIDE MIS. SUP.					I	SEP 82
DEST GDN TRAIN.	AF	RAMSULT	633708F	26 JUN 79	6/ DEF. WIDE MIS. SUP.					II	2/
SPACE DEFENSE	AF	LAW	644066F 124509F		3/ STRATEGIC OFFENSE	P/R	7 MAY 81	3 JUN 81		P/R	JUN 84
ASW STANDOFF WPN	N	PETERS	633678N	6 JAN 80	6/ STRATEGIC OFFENSE					I	AUG 82
CAPTOR	N	DELANEY	263064N		4/ NAVAL WARFARE	P/R	18 NOV 80	3 JAN 81		P/R	2/
COMBAT IFF	AF/N/A	LANGENDORF	637706A 637678 637423F	30 OCT 80	6/ THEATER & TACTICAL					I	23 SEP 82
SWISS	N	MCCORMICK	635889N		3/ NAVAL WARFARE			2 SEP 81		II	FEB 83
TRIDENT II	N	SHPARLA	633711N	2 FEB 81	6/ STRATEGIC OFFENSE	I		2 FEB 81		II	SEP 82
MTSH(ANTP)	A	SCHENDEL	642720A		LAND WARFARE	II	14 APR 81			III	2/
SECURITAS	AF	INNARSET	374213F		THEATER & TACTICAL					II	24 JUN 82
B-1B	AF	WEISAUER	632308F		STRATEGIC OFFENSE					P/R	SEP 82
IFFS	N	FISHER	637630N	8 JAN 81	6/ THEATER & TACTICAL					I	2/
TVS	A/N/AF	SATTERLEE		7 JAN 81	6/ LAND WARFARE					I	2/
SUBAMS	N	PETERS	635240N	20 NOV 80	6/ NAVAL WARFARE					I	JUL 82
CWMS	A	KING	633720A	17 APR 81	6/ AIR WARFARE					I	JUL 84
WWMCCS MODERN.	AF/A/N	LANE	331537F	18 DEC 81	6/ THEATER & TACTICAL					I/II	2/
MPMS	A/MC	RICHARDSON	636135A 636111N	19 MAR 81	6/ LAND WARFARE					I	SEP 82

1/ Delegated To Service Secretary.
2/ Being Revised.
3/ In Process.
4/ MENS Not Required.
5/ Date to be Approved.
6/ Approved.

NOTE: FUTURE BOARD MEETING DATES ARE PRELIMINARY ONLY; P/R = PROGRAM REVIEW.

FIGURE 6: Major Programs List - Sample

(1) Documentation

The DCP was initially envisioned as the principal document for recording the essential information on the program and the Secretary of Defense's decisions. This 20-page document was to be prepared by the DoD Component as an "initial draft" to an OSD-approved outline, and submitted to the DSARC chairman's staff for subsequent review and coordination. It was then the DSARC chairman's staff responsibility to provide the "for coordination" draft to the DSARC principals and the Head of the Cognizant DoD Component at least 10 working days prior to the DSARC reviews.

By 1977, the DCP was also required to support the Service(s) SARC reviews prior to the DSARC reviews. The revised instructions provided a list that required increased DCP content but did not remove the 20-page constraint. Total administrative responsibility was turned over to the DoD Component with the requirement that the "for coordination" draft be provided to the DSARC principals and advisors by 15 work days prior to the scheduled Council review.

The magnitude of the documentation problem can be appreciated when one reviews the March 1980 revision to DoDI 5000.2. The DCP was to be controlled at 10 pages including annexes. However, a new document was introduced, the Integrated Program Summary (IPS). This document was limited to 60 pages, including all annexes except the one on Funding Profiles. These two documents were to be processed together and supported by a Milestone Reference File (MRF)--a collection of existing program documentation, referenced in the DCP and IPS, that was provided to the DSARC Executive Secretary for use by OSD personnel. These newly established page limits were undoubtedly an attempt to regain control of the size of the formalized DSARC documentation. However, the new constraint yielded documents 3 1/2 times larger than initially envisioned. This increased documentation took longer to prepare, was more difficult to coordinate and was harder to keep current. All this contributed to longer preparation time and the erosion of the orignial DCP contract concept.

(2) Planning meetings

The Milestone Planning Meeting has also undergone changes. When originally conceived, it was discretionary and usually occurred approximately 60 days before the DSARC review. (Ref. DODD 5000.26, January 21, 1975.) Primary emphasis was on determining the specific issues and the information that would be available at the DSARC review. It was then transformed into a mandatory meeting 4 to 6 months prior to the DSARC review with primary emphasis on developing a DCP outline. This subsequently evolved, in March 1980, to a mandatory meeting 6 months prior to the DSARC review to identify "issues and items" to be emphasized in the DCP and IPS. This increased time between the planning

meeting and DSARC review correlated directly with the expanding documentation requirement.

(3) Other reports/presentations

The evolving procedures on the DCP and the basic DSARC review presentation have been accompanied by the increase in ancillary activities. The DoD Component can now expect to give specialized briefings, several weeks before the DSARC review, on Test and Evaluation, Cost Analysis, and Manpower and Logistics Analysis. This is then followed by an OSD staff pre-brief meeting and subsequent submission of Assessment Reports by the CAIG, DUSDR&E (T&E), and MRA&L. This group of activities, two to three weeks prior to the DSARC review, is usually the time when the final issues between OSD and the DoD Component are identified.

c. Post-DSARC Activities

The primary activity after the DSARC review is the formalizing of the Council recommendations and preparation of the SecDef decision document. Initial prescribed procedures stated that the "Secretary of Defense decision is consumated when he signs the DCP." These initial instructions indicated desired time constraints in providing the recommendations and implementing documents to the SecDef, but did not specify how quickly he should make the decision. In March 1980, DoDI 5000.2 established the Secretary of Defense Decision Memorandum (SDDM) as the document to implement the milestone decisions. The DCP no longer required signature. The directive also established 15 workdays after the DSARC review as the goal for staffing and issuing the SDDM.

Other directed post-DSARC review activities have varied with the different issues of DoDD 5000.1 and DoDI 5000.2. The initial requirement for an annual review of the DCP and issuance of a Cover Sheet, even when no changes had occurred, was modified to require update of the DCP when the SecDef takes action through the PPBS which changes the previously approved program. By 1980, the formal instructions had deleted all reference to routine updating of the DCP.

In 1977, DoDD 5000.1 required that after the Milestone decision, the DoD Component Head provide quarterly reports to the SecDef on key program issues. This requirement was not continued in the 1980 release of the directive, and the only post-DSARC review action remaining was the issuance of the SDDM and compliance with any specific tasking within that document.

C. DEFENSE RESOURCES BOARD (DRB)

1. Purpose and Objectives

In the mid-1970's, assertions of inefficiencies in the areas of DOD resources management were the basis of a presidential initiative that, in November, 1977 commissioned the Defense Resources Management Study (DRMS). That study was intended to provide a "searching organizational review into several resources management issues." Five areas were to be addressed; several of particular interest to the DSARC were the resources allocation decision process (PPBS) and the Weapon System acquisition process.

The DRMS final report, published in February 1979, indicates that a working relationship was established between the OSD staff, the Military Departments, the service staffs, field organizations, the OMB, and former Department officials. However, the concurrence with the recommendations of the DRMS by the above organizations cannot be assumed.

The DRMS report's key proposal was that the PPBS cycle be "destructured." This would happen by defining a "planning window that would occur from January to May," and a "combined program/budget review extending from August to December." The center piece of the latter review activity would be the participation by a Defense Resources Board (DRB).

The general objective of this activity would be to focus attention on the mission and program review aspects in the early stages of programs, and on budget "scrubs" in the later stages. In managing these aspects, the DRB was intended to enable these perspectives to be balanced throughout the acquisition life cycle of the programs, and in a broader sense, to coordinate programming and budgeting within the DOD. Under the original recommendation, the DRB would:

- Manage all aspects of the combined program/budget review, including the guidance for submission and the structure and schedule of the review;
- Identify issues requiring resolution;
- Arrange for needed staff work;
- Conduct "cross-cutting" or other reviews necessary to ensure mutual consideration of perspectives important to each principal (of the OSD staff);
- Decide minor issues;
- Take major issues to the Secretary;

- o Prepare Presidential review materials;
- o Hear reclamas; and
- o Ensure that final decisions are communicated in multi-year program terms, and that sufficient rationale is provided to update the rationale for the Defense Program.

The final report of the DRMS suggests that the recommendation to establish the DRB and adjust the timing and the content of the DOD process would enable the DOD to better respond "to signals emanating from Congressional budget review and to meet Presidential decision requirements."

The role of the DRB was changed by DepSecDef Frank Carlucci in his memorandum of March 27, 1981. In that memorandum, he stated that the original role was specifically defined as being one of "supervising the OSD review of Service POMs and the Budget Submission." The revised role was now described as one intended "to help the Secretary of Defense manage the entire revised planning, program-ming and budgeting process" The redirection of the DRB was also designed "to assure that major acquisition systems are more closely aligned to PPBS."

The direction stated the number of major issues to be raised before the DRB were to be limited. Lesser issues were to be resolved outside of the DRB forum, and only presented to the DRB when a consensus could not be obtained. DepSecDef Carlucci's memo directed that "DRB members must be more than advocates of their particular areas of responsibility; they must take a broader and deeper DOD view..." Clearly, the intention of the enhanced membership of the DRB was to strengthen the consensus of the board, particularly in regard to the interactions between the PPBS and the DSARC reviews.

2. Organization

The DRB was formally established by a memorandum from Secretary of Defense Harold Brown on April 7, 1979. Direction was delegated to the Deputy Secretary, with permanent membership vested in the USD(R&E), the ASD(PA&E, the ASD(C), and the ASD (MRA&L). Ex-officio membership was directed for the Chairman, Joint Chiefs of Staff or his designated representative. Associate membership was provided for the ASD(C^{3}I), the ASD (ISA), the ASD(HA), the Advisor for NATO Affairs, the DUSD(PR), and a representative of the Director, OMB.

The DRB membership was change by DepSecDef Carlucci in his memorandum of March 27, 1981 to the following:

Chairman: DepSecDef

Executive Secretary: The Executive Assistant to DepSecDef

Permanent Members:	Chairman, JCS	ASD(MRA&L)
	SecArmy	Director(PA&E)
	SecNavy	ASD(C)
	SecAir Force	ASD(IGA)
	USD(P)	ASD(ISP)
	USD(R&E)	ASD(HA)
	ASD(D&S)	ASD(R&T)
		Assistant Director/OMB

3. Inter-relationship/Issues with DSARC

Among its principal responsibilities, the DRB was originally directed to assure that "decisions, once made in the course of the annual program and budget review, are not revisited in the absence of new information." Implicit in this direction was the desire to resolve the concern expressed by the DRMS that there was a "gray area of mutual interference between the (PPB and the DSARC) process. The DSARC was seen to be making resource allocation decisions, and the PPBS was disrupting "orderly acquisition strategies."

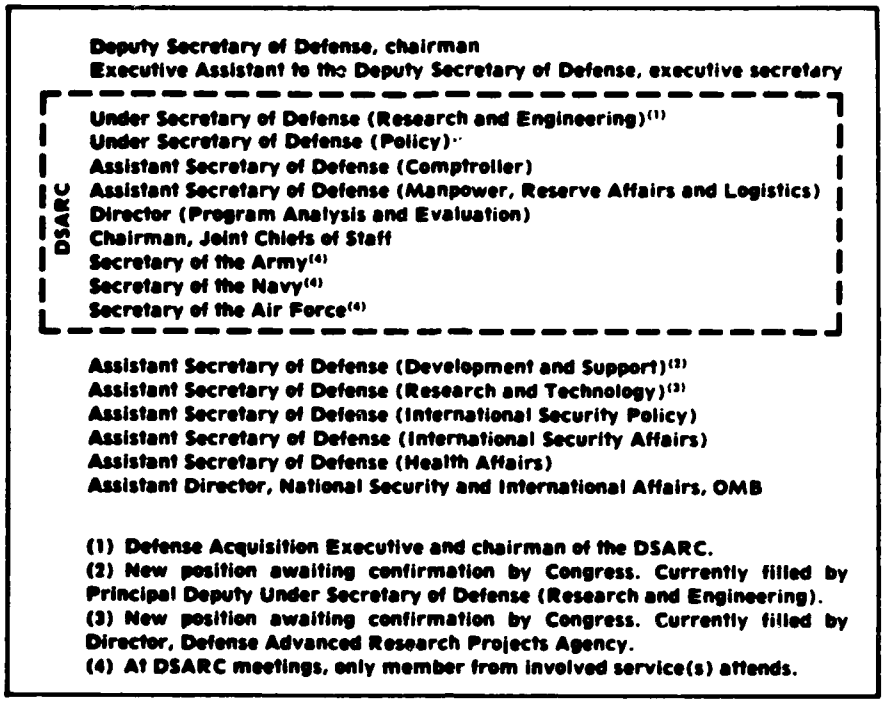
The DRB was to be an advisory body; its actions and recommendations had no authority until specifically approved by the SecDef or the DepSecDef acting "independently of his role as DRB chairman."

The DRB has performed this function, although the method of operation has been highly dependent on the chairman's management style. This has varied from members voting on alternatives to forced concensus, to finally open discussion with the chairman developing the final recommendations. All styles have supported the basic requirement that the SecDef make the decisions.

The March 1981 DepSecDef memorandum made structural changes to the DRB and expanded its role, as discussed earlier. The revised DRB structure, and its interrelationship to the DSARC is shown in Figure 7.' In his memorandum of April 30, 1981 he further identified two initiatives that would "tie the acquisition process more closely to the PPBS." Specifically:

- The Services would submit MENS (subsequently renamed JMSNS) with the POM. SecDef approval of MENS would be by accepting the POM in the abence of specific disapproval.

- DSARC reviewed programs would be accompanied by assurance that sufficient resources are in the FYDP and Extended Planning Annex to execute the recommended program.



Ref: "The Acquisition Process: New Opportunities for Innovative Management," David D. Acker and George R. McAleer, Jr., Concepts, Summer 1982, Vol. 5, #3

FIGURE 7: THE DEFENSE RESOURCE BOARD

The revised procedures were implemented by the DRB during its 1981 Summer Review. Because these procedures were established late in the Services' POM preparation cycle, no new starts were submitted with their respective POMs. The DRB authorized several new program starts based on funds already being identified in the appropriate budget year. Several programs, however, were not authorized for new starts because either funds were not previously identified or the request was made "out-of-cycle". The "front-end" of the acquisition process has been tied to the PPBS with the DRB making the recommendation to the SecDef on whether a program should be initiated.

The current method of operation of the DRB was determined by discussions with various persons involved with this activity. The DRB meets regularly throughout the year to review planning guidance and conduct other actions deemed appropriate by the

chairman, with the major efforts associated with the management of the program and budget review process. Basically this effort reaches a peak in the early summer, when the DRB reviews the Services' POMs. Within approximately two weeks the DRB accomplishes the review of the eight Budget Issue Books and identifies the inadequacies in the Services' POMs relating to planning guidance on force balance and modernization, sustainability, etc. The net result of this review is usually that additional funds are required to satisfy the DRB recommendations; however, sources for these funds are invariably not identified, and this task is passed back to the Services. It was pointed out during this study that the DRB usually does not concern itself with particular programs, but is more concerned with the overall task of effective resource allocation within the DOD. Naturally, if a program was to have major problems, for whatever reason, it could become a subject for specific action. Based on discussions with involved personnel, it was clearly stated that the final DRB recommendations have definitely considered the overriding political sensitivities associated with their implementation. These discussions also stated that the DRB principals usually always attend the meeting and the Chairman (DepSecDef) has not missed one meeting. Although not a member of the DRB, Secretary Weinberger has attended many of the DRB sessions.

D. SERVICE IMPLEMENTATION

1. Air Force

Air Force direction on systems acquisition management was originally contained in the AFR 375 series regulations. On July 27, 1971, AFR 800-2 was issued that superseded these regulations. Although this new regulation did not specifically indicate that it was implementing the policies of the DepSecDef memos of 1969 and 1970 or DoDD 5000.1 dated July 13, 1971, the regulation incorporated the underlying principles of these documents since it permitted the decentralized management of all Air Force acquisition programs funded under RDT&E or procurement appropriations. The rather brief regulation provided for the following:

- Maximum delegation of authority and responsibility to the implementing command and the designated Program Manager.
- Appropriate review and approval actions reserved to higher headquarters; however, staff level involvement was to be held to a minimum, consistent with overall Air Force needs.
- Secretary of the Air Force will designate certain programs for special management reviews. [Secretary of the Air Force Programs Reviews (SPR)].

- Designated responsibilities to major Air Force elements (Hdqts Air Force, Implementing Command Participating Commands, and Program Manager).

- Authorized direct communications from Program Manager to appropriate decision authorities (BLUELINE - a direct channel of communications applied to specified programs).

The regulation was reissued on March 16, 1972, for the express purpose of implementing DoDD 5000.1 dated July 13, 1971. This issue of the regulation read exactly the same as the earlier issue except that it now referenced the DoD Directive and included it as an attachment. Change #1 to AFR 800-2 was issued on April 30, 1975. This change implemented DoDI 5000.2 and DoDD 5000.26 dated January 21, 1975, and included them as an attachment to the basic regulation.

The regulation was reissued on November 14, 1977, superseding the earlier issue, as changed. This issue implemented DoDD 5000.1 and 5000.2 dated January 18, 1977, and extended the management policy to include Security Assistance Programs and modification programs. The regulation structure and format was still the same: 3-page regulation with the DoD Directives attached. This issue of the regulation provided the following additional policy guidance:

- Management of acquisition programs is delegated to the implementing command, except for milestone decisions retained by SecDef or Sec AF.

- Line authority above Program Manager will make decisions at selected milestones. Line authority decisions above Program Manager must be documented as official program direction, and line authority held accountable.

- Program Manager's charter provided by Hdqt Air Force. Sec AF would approve charters for major acquisition programs.

- Air Force Test and Evaluation Center (AFTEC) would be responsible for independent estimate of systems military utility, operational effectiveness and operational suitability.

- The BLUELINE communications concept was expanded to include the DAE on major systems acquisition.

Two items of particular interest were not contained in the body of the regulation, but in the attachment on "Air Force Terms." The first was the Air Force Systems Acquisition Review Council (AFSARC) and the second was the Mission Element Need

Statement (MENS). The attachment indicated that the AFSARC had been formed by Sec AF Order No. 20.6, June 26, 1976, and defined its membership and basic responsibilities. The procedures for conducting AFSARC reviews were not incorporated in any regulation. The attachment to AFR 800-2 defined the MENS as "The document prepared by HQUSAF to support .... the Milestone O decision." The details of the requirements process and the formulation of the MENS would subsequently be included in a totally revised issue of AFR 57-1.

On August 13, 1982, the regulation was reissued. The regulation implemented "applicable sections" of DoDD 5000.1, March 29, 1982; DoDI 5000.2 March 19, 1980; and USDR&E memo: "Major Defense Systems Acquisition Program Documentation Format," April 12, 1982. This issue of AFR 800-2 basically built on the earlier Air Force policy and provided the following additions or changes:

- o Identified the concept of AF Designated Acquisition Programs (AFDAP) as major acquisitions below SecDef thresholds.
- o Selected milestone decisions allowed to be delegated to the implementing command.
- o Designated the Ass't Sec of the AF for Research, Development and Logistics as the AF Acquisition Executive (AFAE).
- o Defined the AFSARC, its Assessment Committee (AAC) and procedures for resolving issues in programs proceeding toward major reviews by the AFSARC or DSARC.
- o Provided additional guidance in various functional areas.

The Air Force has implemented the DoD guidance on major systems acquisition management with AFR 800-2. The regulation is a brief, directly written document that implements the DoD policies unencumbered by significant amounts of detail. The only difficulty appears to have been in maintaining currency of the regulation. The DoD directives invariably specify implementing instructions within 90 to 120 days. In most cases this did not occur and there are instances when the regulation was one to two years out of date. Although this provides the basis for some confusion in preparing for a milestone decision, it appears this was minimized by the use of the latest versions of the DoD instructions instead of the actual attachments to the current issue of the regulation. The DSARC milestone planning meetings seem to have aided in this area and provided the forum for defining the process to be used by a particular program at that particular time.

2. Army

The Army implements DoDD 5000.1 and DoDI 5000.2 with Army Regulation (AR) 1000-1, Basic Policies for System Acquisition, which establishes Army policy for the acquisition of material systems and AR 15-14, Systems Acquisition Review Council Procedures, which provides instructions and establishes procedures governing the ASARC. A third regulation, AR 70-1, Army Research, Development and Acquisition, implements AR 1000-1 and the various DoD Directives and Instructions as they apply to the RDA of new systems and equipment. AR 70-1 establishes responsibilities, policy, and general procedures for conducting R&D in the Army. Because of their direct relationship to the DoDDs and DoDIs, only AR 1000-1 and AR 15-14 are discussed further.

Implementation of the DoDD and DoDIs by the Army has generally taken a year or more as illustrated below:

DoDD 5000.1, July 1971	AR 1000-1, July 1972 AR 15-14, Jan 1973
DoDI 5000.2, Jan 1975 DoDI 5000.26, Jan 1975	AR 1000-1, Jan 1975 AR 15-14, Feb 1975
DoDD 5000.1, Jan 1977 DoDI 5000.2, Jan 1977	AR 1000-1, May 1978 AR 15-14, May 1978
DoDD 5000.1, Mar 1980 DoDI 5000.2, Mar 1980	AR 1000-1, Jun 1981 AR 15-14, Jun 1981
DoDD 5000.1, Mar 1982 DoDI 5000.2, Oct 1982(Draft)	AR 1000-1, Draft AR 15-14, Draft

The following summarizes the evolution of these two Army regulations:

a. AR 1000-1, Basic Policies for System Acquisition

June 30, 1972. Regulation established Army's basic policies seeking to minimize costs, shorten development time, and assure adequate performance. It described two general approaches to systems acquisition: one pertaining to the larger more expensive or important systems, and another for all others. In order that top managers of the Army could participate personally in face-to-face decision making on major weapons systems, the ASARC was established. An ASARC system paralleling the DSARC system was to be responsible for the ASARC/DSARC preparations.

The ASARC membership (principals) was:

ASA (FM)	Assistant Secretary of Army (FM)
ASA (R&D)	Assistant Secretary of Army (R&D)
ASA (I&L)	Assistant Secretary of Army (I&L)

DUSA (OR)	Deputy Under Secretary of Army (OR)
ACSFOR	Assistant Chief of Staff for Force Development
COA	Comptroller of the Army
CRD	Chief of Research and Development
DCSLOG	Deputy Chief of Staff for Logistics

Staff responsibility for coordinating each ASARC review varied according to the Milestone being reviewed.

November 5, 1974. This iteration of AR 1000.1 revised the ASARC membership and staff responsibilities.

Regular ASARC Members (attend all reviews) and Special ASARC Members (attend on call of Chairman) were described as follows:

REGULAR

Vice Chief of Staff - Chairman
Commander, U.S. Army Materiel Command
Commander, U.S. Army Training and Doctrine Command
Assistant Secretary of Army (R&D)
Assistant Secretary of Staff for Operations and Plans
Deputy Chief of Staff for Operations and Plans
Deputy Chief of Staff for Research, Development, and Acquisition (DCSRDA)
Deputy Under Secretary of Army (OR)

SPECIAL

Assistant Secretary of Army (FM)
Assistant Secretary of Army (M&RA)
Deputy Chief of Staff for Logistics
Comptroller of the Army
General Counsel
Commander, Operational Test and Evaluation Agency
Commander, Concepts Analysis Agency
Others, as may be required

HQDA staff responsibility for the coordination of all ASARC reviews was assigned to the DCSRDA. The ASARC agenda was to focus on major issues and program alternatives. Attendance at the ASARC was to be kept to an essential minimum consistent with the program and issues being addressed.

A preliminary review, chaired by the DCSRDA, was to be held approximately one month prior to convening the ASARC to assure timely and complete ASARC preparation and to resolve minor issues.

April 1, 1978. Made no significant changes to the ASARC/DSARC process.

May 1, 1981. This iteration implemented the significant changes prescribed by the DoDD 5000.1 and DoDI 5000.2 of March 1980. No further changes in the Army's ASARC/DSARC procedures were made.

As of December 1982. A draft AR 1000-1 implementing the March 1982 DoDD 5000.1 and the October 1982 draft DoDI 5000.2 was being prepared for publication.

b. AR 15-14, Systems Acquisition Review Council Procedures.

January 17, 1973. Not available for review.

January 24, 1975. Implemented the ASARC provisions of AR 1000-1, listed ASARC process responsibilities, and provided fourteen pages of ASARC review checklists.

April 1, 1978. This iteration added the requirement for an initial Army planning meeting to be held approximately eleven months prior to the scheduled ASARC review and the formulation of an Army ad hoc working group to orchestrate the preparation for an ASARC and DSARC.

October 1979. In an effort to control attendance at ASARC, the Army published a policy statement on ASARC attendance. The basic criteria for attendance became the significance of the prospective attendee's contribution to the proceeding and, therefore, to the Chairman's decision. Even with attendance restrictions, if all allocations were used, there would be 41 attendees seated in the conference room and 4 or 5 in the projection room.

May 1, 1981. The ASARC membership was revised to provide for the VCSA (Chairman) and eighteen members. (No longer Regular and Special Members). The eighteen members are:

(1) Deputy Under Secretary of the Army (Operations Research) (DUSA (OR)).

(2) ASA (RDA).

(3) Assistant Secretary of the Army (Installations, Logistics, and Financial Management (ASA (IL&FM)).

(4) Assistant Secretary of the Army (Manpower and Reserve Affairs) (ASA (M&RA)).

(5) General Counsel.

(6) Commanding General, U.S. Army Materiel Development and Readiness Command (CG, DARCOM).

(7) Commanding General, U.S. Army Training and Doctrine Command (CG, TRADOC).

(8) DCSRDA.

(9) DCSOPS.

(10) DCSPER.

(11) DCSLOG.

(12) COA.

(13) ACSI.

(14) ACSAC.

(15) COE.

(16) Director of Program Analysis and Evaluation (DPAE), OCSA.

(17) Chief, Army Force Modernization Coordination Office (C, AFMCO), OCSA.

(18) CG, OTEA.

December 1982. A draft AR 15-14, implementing the latest DoDDs and DoDIs, was being staffed.

3. Navy

Policy guidance for system acquisition in the Department of the Navy is contained in the Secretary of the Navy Instruction 5000.1 (series), subject: "System Acquisition in the Department of the Navy" (SECNAVINST 5000.1 (series)).

The initial instruction in the series in response to DoDD 5000.1 of July 13, 1971, was SECNAVINST 5000.1 of March 13, 1972. This instruction provided for the following:

- Delegated greater responsibility and authority to Project Managers of major weapon system programs subject to SecDef/DSARC Review, subject to approved guidelines of budget, schedule and performance.

- Directed minimum interference to the Project Manager and his organization by the staff.

- Authorized and directed Project Managers to report to designated program decision authority significant program exceptions or variances.

- Program Managers of designated major program subject to DSARC to report to the Chief of Naval Material.

- Conduct of specific functions assigned to various staff levels.

- Guidance for program initiation.

- Charters for Project Managers.

This instruction was updated and reissued as SECNAVINST 5000.1A on November 17, 1978, and implemented DoD Directive 5000.1 and DoD Directive 5000.2 both dated January 18, 1977. The DoD Directives were included as enclosures.

This revised instruction was a comprehensive change to the initial version. It included a statement that the procedural implementation of the described policies would be the subject of a new instruction to be issued as SECNAVISNT 5000.2, subject: "System Acquisition Procedures." This version included more detail and totaled 11 pages, brought the Navy system into agreement with the DoD's Milestone 0, I, II, and III review process, incorporated the Mission Element Need Statement (MENS), and briefly described, the Department of the Navy Systems Acquisition Review Council (DNSARC).

The instruction identified some 13 broad policy areas and gave policy statements in each. Policy areas and a brief synopsis of the applicable guidance include:

- Mission analysis - done by CNO and CMC on a continuing basis to include preparation of a MENS.

- Program initiations - delegated to specific program decision authorities.

- Major system acquisition programs under SecDef unless otherwise designated. ASN (RE&S) or ASN (MRA&L) to act as the Navy Acquisition Executive.

- SECNAV decision authority on selected programs.

- Less-than-major programs delegated to decision authority of CNO/CMC.

- Funding via Planning, Programming, and Budgeting System (PPBS). Potential breaches of DCP/NDCP thresholds to be reported to appropriate decision authority.

- Authority and responsibility of Project Managers.
- Establishment of function of Projects Director over several separate projects.
- Decisions by line authority above Project Manager to be documented.
- Project Manager charters to include technical manager/systems engineer, business/financial manager, logistics managers, and designated contracting officer.
- Need for acquisition strategy for all SecDef/SECNAV designated programs.
- Minimize interference by staff with Project Manager and his organization.
- Project Managers to report to the decision authority significant program exceptions or variance.

Navy implementation of DoDD 5000.1 and DoDI 5000.2, both of March 19, 1980, was provided by SECNAV NOTICE 5000 of August 1, 1980. This notice stated that major acquisition programs would use the policies of the revised DoDD 5000.1 and the procedures of the revised DoDI 5000.2. The notice would be cancelled upon the revision of SECNAVINST 5000.1A.

When DoDD 5000.1 was issued on March 29, 1982, the Navy implemented it with SECNAV NOTICE 5000 of July 30, 1982, and stated that the notice would be cancelled upon revision of SECNAVINST 5000.1A.

The body of the procedural aspects of the weapon system acquisition and DSARC process in the Navy has been contained in the following instructions:

- SECNAVINST 5200.30 - "Management of Decision Coordinating Papers (DCPs) and Program Memoranda (PMs) within the Department of the Navy (DN)."
- SECNAVINST 5420.172B of May 18, 1976 - "Establishment of the Navy Systems Acquisition Review Council."
- OPNAVINST 5000.41B of March 30, 1974 - "Pre-Defense Systems Acquisition Review Council (DSARC) procedures."
- OPNAVINST 5000.42A of March 3, 1976 - "Weapons Systems Selection and Planning."

- OPNAVINST 5000.46 of March 10, 1976 - "Decision Coordinating Papers (DCPs), Program Memoranda (PMs) and Navy Decision Coordinating Papers (NDCPs) preparation and processing of."

There have been considerable delays, at times, in the issuances of implementing instructions by the Navy in response to revisions to the OSD directives and instructions. The last formal change to the SECNAV instruction was issued in 1978 while the last changes to the OPNAV instructions were in 1976.

No specific impacts from the apparent outdated instruction could be determined.

The Navy is now awaiting formalization of DoDI 5000.2 before accomplishing an update of its instructions. The indications are that the Navy plans a major consolidation of its acquisition instructions and a significant streamlining of the acquisition process. The following is a summary of expected actions:

- A short, concise SECNAVINST 5000.1B to replace SECNAVINST 5000.1A, 5200.1B and 5420.172B. Streamline the DNSARC process and NDCP format for ACAT II programs.
- Consolidate OPNAVINSTs 5000.42 and 5000.46 into one shorter instruction. Streamline the OPNAV procedures.
- Revise the requirements and new start process.
- Replace the Approval for Service Use (ASU) process.
- Reduce the TEMP size and expedite processing.

E. RECENT POLICY AND PROCEDURAL CHANGES.

1. Identification of Issues

The newly installed Reagan administration immediately initiated actions that would impact the DoD PPBS and Acquisition Management System. On February 13, 1981, the Deputy Secretary of Defense, Frank C. Carlucci, directed a 30 day assessment of the DoD PPBS. This was followed-up on March 2, 1982 with direction to do a 30 day assessment of the Defense Acquisition System. This latter memo specifically pointed out that the acquisition process had been studied many times before. Therefore, this assessment was to concentrate on reviewing these previous efforts and their recommendations so as to be able to immediately identify major options that can be put into effect. The priority objectives were to:

- Reduce cost.

- o Make the acquisition process more efficient.
- o Increase the stability of programs.
- o Decrease the acquisition time of military hardware.

As Figure 1 (page 2) indicates, there had been several major study efforts and a continual revising of the appropriate directives during the twelve years prior to the Reagan administration. A brief review of the evolving nature of major systems acquisition during this time period will provide an appreciation of the issues facing the new administration.

The Defense Science Board Task Force on R&D Management and the Blue Ribbon Defense Panel were both chartered within the first six months of the new Nixon administration. The interactions that Mr. David Packard, the new Deputy Secretary of Defense, had with these studies and his own personal experiences undoubtedly contributed to a group of policy memos on Major Systems Acquisition that he issued between May 1969 and May 1970. In summary, these memoranda provided the following policy direction:

- o Established the DSARC as an advisory body to review and evaluate status of acquisition programs.
- o Established three basic milestone points in the life cycle of a weapon system.
- o Reaffirmed the DCP as the formal DOD management and decision-making system in the acquisition process.
- o Stated "The primary responsibility for the acquisition and management of our major systems must rest with the individual Services."9/
- o Emphasize the need to minimize the number of layers of authority between Program Manager and the Service Secretary.
- o Give Program Managers commensurate responsibility and authority to the task, and then job tenure to get the task done correctly.
- o Reverse the trend toward concurrency in program schedules.

9/ Deputy Secretary of Defense memorandum; subject: Establishment of the Defense Acquisition Review Council; dtd May 30, 1969.

- Gain benefits in the acquisition process by use of competitive prototypes or other hardware design validation techniques which may not be competitive.

- Emphasize the need for cost realism in both contractor proposals and Service budgets.

Naturally, the above summary is not an exhaustive list of the policies developed in that time period, but only those that appear to be closely associated with the basic structure of systems acquisition management and the decision making process.

Selected findings and recommendations from the DSB Task Force and the Blue Ribbon Panel are summarized below:

- Need to understand the importance of "requirements" within a much broader context of concept formulation. The user should emphasize operational capability. Design details should be avoided during requirements definition.

- OSD should emphasize "policy making, not detailed decision making ..."

- Need to achieve more realistic costing. Budgeting should be "based on contract ceiling, not target"; and should include financial and schedule contingencies.

- The Development Concept Paper (DCP) should be applied at the initiation of the Contract Definition Phase. An abbreviated document, called the Advanced Development Concept Paper (ADCP), should be used during the concept formulation period.

- The management system needs to be overhauled to ensure responsibilities are clear and individuals are accountable. Secretary of Defense authority should be delegated to selected individuals. The number of organizational levels between this decision making authority and the Program Manager must be reduced.

- OSD should be in a "monitoring role" once program approval and authority delegation have been accomplished. If the program stays within agreed limits of DCP, interference with or modification of a program by OSD should be prohibited.

- Need to reduce technical risk through "demonstrated hardware" before full-scale development.

By mid 1970, the policy guidance on systems acquisition and the recommendation from several major studies appear to have been in general agreement. The establishment of an advisory group, the DSARC, is indicative of a strong management style that

would delegate responsibility and authority within prescribed bounds, but would still maintain control by selected reviews to measure progress. The three Milestone Reviews were associated with natural contractual events in a system acquisition life cycle and a convenient method for constraining the degree of delegation. By making the DSARC an adjunct to the formal DCP process, Mr. Packard was providing a forum for open discussion of all issues relevant to the particular review.

The policy statements on better cost estimating, reduction of risk by prototyping, reduction of concurrency, and more emphasis on earlier testing are all in agreement with the study recommendations at that time. However, two areas were not acted upon --one is considered to be major, the other is considered to be minor. The recommendation to improve the requirements process was not addressed. In addition, the DCP was established as the governing document for all Milestones instead of using an ADCP for Milestone I.

In July 1971 the initial version of DoD Directive 5000.1 was issued. This document formalized the policies contained in the previous memoranda. The Report of the Commission on Government Procurement in December 1972 reiterated the need to restructure the front end of the acquisition process to address program needs and goals in terms of desired mission capabilities and not in terms of hardware specifics. The "Little Four" report issued at the same time, by a DoD internal Ad Hoc Working Group, indicated that the DCP/DSARC process was basically sound but concluded that:

- There were inconsistencies between DSARC decisions and the PPBS cycle.
- There was inadequate preparation for the DSARC reviews.
- Programs were still experiencing problems with cost control.
- There was a lack of broad planning and policy background.

The "Little Four" report identified many recommendations and indicated that most of these corrective actions were contained in a draft DoD Instruction 5000.2 that was in staffing (Figure 8). The inference to be drawn is that the Ad Hoc Working Group felt the instruction would be published in the near future. In fact, the instruction was not published until January 1975, 37 months later.

The release of DoDI 5000.2 (the DCP and the DSARC) in January 1975 was accompanied by the release of DoDD 5000.26 (DSARC). This latter document provided the formal charter for the DSARC and cancelled Secretary Packard's memo of May 30, 1969. The purpose of DoDI 5000.2 was to establish the policy and instructional guidelines governing the use of the Decision (changed

CONCLUSIONS & RECOMMENDATIONS RE DCP/DSARC PROCESS

CONCLUSIONS: CONCEPTS OF 5000.1 BASICALLY SOUND . . .

BUT . . .

RECOMMENDATIONS

LACK OF BROAD PLANNING & POLICY BACKGROUND

• Lack of Reference Source for Threat/Requirement • Lack of Affordability Projections	• Increase Emphasis on ACP for "Big Picture" Background • Concentrate on Threat/Requirement of Milestone I • Require Affordability Analyses in ACP's and DCP's • Require 15 Year Planning Base

INADEQUATE DSARC PREPARATION

• DSARC's Often Late • DCP's Often Late • Principals Not Fully Prepared • DSARC Issues Often Not Anticipated	• Hold DSARC I Earlier • Require "For Coordination" DCP 10 Days Before DSARC • Require Collection and Delineation of Major Issues Prior to DSARC • Concentrate DSARC on Issues, Not Presentations

LACK OF COST CONTROL

• Inadequate Initial Cost Estimates • Inadequate Review of Total Life Cycle Costs • Inadequate Requirements and Contracts Scrub • Inadequate Development Alternatives • Inadequate Prototype Hardware Competition • Inadequate Consideration of Foreign Alternatives	• Increase Cost-Consciousness in Planning and Management - Design to Cost and Competition • Challenge Requirements and Contract Terms on all Programs • Insist on Delineation and/or Retention of More Alternatives During Development--Including Product Improvement, and Foreign • Stress R&M and Other Major Factors that Reduce Life Cycle Costs

INCONSISTENCIES WITH PPBS CYCLE

• PPBS Cycle Sometimes Upsets DCP Decisions	• Relate DCP's to PPBS Cycle . . . Changes Inevitable

• MOST OF THESE RECOMMENDATIONS ARE PART OF 5000.2 -- NOW READY FOR DISTRIBUTION FOR CONCURRENCE

FIGURE 8: "Little Four" Conclusions & Recommendations
Ref: DOD AdHoc Cost Reduction Working Group, "Little Four", Dec. '72

from Development) Coordinating Paper and the DSARC. Theoretically, this document was to contain the majority of the corrective actions proposed by the "Little Four". However, it appears that in three of the four areas specified for improvement, the new instruction did not live up to initial expectations. In two areas no new guidance was provided. The "broad planning and policy background" was not enhanced by emphasis on Area Coordinating Papers (ACP) for the "Big Picture", nor on requirements for a 15 year planning base with affordability analysis in the ACPs. The "DSARC Preparation" was not substantially improved since the instruction did not specify how the "collection and delineation of major issues" would be accomplished. Also, the conduct of the actual DSARC review was not discussed. In the third area, "inconsistencies with PPBS cycle", the relationship between the DCP/DSARC and the PPBS was discussed. Specifically, the guidance indicated that the DCP/DSARC complements the PPBS and, where budget documentation "deviates significantly" from the approved DCP/DSARC decision, the details and impacts will be clearly stated in the budget documentation. However, this guidance seems more concerned with documenting the change instead of trying to control the change and comply with the DSARC decision. The issue of "cost control" appears to have received the most attention. In the discussion of the Scheduled Program Decision Points and the Enclosure on the DCP, many areas are called out for added emphasis which impact the total life cycle cost.

The Acquisition Advisory Group (AAG) Report of September 1975 provides a mid-term report on the evolution of the DSARC process in the 1970s. It provides the first definitive insight into how the DSARC process and other acquisition management concepts were being implemented. The AAG indicated that the policies of DoDD 5000.1 were sound but implementation was causing problems. The following findings and recommendations were made:

- o Requirements: Generation of requirements and mission area analysis activities basically unstructured. The AAG supported the recommendations of the COGP but specifically recommended against making these front end activities an administrative extension of the DSARC/DCP process.

- o Management: DoDD 5000.26 and DODI 5000.2 encouraged OSD staff toward undue involvement at ever increasing levels of detail. This raised issues about linkage between accountability and authority. Recommended establishment of clearly defined command lines from SecDef to the Program Manager.

- o Organization: Staff layering was a major irritant, with each OSD staff element having almost autonomous power in its functional area. The large OSD staff resulted in decoupling of accountability, responsibility and authority, with inevitable micromanagement. Need to clarify functional staff responsibilities as distinct from DSARC principals responsibilities.

- o Cost Management: Recognized that PPBS and management process functioned independently. Recommended integration of the systems.

The AAG also provided specific recommendations on the DSARC procedures to improve overall efficiency of the process. The following is a summary of these recommendations:

- o Confine DSARC attention to decision points (Milestones I, II, III).

- o Enjoin principals and their staffs from using DSARC review to perform functional responsibilities.

- o Reduce number of programs subject to DSARC control; about 40 at OSD with remainder to Service Secretaries.

- o Designate DepSecDef as Chairman ex-officio of the DSARC.

- o Establish Special Assistant for Acquisition who reports directly to DepSecDef.

- o Consult with Service Secretaries before implementing DSARC recommendations.

In December 1975, DoDD 5000.1 was reissued. This was only a minor update to include new dollar thresholds for designating major systems and a revised policy statement on the use of priced production options. The publication lead time undoubtedly precluded any consideration of the AAG findings and recommendations in this issue.

Thirteen months later, in January 1977, new issues of DoDD 5000.1 and DoDD 5000.2 were released. These two documents did not take advantage of the AAG efforts and appeared in many instances to move directly opposite to the recommendations.

DoDD 5000.1

- Implemented OMB Circular A-109 that structured front end of the acquisition cycle but made it an integral part of the DSARC/DCP process with the establishment of a Milestone O. AAG recommended against this administrative extension.

- Raised the thresholds for defining major acquisition programs to $75 million RDT&E and $300 million production. This was a feeble effort to reduce the number of programs controlled at OSD level by the DSARC process. As indicated by the December 1976 SARs, 54 programs exceeded $1 billion at that time, well above the number of programs that the AAG felt could be reasonably managed at OSD level.

- The Defense Aquisition Executive (DAE) was designated as the focal point in OSD for system acquisition matters. The DAE's basic charter was contained in DoDD 5000.30 dated August 20, 1976. The concept of the DAE was similar in nature to the AAG's recommendation for a Special Assistant for Acquisition. However, the implementation was definitely different. The DAE function was subsequently assigned by separate memo to the Undersecretary of Defense for Research and Engineering as basically an additional duty. The AAG envisioned a full time assignment to control the overall systems acquisition process within DOD.

DoDD 5000.2

- This document replaced the original DSARC charter DoDD 5000.26. The document's purpose changed to one of providing additional "policies and procedures" to supplement DoDD 5000.1 by expanding and adding to the program considerations enumerated in this directive. In addition, it identified lists of data to be considered at each milestone. This expanded directive appears to have provided even more "encouragement" to the OSD staff to become involved in greater program details -- the exact opposite from the AAG recommendation.

Three more studies would be accomplished before the next versions of DoDD 5000.1 and DoDI 5000.2 were released. In the summer of 1977, the Defense Science Board Acquisition Cycle Task Force made the following findings concerning the DSARC process:

- The DSARC/Budget procedures are not connected; thus a decision does not necessarily mean funds are available.

- Program guidance can seldom be fully complied with given the funds which are available.

- DSARC, with halts for testing, produces gaps in the cycle which have serious industrial implications.

Basically, the Task Force concluded that the major problem was associated with affordability. As Dr. DeLauer stated in his memo forwarding the Final Report to the Chairman of the DSB: "We typically perceive more needs, and approve more program starts, than can realistically be supported by our annual defense budget. As a consequence, we create a chain reaction by budgeting too little for the individual system acquisition in order to allow more starts to meet our total defense needs. This results in cost overruns, program stretchouts, over-management by OSD and the Congress, introduction of new (and retention of the old) management techniques and program milestone institutionalizing of procurement practices, and the delivery of obsolescent systems." 10/ The Task Force recommended that:

- The number of major weapons systems should be limited to those that can be developed on the most cost effective time scale.

- At DSARC II the Services should be "prepared to make a commitment to procure and deploy."

- DSARC decision should be a combined programmatic and budgeting review.

The GAO Report released in January 1978 found that the basic DSARC concept was "sound and should be preserved", but indicated that there had been implementation problems. The major problem was lack of administrative discipline. The report was especially critical of the time OSD took to approve the DCP. A year later, February 1979, the Defense Resource Management Study (Rice Report) was issued which indicated that the DSARC process was an excellent concept but it had some difficulties. Figure 9 provides the Rice Report observations on the DSARC. The Report did not recommend any changes in the DSARC procedures, per se, except that initiation of new programs should be an integral part of the budget submission process. The Report also recommended the establishment of the Defense Resource Board (DRB) to conduct combined program/budget reviews, thereby creating a link between the acquisition and budget process.

10/ Memorandum to Chairman, DSB; Subject: Final Report of the Task Force on the Acquisition Cycle, Richard D. DeLauer, Chairman Task Force, March 15, 1978.

"A Defense Systems Acquisition Review Council (DSARC) was established to conduct milestone reviews. Its function was to discipline the acquisition process and ensure that upper levels of the DoD were aware of the progress of costly systems as they moved toward operational readiness. The DSARC was to operate much like a corporate executive committee, reviewing the projects of its divisions and encouraging lower levels to manage their projects properly. Further, the DSARC was not to preempt the resource allocation function from the PPBS; rather, it was to provide for a structured technical and financial management review of a project and authorize project continuation. The PPBS continued as the instrument for performing the internal appropriation function.

"In theory, there were to be only three major DSARC reviews and each was to address only those issues relevant to the decision then to be made. In actual practice, three soon became many. Today, a typical program will have at least five or six major DSARC reviews, and some programs have been exposed to a dozen.

"Nor are these reviews limited to a small number of key issues relevant to one particular milestone. Before the DSARC meeting, the program is reviewed by as many as ten offices in the hierarchy of the responsible service and by the deputies of the DSARC members. Each such audience must be satisfied before the DSARC review can take place, and there is no limit on the number or scope of issues they can raise or the quantity of information each can demand. The results is repeated reviews of virtually every detail of the program.

"Holding so many reviews and making them so extensive may have benefits, but it also has costs. Satisfying the requests for information and preparing all the briefings is a large burden on the program offices. For as much as six months before a major DSARC review, major resources of the program office are diverted to preparing for the DSARC meeting and dealing with the reviews preceding it. During that time, only unavoidable program management decisions may be considered.

"Another consequence seems to be that some essential issues do not get enough attention. One such issue is the availability of adequate funding for the program being approved. Programs are approved for full-scale development and production when the funds available for those activities, to say nothing of those for operating the system, are known to be inadequate. The usual result is insufficient initial funding, followed inevitably by schedule slips and, eventually, increased program costs. Such an uncertain funding environment also makes program planning very difficult for program managers.

"The DSARC process was an excellent concept. Its drawbacks arise in reviews that are too frequent and too far-reaching and in the tendency to overlook vital issues while grappling with a multitude of lesser questions."19/

19/ Defense Resource Management Study. Final Report. Donald B. Rice, February 1979. pg. 33 an 34

FIGURE 9: Rice Report Observations on the DSARC

In March 1980, DoDD 5000.1 and DoDI 5000.2 were again reissued, cancelling the previous issues plus DoDD 5000.30 (Defense Acquistition Executive). These versions did not show a high degree of responsiveness to the studies of the previous three years, or to earlier studies.

- o Documentation requirements had expanded. The DCP had been shortened and reduced in stature but a 60-page IPS document was added. The GAO concern about time to acquire DCP approval seems to have been resolved by deleting the requirement for the DCP to be formally approved and signed.

- o New program starts were still not an integral part of the budget submission process. A Milestone 0 could be held at any time but the question of funding was still "up in the air."

- o The increase in thresholds for designation of major programs provided no real reduction in programs to be controlled under the DSARC process. The SAR documentation, as of December 1979, shows that 56 programs being reported exceed $1 billion in estimated acquisition costs.

- o The additional detail in DoDI 5000.2 provided more "fertile ground" for the OSD staff to require more detail on a program and fuel the arguments about micromanagement.

- o Assignment of the responsibility of "coordinating the interface of the acquisition process with the PPBS" to USDR&E, ASD(C) and ASD(PA&E) should not be expected to improve integration of the two systems since no one was tasked with the final responsibility and authority.

The 1970s had seen a continuing evolution of the DSARC process and procedures as various aspects of systems acquisition management philosophy were changed. In many cases the changes in policy did not incorporate recommendations provided from a host of studies conducted during this time by government and private organizations. The evolving policy provided an acquisition environment that was substantially different from that which had existed in the 1960s.

2. <u>DoD Acquisition Improvement Program (DAIP)</u>.

The DepSecDef memo of March 27, 1981 provided the decisions on management of the DoD PPBS. This was followed one month later on April 30, 1981 with the memo on "Improving the Acquisition Process". Of particular interest to this study are the following decisions for improving the DSARC process:

- o Reduce the number of formal SecDef DSARC reviews to two.
- o Increase the dollar guidelines for major system designation to $300 million RDT&E and $1 billion procurement in FY80 $.
- o Decrease DSARC briefing and data requirements.
- o Revise DSARC membership to include appropriate Service Secretary.
- o Retain USDR&E as DAE.

The above initiatives were definitely keyed to areas that would reduce the burden of the DSARC process. The reduction of the number of SecDef reviews to two is the most significant changes: not only does it reduce overall workload, it delegates increased responsibility to the Services. Increasing dollar guidelines were intended to reduce workload by eliminating programs from the DSARC review level. Approximately ten programs were immediately downgraded with this change and additional programs were removed after a case by case evaluation was made.

The new administration had moved rapidly to identify areas for improvement in acquisition management. However, DoDD 5000.1 was not revised until March 29, 1982 while the companion document, DoDI 5000.2, is still in draft form with the most recent draft being released for coordination on October 20, 1982.

The changes dictated by the DAIP are contained in these two documents. The dollar thresholds have been increased so as to reduce the number of programs that would potentially be controlled at the DSARC level. The new acquisition process now starts in the budget process with the Program Objective Memorandum review when a Justification for Major System New Start (JMSNS) is submitted, documenting major deficiencies or opportunities for improvement in meeting mission needs. A SecDef affirmative decision at this point ties the new starts into the budget. A Program Decision Memorandum (PDM) signifies endorsement by the SecDef and sanctions program initiation when funds are available. The Milestone 0 was deleted. Figure 10 shows the revised decision points in comparison to the concept in 1980.

The timetable for documentation at Milestones I, II, and III remains the same. However, there are changes within the milestone activities. The activities leading up to Milestone I are summarized in the System Concept Paper (SCP). The SCP (controlled at 12 pages) identifies those concepts that should be carried into the next phase and explains the reasons for eliminating other concepts. The SCP serves as the basic document for the formal DSARC Review at Milestone I.

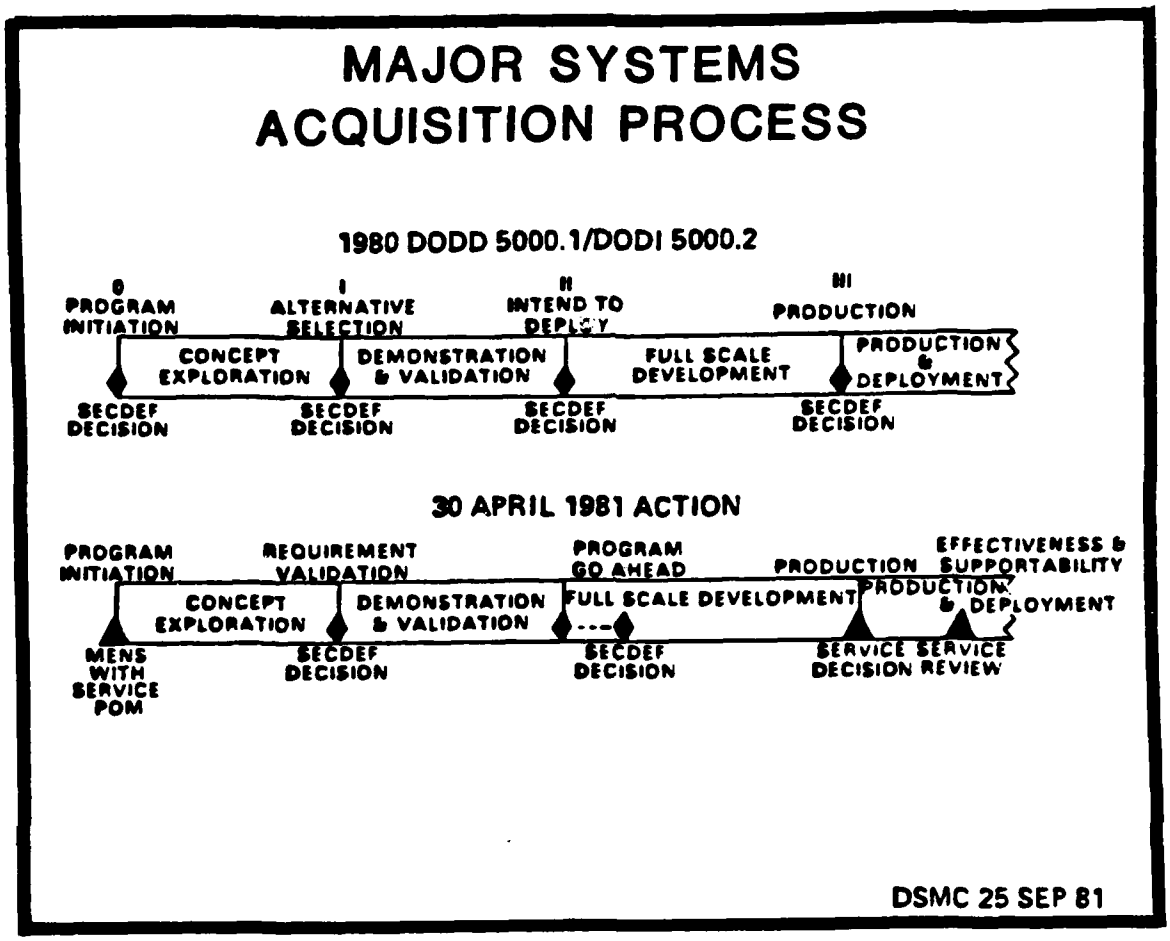


FIGURE 10: DAIP Revised Decision Points

The DSARC Review at Milestone II has always been associated with the start of Full-Scale Development (FSD). However, with the 1982 revision, the timing now becomes flexible and depends upon the acquisition strategy approved at Milestone I. This milestone, now called Program Go-ahead, can occur as late as Critical Design Review (CDR) or later. The timing of this milestone will depend on the degree of additional development deemed necessary to provide "better definition of performance, cost, schedule, producibility, industrial base responsiveness, supportability, and testing to reduce risk and uncertainty before commitment to major increases" in resources to FSD.11/ The content of the DCP/IPS, the driving force at Milestone II, does not change. The DCP is not to exceed 18 pages and the IPS is not to exceed 30 pages.

A DSARC review at Milestone III only takes place when the thresholds established at Milestone II are not met. The decision to proceed to production at Milestone III is normally assigned to the DoD Components as long as thresholds established at Milestone II are met. If a DSARC review is necessary, it will follow the Milestone II procedures. At every milestone at which a DSARC occurs, a review of the funding availability is to take place. No program is to progress to the next stage without the funding already allocated in the budget.

Another significant change in this revision is that the Component Head becomes a permanent member of the DSARC. Up to 1980, the Component Head participated in the DSARC Review despite not being a permanent member. The 1980 revisions removed the Component Head from the review meeting entirely relegating him to pre- and post-DSARC activities. As of the 1982 revisions, he again is at the forefront of the activities.

The last significant item relating to the DSARC procedures in the 1982 revision is the area open for review. In the past, the DSARC review was open to any matter of interest to members. The guides within the DoD Directives/Instructions ranged from the fewer than ten items for each milestone suggested by Packard to ten pages of directions for new systems in DoDI 5000.2 in 1980. Although the program guides still exist, they might not be subject to review. DoDD 5000.1 (1982) states that "the Military Service program manager shall be given authority and resources commensurate with the responsibility to execute the program efficiently. Reviews, such as those by the Defense Systems Acquisition Review Council (DSARC), are a means to evaluate the information required for a decision which higher level authority has specifically reserved and not delegated to the program manager. Reviews will not be used to request data other than those required as a basis for higher authority decisions."

11/ DoDD 5000.1 Major Systems Acquisition, March 29, 1982.

This is a return to Packard's original intent of not conflicting with management reviews and concentrating instead on the readiness of the system to proceed to the next phase of its life cycle.

The delays in formally issuing DoDI 5000.2 are indicative of the problems of converting an innovative concept into practical, day-to-day policy and procedures. The followig extracts from USDR&E memo of October 20, 1982 on DoDI 5000.2 provide some insight into these problems:

> "Several drafts of DoDI 5000.2 have been circulated for review. The last draft was sent out for coordination on 12 April. In the discussions which followed, a general consensus was established that the sea of paperwork associated with the acquisition process and the briefing burden on the program managers have to be reduced if we are to make the process more efficient than it is. This draft of DoDI 5000.2 reflects that philosophy. It is important that the same philosophy be followed in implementation by the DOD components. This is especially important in view of our past experience which indicates extensive pre-briefs and sequential reviews within the Component in preparation for a DSARC review.
>
> "If our cooperative approach to decisionmaking is to come to fruition, we ought to be able to do in parallel a good deal of the preparation which we've done in series in the past. This means open lines of communication and shared access to relevant information required as a basis for a decision recommendation to SecDef. The attached draft of DoDI 5000.2 reflects the objective of making the Instruction strictly a procedure for running the DSARC reviews. Design guidelines, management principles, and other policy matters are addressed only by giving appropriate references to the documents that contain policy statements and procedures. In those few cases where the policy was previously stated only in DoDI 5000.2, the DUSD (AM) will in the near future issue a policy statement in a Defense Acquisition Circular (DAC). Most importantly, paperwork requirements in preparation for a DSARC review have been cut substantially. I expect the Components to follow suit in their implementation."

The Under Secretary's observation that a large percent of the workload during a DSARC Review is self-induced by the Services' requirements for multiple preparatory reviews is clearly described later in this study.

III. DSARC REVIEW EXPERIENCE

This section documents the results of interviews with key individuals and the observations from the sixteen programs selected for evaluation. Information on the specific DSARC experiences of the programs evaluated in this study is contained in Appendices C through R. The observations in this section describe, in generalized terms, situations and associated characteristics which appear to exist in several of the programs.

A. ISSUES AND PERCEPTIONS

An effort was made to obtain insight into the issues and personalities that have influenced the DSARC process since its inception and to identify systems as potential candidates for further study. Contact was made and interviews conducted with thirteen individuals in the Washington, D.C. area. The individuals have each played key roles in the process at various times. A questionnaire was developed to guide the interviews but was not vigorously adhered to since each individual had a different perspective of the DSARC process in relation to his organizational assignment and period of involvement. The interview's original objective of being the basis for identifying a list of programs was not totally met. However, the perceptions of the individuals were extremely beneficial in identifying certain programs and issues of interest and in gaining an appreciation of the relevant issues surrounding the DSARC process at that time, and subsequently aided in structuring the system studies.

The interviews were for non-attribution. The personnel interviewed and their experience in DOD weapon system acquisition management are displayed in Figure 11. The following is a distillation of their comments and do not represent the conclusions of this report.

1. Advantages, disadvantages and concerns with the DSARC process.

a. The DSARC process should not be a substitute for other DoD functional activities. The DSARC principals should not conduct functional oversight responsibility during the DSARC review process. This should be handled through normal daily operations within the DoD. OSD staff should not cram everything into the DSARC review process. This indicates that basic functional directives are not effective. (3 responses)

b. A major failing of the DSARC is that the SecDef decisions based on these reviews are not taken to be a binding budget decision. Staff elements that did not "carry the day" during the DSARC Review

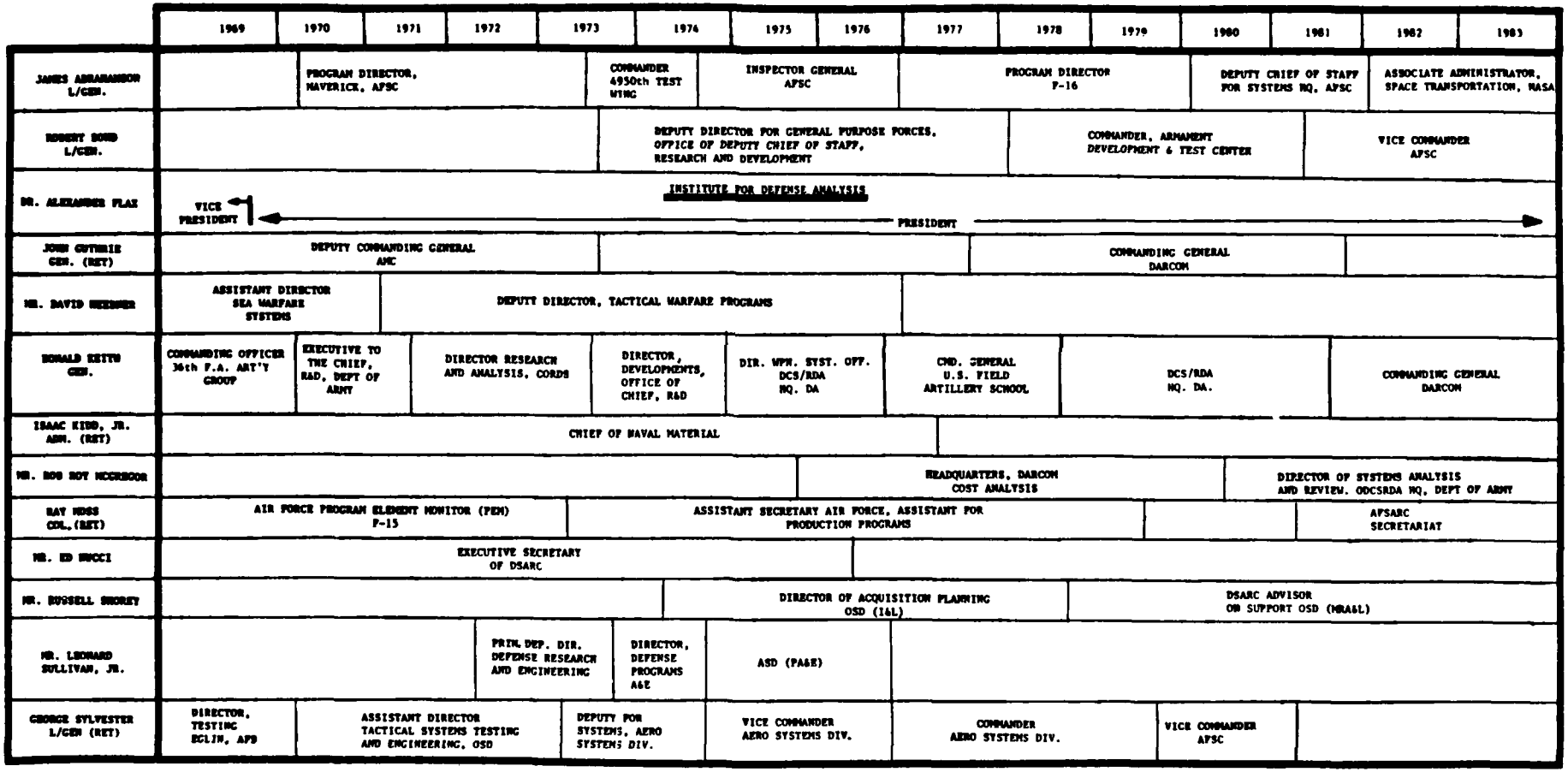


FIGURE 11: Systems Acquisition Management Experience

could reopen every aspect of the program in the PPBS cycle. What is needed is a decision that is decentralized to the Services, and then OSD does not intefere unless thresholds are breached. It is believed that the Carlucci initiatives are on the right track, with Service Secretary providing the financial plan to support the DSARC presentation. However, unless there is a commitment by all elements to support the decisions emanating from the DSARC process, this latest change will not work either. (3 reponses)

c. The DSARC process provides a clear programmatic milestone which places an element of discipline on the program manager. It makes the manager "take stock" of where he is and what is left to be done. However, in preparing for the review the organizational structure must be kept from becoming unstable and making unreasonable demands on the Program Manager. The command chain should be sensitive to this situation. (3 responses)

d. In any situation where senior people are given too much to do, excess workload will pass down to their staffs. As a result, the level of review and decisionmaking is lower than originally desired or intended. The same is true in the DSARC process if too many programs are attempted to be reviewed. A large percentage of DSARC reviews were accomplished by individuals other than the specified principals. (2 responses)

e. The procedures used are personality dependent. When DSARC was first initiated, the Services cooperated since it appeared to be a "good deal". The Services could manage their own programs within certain limits without OSD involvement after prescribed reviews. However, over time the procedures have become more beauracratic and laborious. In addition, the perception of the process changed to one of OSD micro-management instead of decentralization. This trend seems to be reversing now with the Carlucci Initiatives; however, organizations that have been structured to work the old way are slow to respond to new ideas. (2 responses)

f. There is a general feeling of acceptance with the philosophy of the DSARC process. However, two basic problems exist:

--- Inability of program to move forward after a decision because of OSD staff member activity to "extract its due". Resources to implement

the decision are held up or other actions are delayed until the Services respond to post-DSARC review taskings.

--- Tendency to continually require revalidation of operational utility at each milestone. This is appropriate if there has been a major change in the threat or technology but otherwise it is time consuming, wasteful, and makes it difficult to manage programs. (2 responses)

g. The DSARC tends to limit itself to programmatics of a particular system when it should deal with the more important interrelated issues at the macro-level. (1 response)

2. Degree of consistency from administration to administration.

a. Successive administrations have moved away from the simple thrust of the original Packard approach. The changing DSARC process and procedures have caused overreaction within the Services. Changing strategy and tactics every two to three years makes it difficult to manage an acquisition program that can span seven to ten years. (3 responses)

b. Changes in administration tend to manifest themselves in the items that are emphasized -- tend to ebb and flow with time. Contract type, supportability, etc., all gain in popularity/emphasis and then recede; there is no real consistency. (1 response)

c. There has to be corporate memory. Absence of continuity has been a primary cause of programs being "badly buffeted". (1 response)

d. Major differences in philosophical outlooks on management by the DSARC principals were a significant factor in "original DSARC promise" not being met. (1 response)

3. What is the criteria for selecting programs for DSARC process and what number of programs is appropriate for this level of management?

a. Reaction varied as to the number of programs to be monitored at any one time by DSARC. Range was from a low of about twenty to a high of no limit. The majority seem to agree that the current number of about 35-40 provided a manageable workload. (3 responses)

b. Several criteria should be used to trigger an evaluation of a program to determine if DSARC management is applicable. Following were suggested (3 responses):

--- Potential for fiscal impact (any budget account). This is slightly different from existing dollar threshold since it is concerned with all budget accounts and the yearly distribution, not just totals of RDT&E and production.

--- Program complexity.

--- Joint Programs.

--- Urgency.

--- Risk.

--- Relevance. This criteria applies to macro issues like roles, missions, national strategy changes, political impacts, etc.

4. Does short period of intense pre-DSARC activity really constitute effective OSD control of the major systems acquisition process?

a. What is missing from the DSARC review is a "macro" analysis of affordability -- the long range look to ensure there are not too many "hogs at the trough." Discipline is needed to ensure that the Services do not embark on a program that can never be paid for or supported with Service budget levels. If the DSARC was more disciplined on affordability, then Services would be tougher on themselves. Continual stretching of programs to stay within yearly funding levels cannot continue. (7 responses)

b. DoD must demonstrate responsibility in acquisition management to Congress. DSARC process is a visible means for statutory officials to demonstrate that they are doing something. (2 responses)

c. A great deal of detailed management by DSARC is a result of Congressional action or threat of action. Annual Appropriations/Authorizations Bills contain many specific tasks. (2 responses)

d. A lot of hard decisions do not deal specifically with the acquisition process. There is no natural mechanism to deal with force mix or sizing problems.

The hard decisions deal across force structure. The subject of mission area analysis has not been treated well. The underlying issue is how to allocate DoD TOA. Mission areas have to be identified and standardized. OSD and JCS must then prioritize and allocate. (2 responses)

e. To truly understand the implications of program recommendations to the DSARC principals, an expert staff is needed. The scope of technologies involved in all the programs reviewed by the DSARC makes it hard to comprehend that such a staff is available at that high an organizational level to evaluate program details. (1 response)

f. DRB formation is one of the really good things that has happened in last few years. Principals must attend and this has forced them to become intimately involved in details of the programs and the major budget issues. (1 response)

5. Is the DSARC just a "rubber stamp" for the Service's programs? Has process reasonably screened systems: Are major issues identified early enough to allow resolution? Are realistic alternatives provided? Are the principals well prepared?

a. One problem is that the SDDM contains items not covered in the DSARC review. The longer it takes for the SDDM to be issued, the more likely this is to occur. (4 responses)

b. Items that cannot get approved, are not presented to the DSARC for approval. Hard decisions to kill programs have not, and probably should not, come from the DSARC. Programs deserving termination should not get past the Services. Programs that do go to DSARC go with alternatives. Decision is which alternative is appropriate. (3 responses)

c. DSARC Principals are people with many demands on their time. DSARC reviews require a significant amount of homework to be adequately prepared. This may not always be possible for the Principals, but the supporting staff can often do the necessary homework. In some cases this can result in the principal being just a "conduit" for a staffer's view, since there is not enough time to develop his own view. (Analogous to Congressional Committee situation). (3 responses)

d. DSARC should act as the "corporate board of directors", reviewing the long range capital plans of major divisions to assure reasonably managed programs with adequate funds. The supporting OSD staff has not operated at this type of level in dealing with national strategy, orchestration between services, etc. Instead, the staff works at the micro issue level and therefore tends to resemble Service SARC activities. (2 responses)

e. There is a difficulty in surfacing problems early enough to deal with them. Problems are not "swept under the rug," but unless the environment is conducive to open discussion, people are not willing to talk about problems. Sometimes problems are not identified because early indicators went unnoticed. (2 responses)

f. DSARC decisions can be conditional and differ from the Service proposed alternative. As an example, the reduced production rate until Copperhead demonstrated specific levels of reliability. (1 response)

g. There is a perception that, to avoid being given the "rubber stamp" label, the DSARC will do something "dumb" because they were not prepared to understand the issues and wanted to demonstrate some kind of action. (1 response)

6. Services feel OSD is attempting to micro-manage programs. How do you determine what is appropriate OSD management surveillance and what is involvement in Program Manager's day-to-day operations?

a. The DCP and DSARC were to foster an environment for establishing a framework for a program manager to exercise flexibility. The management concept was that a decision at OSD could be fully decentralized for execution without OSD staff's detailed involvement, provided thresholds were not breached. As the process has progressed, this idea of latitude has been lost, and the system has become more constraining. (3 responses)

b. DSARC can effectively provide OSD control of major systems but not in the way it has been doing it up until now. Management by committee is a formula for "lack of success". The DSARC has not acted like a "Board of Directors" even though it supposedly looks like one. DSARC is getting into too many technical/programmatic details. Detailed questions should be pursued by the Services during their normal management program reviews, (PDRs, CDRs, etc.). If the

service says that certain technical issues have been resolved, OSD should not try to "re-invent the wheel". (3 responses)

c. The line between OSD micro-management and appropriate oversight responsibility is a tough one to draw. There seems to be a lack of cooperative spirit in the staffs to help the program manager meet his objectives. Every group is working its own "hidden agenda". The senior staffs want to handle all the interfaces with Congress. Congress wants more information and wants it quicker. To be more responsive, the senior staffs ask more questions and get bigger--a never ending spiral. (3 responses)

d. There seems to be a trap in the process. If the operating division does not perform well, the OSD staff does the work -- this is wrong. The work should not be done at the OSD staff level: changes should be made at operating division level -- either procedural or personnel. (2 responses)

e. The Carlucci Initiatives are now emphasizing the Service Secretaries' responsibility in the acquisition process. The Services have the key task of resolving the internal details within a program. However, the OSD staff has not reorganized for this shift toward the "macro view" by their level. (2 responses)

f. There is really no problem or complaint with briefing the DSARC principals. The problem is all the "pushing and pulling" by the intervening staffs. (2 responses)

g. The SecDef needs to have confidence in the recommended decision. OSD staff feels they are the last chance before the big decision and therefore it is necessary for it to understand the technical adequacy of the solution within a program. It is doing what it is best at, and most comfortable in doing. (2 responses)

h. There is a perception that many military program managers and intervening staffs believe that the correct way to manage a program is to withhold information from the most senior levels, especially OSD. This lack of constant data flow within the system precludes the normal oversight functions. Also, the environment must change to encourage open communications. In the past, when a program problem was identified, the Program Manager was pulled into Washington for briefings. To avoid getting "pulled

in on the carpet", the problems went unreported and the program office kept working. The trouble here is solutions to problems that sometimes exceed the Program Manager's ability/authority to solve them. (2 responses)

i. "Micromanagement" is a symptom, not the disease. Staff layering must be reduced. (1 response)

7. Are the DSARC principals, and specifically their staffs, using the DSARC process to enforce their functional roles? Has this involvement exceeded the milestone review functions? Is there an adversal atmosphere between the OSD staff and the program managers?

a. Reviews always have some level of "adversarial" tendencies, but these should not be the primary functions. A review should be for mutual problem-solving. The adversarial method for solving problems is always a loser. The Acquisition Executive should ensure that his staff is doing what he wants them to do -- not what they, themselves, want to do. (4 responses)

b. Functional staffs in OSD definitely use the DSARC as a "club" to obtain compliance. The "cults" push their point to extremes -- sometimes the single issue will dominate, notwithstanding overall program structure and performance. (3 responses)

c. OSD has all the frailty of any staff. It pushes what it likes, and asks very hard questions of those areas that it dislikes. The primary question should be accountability for decisions/impacts. There are a number of people who can impact a program due to the turbulance they stir up without leaving a track. There is a need to devise a method for accounting for these activities. (2 responses)

d. Many individuals started to use DSARC as a "crutch", instead of the original intent, which was to improve communications between SecDef and Service programs. (1 response)

e. The problem is that many in the OSD staff are proponents of systems instead of dispassionate analysts. Senior managers fail to come down hard on a staff member who does not abide by final decisions. Managers are too tolerant of "misbehavior", creating a feeling of "staff arrogance". (1 response)

f. Majority of "issues" of DSARC deal with "aggravation" rather than program content. They do not impact on the program but raise the program manager's anxiety level. There is a need to eliminate the "no impact aggravations." (1 response)

8. Have revisions in the DSARC procedures improved or detracted from Packard's original intent? To what extent does the DAE's management style shape the DSARC procedures? What effect do these changes have on the OSD and Service staffs?

   a. The DAE management style has been quite different with each incumbent and this definitely impacts the process. As an example, one individual will assess risk differently than another. Therefore, a program could be structured to be highly innovative, generating more risk to accelerate technology. However, a review by a subsequent administration may determine that the program structure is too risky and may stretch the program out. (3 responses)

   b. Management style is key to the mode of operation of the DSARC. Although USDR&E, as the DAE, chairs the DSARC, the other principals are basically co-equal in everyday life on the OSD staff. As long as the DAE is one of the major staff elements (USD or ASD), he is limited in ability/authority in resolving issues. (2 responses)

   c. Communication between staffs is a problem, and this appears to be a symptom of staff turnover, especially at OSD. The data requests from OSD at DSARC time are random in nature and increase with the amount of trouble in the program. OSD staff is undisciplined. DAE must give guidance; the staff should be told what he requires of them and what he will not tolerate. (2 responses)

9. Recommendations on other initiatives concerning DSARC that might be explored

   a. There is no method for reviewing how to effectively close out a program. A Service Secretary Review for program close out has been recommended. This would help eliminate cost problems at the end of a program when unit costs increase due to reduced production rates -- the classic "death spiral" to stay within budget. (2 responses)

   b. There is a feeling that perhaps the DSARC II should be more all-encompassing, using the concept of the Air Force's "Super PAR" as the model. A major review

could be conducted of all elements of a program presented by all involved agencies. The effort to get ready for this all day exercise would bring good discipline to the entire system. (2 responses)

B. OBSERVATIONS FROM THE SELECTED PROGRAMS

The discussions in this section will describe the DSARC activities, the desirable or undesirable features, and the impacts on the staffs and PMOs, and will provide examples from the programs studied. Data was gathered relative to each program. Specific emphasis was placed on gaining access to and reviewing such documents as DCPs, SDDMs, SARs and other program data relevant to the decision milestones reviewed by the DSARC. Data gathering was conducted at four levels: OSD Staff; Service Staff; Materiel Command; and, Program Office (when the office was still in existence). Figure 12 depicts the data flow envisioned for the conduct of the investigation.

A standardized questionnaire was developed to guide the investigators in their data search and interviews of available people who had participated in the reviews. Because it had been some time since the reviews were conducted, many of the program files concerning these reviews were no longer available. Further, because of normal personnel rotation, interviews with personnel originally involved were extremely limited.

Detailed information on the specific DSARC experience of the programs evaluated in this study is contained in Appendices C through R. The observations are not intended to be interpreted as being necessarily negative. They may, in fact, reflect the management style of the Acquisition Executive, and therefore, may be acceptable or desirable to the administration of DoD. What is lacking in many of these cases is the criteria to be established by the SecDef or the DAE as to the measure of effectiveness. The examples shown in support of each discussion area do not represent the full range of the particular issue but are provided as representative illustrations.

1. DCP & SDDM Processing

a. Discussion

Since the inception of the DSARC, the DCP has been identified as the principal document for "recording essential program information and the SecDef decision." The issues of the DoD directives and instructions prior to January 1977 indicated that "the SecDef decision is consumated when he signs the DCP...". Between January 1977 and March 1980, the DoD Directives indicated "the SecDef decision is consumated when he signs the DCP and issues the action memorandum." After March 1980, the DCP was no longer required to be signed. The decision was documented totally within the SecDef Decision Memorandum (SDDM).

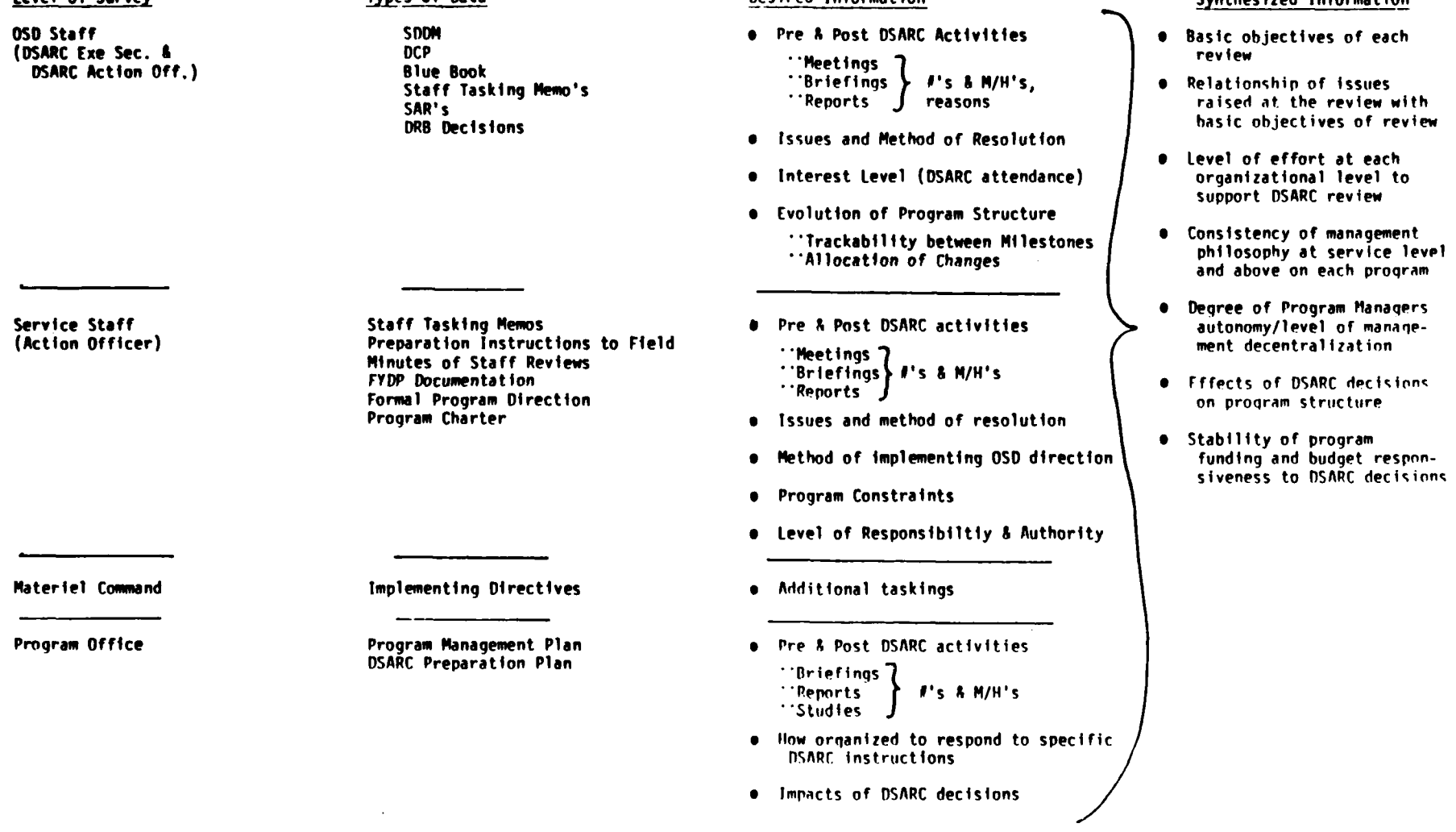


FIGURE 12: Systems Data Flow

The method for documenting the DSARC recommendations and the SecDef decisions for the programs evaluated was not consistent with published instructions. Table 2 provides a chronological listing of the DSARC dates and the companion implementing documents.

The timeliness of the SecDef decision has been an issue since the process was initiated. The earlier DoD directives did not specify how long the SecDef should take after the review to issue his decision. In March 1980 this time period was specified as 15 workdays (3 calendar weeks). Table 2 shows that, for the programs studied, the decision time (the time from the review until document signed) has varied from a low of 3 days to a high of 162 days. The average time was 45 days, or more than 6 calendar weeks. There is no apparent pattern either by program or over the total time span. The time is usually justified as being required to accomplish normal administrative functions and resolve remaining issues between OSD staff and the Services. Figure 13 displays the distribution of decision time and indicates that the median time is 37 days.

The development of detailed program schedules and the accomplishment of pre-contract activities have not allowed, in some instances, adequate time after the DSARC Review to obtain the SecDef decision. Invariably, the initial schedules indicate a DSARC review in a particular month and a contractual action soon after. This may have been done as a "forcing function" since early directives did not establish a time goal for the decision. Contractual preparations have proceeded on their own schedule and invariably resulted in contractor proposals with explicit expiration dates. During this same time period, DSARC preparations may or may not have been proceeding along a consistent schedule. This may have been caused by one of several factors: delays due to testing; difficulty in resolving issues; or incompatibility of key personnel schedules. The result was that the release of the DCP or decision memo became critical to retaining the contractual options or proposals. However, the programs studied showed no direct signs of being impacted by the protracted formal decision times, since informal permission was provided.

Another issue existed with DSARC documentation; however, this dealt with the timeliness of documents prior to the DSARC. The DoD directives and instructions have consistently required a DCP to support the DSARC Reviews. However, in the programs studied, the fully processed "For Coordination" draft was not consistently provided to OSD at the prescribed time. There are also illustrations where reviews were conducted without completing the DCP preparation activities.

Existing files within OSD and the Services did not provide a comprehensive record of DCPs. There was no central location that could provide a reference library of DCPs or even a listing of the most current version. Even the records of the

TABLE 2

DSARC Implementing Documentation

Program & DSARC Date	DCP Signed	SDDM Signed	Decision Time (days)*
A-10 I 12/19/ 69	4/6/70	---	108
A-10 P/R 12/17/70	---	---	N/A
HARPOON I 7/13/71	8/25/71(CS#1)	8/9/71	27
FVS I 12/2/71	4/10/72	---	129
LAMPS I/II 6/29/72	?	7/11/72	12
FFG I/II 8/31/72	9/27/72	9/27/72	27
TRIDENT P/R 12/14/72	10/18/73 (CS#1)	2/9/73	57
A-10 II 1/17/73	2/28/73	---	42
HARPOON II 5/3/73	5/16/73(A)	5/16/73	13
TACTAS I 5/17/73	6/22/73	6/23/73	36
LAMPS IIA 7/19/73	?	8/14/73	26
TRIDENT II 10/18/73	?	3/14/74	147
NAVSTAR I 12/13/73	5/11/74	12/22/73	9
Roland I/II 2/5/74	5/23/74	5/23/74	78
ALCM I 2/12/74	---	5/1/74	108
HARPOON IIB 6/25/74	?	7/25/74	31
A-10 IIIA 7/9/74	---	7/31/74	22
TRIDENT III 10/17/74	12/13/74(CS#2)	12/13/74	57
A-10 P/R 11/19/74	---	---	N/A
ALCM II 12/3/74	---	1/14/75	32
HARPOON P/R 3/4/75	?	4/29/75	56
F-16 II 3/11/75	---	4/21/75	41
ALCM IA 3/18/75	---	5/13/75	56
Roland P/R 4/15/75	---	5/7/75	22
HARPOON IIIA 6/5/75	---	8/5/75	61
Copperhead II 6/19/75	---	7/15/75	26
FFG III 11/14/75**	12/11/75	---	N/A
A-10 IIIB 12/16/75**	2/10/76	---	N/A
AV-8B I 3/25/76	?	5/12/76	48
LAMPS IIB 5/25/76	?	6/10/76	16
TACTAS II 7/13/76	8/16/76	8/16/76	34
Roland P/R 9/24/76	12/22/76	12/22/76	90
TRIDENT III 12/23/76	1/17/77(CS#3)	1/17/77	25
F-16 IIIA 1/4/77	11/29/77	3/22/77	77
ALCM II 1/6/77	11/1/78	1/14/77	8
Copperhead II 8/23/77	---	11/14/77	81
NAVSTAR IB 10/4/77	11/29/77	---	56
F-16 IIIB 10/11/77	---	12/7/77	57
LAMPS IIC 2/16/78	3/5/79	2/25/78	9
Roland P/R 5/31/78	---	6/3/78	3
SOTAS II 8/4/78	11/ /78	8/31/78	27
Roland III 5/31/79	---	6/6/79	6
NAVSTAR II 6/5/79	---	8/24/79	80
AV-8B II 7/20/79	?	none	N/A
Copperhead III 11/6/79	---	12/15/79	39
FVS III 1/22/80	---	2/1/80	10
ALCM III 4/17/80	5/19/80	4/30/80	13
FVS P/R 10/16/80	---	10/30/80	14
SOTAS P/R 5/21/81	---	7/22/81	61
LAMPS IIIA 9/22/81	?	11/24/81	63
LAMPS IIIB 6/29/82	?	12/8/82	162

* Time between DSARC review and issuance of first decision document.

** Review scheduled for this date but not held, staffing of DCP satisfied the requirement.

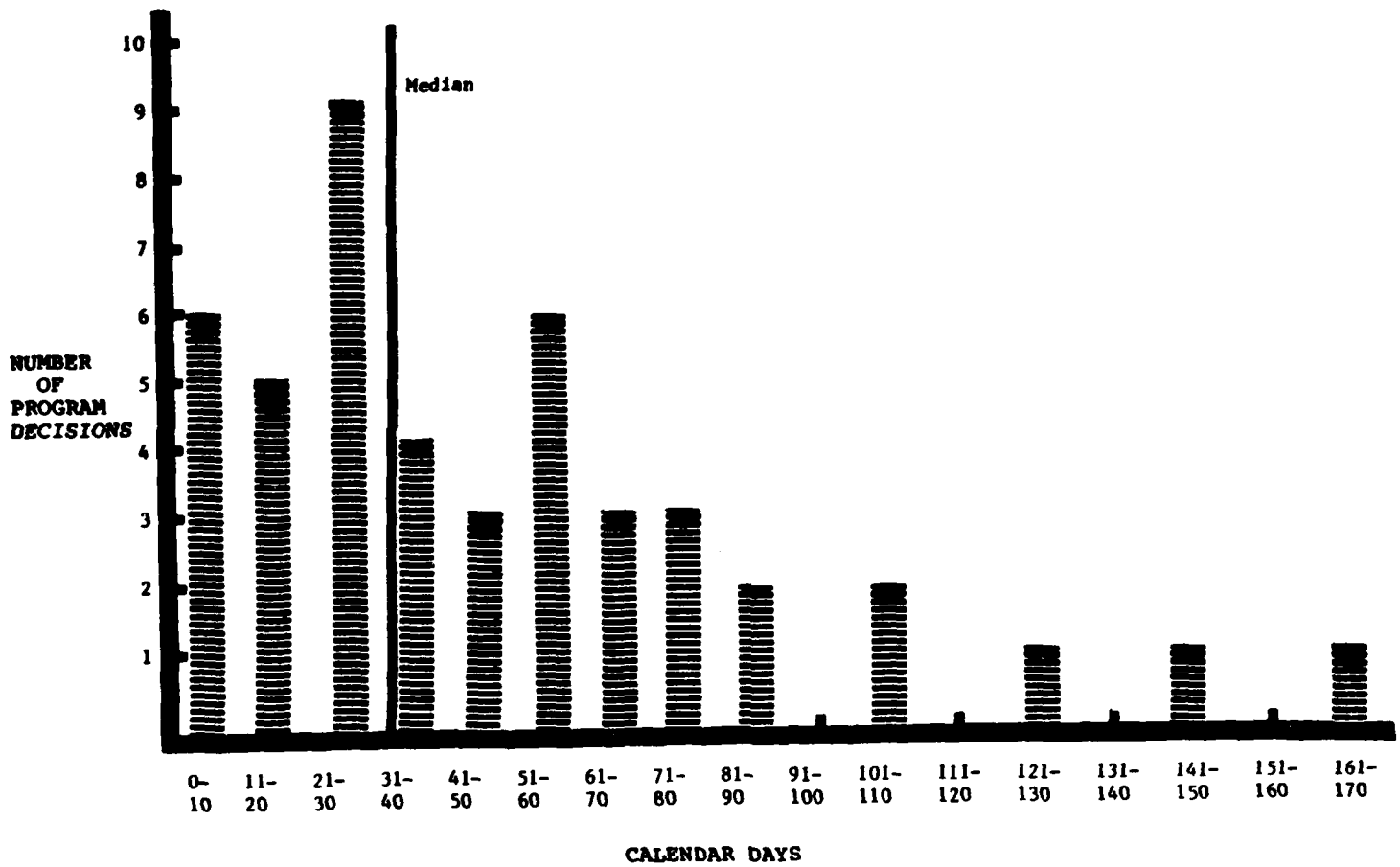


FIGURE 13: DSARC Decision Time

Program Offices were not complete. In many of the earlier DSARC program cases, Program Offices have been moved, reorganized or involved in some other action which "purged" older data. What files did exist indicated that the administrative process was not always accomplished in a formal fashion when transmitting comments between OSD and the Services.

There was a tendency, though not in all cases, when drafting the DCP to identify goals and thresholds on either redundant program parameters or on parameters at the micro level. This situation has been noted as being a constraint on the Program Manager's ability to accomplish appropriate trade-offs. Failure to satisfy any of the micro level parameters while exceeding the others has presented a situation where the program is perceived to have breached its threshold, thereby requiring corrective action. The fact may be ignored that the success in the other parameters may have compensated for the apparent deficiency and that the basic objectives of the overall system have been met.

b. Examples

- In January 1979, the NAVSTAR program was planning for a DSARC II on May 29, 1979, and award of user equipment contracts from a competitive source selection in July 1979. The DSARC Review meeting was held on June 5, 1979; however, there was an issue about program funding. The SDDM could not clear OSD staffing until after the DRB addressed this issue in mid-July 1979. On July 19, 1979, the Ass't Sec AF (RD&L) requested that ASD (C^3I) release the FY79 funds to support award of selected contracts; otherwise, the proposals would expire. The funds were released but the SDDM was not officially signed until August 24, 1979.

- The LAMPS MK III DSARC III was held on June 29, 1982, but the SDDM was not signed until December 8, 1982, a delay of 162 days. The major cause for the delay appears to be the inability of OSD (PA&E) and the Navy to reach agreement on the issue of inventory objectives; i.e., total size of the procurement program. Final resolution of the issue was avoided by the decision memo not commenting on the subject. Verbal approval had been provided to proceed with the initial acquisition.

- The schedule for the TACTAS Progam now includes completing the DSARC III Review in the third week of March 1983 and awarding a production contract by the end of March 1983. This schedule does not allow for the authorized 15 workdays after the DSARC review for release of the decision memo.

- The ALCM DSARC II Review was held on January 6, 1977. A "preliminary draft of the DCP" was informally released to OSD by the Air Staff on January 4, 1977.

- During the FFG preparation for DSARC III in the later half of 1975, two OPNAV memos discussed DCP/DSARC process. An August 4, 1975, memo indicated a need to speed up the DCP/DSARC process internally in the Navy. The October 20, 1975, memo indicated that the Under Secretary of the Navy was unhappy that an excessive number of Navy DCPs were not being submitted in time to meet OSD deadlines. A follow-up system was directed.

- The DSARC I for ALCM on February 12, 1974, was not accomplished with a DCP. In the decision memo of May 1, 1974, the Air Force was requested to submit a DCP by July 1974.

- The DSARC II SDDM on Copperhead (Dec. 15, 1979) provided approval to commence production but with a condition that production would not exceed 200 rounds/month until 0.8 reliability had been demonstrated. Reliability was one of several elements that contribute to Single Shot Kill Probability (SSKP). These elements included projectile reliability, probability of launch, accuracy, and lethality. The DCP had established a level for SSKP and the sub-elements. The threshold for SSKP was met but the reliability was not. Notwithstanding the fact that the primary effectiveness factor was satisfied, the failure to meet a sub-element resulted in the program contraint.

2. Requirements Definition Process

a. Discussion

The programs evaluated clearly illustrate that the DSARC procedures have not consistently ensured that program content and structure are adequately defined or that cost and schedule are realistic prior to program initiation. Additionally, discipline in controlling program change has not been consistently demonstrated.

Various studies, such as the COGP and AAG, stated that the initial requirements process was unstructured and was a major contributor to subsequent program growth. The programs evaluated in this study substantiate this situation and to some degree this is to be expected since the time periods overlap. Several cases, however, illustrate that the Services' existing

requirements process was preempted by OSD direction. Program initiation was directed within parameters established by OSD and initial DSARC reviews were requested. The situation invariably resulted in inadequate time for effective planning to define not only the technical parameters of the system, but also the programmatic content of the program. The issuance of DoDD 5000.1 in January 1977 implemented OMB Circular A-109 and formalized the initiation process by the establishment of the MENS and the Milestone 0.

This early lack of precision in defining the program content and technical parameters created a situation where change was inevitable. However, management of the changes was not consistent. In many cases, the changes were not evaluated by the DSARC prior to implementation. The early concept of a contract between OSD and the Services had faded. The changes usually occurred in one of the following ways:

- o Additional requirements were directly levied on a program by OSD staff members rather than by revision to DSARC recommendations and modification of SecDef decisions.

- o The Services, in finalizing specifications, increased performance levels above those originally contemplated at the DSARC review.

- o Subsequent interpretations of key parameters, by either OSD or service staff, were more demanding than originally intended. This "requirement creep" could result in increased program scope and/or improved technical performance, or more stringent criteria than the system was designed to satisfy.

b. Examples:

- o The ALCM DSARC II was held on January 6, 1977. In the DepSecDef decision memo released on January 14, 1977, the Air Force was directed to initiate the full scale development of the GLCM in FY79. However, at the time of this direction, there was no real understanding of program content, only that it should start in FY79 and be adapted from the Navy's land-attack Tomahawk. The Air Force had no validated requirement or concept of operations for this type of system. Initial planning in response to the SDDM would indicate an FSD effort reaching Milestone III in November 1981 at a cost of approximately $89 million. It would actually take almost two years from this initial direction until it could be said that the program was basically defined. Development cost had increased by twenty percent and the Milestone III decision had slipped seventeen months.

- The F-16 FSD program was initiated after a DSARC II on March 11, 1975. The validated operational requirement was contained in TAF ROC 303-76 dated February 26, 1976. Program information indicates the requirements document was written to be consistent with the established development program.

- Army recommend and OSD accepted a $226M, 66 month TTF&T Phase to IOC for ROLAND that was immediately challenged by Congress as being too long and too expensive. Army restructured to $177M/54 months. Several months later, the contractor (Hughes) informed the Army that the TTF&T Phase would take longer (7 months) and cost more ($40M) than originally anticipated. After 21 months of turmoil, the restructured TTF&T Phase was budgeted at $265M with 66 months to IOC. The requirements for technology transfer, fabrication, and testing of the foreign system had proven to be underestimated as well as not understanding the nature of the FRG acquisition process or the maturity of ROLAND.

- The Army recommeded at DSARC II, and OSD approved, what turned out to be an overly optimistic 28-month schedule for the SOTAS Engineering Development Phase. The problem was that the concept had been proven with off-the-shelf equipment and there had not been a period of Advanced Development. In addition, the Army was planning to start with the simpler mechanical scan radar antenna while also developing the electronic scan antenna.

  The SDDM gave the Army authority to initiate ED but also reflected some concern over the costs, schedule, and performance parameters by requiring notification of excesses.

  Eventually, the SOTAS ED Phase was planned to take 56 months, but was terminated after 37 months in the face of mounting cost and schedule problems and opposition to the program from several sources.

- On April 17, 1973, the DepSecDef concluded that the Air Force, Army and Navy should proceed to a DSARC for a program to provide an operational Defense Navigation Satellite System (subsequently called NAVSTAR) for use in the 19[illegible]s. The DSARC I was requested for August 1973 and the memo provided specific guidelines on structuring the initial phase of the program, to include [illegible]

million funding profile for the period FY74-FY78, inclusive. The DSARC I was held on December 13, 1973, and the Deputy Secretary of Defense signed the decision memo on December 22, 1973. Eight months later, on August 23, 1974, DDR&E in a memo to the Air Force and Navy directed that the NAVSTAR program provide support to the FBM Improved Accuracy Program. This was a significant increase in program scope which increased overall program cost and risk. Program scope was again increased in November 1974 when DDR&E directed additional activities on all three services.

- The ALCM DSARC II was accomplished on January 6, 1977. In the decision memo eight days later, the DepSecDef indicated that the missile program would pursue two airframe configurations: a unique air launched configuration, and a common configuration for surface launch application. Nine months later, DDR&E directed that a competitive flyoff be conducted between the two configurations to determine which one would eventually be used for the air launched mission. Modifications to the program to accommodate this direction required a six month slip in the then scheduled Milestone III review and an additional $228 million added in the FY78-81 time frame.

- The LAMPS MK III DSARC IIA was conducted on July 19, 1973. The DepSecDef decision memo of August 14, 1973 indicated general pleasure with program progress and direction and directed the Navy to proceed in accordance with DCP Alternative #1. A CNO letter two months later modified the LAMPS MK III program by directing that the mission be extended in range and on-station time. The increased technical scope, which would require considerably more testing, was a major contributor to the slip in the DSARC IIB from October 1974 until May 1976.

- The 1973 Mission Need for Copperhead recognized the limitations caused by the effect of poor visibility on both laser designation of a target and acquisition of the laser designated target. Copperhead was described as "an adverse weather dependent" system. The Army's updated COEA prepared for DSARC III acknowledged this operational utility problem. However, by the DSARC III time (1979), the Copperhead system was being challenged for not being an "all weather" system. This issue was not resolved in the pre-DSARC staffing.

3. OSD/Service-Key Issue Identification.

a. Discussion

Since DepSecDef Packard established the DSARC in 1969, the underlying philosophy was intended to be controlled decentralization of the acquisition process. Specifically, he stated that "the primary responsibility for the acquisition and management of our major systems must rest with the individual services. Within each service, this responsibility is focused in the Project Manager."12/ Secretary Packard also believed that certain major decisions must be maintained at the SecDef level. In short, it was the responsibility of OSD to approve policies which the services were to follow, evaluate the performance of the services in implementing these policies, and make those key program decisions on proceeding from one phase to the next.

To be effective, the decision maker needs all relevant information to the pending decision. The pre-DSARC Review preparations are supposed to accomplish the task of defining and resolving the key issues affecting the decision and determining the associated facts. The actual interaction of the OSD staff and the Services during this time period results in activities and efforts that go beyond this basic requirement. The central function of early identification of key issues to facilitate the Services' preparatory efforts and possibly their resolution has has become clouded in a continuous request for data, in ever greater detail, from multiple elements within the OSD staff. Innumerable times the details requested involved program content at the micro-level which were within the program manager's delegated authority.

The development of the Milestone Planning Meeting, to its present form, has not demonstrated an improvement in the efficiency of identifying program key issues. Based on the information available from the programs evaluated, this meeting is usually informally held at the action officer level with no specific guidance from senior management. A large portion of the tasking emanating from this meeting is for program information for use by the OSD staff in regaining currency on the program before identifying key issues. As one OSD staff member stated, "we don't have time to remain current on programs between decision points." The continual requests for additional information and increased coverage in the DCP of specific functional areas tends to inhibit the identification of the real issues. It was not unusual for the late identification of an issue to cause a delay in the review date, or at least some extraordinary effort to discuss the issue on the scheduled date.

12/ Deputy Secretary of Defense Memorandum, dated May 30, 1969, Subject: Establishment of a Defense Systems Acquisition Review Council.

To a large extent, the interactions occur on an informal basis with requests for various documentation or working level meetings to discuss specific aspects of a program. There is no central manager within the OSD staff who controls or directs this activity or is even aware of the workload that is being generated. In this environment it was not uncommon to encounter conflicting requests and guidance. Also, since each of the interactions is accomplished in isolation from the other, each of the functional areas emphasizes its own area of responsibility to the possible exclusion of others or to the possible detriment of the overall program.

b. Examples

- The F-16 DSARC II preparation resulted in a draft DCP being submitted on December 26, 1974 to support the planned DSARC Review on January 21, 1975. Six specific issues were identified in this DCP. Just prior to the review, the DSARC was delayed by DDR&E so additional time would be available to conduct a "missionization review." The configuration of the aircraft was now an issue. On March 3, 1975, Air Force management of ECO allowance was identified as a potential issue. The DSARC II was held on March 11, 1975 but the issue of aircraft configuration remained unresolved and was an element of the decision memo.

- In preparation for a NAVSTAR DSARC II in May 1979, a Milestone meeting was held in January 4, 1979. This meeting dealt with identifying issues and the detailed outline of the DCP. Late in the DCP processing (April 1979) additional issues were identified by OSD concerning tactical application of the system, production, milestone planning, and inadequate detail in DCP on Logistics Data. By May 24, 1979 (11 days before the DSARC) the list had grown again to include systems utility, control station siting, and system alternatives.

- In the LAMPS MK III Program, a "For Comment" draft of DCP-85 was issued early in 1977. OSD provided comments in the February-March 1977 time frame that identified issues to be addressed on or before DSARC IIC including DTC goals, LCC, cost methodology, operational availability, software, and the RAST systems. Additional questions were raised regarding mission requirements in July 1977. These issues were accommodated in the DCP coordination process leading to the DSARC IIC on February 16, 1978. The SDDM of February 25, 1978

raised additional questions on availability, reliability, maintainability and logistic support.

- The F-16 SPO had been preparing for the October 11, 1977, DSARC IIIB Review for approximately six months. On October 6, 1977 the AFSARC was held. The next day, in a "fast fax" note to the Program Director, the Air Staff indicated that ASD(MRA&L) had identified the following additional questions, addressing:

  - oo Sortie generation.
  - oo Manpower estimates.
  - oo BIT/AIS relationship.
  - oo Abilities of EPG support to maintain their flight hours.
  - oo Definition of DTC goal.

  Another "fast fax" note to the Program Director several days later indicated the following additional OSD issues:

  - oo Engine stall/stagnation.
  - oo Radar false alarms.
  - oo AIS technical development and schedule.

  The Program Director's "after action" memo indicated the Review went well but there were a few surprise questions.

- In preparation for the Roland Initial Production Facilities Funds (IPFF) Review by the DSARC in April 1978, the Army convened an Ad Hoc Working Group (ADWG) to orchestrate the review preparations. The ASWG discussed the purpose and scope of the review with the OSD staff in the November 1977 time frame. The following list of issues and questions received convinced them that they had the equivalent of a Milestone Review facing them:

  - oo The DSARC principals are expected to attend.

  - oo Update OSD on the current status of the US ROLAND program--to include domestic and international aspects as well as doctrine and use.

  - oo Provide Army obligation authority for $55M Initial Production Facility Funds.

- oo Discuss areas of OSD concern that have surfaced over the past year--particularly those of interest to the ASD(PA&E).

- oo Present status of ROLAND, ROLAND support equipment, and ROLAND parts that are currently tied up in the international disagreements.

- oo Present status of ROLAND international agreements.

- oo ROLAND schedule--to include costs, testing, potential slippage, etc.

- oo ROLAND use.

- oo ROLAND and how it fits into the AD family and how it ties into the current AD Mix Study.

- oo ROLAND Command and Control and how it will use the TSQ-73 system.

- oo Discuss plan for increased armor for ROLAND.

- oo ROLAND survivability.

- oo Present anti-ARM test program for ROLAND (where, what, when, by whom, how, duration, expectations, cost, etc.).

In fact, less than two months later, on January 12, 1978, the DDR&E informed ASA(RDA) of the purpose of the review and the main areas of concern:

- oo Recent DT/OT experience;
- oo Program Schedule; and
- oo Expenditures and cost to complete.

The staff was apparently uninformed about what senior OSD officials were interested in and had used a "shotgun" approach in trying to define the situation. It can also be viewed as a desire by the staff to get "educated" on detailed aspects of the program.

- o The OSD staff showed lack of knowledge as to the current status of TRIDENT in October 1972 when DDR&E requested a DSARC II review on the submarine. In November 1972 the ASN(R&N) objected to the Milestone review, noting that much of the

requested information would not be available until the summer of 1973. He requested that the December review just be a Program Review.

- The preparations for the F-16 DSARC III resulted in the Program Director instituting "a series of DSARC pre-cursor briefings to insure that the program was well understood." Each briefing dealt with a specific topic area. The areas covered were Logistics, Production Readiness, Detailed Engineering, T&E, ICA, and Business Status.

- In preparation for the TACTAS DSARC III Review in March 1983, a Milestone Planning Meeting was held in October 1982. In addition to the normal agenda items for this type of meeting, one of the primary purposes was to brief the OSD staff on the program detail and status.

- In preparation for DSARC III, the ALCM program held an "Issues Meeting" on November 5, 1979. The object was to identify and, if possible, close the issues before the DSARC review. Although it was hoped that satisfactory completion of assigned action items would close the item, this was not universally accepted by OSD staff representatives. The Program Office participated in many of the OSD working level meetings to try and defuse issues by quick responses. The Program Office perception of these activities was that each functional area was jockeying for coverage in the DCP and there would be "a lot of grief" if they did not cooperate. Ten days before the DSARC III, the DASD (C3) requested a review of all C^3 systems supporting ALCM and desired that this be done before the DSARC III.

- The NAVSTAR program office described the DCP coordination cycle with OSD for the DSARC II as the "squeeking wheel" process. The basic DCP had been written and did not change appreciably during the coordination. However, each functional area that wanted extra treatment received an annex added to the DCP.

- The A-10 DSARC III preparation identified no major issues in the area of production readiness, although there was some concern with increased cost of the early aircraft. However, even though the A-10 had actually completed more flight testing than was originally scheduled for the Milestone IIIA and the previously identified cri-

tical test milestones had been demonstrated, the DDR&E(T&E) advocated that production commitment be kept to a minimum until more testing was done.

- o After the HARPOON DSARC IIIA on June 5, 1975, the Navy was directed to provided additional information on the program that had not been required previously. Requests came from various OSD staff agencies for information to support their "post-DSARC deliberations." The amount and type of data requested resulted in an internal Navy memo of late July 1975 to state that, "This is micromanagement at its worst." In effect, this situation had resulted in what was perceived as a continuum of DSARCs that was hampering the Program Manager's day to day activities.

4. Resolution of Issues

a. Discussion

The impact of the DSARC process occurs primarily during the preparation for the DSARC review meeting and not at the meeting, itself. The preparation process includes the interaction of many individuals at varying organizational levels. This is identical to any organizational decision process whereby the normal staff action expects that specific decisions on particular aspects of a program will be made at the lowest possible organizational level. Disputes and decisions reserved for higher organizational levels are moved up the chain of command, accordingly. At each level of a program's review, it will reflect the agreements of lower organizational levels and the areas that are still under contention. In essence, then, each review level either validates or modifies the previous decisions and resolves additional issues before allowing the review process to continue.

The DSARC review preparatory activities within the Services determine not only the issues with the OSD staff but the internal Service issues as well. It is highly unlikely that the Service would continue with the DSARC review process until these internal issues are resolved. The Service resolution may result in the decision not to continue with the program and therefore the effort is terminated. However, if the Service decides that a program is needed, the effective resolution of issues with the OSD staff is essential if the program is to proceed. Premature elevation of contentious issues by the Service may act to its disadvantage. Therefore, DSARC review dates are delayed to accomplish additional analysis, briefings, testing or other actions necessary to defuse the situation and protect the basic character of the program.

The Service's proposed program briefed at the DSARC meeting is in fact the culmination of all the preceeding activities. Although issues may be discussed at the meeting, the desired outcome is the recommendation on the alternatives presented and not specific solutions to particular issues. In actuality, if there is little or no controversy surrounding the program, the DSARC meeting does not even have to be convened. The coordination of the DCP documents the staff concurrence and the recommendation to SecDef for the decision memorandum.

The programs evaluated demonstrate that the above procedures usually prevail. However, there are occasionally illustrations when the DSARC meeting is dissatisfied with the alternatives presented. In this case the DSARC action is to request revised options.

b. Examples

- The Air Force was preparing for the NAVSTAR DSARC I, tentatively scheduled for October 18, 1973. During pre-brief sessions with DDR&E in August 1973, the Air Force was challenged on the fundamental requirement for the system. DSARC I slipped until December 11, 1973 to allow additional time to complete the requirements advocacy effort and coordinate the DCP. In addition, during this time, the Air Force technical approach was modified to be consistent with OSD desires.

- The F-16 DSARC II review was delayed from January 21, 1975 until March 11, 1975. A major issue was the proper mission configuration of the aircraft. After many briefings, OSD staff supported most of the configuration items, except the significant ground attack capability. This remained an issue at the DSARC Review meeting but did not prevent the proposed program from proceeding. The decision memo of April 21, 1975 directed a follow-on task which was subsequently resolved on May 14, 1975.

- The FVS DSARC III on January 22, 1980, resulted in an SDDM on February 1, 1980, that approved the rate production but stipulated eleven conditions. However, continuation of support of production was subject to a DSARC review on these issues before release of FY81 funds. The interaction of the OSD and Army staffs resulted in only one issue remaining for presentation at the DSARC review - the acquisition strategy. The FY81 funds were released and the program proceeded.

- Both the FFG and A-10 had production DSARC Review dates in late 1975. The pre-DSARC briefing activities and DCP coordination cycle resulted in both meetings being cancelled. The SecDef approvals were issued in the signed DCPs.

- SDDM following the May Special DSARC acknowledged the Army's need for SOTAS and the Army's commendable efforts to overcome the impact of erroneous initial estimates, poor management, and lack of program control. However, the Army was given 60 days to submit for USDRE approval, revised SOTAS program options. The DepSecDef also pointed out that support beyond the 60-day period would depend upon the acceptability of the program structure. The program was allowed to die slowly.

5. DSARC attendance

In his memo of May 30, 1969, Secretary Packard established the DSARC charter that defined the Council's composition as the DDR&E, the ASD(I&L), the ASD(C), and the ASD(SA). The subsequent DoD directives and instructions have, from time to time, modified the composition of the principal members, by various additions and deletions. However, except for title changes and reallocation of some responsibilities, the original four principals have remained on the DSARC. The specific changes in the DSARC organization are discussed in Section IIB2 of this report.

Up until March 1980, DoD directives have remained silent on the use of alternates for the principals. The issue of DoDD 5000.1, of this date, specifically stated that the USDR&E and the USDP may on occasion "designate a representative to attend a given DSARC meeting." This provision was not authorized for any of the other permanent members. Therefore, it is believed that the initial intent of Secretary Packard and the unwritten policy for over ten years was that the importance of the DSARC required attendance by the principals.

This belief is reinforced by the "Little Four" report that reviewed DSARC members' performance for the initial three years of operation. Figure 14 shows the findings of the "Little Four" in regard to attendance. The report concluded, among other things, that the DSARC process was still "young" and gradually improving in attendance.

Table 3 provides a consolidated, chronological summary of attendance for the original four principals for the programs reviewed in this study. A summary of this information is shown in Figure 15 for comparative purposes with the "Little Four"

SUMMARY OF ATTENDANCE BY DSARC MEMBERS - ALL DSARCS

TOTAL OF 52 DSARCS

DSARC MEMBERS		PRINCIPAL	PRINC. DEP.	DEPUTY	OTHER
DDR&E	I & II	29	0	1	0
	III	18	2	2	0
	TOT.	47	2	3	0
ASD(I&L)	I & II	18	2	10	0
	III	21	0	1	0
	TOT.	39	2	11	0
ASD(C)	TOT.	32	4	3	13[1]
ASD(SA)	TOT.	14	12[2]	20	6

(1) In 11 of these the individual reports directly to the Principal Deputy - essentially he is a Deputy.

(2) Position Vacant 11 Mos.

- NOTWITHSTANDING, ATTENDANCE RECORD HAS IMPROVED GREATLY IN PAST YEAR.

FIGURE 14: "Little Four" Summary of DSARC Principals' Attendance
Ref: DOD AdHoc Cost Reduction Working Group, "Little Four", Dec '72

TABLE 3

Chronology of DSARC Principal Attendance
(Study Programs)

Date	DSARC	USDR&E DDR&E	ASD(MRA&L) ASD(I&L)	ASD(C)	D(PA&E) ASD(SA)
12/69	A-10 I	Foster	Shillito	Sherick*	Rosetti*
12/70	A-10 P/R	Foster	Shillito	Moot	O'Dean*
5/71*	UH-60 I/II	Foster	Reich*	Brazier	Tucker
6/71	HARPOON I	Foster	Malloy*	Brazier*	Christie*
8/72	FFG I/II	Foster	Shillito	Wacker*	Christie*
12/72	TRIDENT P/R	Foster	Shillito	Moot	Christie*
1/73	A-10 II	Foster	Shillito	Brazier**	Christie*
5/73	HARPOON II	Foster	Mendolia	Bessler*	Christie*
5/73	TACTAS I	Foster	McCullough*	Bessler*	Christie*
6/73	FVS P/R	Foster	Mendolia	McClary	Sullivan
7/73	LAMPS IIA	Currie	Mendolia	McClary	Sullivan
10/73	TRIDENT II	Currie	Mendolia	McClary	Sullivan
12/73	NAVSTAR I	Currie	Witt*	McClary	Sullivan
2/74	Roland II	Currie	Witt*	Brazier*	Sullivan
7/74	A-10 IIIA	Currie	Mendolia	McClary	Sullivan
10/74	TRIDENT III	Currie	Mendolia	Wacker*	Sullivan
1/75	Roland P/R	Currie	Mendolia	McClary	Sullivan
3/75	F-16 II	Currie	Mendolia	McClary	Sullivan
4/75	Roland P/R	Currie	Bennett**	Wacker*	Sullivan
6/75	HARPOON III	Parker*	Bennett**	Wacker*	Sullivan
6/75	Copperhead II	Parker*	Meyers*	McClary	Sullivan
3/76	AV-8B I	Currie	Gansler*	McClary	Aldridge
5/76	LAMPS IIB	Parker*	Gansler*	Eaton*	Aldridge
6/76	FVS P/R	Parker*	Gansler*	McClary	Aldridge
7/76	TACTAS II	Currie	Shrontz	McClary	Pennington*
9/76	Roland P/R	Currie	Shrontz	Wacker	Christie*
11/76	UH-60 III	Currie	Babione*	Wacker	Aldridge
12/76	TRIDENT III	Currie	Babione*	Wacker	Aldridge
1/77	F-16 IIIA	Currie	Babione*	Wacker	Buc*
8/78	SOTAS II	Dineen*	Nelson*	Eaton*	Christie*
5/79	Roland II	Perry	Nelson*	Wacker	Murray
6/79	NAVSTAR II	Dineen*	Shorey*	Bessler*	Murray
11/79	Copperhead II	LaBerge*	Pirie	Wacker	Murray
1/80	FVS III	LaBerge*	Danzig*	Harshman*	Christie*
10/80	FVS PR	LaBerge*	Danzig*	Borsting	Murray
6/82	LAMPS III	Wade*	Leach*	Meth*	Chu

* Not a principal.
** No appointee, actg. principal.

Report. This data shows that a considerable level of substitution has occurred. From the programs evaluated, only 55 percent of the reviews involved 3 or more of the designated original principals.

Type Review	Total Avail.	Number Attended by Principals			
		USDR&E	MRA&L	C	PA&E
I	5	5	1	2	2
I/II	2	2	2	1	1
II	11	7	4	4	6
III	10	6	4	7	9
Prog Rev.	8	6	5	6	5
Total	36	26	16	20	23
Percent	100	72.2	44.4	55.5	63.9

FIGURE 15

Summary of DSARC Principal Attendance (Study Programs)

The high level of substitution and the political realities of changing incumbent principals provide a secondary situation: lack of consistency between reviews. Meetings that are less than a year apart do not guarantee consistent attendance, and the probability increases with time that lack of consistency in attendance will be encountered. The following examples from Table 3 are provided below to illustrate the situation:

FVS	Program Review	1/80	LaBerge*	Danzig*	Harshman*	Christie*
	Program Review	10/80	LaBerge*	Danzig*	Borsting	Murray
TRIDENT	Milestone II	10/73	Currie	Mendolia	McClary	Sullivan
	Milestone III	10/74	Currie	Mendolia	Wacker*	Sullivan
Roland	Program Review	1/75	Currie	Mendolia	McClary	Sullivan
	Program Review	4/75	Currie	Bennett**	Wacker*	Sullivan
	Program Review	9/76	Currie	Shrontz	Wacker	Christie*
F-16	Milestone II	3/75	Currie	Mendolia	McClary	Sullivan
	Milestone IIIA	1/77	Currie	Babione*	Wacker	Buc*
HARPOON	Milestone I	6/71	Foster	Malloy*	Brazier*	Christie*
	Milestone II	5/73	Foster	Mendolia	Hessler*	Christie*
	Milestone III	6/75	Parker*	Bennett*	Wacker*	Sullivan

A-10	Milestone I	12/69	Foster	Shillito	Sherick*	Rosotti*
	Program Review	12/70	Foster	Shillito	Moot	O'Deen*
	Milestone II	1/73	Foster	Shillito	Brazier**	Christie*
	Milestone IIIA	7/74	Currie	Mendolia	McClary	Sullivan

Because no particular trends could be identified from the sixteen program studies in this report, an additional group of programs was analyzed to determine attendance records of the principals. The programs included, where data was available, were those remaining after the first selection sort as shown in Part II of Appendix B. Also, instead of looking at all reviews for all programs, selected time periods were picked. These were the last two year periods of the Ford and Carter administrations and the first two years of the Reagan administration. Table 4 provides the chronological listing for these three periods.

There are several observations that can be made from this data. The first is that DSARC principals' attendance seems to correlate with a particular incumbent. Second, a heavy DSARC work load in a short period of time may increase the probability of a substitution, as demonstrated by DDR&E in mid-1975 and mid-1976. DSARC reviews at the time of administration transition can also expect substitutions. Finally, the reviews held in the last two time periods have not had as high a degree of principal participation as earlier reviews. Less than 25 percent of the reviews held in the 1979 to 1982 time period had three principals - four principals never attended a review.

Based on the data gained from the programs evaluated and other supplemental information, the original intent of senior level review and decision making is not being accomplished almost half the time. This raises doubts about senior OSD management's commitment to improving the systems acquisition process.

6. Briefing and support document requirements

a. Discussion

To accomplish the DSARC review, there are several briefings and supporting documents that have to be presented to the OSD staff. The primary briefings are those on the program, cost analysis, logistics, and test and evaluation with supporting documents such as the DCP, ICA, and TEMP. Other specialized briefings and documents may be requested by OSD depending on the nature of the program and the decision to be considered.

A major contributor to the workload associated with preparing for a DSARC Review is the large number of preliminary reviews and specialized briefings associated with providing this information to the OSD. It was not uncommon for a Program Office to report 30, 40, 50 or more briefings supported in getting to a DSARC Review meeting. The preponderance of these pre-briefs, however, are accomplished within the Service: only a small number of the briefings are actually provided at the OSD level.

AD-A129 795 EVALUATION OF THE EFFECTIVENESS OF THE DEFENSE SYSTEMS ACQUISITION REVIEW..(U) INFORMATION SPECTRUM INC ARLINGTON VA D D ACKER 04 APR 83 ISI-V-3824-03-VOL-1 2/2

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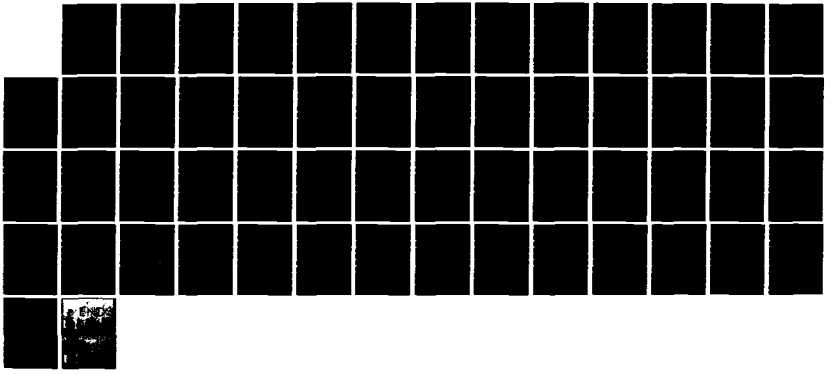

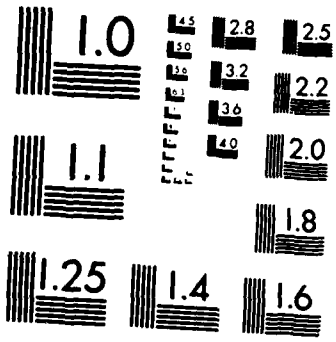

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

TABLE 4

Chronology of DSARC Principal Attendance (Selected Time Periods)

Date	DDSARC	DDR&E	MRA&L	ASD(C)	ASD(PA&E)
1/75	TACFIRE III	Parker*	Gansler*	McClary	Sullivan
1/75	ROLAND PR	Currie	Mendolia	McClary	Sullivan
3/75	F-16 II	Currie	Mendolia	McClary	Sullivan
4/75	CH-53 II	Parker*	Bennett**	McClary	Sullivan
4/75	ROLAND PR	Currie	Bennett**	Wacker*	Sullivan
5/75	AEGIS I	Parker*	Bennett**	McClary	Sullivan
6/75	CGLP II	Parker*	Meyers*	McClary	Sullivan
6/75	HARPOON III	Parker*	Bennett*	Wacker*	Sullivan
6/75	Copperhead II	Parker*	Myers*	McClary	Sullivan
7/75	OTH-B PR	Currie	Bennett**	Cardiff*	Albo*
8/75	Condor III	Currie	Bennett**	McClary	Sullivan
12/75	F-18 II	Currie	Bennett**	McClary	Sullivan
2/76	HELLFIRE II	Currie	Bennett**	McClary	Aldridge
3/76	MX I	Currie	Shrontz	Wacker*	Aldridge
3/76	AV-8B I	Currie	Gansler*	McClary	Aldridge
5/76	LAMPS IIB	Parker*	Gansler*	Eaton*	Aldridge
5/76	Stinger PR	Currie	Bennett*	Eaton*	Buc*
6/76	FVS PR	Parker*	Gansler*	Wacker*	Aldridge
7/76	TACTAS II	Currie	Shrontz	McClary	Pennington*
9/76	Maverick II	Currie	Trogden*	Wacker	Aldridge
9/76	ROLAND B/T	Currie	Shrontz	Wacker	Christie*
11/76	TRITAC PR	Parker*	Gansler*	Wacker	Aldridge
11/76	XM-1 II	Currie	Shrontz	Wacker	Aldridge
11/76	UH-60 III	Currie	Babione*	Wacker	Aldridge
12/76	TRIDENT III	Currie	Babione*	Wacker	Aldridge
12/76	PHM III	Parker*	Babione*	Cardiff*	Albo*
12/76	B-1 III	Currie	Babione*	Wacker	Aldridge
3/79	MX IIB	Perry	Nelson*	Quetsch*	Nelson*
5/79	ROLAND III	Perry	Nelson*	Wacker	Murray
6/79	NAVSTAR II	Dineen*	Shorey*	Hessler*	Murray
11/79	Copperhead III	LaBerge*	Pirie	Wacker	Murray
1/80	FVS III	LaBerge*	Danzig*	Harshman*	Christie*
3/80	TRITAC III	Dineen*	Shorey*	Trodden*	Christie*
5/80	MLRS III(Pre-B)	LaBerge*	Danzig*	Beckman*	Christie*
10/80	FVS P/R	LaBerge*	Danzig*	Borsting	Murray
1/81	JTIDS IIA	Dineen*	Shorey*	Borsting	Christie*
1/82	JTIDS IIB	DeLauer	Juliana*	Quetsch*	Croteau*
2/82	Maverick PR	DeLauer	Webster*	Colocotronis*	Christie*
4/82	DIVAD II	DeLauer	Shorey*	Borsting	Christie*
6/82	LAMPS III	Wade*	Leach*	Meth*	Chu
9/82	Maverick PR	DeLauer	Shorey*	Borsting	Chu

The basic organizational structure of the Services, and the Program Manager's position within it, establish this situation. Each staff in the line of authority above the Program Office requires its own sequential series of reviews. The briefing cannot be presented to the line authority until the staff has completed all of its actions. This usually results in two or three levels of briefings each step of the way. A similar situation exists when the briefings are provided to other interested Service agencies. Without some major structural or procedural change, there is little opportunity to make a major reduction in the required number of pre-briefings.

The workload on the Program Office increases significantly during the period surrounding a DSARC review. Considerable effort has to be spent in supporting this specialized activity; however, the normal business of the Program Office is not suspended during this time period. In actuality, the activities in the basic program have also increased in intensity. The Milestone structure which required major decisions before proceeding to the next phase of the acquisition cycle coincided with the key contractual activities. Therefore, at Milestone II, the Program Office could be expected to be involved in competitive source selection and possibly evaluation of competitive prototype test programs. Milestone III preparations usually occurred concurrently with proposal evaluation, contract negotiations and extensive development and initial operational testing and evaluation.

Program Offices and Service staffs have resorted to various approaches to accommodate this increased workload. Some Program Managers concentrate on the DSARC preparations while the Deputy Program Manager conducts the daily business. In other cases this allocation of tasks is reversed. Special control rooms are established and "Tiger Teams" formed to keep track of all the activities. Other Program Offices obtain short term augmentation for a particular division tasked with controlling DSARC preparation. Program Offices also temporarily assign personnel to the Service staff to facilitate activities in the Washington, D.C. area. From the programs evaluated, there was no evidence that large specialized staffs were established at OSD and the Service Headquarters to conduct the DSARC process. In most staff activities, just like in the Program Office, the DSARC preparation efforts are tasks within a broader job description. An impending DSARC review basically reprioritizes the elements in a given job description. In most, if not all situations, considerable effort which would have been available for managing the basic functions is redirected to the DSARC preparation activities and may result in other actions being delayed or not adequately managed.

A secondary situation can exist that can further DSARC Review meeting. The preponderance of these exacerbate the Program Office workload. In this condition, DSARC reviews occur

in a program in relatively rapid succession thereby resulting in continual involvement in the DSARC process. The time to prepare for the review and the time to receive and implement the decision start to over lap the next review cycle. This situation can occur in one of two ways. First, the original program is structured with Milestone Reviews scheduled closely together, such as Milestone IIIA and IIIB with less than a year interval. Second, unanticipated reviews are required between previously scheduled reviews. In this latter situation, review dates are often directed with insufficient lead time.

b. Examples

- In preparation for the DSARC III, the Copperhead Program Office established an operations center to provide the control and coordination functions during the preparation cycle. Six Program Office personnel were involved full time during this preparation period (approximately 5 months) with another 25 personnel used on an as needed basis. Program Manager spent considerable amount of time "walking the halls of the Pentagon to get everyone on board." Concurrent with this activity, program was in DT/OT II with Program Office supporting other activities such as production facilitization, RSI, contract negotiations, etc.

- The FVS started preparation in January 1979 for a DSARC III in January 1980. The last 3 months involved intense, full-time effort of nearly all Program Office personnel. Countless briefings prior to the DSARC III were required as follows:

HQDARCOM	ASARC
HQDA	Pre-Brief OSD Staff(s)
OSD	Pre-Brief Army Attendees to DSARC
Pre-ASARC	DSARC
Pre-Brief VCSA	

  A follow-on Special DSARC Review in October 1980 resulted in 22 briefings being accomplished in preparation.

- The FFG program started the planning actions for the DSARC III in the Fall of 1974. This activity would continue concurrently with the RFP and source selection process and the T&E phase. The Deputy Program Manager was designated to lead a special Task Force and a six-day work week was instituted together with authorized overtime pay.

- The LAMPS MK III Program Office had a continuing heavy workload both in preparing for DSARC reviews and in post-DSARC response to detailed guidance in the various SDDMs. The DSARC IIA SDDM of August 14, 1973, directed ten detailed items to be accomplished prior to the next DSARC, including test plans covering a variety of subjects: cost analyses; financial data; and, revision of the DCP. The specific guidance resulting from the DSARC IIC in 1978 led to the establishment of a LAMPS DSARC Action Team in order to comply with the tasks in DSARC IIC SDDM since the tasks were considered to be beyond the normal capabilities of the program office.

  Preparation for the DSARC IIIA (Program Review) in 1981 and again for the DSARC III (IIIB) in 1982 involved some 32 planning milestones for each cycle. Prior to DSARC III in June 1982, the Program Office supported approximately 46 briefings and meetings.

- In preparation for the DSARC II Review in May 1979, the NAVSTAR Program Office started to "gear up" in January. Three Captains were assigned to the Plans Division, Program Control Directorate "to pull all things together for the DSARC." The Program Office estimated that approximately 70 meetings/briefings were conducted prior to the review on June 5, 1979. The Program Office also detached an officer who spent nearly six months on temporary duty at the Air Staff working full time on the DSARC preparation because of the joint-service nature of the program. The following summarizes the major review levels for briefings in April and May 1979.

  <u>Program Brief</u>:

SAMSO	Air Staff Board
HQ, AFSC	Air Force Council
AF/RD	AFSARC
ASARC Pre-Brief	Navy Pre-CEB
ASARC	CEB
	NSARC

  <u>Cost Analysis</u>:

HQ AFSC	SAF/FM
AF CAIG	OSD CAIG

TEMP

Staff Pre-Brief
AF/XO
OSD/T&E

- The GLCM Program Office estimated that it expended approximately 21 person months of effort in the three months prior to the DSARC Review in November 1981. The Chief, Projects Division was assigned the additional duty of "pulling together" all actions of the Program Office to support the review. Because of the Program Office's location in the Washington, D.C., area, it was indicated that it supported many "spur-of-the-moment" meetings, with OSD functional elements, to answer questions before they developed into major issues. The following summarizes some of the major, scheduled briefings:

BRIEFING (Number of People Attending)	DATE
Planning meeting at AFSC (15)	Sep 11 '81
T&E pre-brief to AFSC	Sep 23 '81
T&E pre-brief to Air Staff	Sep 24 '81
T&E pre-brief to OUSDR&E (T&E)	Sep 25 '81
MRA&L pre-brief to Air Staff	Sep 29 '81
MRA&L brief to OSD/MRA&L	Oct 5 '81
Program pre-brief to AFSC/SC (22)	Oct 8 '81
Program pre-brief update to AFSC/SD	Oct 21 '81
Program pre-brief to Air Staff (29)	Oct 28 '81
Program pre-brief to Air Staff Board	Oct 29 '81
Program pre-brief to Air Force Council	Nov 3 '81
Program pre-brief to AFSARC (30)	Nov 6 '81
DSARC Program Review	Nov 17 '81

- The ALCM DSARC III was held on April 17, 1980. By late October 1979, the competitive flight test program was at the approximate mid-point, the contractors had submitted their best and final offers and DSARC planning activities were a daily requirement. In addition, the Program Office continued to support the monthly EXCOM meetings. The Deputy Program Manager assumed the responsibilities of daily program management while the Program Director dedicated his time to the DSARC preparations.

- The A-10 program presented at Milestone II included two production milestones at eighteen month intervals into the program: a reasonable plan. However, the subsequent addition of the GAU-8 gun system as a DSARC program and the

requirement for a Special Program Review after the Milestone IIIA, to evaluate test data, resulted in the requirement for the Program Office to support six separate DSARC reviews in a 42-month period.

- The HARPOON program had originally scheduled a DSARC IIB in June 1974 and a DSARC III in February 1976. However, two unanticipated reviews resulted in three reviews in one year:

DSARC IIB	June 25, 1974
DSARC P/R	March 4, 1975
DSARC IIIA	June 5, 1975

7. Monitoring of threshold compliance

a. Discussion

The underlying philosophy in the DSARC process is that program management responsibility, within specified boundaries, can be decentralized and that selected decisions are retained at the SecDef level. Implementation required that key program parameters be identified and bounds or thresholds be set for monitoring adequacy of performance. This process was envisioned as a control function which would require programs to return to the DSARC, prior to scheduled reviews, if any of the thresholds have been violated. Although simple in theory, this has not been consistently applied in practice. Although some programs evaluated in this study have been subjected to special reviews for varying from the approved program, others have not. In addition, programs have been initiated without specified goals and thresholds or have not been required to present a special review or otherwise document the changes when the program has varied from prescribed bounds.

b. Examples

- The TACTAS Milestone II review resulted in approval on July 13, 1976, for an FSD program. The approved program as documented in the DCP anticipated a DSARC II Review in December 1979. By May 1977 the cost and schedule thresholds were breached. A year later the Navy terminated the FSD contracts. A DNSARC review on March 30, 1979, approved a restructured FSD program with a projected Milestone III in September 1983. The TACTAS program has experienced a four-year delay without additional DSARC review. A revised DCP was submitted to OSD but was never approved or commented on.

- The GLCM FSD program was initiated as an outcome of the ALCM DSARC II on January 1977. No DCP was provided prior to the review and the decision memo after the review did not provide program thresholds. A subsequent SecDef memo in June 1978 did establish dates for Milestone III and IOC as May 1981 and March 1982, respectively. By January 1979, it was evident that these dates could not be met. There was still no formal program documentation, such as a DCP. It appears that the use of the EXCOM had preempted the functions of the DSARC.

- The NAVSTAR program, in contrast, is experiencing control by the DSARC review process. Two years after the program had been initiated, DDR&E expressed concern about program direction and character and requested a DSARC IB. The meeting was held on October 4, 1977, and the revised DCP signed on November 29, 1977.

8. Effect of external forces on the process

a. Discussion

Under certain conditions, the normal DSARC decision making process in the programs evaluated was perturbed by forces external to the Department of Defense. Multinational programs, with international agreements, may result in political situations which either overrule or modify the actions the DSARC would have taken if just the United States was involved. Another, more common influence that either preempts or overrules the DSARC recommendations is the action of Congress. In this situation, focus is not placed on the budget adjustments that invariably happen but on the specific program direction provided. Unspecified funding cuts on a program allow the DoD to still structure a program it feels is appropriate within the given resources, but a specific direction in the authorization or appropriation bill is the law and there is no recourse. Whether the direction makes sound management sense is secondary to the situation.

b. Examples

- The A-10 DSARC II Review was held on January 17, 1973. Subsequent to the review and prior to the SecDef decision, Congressman Mahon (House Appropriations Committee) expressed concerns about the capabilities of the A-10 in comparison with other inventory aircraft. The Congressman specifically requested that no contract be awarded until appropriate studies were accomplished. After responding to Congressman Mahon, the DepSecDef signed the DCP on February 28, 1973, and approved award of the contract. In July 1973, the Senate

Armed Services Committee cut the FY74 preproduction request from 10 to 6 aircraft and directed a fly-off between the A-10 and A-7D. SecDef Richardson had testified against this type of test as early as March 28, 1973, but it appears it was to no avail. The tests were conducted and the results substantiated the Air Force's earlier statements. The restructure of the program to accommodate the reduced number of aircraft and the time to prepare and conduct the fly-off resulted in the general slowdown of the approved program and increased cost in the development phase.

- The F-16 DSARC IIIA on January 4, 1977, presents a situation where prior international commitments may have overshadowed the decision process. The Air Force was seeking release of $175 million of long lead funding prior to the Milestone IIIB decision in September 1977. The European Consortium nations had released $166 million in June 1976 and would release another $317 million prior to the next U.S. decision point. Even the DCP indicated that this European commitment overshadowed the "production decision" of the U.S. program. This situation notwithstanding, the entire DSARC procedure was pursued. Although there was an issue concerning cost growth, there is no indication that the proposed program would be redirected by not approving full release of required funds. The only area of concern in production readiness was the early commitment to third country sales which would increase program risk. The decision memorandum tasked the Air Force to keep this under close control.

- The HARPOON DSARC IIIA review on June 5, 1975, was for the purpose of determining progress in the program and the need for release of long lead procurement funding. The decision memorandum of August 5, 1975, approved the total HARPOON program and production subject to certain constraints. The most significant constraint, and one that would immediately encounter problems, was the constraint on the FY76 production rate. The decision memo constrained the rate to 10/month for U.S. and 13/month for FMS. However, the U.S. had previously made several key delivery commitments to allied nations that now could not be satisfied if this production constraint remained. The originally established rates were a conscious decision on the part of several elements of the OSD staff to hold total HARPOON costs in check while pursuing certain cost reduction efforts. However, the international political situation required that this decision be

modified. On August 18, 1975, the DepSecDef permitted an increase in production rates to support FMS.

- The AV-8B program began to loose support in DoD early in 1977 after the arrival of a new administration. The FY79 budget request was for only $35 million - basically to phase out the effort. Congress appropriate $173 million. The DoD deleted all funding for the AV-8B from its FY80 budget request and in January 1979 deferred the appropriated FY79 funds without proper Congressional notification. Subsequently, interactions between DoD and innumerable Senators and Congressmen resulted in FY79 funds being released in April 1979 and the Congress appropriating $180 million for FY80. The DSARC II Review was accomplished on July 20, 1979. No decision memorandum was issued after this review but the program has proceeded through FSD and has basically received all the required funding. A full rate production decision is anticipated by early Fall 1983. Initial production funding was released in FY83.

- DSARC was preempted. Army restructured the FVS program (which had been ongoing under various names since 1968) in 1976. Congress, impatient with the Army's progress, imposed a production goal of May 31, 1981. This Congressionally mandated date became an important factor in all subsequent program planning.

  Subsequent Congressional actions in 1978 involved the selection of weapon systems and whether an improved M113 APC could meet the IFV/CFV requirements. Finally, in 1980, the SASC put wording in the FY81 Appropriation Law which directed the Army to select a second source for IFV/CFV production and required production of at least five vehicles using FY81 funds.

  The latter action occurred prior to DSARC III. Although the second source requirement was subsequently dropped by Congress, the issue was kept alive by OSD and was not settled for 2 years.

- The Army established an optimistic 64-month, $226M ROLAND TTF&T Phase for which a contract was let in January 1975. By August 1975 the contractor, Hughes, was talking about a 71-month, $265M effort. In the meantime Congress had complained about the long (64-month) and costly ($226M) Phase. Under Congressional and OSD pressure, the

TTF&T contract was modified in May 1975 to 54-month, $177M. (The SecDef had earlier informed Congress that the TTF&T Phase could be reduced. COEA in 1979 ASARC/DSARCII).

- In the TACTAS program, DSARC II was scheduled for about February 1977 in accordance with the schedule approved after DSARC I. In May 1976, the Senate Armed Services Committee, in considering the TACTAS Program, recommended that $8M be added to the budget to accelerate the introduction of this capability into the operating fleet. On June 3, 1976, DDR&E sent a memo to ASN (R&D), subject "Revision to DCP Number 92, TACTAS." In this memo he stated that the DSARC II decision for TACTAS be reached as soon as possible and requested the Navy to set a date as soon as possible. The DSARC II was held on July 13, 1976, about six months earlier than scheduled.

IV. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

The DSARC process has been in operation for almost fourteen years. Although the specific procedures setting forth this process have undergone continual maturation, the basic underlying concept has not changed: the Secretary of Defense will control the transition of major weapon system acquisitions between selected phases of the life cycle of a defense system, and the Services will manage the program within each phase. The original DSARC charter states as follows:

"The mission of the DSARC is to review major and important Department of Defense system acquisition programs at appropriate milestone points in their life cycle. These reviews are intended to permit coordinated evaluation and deliberation among senior managers, based on the most complete presentation of information available to assure that advice given the Secretary of Defense is as complete and objective as possible prior to a decision to proceed to the next step of the system's life cycle." 13/

Subsequent issues of the DSARC charter in DoD Directives and Instructions have not changed this basic purpose.

In reaching conclusions on the effectiveness and efficiency of the DSARC process and procedures, a qualitative assessment was made based on the programs evaluated in this study. The efficacy of the functional disciplines that have been developed to support the decision making process was not evaluated. To aid in placing the results of this study in proper perspective, the observations and conclusions were compared with other studies on systems acquisition management.

1. The DSARC process is effective

The DSARC Milestone review process, a management control system established by DepSecDef Packard, permits decentralized management of defense systems acquisition. Within prescribed constraints, the service Program Managers are authorized to manage segment(s) of the total defense system acquisition life cycle. Transition from one segment to the next is subject to review and authorization to proceed by the SecDef. This review/authorization process has been in existence for almost fourteen years without a change in the basic underlying philosophy, although there have been some changes to the procedures and the number of program milestones. The programs studied clearly show that the DSARC review process provides Program Managers with

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13/ Deputy Secretary of Defense Memorandum, dated May 30, 1969, Subject: Establishment of a Defense System Acquisition Council

required decisions in a formal way, though not always in the preferred period or without constraining conditions. From this aspect, it is concluded that the process is effective. The appropriateness of other directions set forth in the decision at milestone reviews has always been open to criticism, and remains a concern. In total, the process was established to control the movement of programs from phase to phase and it performs that function.

The milestone review concepts also instills a sense of discipline in managing defense systems acquisition programs and requires that the Program Managers periodically "take stock" of their programs. At selected key points in the evolution of any program, the Program Manager must be able to demonstrate that the program is in balance and satisfying all known requirements placed on it. Deviations must be identified and corrective actions defined and agreed to by higher level authority. The process accomplishes this but not always in a way structured by the guidance.

The value of the actual DSARC review meeting is that it acts as a "forcing function" on the various staff elements within OSD and the Services to resolve issues within the scope of their delegated authority. Only issues that remain in contention between OSD and the Service, or issues in which the authority is clearly retained at the OSD level, are expected to be presented at the DSARC meeting. Information gained from program studies, as well as from interviews, reveals that the DSARC meetings rarely result in immediate recommendations and/or decisions; rather, they provide a forum for discussion and appraisal.

The DSARC chairman's style of operation avoids direct confrontation. The final recommendations to the Program Managers are usually developed in closed executive sessions of the DSARC principals, and during subsequent staffing of the Secretary of Defense Decision Memorandum (SDDM). The point was made repeatedly that if the process of preparation for the DSARC is accomplished without issues being raised for consideration at the DSARC Review meeting, the meeting need not be held and an SDDM can be issued directly. This situation occurred on two of the programs studied; i.e., the examples of A-10 and the FFG. However, the point was also made repeatedly that, without the impetus offered by the impending DSARC review meeting, it is not clear that the issues would be resolved solely by the staffing activity.

2. <u>The DSARC process/procedures are not efficient</u>

a. Difficulties in initial DSARC review planning

The direction that has evolved requires that a DSARC milestone planning meeting be held approximately six months before each review. The purpose of this informal meeting is to identify the issues associated with the decision to be made, develop a general outline of content for the DCP, and schedule the events leading up to the DSARC review meeting.

From the information obtained, it is evident that the task of identifying issues is a weak link in the procedure. Almost every aspect of a program becomes identified as the source of a potential issue. This "shot gun" approach at the OSD action officer level demonstrates that specific guidance was not received from senior management relative to planning for the program review. This lack of focus contributes significantly to extensive requests for data from cognizant staff members within the OSD. The requests flow from OSD to the Services through a variety of informal channels which can result in duplicative efforts within the concerned Service. In large part, the type and level of detailed information requested is indicative of OSD staff members trying to regain the currency they once had on the program.

Further, some requests are not keyed to critical issues but represent OSD staff elements attempting to exercise specific functional responsibilities. In 1975 the Acquisition Advisory Group (AAG) had recommended that Principals and their staffs be enjoined from using the DSARC process to carry out functional responsibilities. This was based on the AAG's conclusion that each staff element in OSD had almost autonomous power in its functional area, which was yielding widespread decoupling of accountability, responsibility and authority. 14/ The programs evaluated in the time period after the AAG report clearly illustrate continuation of this problem.

Because data is requested and supplied on all aspects of a program, it is difficult for the Services to determine the key issues until late in the coordination process. Detailed briefings to address the perceived issues are prepared and reviewed within each Service before presentation to the members of the OSD staff.

Normally, the final selection of issues for presentation at the DSARC meeting is accomplished about one or two weeks before the actual DSARC review meeting. In some cases, this means that the DSARC meeting has to be slipped to allow sufficient time to adequately address an issue that is not identified until late in the coordination process. The coordination process, which may take months or more to accomplish, is not efficient relative to its use of personnel and time and fosters an environment which encourages decoupling of accountability, responsibility, and authority.

14/ Report to the DecSecDef, Acquisition Advisory Group, September 30, 1975, pg 9.

b. The DSARC process has not always operated in a manner consistent with DOD Directives

The DoDD 5000.1 and DoDI 5000.2 established the basic policy and procedures for the DSARC process. There were several situations in the programs studied where the DSARC process was not applied in a manner consistent with the published directives.

- o Breaches in thresholds have not been processed in a consistent manner. Some programs are required to completely update the Decision Coordinating Paper (DCP) and conduct a DSARC review meeting when a threshold is breached; others are not. When the DSARC meeting is held, the meeting is followed by SecDef approval of a restructured or modified program. Other programs have continued without a DSARC review and a SecDef decision. In the latter cases, funding support continued. There was no evidence of a consistent procedure which leads to the decision on how to treat a specific breach of threshold situation.

- o Milestone review actions have been inconsistent. In some programs evaluated, the DSARC took action without requiring accomplishment of prescribed prerequisites identified in the DSARC procedures (directives). Primary variations from DSARC procedures were encountered at Milestone II when programs are being considered for full scale development. The programs have been authorized to proceed into FSD with inadequate definition of program content and technical requirements.

- o Previous SecDef milestone decisions have been modified or reversed without benefit of the DSARC process. The SDDM is the normal basis for implementing a milestone decision. However, there are cases where subsequent direction issued by OSD staff offices either modifies or completely reverses the original SecDef decision stated in the SDDM. Such direction and the resulting changes are not subjected to the normal scrutiny of the DSARC review process. Therefore, in many cases the impact--positive or negative--of the revised direction is not known until after the program change has occurred.

- o Multiple milestone reviews were required on many programs evaluated in this study. The directives establish the requirement for milestone reviews at major transition points (milestones) in the life cycle of a program. Some programs--from their inception--have been subjected to multiple milestone reviews prior to a full-scale development or a pro-

duction decision. This was inconsistent with the basic philosophy of a SecDef decision at each major program milestone and provided increased work lead in the Program Office for extended periods of time.

The DAIP initiative #24 is a significant step to reducing the number of SecDef milestone reviews. As long as this concept is followed, and there is no unofficial fragmentation of the milestones into Milestone A, B, and C, the full benefit of this change could be realized. Otherwise, the problem will return. The movement of Milestone II to an appropriate point after the start of the full-scale development contract should also be helpful in providing additional time to complete program definition.

c. A major factor in Program Office workload and length of preparation time for a Milestone review is the large number of pre-briefs in the Services

Briefings to support the DSARC review meeting are subjected to multiple, sequential reviews at each level in the Services' organizational structure. Each staff in the line of authority above the Program Office requires its own sequential series of reviews before allowing the proposed briefing to be presented to the line authority. Each level of line authority needs the opportunity to review the proposed briefings and resolve issues which might exist within its delegated responsibility. However, the checks and balances invoked by the staffs at each of these levels have subverted the basic objective of minimizing the layers between the Program Manager and the decision maker. In effect, the staffs are becoming direct additional layers.

Although there are few, mandatory briefings to be given to the OSD staff and the DSARC, each one basically undergoes the above described rigors. The briefing burden is further compounded when the OSD staff requests additional specialized briefings on a myriad of functional questions and issues. In many of these situations, the subject matter could be addressed in appropriate correspondence and reports. In fact, many briefings have been requested to present the results of a completed analysis or evaluation which is already contained in a written document.

A compounding effect on the briefing burden is encountered when organizations not in the line of authority request the opportunity to review the DSARC briefings. Invariably there are service prescribed scheduling protocols that govern when briefings can be presented to specific organizational levels. This "pecking order" for scheduling briefings builds additional delays into the DSARC preparation cycle.

The net effect is that the Program Office redirects significant segments of its personnel resources to support these

efforts over a protracted period of time. The programs studied demonstrated that the length of time of the decision process did not directly affect the overall length of the program. However, it was illustrated that any lengthy period of uncertainty increases the program's vulnerability to external factors and the general inefficient use of assigned personnel.

d. DSARC principal substition at reviews detracts from concept of "deliberation among senior managers"

DepSecDef Packard established the DSARC as his advisory group. The function of the DSARC was "to review major and important DoD systems acquisition programs at appropriate milestone points in their life cycle. These reviews (were) intended to permit coordinated evaluation and deliberation among senior managers..."15/ The membership was designated as the DDR&E, the ASD (I&L), the ASD (C), and the ASD (SA). Subsequent issues of formal DoD directives and instructions have expanded the DSARC membership, but the original four principals have remained unchanged, except to accommodate DoD organizational realignments.

Based on available data, it is concluded that the implicit policy was that the four designated principals were expected to attend DSARC meetings. An early study by the "Little Four" identified initial attendance problems but forecasted that attendance would improve. Subsequent DoD directives and instructions were silent on who could attend DSARC meetings and vote for the DSARC principals. In March 1980, DoDD 5000.1 authorized the USDR&E and USDP some latitude in attending meetings. However, this latitude was not granted to the other DSARC principals.

The actual attendance of the DSARC principals has not been consistent with the implicit policy. Some substitution needs to be authorized, especially during the period of transition of an incumbent. However, the data obtained in this study shows that the substitution rate far exceeds the level that would be considered acceptable as a good management practice. Almost half the time, two of the four originally designated principals are absent. Although the functional areas are represented, the absence of the designated principals does not permit the DSARC to function as an "advisory and deliberative body of senior managers." This is in marked contrast to the DRB where all the principals attend.

15/ Deputy Secretary of Defense Memorandum, dated May 30, 1969, Subject: Establishment of a Defense System Acquisition Council.

e. There is a need for a clearly defined program baseline

When the DSARC process was instituted, the DCP was the document that set forth the contract between the SecDef and the Service(s) for the acquisition of a specific defense system. The DSARC review meetings were to complement the DCP process. Yearly reviews of the "contract" insured that changes caused by the PPBS or other activities would be documented in an approved update to the DCP.

The evolution of DoDD 5000.1 and DoDI 5000.2 has eliminated this "contractual" concept and the requirements for documentation have increased. The DCP constraint of 20 pages was not observed; therefore, an Integrated Program Summary (IPS) was introduced as a companion document to the DCP with the revised combined page constraint of 70 pages. The combined DCP and IPS was cumbersome, difficult to coordinate and almost impossible to maintain in a current state. The requirement for the DCP to be signed by the SecDef and the Services was eliminated and the SDDM became the only directive document signed by the SecDef.

Although the SDDM documents the SecDef decisions at program milestones, the memos reviewed in this study illustrate that not all of these memos comply with existing directives. Program thresholds and goals were not always defined, nor were the documents which would contain these basic parameters referenced. In the programs studied, the people on the programs did not know what version of the DCP supported the DSARC review and SecDef decision. It is very difficult, if not impossible, to track program performance with an ambiguous baseline. The Services have recognized this problem to varying degrees and have started to implement program baseline procedures. However, a definitive audit trail between OSD and the Services is presently lacking.

Another factor which detracts from the earlier concept of a "contract" is that the SDDM is not revised when there is a significant change in the program. From the documents reviewed, there was no evidence that a change in a program caused by the PPBS or Congressional actions resulted in changes to the appropriate SDDM. The Services restructure programs in response to these changes by modifying schedules, program risk, acquisition strategies or a host of other changes in program factors previously reviewed and concurred in, by the OSD staff and DSARC principals. Without a revised SDDM, however, there is no indication that the resultant changes have been reviewed by OSD. This provides the potential for difficulties at the next Milestone review when the actual progress is compared to what OSD originally perceived to be the program approved at the earlier Milestone. The "contract" must be modified to reflect the changes forced on a program so as to facilitate subsequent milestone decisions and provide the management baseline for evaluating future actions.

3. Problems and issues associated with the DSARC process encountered in this study have been identified by previous studies and panels

The sixteen programs studied span the history of the DSARC. Most of the data comes from the period 1973 to 1977, when the majority of the reviews studied were held. However, there was sufficient information from the periods prior and subsequent to this period to allow a general assessment of the full period of DSARC existence.

Basically the early problems and issues associated with the DSARC process were not resolved. The evolving DoD direction, for the most part, did not incorporate the recommendations of the major study groups convened in the 1970s. In some instances procedural changes were made in direct opposition to study group recommendations. In those cases where recommendations were implemented, the results did not always live up to the expectations. In the programs studied, there was little or no evidence that the establishment of the DRB provided increased stability or consistency of the program budget with the DSARC decision(s). Even on major programs, following institution of the DRB, budget fluctuations have been observed.

The recent policy changes called for in the DoD Acquisition Improvement Program (DAIP) reflect earlier study proposals and, if implemented fully in spirit as well as context, should be expected to improve the efficiency of the DSARC process.

4. The DSARC and DRB functional responsibilities are sufficiently different to warrant organizational separation.

The DRB is responsible for resource allocation within the DOD. As such, it looks across programs at aggregate budget issues to ensure balance and adequacy of compliance with budget guidance. The DSARC, on the other hand, looks vertically at a specific program to ensure technical adequacy, management structure, and acquisition strategy within the fiscal constraints of the FYDP.

To enhance the linkage between the DRB and the DSARC, the membership of the former organization included the membership of the latter. In practice, however, the same individuals do not always perform their required functions on both organizations. The DRB experiences an extremely high attendance rate by the principal members; whereas, the DSARC has experienced a relatively high substitution rate. Although the organizational staffs are involved in supporting both activities, the original intent of senior management involvement in program decisions and subsequent resource allocation decisions is not occurring. However, this is not felt to be critical in obtaining budget stability for major designated programs.

The key to tying the acquisition process more closely to the PPBS was contained in DepSecDef Carlucci's memorandum of March 1981 with the requirements to initiate programs with the POM; and that at subsequent reviews, the proposed program will have sufficient resources already identified in the FYDP and EPA.

The ability to retain this tie will most probably be keyed to specific program execution and adequacy of the initial planning. The limited information obtained in this study showed that the majority of budget perturbations were not due to program cuts, but were due instead to programs not obtaining the total amount of requested increases. The DRB provides the necessary "checks and balances" while addressing the issue of affordability at the DOD level on a yearly basis. The DSARC structure, however, allows a smaller group of DOD executives to access adequacy of specific programs at infrequent intervals. The basic responsibilities of the two organizations are different and to some degree conflict; therefore, it is concluded that the two functions not be combined.

B. RECOMMENDATIONS

The study has shown that the basic control mechanism, originally envisioned when the DSARC was established, is still operative. However, the study has also illustrated that the process is hampered in its performance.

Burdensome administrative requirements, and continual demands for information result in extended periods of heightened program activity. Although these preparation periods do not extend the overall acquisition cycle, any period of perceived uncertainty can make a program vulnerable to other forces.

The recommendations made by this study are based on the precept that the DSARC review preparation time can be reduced and less burden placed on the Program Manager if there is Senior Managment commitment to the process, planning is focused, and all parties have retained a moderate degree of currency on the designated DSARC programs.

The following specific recommendations are made:

1. Continue the DSARC process as currently designed

This study has concluded that the basic DSARC process is effective. The control function is being accomplished. Several studies in the past, such as the COGP, AAG, and GAO have all stated support for this basic concept of decentralized management of defense systems acquisition with central control of key decision points.

The recent DAIP actions, to adjust the Milestone structure and DSARC review responsibility, were taken in response to earlier study recommendations. The observations and conclusions

of this report support those actions. Additional changes in the basic structure of the process are not recommended at this time. Because of the length of a program's acquisition life cycle, it is essential that the basic process be stabilized, for a period of time, to allow a sufficient number of programs to experience this revised process before any further changes are contemplated. During this period, it would be desirable to obtain specific data on program experience with the Milestone reviews as it occurs so that a more complete data file would be available for future analysis.

2. Improve efficiency by implementing the following:

a. Provide routine status reporting on the designated DSARC programs to the DepSecDef, the DAE and other selected senior OSD staff officials

The observations and conclusions of this study have shown that a major portion of the DSARC review preparation effort is associated with restoring OSD staff currency on the program. By providing the DSARC principals and other senior OSD managers with routine status reporting, OSD should develop an improved awareness of a DSARC program as it proceeds, thereby eliminating the need to "catch-up" just before a DSARC review. Also, by maintaining a level of currency throughout the period of the program, functional authorities should be able to identify potential issues earlier and possibly resolve them through normal staff actions. This situation is now encouraged in DoDD 5000.1 dated March 29, 1982, and is a return to the earlier Blue Ribbon Panel concept of OSD being in a monitoring role once approval is granted.

The implementation of this routine status reporting should be such that little or no additional workload is placed on the Services. It is recommended that existing senior level status reporting used within the Services be extended to provide the data to OSD. As an example, the Air Force uses the Secretary's Program Review (SPR) to provide routine status reporting to the Secretary of the Air Force. A copy of this briefing could be provided to OSD after review by Sec AF. This could be done on the same frequency as the report to the Sec AF, or a slightly modified report could be provided less frequently; i.e., semi-annual in lieu of quarterly. The underlying concept is to use the Service's existing reporting systems and not require any additions.

b. The DAE should provide administrative control and focus on the DSARC preparation activities of the OSD staff

A critical aspect in meeting a planned DSARC date has been the ability to identify key program issues early in the preparation process. When this has not been accomplished, considerable effort has been expended in DCP preparation and other

activities which subsequently have to be redone. The previous process of a milestone planning meeting was flawed, since the initial activities were initiated at the action officer level, without senior level guidance. The current draft DoDI 5000.2 dated October 20, 1982, could exacerbate this situation by making the meeting discretionary.

It is recommended that the DAE define the parameters for a planned DSARC review in conjunction with the appropriate Service AE and continue to control the requests for data and additional briefings as identified in the draft DoDI 5000.2. An appropriately structured and directed Milestone planning meeting is strongly encouraged and the draft DoDI 5000.2 should be modified accordingly.

c. The DAE should issue a policy statement on the DSARC principals attendance requirements

As this study has shown, substitution for DSARC principals occurs frequently. In some instances there are more substitutes than primary members present at a DSARC review. Previous directives have been silent on this issue until March 1980. Direction after that time granted the USDR&E and the USDP the latitude to designate an alternate attendee. However, no other principal was granted this latitude.

Therefore, it is recommended that the DAE issue a policy statement or modify the appropriate directives so as to establish criteria for acceptable representation at the DSARC review meetings while retaining the basic philosophy of a forum that will "permit coordinated evaluation and deliberation among senior managers...".

d. The SDDM should be modified so that it sets forth the "contract" between the SecDef and the Secretary Service for the acquisition of a specific defense system

The replacement of the signed DCP with the SDDM for the implementation of the SecDef decision has eliminated the early concept of a contract between OSD and the Services. Although the directives state that the SDDM will contain program thresholds and other key parameters, the data reviewed in this study have shown that this does not occur on a regular basis.

To insure agreement between OSD and the Service(s) on exactly what is to be accomplished in a specific program, it is recommended that the SDDM be structured to reference the appropriate documents that define the tasks; i.e., the DCP, TEMP, ILSP. By referencing appropriate documents and/or including annexes from these documents as enclosures to the SDDM, a program baseline for future management control can be established. It is further recommended that the SDDM be updated if Congressional actions or PPBS activities result in a program's inability to meet previously established objectives.

ATTACHMENT I

GLOSSARY

GLOSSARY

A

AAG - Acquisition Advisory Group

ACP - Area Coordinating Paper

AFR - Air Force Regulation

AFSARC - Air Force System Acquisition Review Council

ALCM - Air Launched Crise Missile

AR - Army Regulation

ASARC - Army System Acquisition Review Council

ASD - Assistant Secretary of Defense

C

CAIG - Cost Analysis Improvement Group

CDR - Critical Design Review

C^3I - Communications, Command, Control and Intelligence

COGP - Commission on Government Procurement

D

DAE - Defense Acquisition Executive

DAIP - DoD Acquisition Improvement Program

DCP - Decision Coordinating Paper (originally entitled Development Concept Paper)

DDR&E - Director, Defense Research & Engineering

DepSecDef - Deputy Secretary of Defense

DNSARC - Department of the Navy System Acquisition Review Council

DoD - Department of Defense

DoDD - Department of Defense Directive

DoDI - Department of Defense Instruction

DRB - Defense Resources Board

DSARC - Defense System Acquisition Review Council

DSB - Defense Science Board

DSMC - Defense Systems Management College

E

EPA - Extended Planning Annex

F

FSD - Full Scale Development

FVS - Fighting Vehicle System

FYDP - Five Year Defense Plan

G

GAO - Government Audit Organization

GLCM - Ground Launched Cruise Missile

I

ICA - Independent Cost Analysis

I&L - Installations and Logistics

IPS - Integrated Program Summary

J

JCS - Joint Chiefs of Staff

JMSNS - Justification for Major System New Start

M

MENS - Mission Element Need Statement

M&RA - Manpower & Reserve Affairs

MRA&L - Manpower, Reserve Affairs & Logistics

MRF - Milestone Reference File

N

NATO - North Atlantic Treaty Organization

O

OMB - Office of Management and Budget

OSD - Office of the Secretary of Defense

P

PA&E - Program Analysis & Evaluation

PDM - Program Decision Memorandum

PMO - Program Management Office

PPBS - Planning, Programming, Budgeting System

R

RDT&E - Research, Development, Test & Evaluation

S

SA - Studies and Analysis

SAR - Selected Acquisition Report

SCP - System Concept Paper

SDDM - Secretary of Defense Decision Memorandum

SecDef - Secretary of Defense

SECNAVINST - Secretary of the Navy Instruction

SOTAS - Standoff Target Acquisition System

SPR - Secretary of the Air Force Program Review

T

TACTAS - Tactical Towed Array Sonar

T&E - Test & Evaluation

TEMP - Test & Evaluation Master Plan

TOA - Total Obligation Authority

U

USDP - Under Secretary of Defense, Policy

USDR&E - Under Secretary of Defense, Research & Engineering

ATTACHMENT II

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SELECTED BIBLIOGRAPHY

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APPENDIX A

DETAILED ANALYSIS OF DIRECTIVES

The 1969 Packard memo that established the charter for the Defense Systems Acquisition Review Council (DSARC) was simplistic in its description of functions and requirements. The Development Concept Paper (DCP), later called the Decision Coordinating Paper, was the primary management tool and was to be complemented by the DSARC. Three decision points were established: Contract Definition, start of Full-Scale Development; and start of Production. At these decision points (or milestones), the DSARC would meet to evaluate the major system to ensure its readiness to proceed to the next stage. The primary areas of concern for the DSARC review were the matters treated by the DCPs. The day-to-day management decisions were specifically excluded from DSARC reviews. Systems subject to DSARC review were defined in two ways: 1) those for which DCPs are required; or, 2) those specifically designated by the Deputy Secretary of Defense for review.

1971

Department of Defense Directive 5000.1 came into existence on July 13, 1971. At this point, "major system" was defined by 1) a dollar value in excess of $50 million for RDT&E costs or $200 million in estimated production costs; 2) national urgency, and; 3) recommendation by DoD Component Head or OSD officials. The parts of DODD 5000.1 related to DSARC activity were basically the same as the charter established by the 1969 Packard memo.

1975

On January 2, 1975, DoDD 5000.26 and DoDI 5000.2 were issued. The subject of 5000.26 was the charter of the DSARC, while 5000.2 covered the policies and procedures for the DSARC and the DCP. On December 22, 1975, 5000.1 was reissued.

DoDD 5000.26 - This document defines the charter for the DSARC. Although the function of the DSARC remained unchanged, its membership was enlarged and the details of its operation were expanded. Two people were added to the permanent membership on an as needed basis. In addition, the Component Head and the Chairman of the Joint Chiefs of Staff were to participate in all DSARC reviews. The changes in operation are detailed below.

Sixty days before a DSARC review, an informal planning meeting might occur. This meeting was not mandatory. The purpose of this meeting was to discuss:

- The specific issues and alternatives to be treated at the DSARC review.
- The information that will be made available to support the DSARC deliberations.
- The readiness of the program for DSARC review.

- The schedule of DSARC-related events leading to DSARC review.

In addition to the informal meeting, other scheduled events included:

- Submission of the "For Coordination" draft DCP ten days before the DSARC review.
- CAIG report submitted five days before DSARC review.
- Submission of T&E report two days before the DSARC review.

DoDI 5000.2 - The DCP/DSARC process guidelines were defined in this DoD Instruction. The key item of change from previous document was that the DCP became a support document for the DSARC review rather than the DSARC supporting the DCP. At this time, the SecDef signature on the DCP authorized the next phase of the acquisition cycle. However, a SecDef signed memorandum could replace the DCP. This placed an internal conflict in the document since the six-page enclosure detailing the requirements for preparing a DCP stated that the "decision is consumated when DCP is signed". This enclosure also indicated that the DSARC chairman's staff was responsible for developing the "For Comment" draft DCP based on the Service's initial draft. All subsequent distribution and updating would be done by this staff.

DoDD 5000.1 - The 1975 revision of this directive raised the monetary definition of major system to $50 million RDT&E and $200 million production based on FY72 dollars. The use of firm or ceiling priced production options in development contracts was defined in greater detail. Beyond those two changes, 5000.1 remained unaltered.

1977

In January 1977, both DoDD 5000.1 and DoDD 5000.2 (which incorporated 5000.26) were reissued. Both documents contained significant changes because of a shift in emphasis from "system" to "mission" need.

DoDD 5000.1 - OMB Circular A-109 changed the focus of the acquisition process from satisfying a system need to satisfying a mission need through the acquisition of a system. The mission need had to be explained in a new document entitled the Mission Element Needs Statement (MENS). This document was the focal point of Milestone 0, an addition to the acquisition cycle. Approval of the MENS began the first phase of the acquisition process, called the Concept Exploration Phase. The approved MENS would then be incorporated into the DCP as an annex at subsequent Milestones. OMB Circular A-109 stressed the importance of determining the best method of overcoming a deficiency. Be-

cause of this, the Concept Exploration Phase was designed for evaluating alternative system concepts that best rectified the deficiency. Alternatives remained in the acquisition process through Milestone II according to A-109. The DoDD 5000.1 statement at Milestone II, however, says that "a system" (rather than alternatives) shall be selected to go to full-scale development. This discrepancy was resolved three years later in a revision to this directive.

Many of the program considerations in this revision remain the same, although "mission needs" replaces "system" in several instances. A few new items are added that show a change in policy. NATO standardization and interoperability, and the use of industry and educational institutions as primary sources in the exploration phase appear for the first time. Also introduced are the following:

- o Maintaining technological base;
- o Restrictions on changing program managers;
- o Total program acquisition strategy responsibility of program manager;
- o Management constraints;
- o Performance, cost, and schedule estimates parameters;
- o Timing for performance, cost, and schedule management thresholds and variances;
- o Reporting policy for variances;
- o Production planning and engineering and industrial preparedness planning;
- o Personnel and human factors engineering;
- o Post-Milestone III quarterly status reports and threshold breaches;
- o Service(s) SARC reviews.

The dollar values defining a major system were raised to $75 million RDT&E and $300 million production and the Defense Acquisition Executive (DAE) appears for the first time. The functions of the DAE, which were outlined in August 1976 in DOD Directive 5000.30, included:

- o Integrate and unify the management process, policies, and procedures for defense system acquisition.
- o Monitor the implementation of the policies and practices in the Circular A-109 and in the system acquisition policies of the Secretary of Defense.

- Coordinate the development of acquisition investment planning for the DoD to assure the continuity of decisions among the conceptual, development, production, and operational phases of the acquisition of defense systems.

- Coordinate acquisition investment planning with the Defense Planning and Programming Guidance (DPPG), the Planning and Programming Guidance Memorandum (PPGM), and the Planning, Programming, and Budgeting System (PPBS).

- Serve as the permanent Chairman of the DSARC. Previously the position of chairman fluctuated among the members depending on the area being discussed at the review.

- Strengthen the basis for the Secretary of Defense's decisions at the four key acquisition milestones by assuring that the requirements and viewpoints of all functional areas involved in major system acquisition are given full consideration during DSARC deliberations and are properly integrated in the DSARC recommendations sent to the Secretary.

- Approve/disapprove, after consultation with the other DSARC members, the format and content of individual DCPs.

- Advise SecDef on the timing of program manager assignment, the adequacy of the program management structure, and the quality of the program management achieved.

- Coordinate the actions of the various OSD offices as they carry out their assigned responsibilities in major Weapon System Acquisition.

- Coordinate actions, as appropriate, with the military departments and other Department of Defense agencies having collateral or related functions in the field of the DAE's assigned responsibility.

- Maintain active liaison for the exchange of information and advice with the military departments and other Department of Defense agencies.

- Consult with the Joint Chiefs of Staff on the interaction of system acquisition with operational strategy.

- Maintain active liaison with the Office of Federal Procurement Policy in matters concerning system acquisition policy.

- Encourage the maintenance of active liaison with appropriate research and development, system design, procurement, logistic, and environmental services agencies out-

side the Department of Defense, including private business entities, educational or research institutions, or other agencies of government.

DoDD 5000.2 - This revision of 5000.2 expanded the subject matter from DSARC/DCP procedures to cover all aspects of the major system acquisition process. The document was changed from an instruction to a directive. As a result, the amount of information increased significantly. Added to previous instructions were:

- Procedures for preparing the MENS;
- Activities surrounding Milestone 0;
- (S)SARC review procedures;
- Mission area analysis;
- Program considerations related to mission need rather than system need.

The previous internal conflict in DoDD 5000.2 was resolved with this revision by elimination of the use of a memo to record the SecDef decision as an alternative to signing the DCP. Specifically, the directive now states:

> "The Secretary of Defense decision is consumated when he signs the DCP and issues the action memorandum. The Component Head shall take action within 30 days to revise the DCP, incorporating the Secretary of Defense direction and to distribute the DCP."

The processing and coordinaton of the DCP was also changed significantly. The DoD Components were now tasked with the major administrative responsibilities. The following summarizes the process and changes:

- The DCP outline is defined at joint OSD-Component staff meeting 4-6 months prior to Milestone target date.
- The DoD Component prepares and submits a "For Comment" draft to DAE 2 months prior to (S)SARC review date. Previously, Services forwarded an "Initial Draft" based on the approved outline and the responsible OSD staff prepared and distributed the "For Comment" draft.
- The DAE identifies, within 15 working days after receipt of "For Comment" draft, OSD comments and unresolved issues for inclusion in DCP update.
- The Component prepares the "For Coordination" draft, which includes the comments received. This document is submitted 15 working days prior to the Council review.

Previously, the DSARC chairman's staff was responsible for incorporating the comments and submitting the "For Coordination" draft at least 10 working days prior to the review.

1980

The impact of the revisions of both documents centered mainly around DoDD 5000.2. The changes to DoDD 5000.1 were generally cosmetic with two exceptions:

- DSARC reviews became mandatory at Milestones I, II, and III (previously, DSARC reviews were mandatory only at Milestones II and III).
- Alternative systems were acceptable after Milestone II.

The changes to DoDD 5000.2 were more substantial. The major system dollar figures were raised to $100 million RDT&E and $500 million production. The composition of the DSARC changed, with the Director of Telecommunication and Command and Control Systems and the ASD (I) replaced by the Under Secretary of Defense (Policy) and the Chairman, Joint Chiefs of Staff. The Component Head was also eliminated as a participant in the DSARC reviews: he was a member of the pre- and post-DSARC review activities but not in the DSARC review meeting.

The review process was changed considerably. The planning meeting was fixed at six months before DSARC review. At this time, the participants were to lay out the issues and items to be emphasized in the DCP and the Integrated Program Summary (IPS), a new document. This marked a change in philosophy. Rather than reviewing and supporting the DCP, the DSARC process was now structuring the DCP. The DCP was now limited to only ten pages (previously 20 pages) but the IPS, which provides the details of the implementation plan for the life cycle of the program, was constrained at 60 pages. The "For Comment" drafts of the DCP/IPS were to be received by the DSARC members three months (formerly two months) prior to the DSARC review. Two months before the DSARC review, all comments had to be returned. The final DCP and an updated IPS were to be submitted 15 days before the review. Also, 15 days prior to the review, preliminary copies of the CAIG, MRA&L, and T&E reports had to be submitted. A pre-brief meeting was scheduled for five days prior to DSARC review. At this time, each DSARC member was to have formulated his final position on all of the issues in the DCP. These positions comprised the recommended position paper that would be presented at the DSARC review. Dissenting opinions were also prepared to be submitted at the review. Three days before the review, the final copies of the reports were due. The DCP was no longer signed by the SecDef. Instead, it was only a position paper at the DSARC and used by the SecDef to prepare the SecDef Decision Memorandum (SDDM). The SDDM became the action document that formerly was the DCP.

1982

The 1982 revisions, known as the Carlucci Initiatives, brought about procedural changes. Much of the detail work remains untouched but the roles of the participants change. Obvious changes include:

- o Adding the Service Secretaries as permanent members of the DSARC.
- o Replacing the MENS with a Justification for Major System New Starts (JMSNS).
- o Creating the System Concept Paper (SCP) for Milestone I.

The less obvious changes greatly alter the acquisition process and the DSARC review procedures. Once each year at the time of the budget submittal, for each new program start desired, the Services submit a JMSNS. A review of the JMSNS by the DRB replaces the Milestone 0 DSARC review. Approval of the JMSNS by the SecDef provides the official sanction for a new start, ties the program to the budget, and authorizes the Service to begin the Concept Evaluation Phase as soon as funds are released.

Milestone I is now the first major SecDef review and decision point. This decision, based on the SCP (prepared by the DoD Component), moves the acquisition process into the demonstration and validation phase. The DSARC activities for Milestone I have not changed. Thresholds and objectives for review at Milestone II are established at this time.

Milestone II is the second SecDef review and decision point. If program go-ahead is approved, the system moves to full-scale development. If the thresholds set at Milestone II are not breached, the production decision at Milestone III is the responsibility of the Service Secretary. This is a major change in the acquisition process. It also eliminates the DSARC from Milestone III (unless there is a breach in a threshold). In addition, the timing of Milestone II is now flexible. Instead of occurring at the start of full-scale development, it now occurs sometime between Preliminary Design Review (PDR) and Critical Design Review (CDR), depending on the level of effort necessary to obtain a better definition of cost, scheduling, and performance.

The last significant change created by the new directive is the support for decentralization. Although previous directives urged decentralization, each succeeding directive further restricted the freedom of the program managers and the Services. The original Packard memo listed ten (or fewer) items to be considered at each DSARC review. With each iteration, this number grew until, in 1980, there were 12 pages of program areas to be evaluated and 25 pages of enclosures for procedural conformity.

The latest version has again placed the responsibility of program management on the program manager. In doing so, the directive states that all management decisions which have been delegated to the program manager are not open for DSARC review. This gives the program manager more latitude in solving program related problems than at any previous time in the 13-year history of the DSARC review. It is a definite attempt to achieve the decentralization that David Packard sought in 1969.

APPENDIX B

LIST OF PROGRAMS AND DSARC REVIEW DATES

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
AIR FORCE															
A-10	I-DEC	PR-DEC			II-JAN	III-JUL	PR-JUL IIIB-DEC								
F-16							II-MAR		III-JAN IIIB-OCT						
GLCM									II-JUN				PR-NOV		
ALCM						I-FEB II-DEC	IA-MAR		II-JAN			III-APR			
SRAM/DAR					I-DEC				I-OCT		II-JUN				
ARMY															
UH-60			I&II-MAY			PR-DEC		III-NOV							
FVS					PR-JUN		II-MAR	PR-JUN				III-JAN			
ROLAND						II-FEB	PR-JAN PR-APR	PR-SEP		PR-APR	III-MAY				
COPPERHEAD							PR-JAN II-JUN		II-NOV		III-NOV				
SOTAS										II-AUG			PR-MAY		
NAVY/MARINE															
TRIDENT			I-SEP	II-DEC PR-DEC	II-OCT	III-OCT		III-DEC							
FFG				I&II-AUG			III-DEC								
HARPOON			I-JUL		II-MAY	IIB-JUN	PR-MAR IIIA-JUN								
TACTAS					I-MAY			II-JUL							
AV-8B								I-MAR			II-JUL				
LAMPS				II-JUN	II-JUL			II-MAY		II-FEB			PR-SEP	III-JUN	

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
AAH				I-SEP				II-DEC						III-MAR	
ADV. LT. WT. TORP.											I-JUL		PR-AUG		
AEGIS						II-JUN I-NOV	I-MAY PR-JUN		III-DEC						
AHIP							I-SEP	I-MAR					II-APR		
AN/BQQ5&13		II-MAY			III-JAN	III-APR	III-JUL								
ASRJ										II-JUL			PR-MAR	PR-JAN	
B-1A		II-JUN	PR-FEB		PR-MAR			III-DEC							
CH-47D							II-NOV					III-NOV			
CH-53E			I-OCT	PR-NOV		PR-OCT	II-MAY	PR-AUG	PR-NOV	III-JAN					
CLGP-II							II-JUN		II-AUG						
CONDOR					II-AUG		III-SEP	PR-JUN							
DIVAD									I-APR II-NOV					III-MAY	
DSCS III						I-DEC		III-DEC					PR-DEC		
EF-111					I-NOV	II-OCT				III-DEC					
E-3A	II-DEC	II-JUL		PR-DEC	II-JAN II-SEP	PR-JUN III-DEC	III-MAR PR-MAY								
E-4							II-MAY PR-OCT					III-MAY			
F-5E/F		II-FEB PR-NOV			PR-FEB		III-MAY								
F-15		II-JUN		Long Lead OCT	IIIA-MAR	IIIB-JAN IIIC-OCT									
F-18							II-DEC	II-OCT		PR-NOV		PR-MAY PR-NOV	PR-JUN		

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
GMJ-8					II-JUN	III-JUL									
HARM						PR-OCT			II-JAN	IIA-FEB		PR-NOV	PR-NOV		
HELLFIRE								II-FEB						III-FEB*	
IR MAVERICK								II-SEP						PR-MAY PR-SEP	
JTIDS										PR-APR		IIA-JAN	IIB-JAN		
MLRS									I-JAN				III-MAY PRE-BRIEF		
MX								I-MAR		II-DEC	II-MAR				
M-1				I-NOV				II-JUL II-NOV		II-JAN	IIIA-MAY PRE-BRIEF		IIIB-SEP		
NON-NUC LANCE				II-JUL			III-MAY								
OTH-B		I-MAR		PR-JUN PR-NOV		II-FEB	PR-JUL								
PATRIOT				II-JAN PR-OCT		PR-JUN		PR-JAN II-JUL				III-AUG			
PERSHING						I-JAN				II-DEC					
PHALANX				II-DEC					III-SEP						
PHM				II-SEP		PR-OCT		III-DEC							
SCAD					II-MAR II-APR II-JUN										
STD. MISSILE			PR-NOV		II-AUG										
STINGER				II-MAY				PR-MAY	III-NOV						
SUBNSS					I-MAY	II-OCT									
TACFIRE					PR-JAN PR-MAR		III-JAN								

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
TOMAHAWK						I-FEB	I-MAR		II-JAN						
TRIDC						PR-APR II-APR		PR-NOV				III-MAR III-JUL			
ACTIVE STD.			PR-NOV		II-										
ADV. WARN. SYST.											I-DEC				
AGILE			I-DEC		PR-MAR										
AIM-7F					II-FEB III-OCT										
AIM-7M															
AIM-9L			II-JUN	PR-MAY				III-JAN							
AMRAAM										I-NOV				II-SEP	
ANTI-SHIP MIS. DEF						II-JAN			III-APR						
AN/TPN-19					IIIA-JUN										
ARSV			I-JUL		PR-MAR										
ASW AIRCRAFT					II-MAY		PR-AUG								
ASW STANDOFF WPN														I-DEC	
AUTOSEVOCOM								II-MAR							
A-6E TRIM								IIIA-JUL							
B-1B															PR-JAN

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
CAPTOR			II-JUN	PR-JUN			PR-JUN					PR-NOV			
COPPERHEAD															
CNCE															
COBRA															
COBRA DANE															
COMBAT IFF															
COMPASS COPE															
COR						PR-JUL									
CSMS															
CVN															
C-5 WING MOD						PR-APR						III-FEB			
C-141							III-OCT			III-MAY					
DDGX															II-FEB
DD-963		III-JUN	PR-FEB	PR-JAN											
DD-963UM						PR-JAN									
DEF.NAV.SAT					II-JUL										
DG-DGN						PR-SEP									
DLGN-38		IIIA-FEB	IIIB-MAR	PR-AUG											
DRAGON					III-FEB		III-JUL								

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
EA-6B	III-SEP	III-NOV													
ELF COM. PRG. REV.				I-NOV						PR-JAN	PR-JUL				
EXPANDED TRANSIT															
E-2C		III-OCT	III-JUN												
FLMC															
FLTSATCOM							PR-JUL	III-NOV							
F-4G						PR-DEC									
F-14	II-FEB	III-SEP	PR-JUN												
F-14B/F-15		PR-FEB													
GAU-7			II-NOV			PR-MAR									
GBU-15										III-SEP					
HARDSITE				I-FEB											
HAST					PR-MAR										
HAWK		III-JUL				PR-SEP									
HIMAD															
HLM		I-JUL	I-APR PR-AUG												
HSM/HSM															

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
IMPROVED HAWK															
ITSS															
IUS										II-MAR					
IND MINES												I-SEP			
JVX														I-NOV	
KC-10								PR-JUL		III-AUG					
KC-135 REENGINE															
LANCE				IIIA-JUL											
LCAC															
LHA															
LVTX															
MAJ. CAL. L/W GUN									III-NOV			PR-MAY			
MK-48		III-JAN III-AUG	PR-JUL												
MPGS															I-FEB

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
NATO SEA SPARROW						III-MAY									
NEXT GEN. TRAINER														II-JUN**	
PAVESTRIKE															
PHM				II-SEP		PR-OCT		III-DEC							
PLSS									II-JUL						
QF-4B/TCS					PR-JUN	PR-OCT									
RFV															
SCS SHIP					III-DEC										
SEEKDALK														PR-JUL	PR-JAN
SES				I-OCT	II-DEC										
SIXGUNS								I-FEB							
SOSUS				PR-MAR	PR-JUL										
SPACE DEFENSE													PR-MAY		
SPACE SHUTTLE						PR-APR	PR-DEC			II-MAR					
SRAM		III-NOV													
SSN-688		III-FEB III-NOV	III-JAN												

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
STRATEGIC SAT. SYST.											I-JAN				
STRIKE CRUISER						I-NOV									
SUBACS															I-JUN
S-3A				III-MAR	III-FEB III-OCT										
TAS				PR-JAN											
TASES							PR-JAN								
TEDS		II-SEP													
TOS															
TR-1											PR-SEP				
TV MAVERICK			IIIA-JUN	IIIB-SEP											
VAST				PR-SEP											
VCX						II-SEP									
VEXTS															I-JAN
WAAM												IIA-JUL			
WWCCS MOD															II-DEC
XM-198 HOWITZER			II-?						III-FEB						

		1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
TOTALS	I	1	2	7	7	4	6	4	4	3	1	3	1	0	5	0
	II	2	6	5	9	17	10	8	10	8	8	4	1	2	2	2
	III	1	11	5	3	8	8	11	9	8	5	3	8	2	3	0
	FR	0	3	7	13	10	17	14	8	1	4	2	5	9	4	2

* Delegated to Army
** Delegated to Air Force

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

The objective of this study was to evaluate the Defense System Acquisition Review Council (DSARC) process since its inception and to assess, in a qualitative sense, the degree to which the process has proved to be effective and efficient. The study focused on both the process and the supporting procedures from the standpoint of specific programs.

Although the basic process has remained relatively constant during the 14 years since it was conceived, the procedures have undergoine a continual maturation.

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Changes in the political leadership, various study activities, and the emergence of additional functional management techniques have all contributed to the evolving nature of the DOD Directives and Instructions on Systems Acquisition Management, the DSARC, and the DCP. Within this changing environment, approximately 160 defense acquisition programs were subjected to varying levels of DSARC involvement.

The fundamental question answered in this report was whether experience has shown that DSARC reviews are still the most effective way to manage the transition of a defense system program from one program phase to the next. The experience data base for this study was a fact-finding investigation of 16 programs and interviews with individuals with current and prior defense acquisition management experience.

Based on the observations from the programs studied and information gained in the literature survey, it was concluded that:

- o The DSARC process is effective
- o The DSARC process/procedures are not efficient
- o The DSARC and DRB functional responsibilities should remain organizationally separated.

The sutdy results show that the basic control mechanism envisioned when the DSARC was established are still operative, but the process has been hampered in its performance.

The recommendations made as a result of this study are based on the precept that the DSARC review preparation time can be reduced and less burden placed on the program manager if there is senior management commitment to the process, planning is focused, and all parties have retained a moderate degree of currency on the designated DSARC programs.

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