

Defense Science Board Task Force Report

FY 1994-99 FUTURE YEARS DEFENSE PLAN

MAY 1993



**OFFICE OF THE SECRETARY OF DEFENSE
WASHINGTON, DC 20301-3140**

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OFFICE OF THE SECRETARY OF DEFENSE
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DEFENSE SCIENCE
BOARD

3 MAY 1993

MEMORANDUM FOR SECRETARY OF DEFENSE

SUBJECT: Report of the Defense Science Board Task Force on
FY 1994-99 Future Years Defense Plan

I am pleased to forward the attached report of the Defense Science Board Task Force on FY 1994-99 Future Years Defense Plan. The Task Force was chaired by Mr. Philip Odeen, and also included Mr. Jeffrey H. Smith and Mr. E.C. "Pete" Aldridge, Jr., as participating members in the effort.

As the Task Force Chairman points out in his covering memorandum, the attached document represents the initial report of the Task Force and covers DMRD, weapons systems, and environmental cost issues, plus the procurement "bow-ware" question. Analysis of the other issues contained in the Task Force Terms of Reference are in the final stages of completion and conclusions will be provided shortly.

I recommend that you review the findings and recommendations contained in the report and approve the report for publication.

A handwritten signature in cursive script that reads "John S. Foster, Jr.".

John S. Foster, Jr.
Chairman

Attachment



OFFICE OF THE SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301-3140

May 3, 1993

DEFENSE SCIENCE
BOARD

Memorandum for the Secretary of Defense

Subject: Evaluation of the Validity of the FY94-99 Bush FYDP

On February 4, 1993, you asked us to serve on a Special Task Force of the Defense Science Board to review the FY94-99 Bush Future Years Defense Program (FYDP). The Panel was specifically tasked to address four areas: (1) the Defense Management Report Decision (DMRD) savings; (2) the realism of major weapons cost projections; (3) adequacy of O&M funding in the FYDP to support planned Defense forces and weapons programs; and (4) the adequacy of funding for Defense health care and environmental programs. The Panel was also tasked to identify any significant procurement "bow-wave" beyond the FYDP period.

The initial report of the Task Force, which is attached, covers DMRD, weapons systems, and environmental cost issues, plus the procurement "bow-wave" question. These issues tie to the \$10 billion adjustment made to the Bush FYDP in President Clinton's initial budget over the FY94-97 period. We are completing our analyses of the other issues in our tasking and will provide you with our conclusions shortly. The attached report outlines our approach, findings, and recommendations in some detail. This memorandum serves as an Executive Summary and provides selected comments and suggestions related to our task.

Specific Findings and Recommendations

FYDP Funding Issues

As detailed in the report, our findings with respect to the FYDP funding issues are:

- The Defense Management Report is generating significant savings in the overhead and support areas.- \$40 to 50 billion over the FY91 through FY97 period. However, the Bush FYDP overstates the savings that can be realistically expected by about \$9-11 billion over the FY94-97 period.

Weapon system cost estimates appear more realistic than in many past FYDPs, but we believe that weapon system costs could escalate \$2 to 3 billion through FY97. The tighter budgets of the past few years have led to the elimination of most reserves for development uncertainties. As a result, there is little flexibility to cover unforeseen cost increases.

Costs related to environmental compliance and restoration could add \$1 to 1.5 billion to the Bush FYDP through FY97. The risk is primarily in the area of compliance programs.

- We estimate that the total funding deficiency in the current FYDP through FY97 is \$12 to 15 billion, or about 1 to 1.5 percent of the total Defense funding in the period, and somewhat higher than the \$10 billion adjustment made in the Clinton program

With regard to the actions you and DOD management should take regarding the funding shortfalls, we recommend that you restore these funds to the FYDP. We recognize that the Military Departments will have to offset the increases with cuts in other areas, creating a risk that they will reduce readiness or force structure to the detriment of our overall military capability. We would thus be increasing spending primarily for headquarters and overhead and reducing our global military capability -- clearly the wrong direction. To avoid this, you could direct specifically that the reductions to offset the DMRD savings come from the overhead and support areas. The Military Departments would thus retain the responsibility, authority, and incentives to find cost reductions, but the reductions would be focused in the overhead and support areas. We recommend this course of action because we are confident added savings can be found in these areas.

Procurement "Bow-wave"

We believe there is a potential procurement "bow-wave" that will start to occur at the end of FYDP years. This "bow-wave" problem will be considerably larger in the period beyond the FYDP and should be addressed soon. Unless the procurement accounts are increased, or programs canceled or deferred, the "bow-wave" problem could reach \$5 billion per year by the early 2000s. In particular, without significant offsets, the aircraft programs now under development will not be affordable at the funding levels projected for the rest of this decade.

Why Firm Judgments are Difficult

Many areas of uncertainty in the years ahead make firm judgments on the adequacy of funding for DOD programs very difficult. Several are discussed in the report, and they include the following:

- The rapid loss of defense business base is likely to lead to significant increases in the overhead and G&A rates of defense suppliers. As demonstrated in the F-22 program last year, this could lead to unexpected and largely unavoidable cost increases in existing programs and elimination of a significant percentage of the cost savings that would ordinarily result from program terminations.
- The current national health care reform efforts could result in less generous benefits or more costly private sector programs and drive retired military personnel, eligible for DOD health care, back into the Defense system. This will be discussed in our follow-on report.

The Critical Need for Predictable Funding

The Panel believes it essential that DOD be permitted to reduce its forces, programs, and budgets at a managed and predictable pace over a period of years. Clearly, the most pressing reasons are to ensure that we do not undermine the effectiveness of our outstanding military establishment and that we treat DOD civilian and military personnel fairly.

We have made a series of extensive budget reductions and program changes over the past few years, and the planning system risks "overload." This could lead to "sloppy" budget estimating and planning, reductions in support lagging reductions in force structure, and the inability to manage efficiently the rapid changes in programs across all the military services. The Administration and Congress need to establish a pace of budget and program reductions that is consistent with the efficient, effective, and balanced utilization of Defense resources.

To this end, we believe it is critically important to establish a new procedure under which Congress would approve the top-line of the Defense Budget for several years in advance, providing greater stability and predictability. The defense buildup of the last fifteen years - which was started near the end of the Carter Administration and widely supported by Presidents Reagan and Bush and a bipartisan consensus in the Congress - has created an extraordinarily capable and sophisticated military force. This capability is fragile, however, and sudden, unpredictable drops in defense spending will send shock waves throughout the Armed Services and defense industry.

Thus, we suggest that after you complete the "bottom-up" strategic review now underway and develop a new FYDP, the Administration should seek agreement with the Congressional leadership on what the Defense top-line will be over the next three fiscal years, i.e., FY94, FY95, and FY96. This agreement could be incorporated in the budget resolution or some other appropriate legislative vehicle. The form is not important. The fact of the agreement, however, is extremely important.

We further suggest that this approach be made part of the annual budget process so that there is a "rolling" three year agreed-upon top-line. This would mean that each year the Budget Resolution would approve the top-line for the 050 function for that year plus the next two fiscal years.

As you well know, Congress has been unwilling to modify the annual appropriations process. We understand and support Congress' role and responsibility for the oversight of the Armed Services. However, this annual authorization and appropriation process makes it difficult, if not impossible, to engage in long-term planning and multi-year financing. Although we see the value of the two year authorization cycle, the annual appropriation process remains a source of uncertainty and instability.

A rolling agreement on a three year top-line would ensure greater stability and predictability, permit long-range planning, and encourage efficiencies.

Congress could make annual adjustments, but within the top-line¹. The level could always be raised or lowered by a subsequent vote, but there would be a political and procedural presumption against change.

Without the above actions, the Military Departments cannot realistically address the proper funding of the remaining programs and support structure. While important, such things as DMRD savings, weapon system cost estimates, environmental and health care requirements, and the procurement "bow-wave" are secondary concerns relative to the critical issues of the FYDP top-line and strategy and mission guidance.

Other Suggestions

- (1) Within the approved funding levels, OSD should give explicit guidance to the Military Departments regarding what missions must be accomplished and what missions can be eliminated. This is needed to guard against the natural tendency to protect force structure at the expense of operational readiness and the upkeep of bases and facilities. Management must also press for decisions early in the FYDP years to avoid wasting resources inherent in maintaining programs that will ultimately be eliminated. We understand that this is a fundamental purpose of the "Strategy Review" to be completed later this year.
- (2) The "centralization" issue is also cause for concern. Many of the larger DMRD programs and resulting savings are based on the assumption that centralization of support functions would result in reductions in overhead and more efficient management of common functions across the Military Departments. In some situations, this will indeed be the result, and some productive centralization programs are underway. In other situations, centralizing functions under DOD agencies and removing the management responsibility from the Military Departments could be counterproductive. When the Military Departments have these responsibilities, they have strong incentives to cut the costs of overhead functions to retain military capability--incentives that should be encouraged. There are no such incentives when such functions are given to a Defense Agency or OSD. This effect needs to be considered as remaining DMRD actions are implemented and new cost saving programs are developed.
- (3) We note that DOD is devoting considerable effort to track the actual savings resulting from the DMRDs. Since the DMRDs were implemented, there have been so many changes in the DOD baseline program that the DMRD savings are now hopelessly intertwined with larger changes in total program funding and force structure. Furthermore, management attention is being diverted from effectively planning, managing, and funding the current program to tracking savings back to an obsolete baseline program. We believe that the DMRD tracking system has outlived its usefulness, is ineffective in the new program environment, and should be terminated.

¹While the Congress would make changes to the program within this agreed top-line, we encourage you to work with them to find ways to minimize the disruptions caused by the annual adjustment of thousands of individual programs.

- (4) Special interest programs and legislative intervention continue to plague the Military Services and reduce their flexibility to resolve critical problems. Congress plays a vital role in its oversight, authorizing, and appropriating functions. There are times when Congress, for whatever reason, approves unnecessary spending or excessive restrictions. The imbalance between Active and Guard and Reserve forces, unrealistic assumptions regarding burden-sharing funds, limiting competition for depot maintenance and costly new health care benefits are just some examples. We encourage you and the President to work with the Congressional leadership to reduce and hopefully eliminate such impediments to the efficient use of our tax dollars.

* * * * *

This completes the primary effort we have been asked to accomplish. We hope that our observations and recommendations will be useful in establishing budgets and programs that will support a credible and effective U.S. military force structure capable of defending our national security interests far into the future.

We would like to thank David McNicol and numerous other military and civilian officials in OSD and the Military Departments for their assistance in conducting this review. Their comments and input were candid and constructive, and they were responsive to our many requests for assistance. The Panel greatly appreciates their cooperation and support.



Philip Odeen, Chairman


Jeffrey H. Smith
E. C. "Pete" Aldridge, Jr.

DEFENSE SCIENCE BOARD
REVIEW OF THE DEFENSE FYDP

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May 3, 1993

FINAL REPORT
DEFENSE SCIENCE BOARD DEFENSE PROGRAM REVIEW

I. INTRODUCTION

A. Purpose of the Review

Secretary of Defense Aspin chartered the DSB Panel on February 4, 1993, to review the Bush Administration's FY94-99 Defense Program. The purpose of our review was to assess the funding realism of the Bush Program and, if shortfalls in funding were found, estimate their rough order of magnitude. The three member Panel, Philip Odeen (Chairman), Edward (Pete) Aldridge, and Jeffrey H. Smith, were assisted by staff from OSD, the Services, and the Joint Staff¹. Numerous other elements of DOD also provided input. While the timeframe was short (two months), the efforts of the staff and the cooperation of all parties gave the Panel a good basis for its assessments. We hope these observations will be helpful to DOD as it undertakes a thorough review of our national security needs and develops a new "bottom-up" FYDP.

B. Tasks Assigned the Review Group

The Panel was specifically tasked to review four areas: (1) the Defense Management Report Decision (DMRD) savings; (2) the realism of major weapons cost projections; (3) adequacy of O&M funding in the Bush Program to support planned Defense forces and weapons programs; and (4) the adequacy of funding for Defense health care and environmental programs. The Panel was also tasked to identify any significant procurement "bow-wave" beyond the FYDP period. This report discusses the DMRD savings and weapon systems cost issues, the DOD environmental program plus the procurement "bow-wave" question. It also provides some selected comments and suggestions on related areas. We are completing our analyses of the other issues and will submit our conclusions shortly.

¹Philip A. Odeen is President and CEO of BDM International and a former Defense and NSC official. Edward C. (Pete) Aldridge is President of Aerospace Corporation and a former Secretary of the Air Force. Jeffrey H. Smith, Esquire, is a partner with the law firm of Arnold & Porter and was the head of the Clinton DOD Transition Team.

II. APPROACH AND METHODOLOGY

A. Our Approach

The assessment was based on staff papers prepared for each issue area, detailed briefings by the relevant OSD staff element with formal comment briefings by the Military Departments, numerous small meetings with the various parties, and an examination of audit reports, staff papers, and other relevant material. Formal briefing sessions consumed over 40 hours of the Panel's time. We also invited agencies within DOD to give their input to us directly, and we met privately with senior representatives of each of the Military Departments, so they could give us their views candidly and "off-the-record." Every reasonable effort was made to get as many responsible but differing views and inputs as possible within the available time.

The Panel did not attempt to evaluate independently the accuracy of the data we were provided. Although we assumed that the information we were provided was accurate, we did seek to "cross check" it as best we could in the time available for example, by having OSD assess Service figures.

B. Guiding Principles Which Should Underlie the Defense Program

The issues were evaluated using certain guiding principles that the Panel believes reflect sound business practice as well as the policies of the Clinton Administration and Secretary Aspin. They are:

1. The Defense FYDP should provide all the funding required to support the approved Defense acquisition, personnel, operations, and support activities over the next six years. No known costs should be omitted, and all costs should be the best estimate of those actually required.

2. In addition, the FYDP should follow these principles:

- The readiness of the revised baseline force structure should remain high.
- The facilities supporting these forces should be sized and maintained to support the property and equipment and sustain a high quality of life for the personnel living and working in these facilities.
- Counting on lower future costs for specific support activities as a result of efficiency and effectiveness improvements is an appropriate management technique as long as reasonable and realistic actions or policy changes are identified that will generate future savings.

3. Although FYDP cost estimates should be realistic, this does not mean that hedges to cover all possible risks should be included. It should be expected that management will take appropriate action to adjust plans as routine problems arise or requirements change. The annual budget review process will identify savings that can be used to handle some degree of uncertainty and risk.

III. OBSERVATIONS, FINDINGS, AND RECOMMENDATIONS

A. Overview Observations

1. Since its inception as a planning and budgeting tool 30 years ago, there have been chronic problems with the realism of the out-years of the FYDP. It was common to project total out-year funding growth that was most unlikely to be realized. Weapons costs were routinely underestimated because of optimistic assumptions on development progress, production rates, and Congressional funding support. Program "efficiencies" were planned that were unrealistic or at least unlikely. While the Panel has a number of issues related to the Bush FY94-99 FYDP², we recognize that it is more realistic than most FYDPs have been in the past. Indeed, the current FYDP projects steady reductions in funding over the FY94-97 period, a more realistic approach than frequently occurred in the past.

2. With the significant reductions in Defense spending which have occurred and are projected to continue, the Military Services are much more vulnerable to unplanned needs for funds than ever before. In the peak spending years of the mid-1980s, the Military Departments could absorb modest cost increases in weapon systems development and acquisition, legislative restrictions, and contingency operations because there was ample money available for reprogramming. As the Defense budget shrinks, the Military Departments have largely lost this flexibility.

3. During the course of the review, many instances were noted where Congressional actions or special interest focus greatly complicated DOD's management efforts and led to significant cost growth or poor resource allocations. Examples include making unrealistic assumptions on burden-sharing,

²This report discusses the Bush FY94-99 FYDP. Technically, a new FYDP was not prepared in January of 1993. However, the FYDP prepared in FY91 was updated to reflect program and budget changes made by the Bush Administration in late 1992. This updated program is referred to as the Bush FYDP.

limiting competition in depot maintenance, and adding costly new health care benefits. The Congress must recognize that the impact of such actions will be magnified in the years ahead given the scope of ongoing budget reductions and the reduced flexibility the Services have to absorb unplanned costs.

B. DMRD Savings

1. Background

The 1989 Defense Management Report (DMR) proposed a series of consolidations and management improvements that were estimated to save \$39 billion in support and overhead programs over the FY91-95 period in a then growing FYDP. Later decisions increased the total and extended the timeframe through FY97 to a new savings total of \$71 billion. However, subsequent significant changes to the FYDP, force reductions, base closures, etc., have reduced the estimate to about \$63 billion (before the recent Clinton budget reductions). While these numbers are large, they only accounted for a small share (about 16 percent) of the total cuts made to the Defense program by the Bush Administration.

The bulk of the DMRD savings through FY97 are in the supply area (\$27 billion); other major areas are equipment maintenance (\$10 billion) and data automation (\$7 billion). Since the program began in FY91, the management changes that have been implemented should result in about half of the savings (\$32.6 billion) being achieved by the end of FY97. About \$30 billion in added savings are projected for the FY94-97 period to result from management changes that have not yet been fully implemented. Most of the issues over the realism of savings estimates relate to this latter total. Despite these challenges, the DMR process has been a success. About \$17 billion in savings will have been achieved by the end of the current fiscal year and roughly double that amount should be saved over the FY94-97 period. In total, the DMRD process should generate \$40 to 50 billion in overhead and support savings over the FY91-97 period.

2. Findings

There is broad support for the DMR concept, given the need to reduce overhead and support costs as force structure and program cuts are made. The Service representatives frequently commented that DMR forced them to focus attention on support and overhead, areas that are difficult to manage and often escape top level attention. The objections relate primarily to some of the specifics of the decisions (DMRDs).

The DMRD process was driven by the Deputy Secretary and elements of the OSD staff. It encompassed a broad range of actions, including consolidations, improved information systems, management enhancements, and better business practices. In many cases, solid actions are underway that if successful will generate very large savings. Some actions, primarily in the supply area, are one-time savings reflecting the drawdown of inventories based on smaller forces and improved supply management. Others are recurring savings resulting from doing work with fewer people, combining facilities, etc. The quality of analysis and the specificity of the proposals varied widely. As a result, some savings seem assured while others are problematic at best.

Closely related to DMRDs are the Corporate Information Management (CIM) and the Defense Business Operating Fund (DBOF) initiatives. Both initiatives have considerable support at the conceptual level, but like DMRDs, there are numerous concerns about their implementation.

CIM is designed to redefine the way DOD uses information technology to manage its wide-ranging personnel, financial, and support systems. CIM is an umbrella term that encompasses both earlier initiatives to require commonality in systems developed on a decentralized basis and a more recent initiative to centralize systems development responsibility under a defense agency (DISA). Following a series of studies on the way DOD manages its numerous

information systems, decisions were made and implemented via DMRDs. A major drive is underway to force the Services to design and develop common systems such as payroll and supply, and many functions are being centralized. The Services strongly object to areas where they feel centralization has gone too far. Moreover, there are concerns in OSD and the Services that the transfer of systems development responsibility to the Defense Information Systems Agency (together with the people that were previously under Service control) will sever important links between the developers and the users of the systems and that DISA as an organization is not up to the demanding tasks it is inheriting. Others are concerned that the absolute size of DISA (expected to grow to at least 40,000 people) makes it unlikely it will be an efficient or responsive organization. It now has fewer than 5,000 people.

The DBOF concept is intended to encourage efficiencies by strengthening the buyer-seller relationship between operating forces and the support structure and giving decision makers visibility of the true costs of their actions. The DBOF consolidates all Service stock and industrial funds (\$80 billion per year) and requires military organizations to buy services and products from support activities at prices that are supposed to cover all costs. Most of the concerns about DBOF relate to complexity and the speed of implementation. The principal criticisms are that cost accounting systems are very weak and the MS systems are inadequate to measure performance. Moreover, DBOF is very complex and not widely understood.

The projected savings from the DMRDs, including those related to early CIM initiatives, have been removed from the FYDP as well as the amounts related to the DBOF cash that is scheduled to transfer to Service O&M accounts. To the extent that these savings are not realized or the cash not generated, the defense program will be underfunded. The impact will primarily fall in the O&M accounts, compounding the perennial problem of tight funding. Unless funding

Levels are increased, DOD will then have to do some combination of the following:

- (1) accept a degradation of readiness, which is a very unattractive option;
- (2) make further cuts in procurement programs or force structure, also an unattractive outcome; or
- (3) find additional ways to reduce infrastructure costs.

Questions about some DMRDs should not allow us to overlook the importance of the third option - cutting more from "tail" before cutting "teeth" any further. Information presented to the Panel indicates that, despite the efforts involved in the DMRD process, DOD's infrastructure costs have not fallen in proportion to the drop in overall DOD resources. This alone suggests that there are further savings in infrastructure costs to be made.

3. Recommendations

It is our judgment that the projected out-year savings resulting from the current DMRD reforms that have been cut from the Bush FYDP are overstated by \$9 to 11 billion over the FY94-97 period. This is approximately 20 percent of the projected savings for this period. While we are comfortable with this figure, we do not claim it is precise. There are 250 DMRDs, with projected savings ranging in size from a few million to over \$10 billion. A detailed review of them all would take far more time and manpower than we had available. However, we assessed the estimates from several perspectives before making a judgment.

The staff reviewed ten of the larger DMRDs in some detail. Based on that review, they felt that at least three-quarters of the savings for these DMRDs will be achieved. Extrapolating this assessment to the full set of DMRDs gave us a potential shortfall of 25 percent or slightly over \$11 billion over the FY94-97 period.

The latest OSD/comptroller's savings estimates for FY94-97 are \$46 billion. We broke them into three categories, each with a different probability of success based on our review: 1) Service initiatives - \$16 billion at 90 percent; 2) Logistics initiatives - \$24 billion at 80 percent; and 3) Other OSD initiatives - \$6 billion at 50 percent. The resulting shortfall is \$10.6 billion.

We received detailed briefings from the Services on their view of the DMRD process. On average they testified that they felt that about 20 percent of the projected future savings were unachievable. Applying this percentage against the \$46 billion projected for the FY94-97 period yields an overstatement of \$9.2 billion.

The Panel proposes that \$9 to 11 billion be added to the Services' existing FY94-97 O&M programs prior to making the further explicit out-year adjustments associated with the Clinton Administration's goals. However, the Services should be directed to find at least equivalent savings in the overhead and support areas and not take the funds from force structure or modernization.

We propose this solution because of our strong belief that it is critical that the DOD overhead and support structure be reduced in parallel with reductions in forces and major programs. The focus must be on reducing the "tail" at least as fast as "teeth." In our meetings with senior Service officials, it was clear that they agree with this philosophy and are determined to reduce their overhead and support structure first, not cut readiness or the forces if at all possible.

The DMRD savings forecasts were only made for the period ending in FY97. No estimates were made for FY98-99. Assuming that the projected FY97 savings of \$12 billion are extended into FY98 and FY99, and a twenty percent

shortfall estimate is roughly right, the added shortfall would be about \$2.5 billion per year in FY98 and FY99.

The DOD has devoted considerable effort to establishing procedures to track progress in achieving the DMRD savings resulting from the many postulated management changes. In our view, this bookkeeping effort devoted to tracking DMRD savings has outlived its usefulness and should be terminated. Despite the good intentions of this effort, over a period of time "other" changes in the DOD program that were driven by the historic changes in the world security situation have so altered the original "baseline" that current estimates of "savings" are often hopelessly intertwined with the impacts of the larger changes. Management attention is being diverted from the more fundamental responsibility of ensuring that currently planned programs are properly managed to the lesser issue of tracking savings back to old program plans. Moreover, the Department should not be developing its new FYDP as a delta to old and questionable plans, but instead should be developing the new FYDP in a direct "bottom up" way that ensures that the newly planned forces will be properly equipped, trained, and supported.

Other Panel recommendations related to the DMRD issues are:

- The CIM program initiative implementation plans need more senior management visibility and a careful review to ensure that the consolidation related investments are funded and planned implementations will in fact yield the projected savings. As new management information systems are adopted, care must be taken to ensure they are responsive to the needs of the users. The CIM consolidations and standardizations will fundamentally impact DOD's way of doing business, so it is essential that all elements of DOD management be working toward common goals regarding the

effective use of information technology. Unless the Services and the people involved are committed to the success of this effort, its chances of success are slim

- DOD should defer further DBOF expansion until adequate financial and management systems are in place to allocate costs properly and provide visibility to the effects on force readiness. Total cost visibility and the buy-sell concept are useful management tools but, until adequate support systems are in place, full implementation will pose risks. In addition, changes in DBOF prices are complicating the ability of DOD executives to plan and account for their programs or functions. Given the complexity of the program and the impact of deep budget cuts and force structure changes, the time and attention of senior management demanded by further expansion of DBOF may not be justified.

C. Weapon Systems Costs

1. Background

Weapons system costing is much better understood and has better analytical tools available than do the support activities covered by the DMRDs. The Panel reviewed the amounts included in the FYDP for major weapons systems and was briefed by various elements of OSD as well as the Military Departments. The absolute sums being devoted to procurement are down sharply from the levels of the 1980s. Also, the number of major systems being developed and procured is significantly lower. Thus the potential for overruns is reduced.

2. Findings

With some exceptions, the amounts budgeted seemed in line with realistic cost estimates, and in a few cases, provision for program growth was

provided. Although most of the specific weapons systems cost estimates were seen as realistic, there are two developments which cause us concern.

- The amount of risk funding is very limited, and based on past experience, technical or cost problems will surely develop which cannot be specifically foreseen at this time. When the amount of risk funding is less than required, program disruptions and cost growth often occur.
- The reduction or cancellation of many major Defense production programs is dramatically reducing the workload of manufacturers. This in turn is driving up overhead and G&A rates as the "fixed" costs are spread over a smaller base. This has already impacted some major programs (e.g. F-22) and will likely be a serious problem for others even if aggressive actions are undertaken to cut overhead. In some cases, making adequate cuts may be impossible (e.g. where large contractor-owned facilities are involved) and overhead cuts tend to lag behind the reduction of orders.

We did not review the weapons development and production schedules and costs in the years beyond the FYDP in great detail or review the technical problems associated with these programs. We are, however, concerned over the out-year affordability of the various major aircraft developments underway in the Navy and Air Force. For example, the need for the Services to cooperate in the development of future systems (e.g. MRF and F/AX) should be evaluated. Based on present projections, DOD could face a serious funding problem in the early 2000s - as the F-22 and FA 18/E&F buys are at a peak and the next generation fighters enter a costly development phase.

The Navy could face a problem in its shipbuilding account if it continues to build nuclear submarines and aircraft carriers in any number. The long-term (15 year) program projections include SSNs and CVNs which consume much of the likely Shipbuilding Construction-Navy (SCN) funding. Moreover, the Navy faces a near term nuclear submarine industrial base issue which is currently being addressed. Regardless of the solution, added funds may be required and some alternatives will be very costly.

3. Recommendations

Our review of the major systems in full scale development or production during the course of the Bush FYDP indicated a few areas where funds are almost certainly inadequate, given current schedules and projected quantities. A minimum of \$2 billion more is needed to fund the Bush FY94-97 FYDP, and the shortfall could be \$3 billion. An added shortfall of \$1 to 2 billion will occur during the FY98-99 period. The specific areas of concern are discussed briefly below:

TITAN IV - This program is clearly underfunded by \$1 to 2 billion over the FYDP period. Senior DOD officials point out that it plays a critical role in numerous important programs, and a solution to this problem must be found.

Shipbuilding - Navy ships which take years to build usually end up costing more than planned and budgeted, thereby requiring reprogramming via an annual shipbuilding program adjustment. In the past that usually involved dropping a ship out of the program to free up the needed funds. The planned shipbuilding program contains so few ships that the old process will be less viable in the future. Therefore, a special effort will be required to ensure that the ships in the Clinton FYDP are priced at their

"most likely" cost despite the length of the construction process. It is also essential that the submarine industrial base issue be addressed in the near future. Depending on the solution, significant added SCN funding may be needed.

◦ Other Systems - There are funding problems with several Air Force programs including JSTARS and B-1B, and smaller Army programs. The Army did not fund its Abrams upgrade program (\$1.7 billion) in the Bush FYDP, so it was not an issue for our review. However, the Army sees it as a high priority. This decision reflects the Army's strong view that it could not support the "Base Force" as directed in the Bush FYDP and also adequately fund its priority acquisition programs. Thus, it reflects the fact that the current Army program is out of balance.

In addition to the above specific issues, we believe that inadequate risk funding is provided to cover unanticipated problems that inevitably occur prior to full production of a new system. We are unable to specify an amount, but to avoid destabilizing other programs, we urge DOD leadership to provide some future hedge funding or management reserve for development programs when they develop a new FYDP later this year.

The issue of a procurement "bow-wave" in the years beyond the FYDP is real, suggesting that it must be addressed soon. Unless the procurement accounts are increased, or programs canceled or deferred, the "bow-wave" could reach \$5 billion or more per year by the early 2000s. The Panel has the following specific conclusions.

The ongoing tactical aircraft study should carefully review the currently planned programs to assess their affordability.

Barring a major shift in allocations of funds to the mission area, a program cancellation, or significant slippage, the current programs will probably not be affordable in the post-FYDP period.

- The Navy shipbuilding program should be reassessed during the Defense Strategy review this summer. If the Bush "Base Force" carrier and submarine goals are pursued, the Navy will have an out-year funding problem. If fewer SSNs or CVNs are needed, the funding could be adequate. Failure to address the SSN/CVN issue makes it very likely that the Navy's SCN funds will not be adequate to support the Department's needs for other surface and support ships.

D. DOD Environmental Costs

1. Background

DOD currently spends \$4 to 5 billion per year on environmental matters. Costs are split roughly equally between cleaning up past problems and complying with current federal or state regulations. The costs can be grouped in four categories (\$ billions):

	<u>FY93</u>	<u>FY94</u>	<u>FY95</u>	<u>FY96</u>	<u>FY97</u>
BRAC 88 & 91 Clean-up	.4	.5	.5	.3	.3
Clean-up Programs	1.2	2.4	2.0	2.2	1.9
Compliance Programs	2.1	2.5	2.4	1.9	1.7
R&D (SERDP)	<u>.2</u>	<u>.1</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total	\$3.9	\$5.5	\$4.8	\$4.4	\$3.9

2. Findings

Funds to clean up bases included under BRAC are provided as part of each closure program (There are some funds in the Bush FYDP budget for BRAC 93.) The clean-up program funds are used for other active or closed bases and to fix problems on ships. They are centrally funded and allocated by OSD. The Services fund and manage compliance activities required to resolve pollution problems and comply with state or federal regulations (e.g. build sewage treatment facilities). As the chart above suggests, the Services believe compliance costs will decline in the out-years as they remedy most of the current problems. It is likely, however, that new sites will be found and unforeseen problems arise, thus creating added costs. New, more stringent regulations are also likely to entail new compliance spending. In past years the Services have consistently underestimated future compliance costs and have had to reprogram funds to meet urgent needs. Moreover, reviews of the bases on the 1993 BRAC list reveal many gaps in knowledge of the environmental problems. The studies alone needed to specify the problems and remedial actions will not be complete for two years. The SERDP technology program was added by Congress in FY93 and 94. Some other R&D work is buried in the Services' RDT&E programs. These programs could well lead to new, more cost effective approaches which will enable DOD to reduce future clean-up and compliance costs and deserve support.

3. Recommendations

All predictions about future environmental costs are risky, but the Panel feels that it can make several broad judgments:

- Funding for clean-up of bases covered by BRAC is generally adequate, with shortfalls in the "noise" levels (a few hundred million over the FY94-97 period).

e Funding for the clean-up of existing and old (non-BRAC) bases is probably adequate to meet priority needs and make reasonable progress over the next decade in remediating known problems. Nonetheless, we suspect that costs will rise as the Services go beyond the study phase and get into the actual restoration process. This will require added funds or extend the time horizon of the remediation effort.

Funding for compliance with State and Federal regulations is projected to decline over the course of the FYDP. We feel this is unrealistic as new problems will almost certainly be uncovered and more stringent regulations will be promulgated which will force DOD to continue funding compliance activities at about today's levels. This suggests a shortfall of about \$1 to 1.5 billion over the FY94-97 period. (Projecting the shortfall over FY98-99 would add another \$1 to 2 billion.)

DOD should aggressively pursue new technology to help remediate its problems. This approach holds the promise of reducing the cost of future remediation efforts.

E. Summary Recommendations

Based on our assessments, we believe the FY94-97 Bush Defense program is underfunded by about \$12 to 15 billion. While these numbers are large, they only amount to 1 to 1 1/2 percent of the FYDP. Nonetheless, unless corrected during the upcoming development of the new Defense program by the development of additional savings or other actions (e.g. further base closures), they will impact future Service readiness or force deeper personnel/force structure or modernization reductions. Since the Clinton budget assumed underfunding of \$10 billion, our recommendations only involve add-backs of \$2 to 5 billion to the Defense program total for FY94-97.

V. CONCLUDING REMARKS

In the course of the review, a number of issues arose which were unrelated to the primary focus of the study. The Panel felt that certain of the issues should be brought to the attention of the Secretary and his staff. These issues are summarized below:

- * Predictability of the DOD top-line is a fundamental prerequisite to sound planning and programming. An agreed on multi-year budget would clearly save money and improve program management. Nothing would contribute more to rational defense planning and avoiding the "hollowing out" of our forces, than agreeing on a predictable "glide path" over a period of years. If the Executive and Legislative branches would establish an agreed DOD top-line for three to four years, Defense execution of the ongoing major drawdown and restructuring of forces and programs would be greatly facilitated and the impact on industry and local communities could be far more effectively managed.

DOD, with support from the White House and Congress, should make an aggressive effort to minimize funding problems and cost increases that occur because of actions beyond DOD's control. This would include unrealistic assumptions regarding the receipt of burden-sharing funds, legislative restrictions on fund transfers, delayed appropriations of disaster and other contingency funds, and other unexpected or unfunded "bills" which occur between the development of the budget and execution. The newly proposed FY94 fund for peacekeeping and disaster relief operations is an important step to solve this problem

- Active forces have been reduced more rapidly than Reserve/Guard forces because Congress has limited the pace of reductions. Steps should be taken to bring the Active and Reserve forces more in balance. A reduction of Reserve and Guard forces would not have as severe an impact on unemployment as an Active force reduction since most Guard and Reserve personnel have other employment.
- DOD should continue to give priority to advanced technology. We have the luxury of time to "leap forward" to surpass any perceived future adversary with a future generation of forces. We should take advantage of this environment by initiating advanced technology projects that will have a high payoff in the future. Included are actions to inject new technology into existing platforms to enhance their effectiveness at a modest cost and to exploit civilian technology, more effectively. Furthermore, advanced technology projects are a sound way to preserve the industrial base for relatively low cost.

DOD faces an extremely difficult period as it is forced to cut broadly supported weapons programs, reduce force structure and personnel levels, and realign its support and base structure. Accomplishing this daunting task without "hollowing" our forces, treating people unfairly, or undermining future technology programs will take both leadership and skill. If this effort is to be done successfully, it will require the support of the White House, Congress, and the public. We recognize that the current "bottom up" review will lead to a new long-term force structure, supporting programs, and FYDP. We hope the observations in the report will be useful to the Secretary of Defense, his staff, and other key DOD leaders as this process proceeds.



DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING

WASHINGTON, DC 20301-3010

10 FEB 1993

MEMORANDUM FOR CHAIRMAN, DEFENSE SCIENCE BOARD

SUBJECT: Terms of Reference--Defense Science Board Task Force on
FY 1994-99 Future Years Defense Plan

You are requested to organize a Defense Science Board (DSB) Task Force to provide an independent assessment of the management and financial plans of the Department of Defense. The Task Force should review the overall health of the FY 1994-99 Future Years Defense Plan (FYDP) that was prepared by the Bush Administration. It should identify any major management challenges or serious underfunding problems. A final report is requested by March 12.

The DSB Task Force should address the following questions:

- o How accurate are the savings estimates flowing from the Defense Management Review?
- o Are the current estimates of development and acquisition costs for the weapons, sensors and other major systems now in development too low, as has been true historically?
- o What is the size of the potential programmatic overhang (program content in excess of anticipated funding levels) beyond the FY 1994-99 FYDP?
- o Are the FY 1994-99 FYDP funding levels sufficient to support the Base Force and are the projected manpower levels sufficient to man and operate the force?
- o What procedures should the DOD follow to assess the potential for unanticipated liabilities, particularly in the areas of environmental cleanup and health care?

The office of Program Analysis and Evaluation (PA&E) will sponsor this task force. Mr. Philip A. Odeen will serve as Chairman of the Task Force. Mr. David L. McNicol of PA&E will serve as Executive Secretary and Mr. John V. Ello will serve as the Defense Science Board Secretariat representative. The office of PA&E will provide funding and other support as may be necessary. It is not anticipated that this Task Force will need to go into any "particular matters" within the meaning of Section 208 of Title 18, U.S. Code, nor will it cause any member to be placed in the position of acting as a procurement official.


Victor H. Reis

MEMBERSHIP

DSB TASK FORCE ON "FY 1994-99 FUTURE YEARS DEFENSE PLAN"

CHAIRMAN

Mr. Philip A Odeen
BDM International, Inc.

MEMBERS

Edward C. "Pete" Aldridge
The Aerospace Corporation

Jeffrey H. Smith
Arnold & Porter

EXECUTIVE SECRETARY

Mr. David L. McNicol

DSB SECRETARIAT

Mr. John V. Ello