

# A New PPBS Process to Advance Transformation

by *Stuart E. Johnson*

## Overview

The Office of the Secretary of Defense has released its first Transformational Planning Guidance to steer the Armed Forces through a joint process of transformation. This is a strong step in the direction of making transformation and innovation visible parts of the defense planning process, but more is needed. The planning, programming, and budgeting system (PPBS) through which the Department of Defense (DOD) prioritizes its programs and resources has to be restructured to facilitate transformation and innovation, not to obstruct them. DOD has begun a trial resource allocation process that will reduce the burden of repetitive report generation that has drained time and energy away from innovative, strategic change. This process gives senior leadership an opportunity to shift its attention from wrestling with budget detail to developing initiatives to transform U.S. forces. However, this change will not happen of its own accord. A set of proposals that would enable senior leadership to move its focus from the back end (budgeting) of the resource allocation process to the front end (planning and idea generation) is presented below. A review of how the PPBS has evolved is presented to highlight the need to target specific parts for restructuring.

## Introduction

The planning, programming, and budgeting system (PPBS) was developed by Secretary of Defense Robert McNamara in the early 1960s to manage Department of Defense (DOD) programs and resources. A key purpose was to rationalize investments in strategic nuclear delivery systems and to answer the pressing question, "How much is enough"? McNamara also used the PPBS to integrate the force plans of the three services. He held that, in the absence of such a system, each service developed its force program with only incidental attention to the other services. Consequently, the three programs were suboptimized—the resultant capabilities being less than the sum of the three parts.

McNamara had other objectives in developing this management tool. He sought to establish output metrics to measure the fulfillment of defense requirements. This proved difficult to do. In most cases, he had to settle for increased visibility of input measures—in particular, how much money was going into a program. Even achieving this proved challenging. Too often, he found that only the initial costs of a program were reported, and a bow wave of future costs was masked. To address this problem, he required that the full life-cycle cost of a major program be calculated and displayed.

Finally, McNamara intended to link force programming decisions to strategic assessments. The Five-Year Defense Program (FYDP) was established with 10 major force program (MFP) spending categories that cut across service competencies. The aim was to allow the Secretary of Defense and his staff to give strategic guidance to the military services and then have a tool to measure the service responses in programmatic terms. The program review process would table alternative ways of fulfilling requirements. These would be developed, analyzed, and costed to allow the Secretary of Defense to make high-impact choices that cut across individual service programs.

The PPBS has undergone a number of changes over the past four decades, but the core elements and basic flow of the process endure. It has served DOD and the Federal Government well. Indeed, few other Cabinet departments have a process in place that provides a systematic and relatively visible review of programs and resource allocations.

That said, the PPBS was designed in a much different security context than faces the United States today. In the early 1960s and for nearly three decades beyond, the Nation faced global competition from a large, well-armed, military power, the Soviet Union. Stability depended on an uneasy military equilibrium and the knowledge on both sides that conflict could result in catastrophic damage. This environment created an imperative to avoid mistakes. High priority was placed on a steady, evolutionary improvement in military forces to keep pace with a relatively well understood, steadily evolving adversary.

The PPBS was well suited to such a challenge. It forced defense planners in the military services and in the Office of the Secretary of Defense (OSD) to make choices and prioritize programs. Decision-makers could get a fair degree of insight into the military capabilities that would be fielded in the near future. The risk of making a serious mistake and suffering its dangerous consequences was minimized. Moreover, this predictability allowed DOD to provide guidance in arms control negotiations in the 1970s and 1980s that was coupled to relative strengths and weaknesses of U.S. forces in relation to Soviet forces.

Today, the United States faces a different set of challenges. No country can confront the awesome military power of the United States head on. If a peer military competitor begins to emerge, there will be plenty of warning. Even the problem of defeating a regional aggressor in a classical cross-border invasion of a friend or ally continues to recede in likelihood and seriousness.

Threats to our security and to that of our allies have taken on a different character. The threats are more diffuse, harder to identify with certainty, and less tied to nation-states with powerful standing military forces. Threats for the foreseeable future are far more likely to arise from terrorists or rogue nations with access to weapons of mass destruction.

These threats are not “lesser included cases” that can be taken care of handily by large military formations configured for high-intensity conflict with a hostile nation-state or alliance. They are “different cases” that require a different response from forces organized and employed differently. Our forces, or a good part of them, need to transform, to find new ways of bringing highly focused military power to the battlefield promptly, from a long distance and with limited risk to themselves.

Managing transformation presents a challenge to a Secretary of Defense, whose primary management tool is the PPBS. The system was designed for a different time, security environment, and set of military challenges. The system is well suited to managing continuity, not change. It tends to impede transformation rather than encourage it.

Discarding the PPBS altogether is not feasible; DOD depends on it to administer the budget of a large and complex organization. That said, new elements can be incorporated into it to facilitate transformation. It is instructive to review obstacles to change, some of which already are under serious consideration by OSD.

## The PPBS Cycle

The PPBS comprises several major stages.

- *Quadrennial Defense Review* (QDR), a strategic review of the security environment that reflects the defense priorities of the administration, is prepared during the first year of each administration (including returning administrations).

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- *Defense planning guidance* is prepared by OSD and issued to the military departments. This reflects the priorities of the Secretary of Defense and guides the military departments in preparing their proposed programs and budgets. It is targeted for submission in late spring.

- *Program objective memoranda* (POM), statements of the proposed program and activities of the military departments, are submitted in the summer.

- *Budget estimate submissions* (BES), detailed estimates of the funding required to implement the program proposed in the POM submissions, are delivered concurrently with them.

- *Program and budget review.* OSD staff and the Joint Staff review the POM and determine whether they conform to the Secretary's guidance as expressed in the Defense Planning Guidance (DPG). If there appears to be a disconnect, the staff will prepare an issue paper for review by senior DOD leadership. Their decisions are captured in program decision memoranda that may dictate a change in the department's program and budget.

- *Budget submission.* The draft budget to the Office of Management and Budget (OMB) by mid-fall; it is incorporated into the budget submissions of other cabinet departments, sent to Congress in late January.

At this point, Congress holds hearings and reviews the budget, making its own revisions and finally sends it to the President for his signature before the start of the new fiscal year (October 1).

The PPBS has a number of strengths, chief among them that it keeps track of a very large program and budget, and decisions involving large sums of money are relatively transparent. With determined leadership by senior DOD leaders, some change can be accommodated within the existing system. But the PPBS has shortcomings that transcend the capability or good will of the participants to overcome.

## Industrial Age Management Tool

The PPBS is an industrial age management tool that is ill suited to the information age. McNamara developed it to centralize control of DOD planning in OSD, despite the “Title 10” Congressional requirement that the Secretary of Defense manage the department through the separate services. McNamara configured the PPBS based on the best management practices of a modern, large, industrial corporation that was in competition with similar corporations similarly operated based on experience accumulated in the 1940s and 1950s. This led to a focus on three elements that provided savings and, presumably, a competitive edge: cost effectiveness, elimination of redundancy, and process management.

Cost effectiveness was chosen as a key (often the only) measure of merit in choosing among alternatives in the defense program. If there were a way to trim the cost of producing an end item or to substitute another less expensive system to do the same job, the change would be adopted. Savings were also found by eliminating redundancy, most notably in several strategic nuclear force programs. Finally, best practices of a large industrial corporation of the 1960s dictated a process to manage the development of a new product from engineering through getting the product to market. Likewise, DOD instituted a largely linear PPBS process to track the development of a weapon system from research and development through test and evaluation and initial production to full-scale production.

This process of centralized control came under considerable criticism from the armed services. In response, during the Nixon administration, Secretary of Defense Melvin Laird turned the process into more of a dialogue between OSD and the services. To decentralize the

acquisition process while keeping it coherent, Deputy Secretary of Defense David Packard developed detailed guidelines for service procurement called the “5000 Series” of documents.

All these processes served the Department of Defense well during the Cold War, when deliberate, evolutionary improvement of forces sufficed. But forces today must react more quickly to a broad range of challenges that can change suddenly. Moreover, the military is being called on to execute types of missions it has never faced before. Evolutionary improvement of forces no longer suffices. The appropriate model for the services is a successful, information age management style.

Information age management, in contrast to industrial age management, looks for and cultivates the breakthrough concept. Instead of simply improving the existing product or service line, the successful corporation seeks whole new ways of meeting market needs with emerging and existing technologies. This can mean a sharp departure from a company’s customary way of doing business. A good example of a breakthrough concept occurred in the cable television industry. It invested heavily in fiber optics to achieve very-high-speed data transmission. When the market for cable television had largely become saturated, some companies recognized that a fiber optic network also could provide high-speed Internet service. For a modest investment on the margin, they began to offer a bundled package of cable television and high-speed Internet service at a price below what competitors could offer separately.

In the same way, our PPBS process needs to have some capability to brainstorm and cultivate breakthrough concepts. Some of this can be done in the field. A good example was the use of special operations forces attached to Northern Alliance ground forces during Operation Enduring Freedom in Afghanistan. The Northern Alliance forces forced the Taliban and al Qaeda troops to concentrate, then special operations forces using a global positioning system locator transmitted coordinates of enemy positions to attack aircraft that struck those targets accurately and with devastating effect. This unique combination of close-up pressure on the enemy with precision, standoff firepower was a new way to employ proven technology and hastened the precipitous collapse of the Taliban government. The search for such breakthrough concepts must become part of the PPBS process.

## **PPBS Suited to Stable Strategic Environment**

The PPBS process was designed to involve many players. This is a virtue for a system that aims at steady evolutionary improvement in forces; the multitude of participants maximizes continuity and minimizes risk. The problem is that such a system cannot respond to a dynamic strategic environment of the type that we have faced for a decade. The length of the cycle from concept to capability is simply too long.

A related issue is the focus of the PPBS process on major weapon systems. Although the procurement portion of the defense budget makes up only about 20 percent of the total, this part of the program gets the most scrutiny. This is to be expected. It is the part that is most visible and most amenable to analysis. Unfortunately, this focus on major weapon systems encourages evolutionary

improvement of existing systems. This steady, low-risk improvement of the arsenal is out of place in a volatile strategic environment.

## **The Burden of Redundancy**

As the PPBS has evolved, DOD and Congress have imposed reporting requirements on participants. In all cases, there is a rationale for doing so, and in some cases, the process cannot run without them. In other cases, the reports are redundant, arrive out of phase with other activities in the PPBS cycle, and consume considerable staff time.

Consider an OSD analyst’s role. The PPBS documents must be coordinated with multiple organizations within and sometimes outside the Pentagon—with unified and specified commands and defense agencies, to name two. The analyst also must keep an eye on overlapping reports that are being prepared by other divisions of OSD, by the Joint Staff, or by a service staff. Preparation and tracking of reports and meeting deadlines become confused with analysis and diminish the contribution staff can make to the important work of developing new options and strategic changes in direction.

A related problem is that preparing reports drains time and attention away from true planning. In most years, the planning phase has been thin or has been completed too late to serve as a useful framework for service programmers. The result has been that most of the attention is paid to the budgeting phase of the PPBS at the expense of the planning and, to a lesser extent, the programming phases. DOD has instituted changes to the process to ameliorate this problem. In particular, a full DPG will be produced, and the services will be required to submit a full POM only biennially. The time freed up could be used to develop and put on the table innovative and transformational proposals.

## **The DPG Lacks Leverage on Service Plans**

The key tool available to the Secretary of Defense in giving guidance to the services on priorities to be reflected in their programs is the DPG. Ideally, the service programmers should be able to find in the DPG a planning framework to guide them as they build their POM. It has seldom worked. The DPG is usually too late and mostly too broad to provide a framework for service programmers or a metric against which service POM can be evaluated.

The service POMs are due to OSD in the summer. Naturally, the process of building the POM begins much sooner; it is at full throttle by the preceding fall. To provide an unambiguous framework for service programmers, the DPG would have to be signed out around the same time, and no later than October or November. This is seldom the case. Much more typical is a DPG that is issued half a year later—that is, only a month or two before the POMs are due to OSD.

The new process, which dictates a full DPG only every other year, will solve this problem on the off years and provide breathing room for OSD staff to complete the full DPG in good time during the years of the full PPBS cycle.

Ideally, the DPG should express the Secretary’s intent in output terms to give service POM builders clear direction to follow in their programming. In fact, much of the DPG is too broad in scope to be useful, in part because of the tyranny of consensus that rounds off

the edges as the document is coordinated among multiple DOD offices with a stake in the document. Also, senior leaders do not focus on the front end of the PPBS process. Their energy, attention, and time typically (and understandably) are concentrated at the back end, when the deadline for submission of the DOD budget to OMB is pressing. This is not the optimum time allocation for senior leadership. Indeed, in the commercial world such late engagement is a sign of a sick corporation: At the beginning and middle of a business process, the senior management gives scant time and attention. Only after a process or product has matured and is ready for production or marketing, and perhaps has run into trouble, does the senior leadership engage heavily. Hence, the bulk of their time is spent managing crises, trying to fix a program in the late stages, when their ability to influence the process is least.

## Actionable Recommendations

The PPBS process serves an important administrative purpose in keeping an audit trail of a large and complex organization. But the Secretary of Defense needs that tool for an additional purpose: to manage the urgent process of transforming our Armed Forces to cope with a challenging, fluid strategic environment. The new resource allocation plan being implemented on a trial basis in DOD beginning this fiscal year (FY) provides important breathing room from the burden (and distraction) of repetitive report generation. How much these reforms lead to more innovation and transformation in U.S. forces depends on how they are implemented and how the time freed up is used. A way ahead is outlined below. It builds on the restructured PPBS process for FY05–FY09 outlined below.

### Year 1:

- POM and BES submissions are limited to change proposals that reflect specific Secretary of Defense guidance
- OSD staff works on the QDR and DPG

### Year 2:

- QDR is issued
- DPG is issued
- POMs are submitted
- BESs are delivered
- The program and budget are reviewed

### Year 3:

- The previous year's DPG is operative
- POM and BES submissions are limited to Program Change Proposals as directed by the Secretary of Defense
- OSD staff works on the next DPG

### Year 4:

- DPG is issued
- POMs are submitted
- BESs are delivered
- The program and budget are reviewed

## Shift Senior-level Attention to Planning

Secretary of Defense Donald Rumsfeld has said, "I want to be around to watch the trains being loaded up at the beginning of this process, not wait till they finish their trip and are unloading." DOD

leaders need not spend more time on the PPBS as a whole; they need to reallocate their time and to place proportionately more effort on the front end—the planning phase—and avoid the sick-corporation syndrome.

One way to shift leadership attention toward the front end of the process is for a few (perhaps three) small teams of half a dozen or so senior decisionmakers to meet early in the planning phase to enrich their input to the planning of the PPBS. Each group could develop one or two transformational issues that could become an integral part of the DPG. Groups should meet for a limited time, which would encourage focus on high-impact transformational initiatives and avoid entanglement with details better handled by staffs. With leadership intent clear, staff could monitor execution of initiatives in the intervening months of that year's PPBS cycle.

Where would these initiatives come from? Transformation is the subject of a broad debate in the national security community, and there are plenty of ideas in circulation. Senior decisionmakers could select a high-leverage initiative from this pool, refine it, and articulate it in output terms. Since the leaders themselves are immersed in the critical issues facing DOD, they would have their own ideas of which initiatives could yield a high impact.

The key would be to ensure that each issue is high-leverage and expressed in output terms. An example might be: "Ensure that a team of up to 300 Special Operations Forces troops can have an offshore platform in place within 30 days to conduct operations in hostile territory for at least 30 days." It would then be the job of the service staffs to include this requirement in their POMs and the job of OSD and the Joint Staff to monitor the process to ensure it is implemented.

## Reflecting the Secretary's Intent

The DPG should express Secretary of Defense intent through a clear statement of his priorities in output terms. Portions of the DPG do this, though not systematically. When the DPG does this, it gives service POM builders a framework to program against and OSD staff a clear standard for reviewing and evaluating the POMs. The two key words are *clear* and *output*.

This is not a simple process. OSD staff would need guidance from the Secretary to prepare the document with a precision that will resist the tyranny of consensus that too often comes from coordinating a document through myriad stakeholders. Once this intricate and difficult process has been completed, little is to be gained by repeating it the following year. Indeed, if written at the strategic level, the DPG should require only targeted changes in the following year.

The proposed cycle for an administration is outlined below. Many of the suggested changes track the procedures that the administration is instituting during the FY05–FY09 programming and budget cycle.

*First year:* Make modest adjustments to the budget to be submitted to Congress. This is typical. Indeed, the press of time for Congress to conduct hearings and to mark up the budget prevents much more than this. The staff can use this year to conduct a QDR, as required by law. The DPG for the following year could be derived

from the QDR almost concurrently, because most of the same decisionmakers are involved in preparing both reports. The DPG would have maximum utility if, as proposed by OSD, it were delivered by fall of the first year rather than late spring of the second year. This would give the services plenty of lead time, which is critical if they are to adapt their second year program to the new DPG. In addition, by fall of the first year, the new team has been in place for a while, and a group of senior leaders could meet to develop a handful of transformation initiatives that would become part of the programming for the second year POM.

*Second year.* The QDR and DPG developed during the first year remain the operative guidance documents to the services as they build their POMs. The OSD staff could use the year to explore and analyze strategic issues with emphasis on transformation as directed by the senior OSD officials.

*Third year.* The DPG remains operative, though amended by OSD leadership. The OSD staff uses the year to work on the next DPG that will be operative for the following year. A group of senior leaders could meet to develop a handful of transformation initiatives that would become part of the programming for the fourth year POM.

*Fourth year.* The third year DPG is the operative guidance document for service POM building. Again, the staff can use the time freed up to explore and analyze strategic transformational issues as directed by OSD leadership.

In sum, the service POM builders would have time to focus their programs in accordance with Secretary of Defense intent, rather than scrambling around each year to make their programs conform to yet another (typically late-arriving) DPG.

## Recast the FYDP

The Future Years Defense Program was originally conceived in the 1960s to give the Secretary of Defense insight into how money was being allocated in major program areas across military departments. Ten MFPs were defined that expressed the principal missions the military needed to perform, and the departments were instructed to report their programs in these categories. This allowed the Secretary to see how the objectives for each mission area were being funded, to identify duplications in effort among the services, or even to shift money among services if one service had a more cost-effective way of meeting an objective. It also allowed the Secretary to make strategic choices (for example, shift money from one major program area to another—perhaps from strategic forces to general purpose forces) if the overall program were out of balance with the strategy. The FYDP was organized into the MFPs as shown below.

### Initial FYDP Structure

- MFP 1. Strategic Forces
- MFP 2. General Purpose Forces
- MFP 3. Command, Control, Communications, and Space
- MFP 4. Airlift and Sealift
- MFP 5. Guard and Reserve Forces
- MFP 6. Research and Development
- MFP 7. Central Supply and Maintenance
- MFP 8. Training, Medical, General Personnel Account
- MFP 9. Administration and Associated Activities
- MFP 10. Support to Other Nations

In the meantime, the strategic environment the Nation faces has changed dramatically, but the structure of the FYDP has not kept pace. In 1986, MFP 11—“Special Operations Forces”—was added at the direction of Congress as part of the Goldwater-Nichols Act. Other than that, the structure has changed little. With some change of categories, however, the FYDP can be made more amenable to focusing service programs on transformational initiatives. A candidate reconfiguring of the FYDP to reflect the current and emerging strategic environment is illustrated below.

### Candidate MFP Reconfiguration

- MFP 1. Joint Expeditionary Forces
- MFP 2. Major Theater War Forces
- MFP 3. Special Operations Forces
- MFP 4. Mobility Forces
- MFP 5. Forward Presence and International Activities
- MFP 6. Strategic Nuclear Forces and Missile Defense
- MFP 7. Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Programs
- MFP 8. Research and Development
- MFP 9. Medical Programs
- MFP 10. Central Supply, Maintenance, and Installations
- MFP 11. Personnel, Training, and Development

The key change is to acknowledge that our forces are being called on increasingly to execute demanding joint expeditionary operations. These operations differ from a major theater war. They require prompt application of powerful military force in a highly precise, focused manner. This is a tall order, and getting it right will require a portion of our forces to be transformed. Separating those forces out of the present “General Purpose Forces” into the “Joint Expeditionary Forces” category would give the supporting programs extra visibility and a management tool for the Secretary of Defense to accelerate the transformation of these forces.

The Strategic Nuclear Forces MFP could be expanded to include missile defense to underline the transformation of our strategy. This would emphasize the prominence of missile defense in our defense strategy and the decline in the centrality of strategic nuclear offensive forces.

More generally, warfighting functions are separated from general support functions to provide insight into the cost of support functions, which have grown disproportionately over the past decade. Medical programs are separated to give them particular attention, because their costs are growing rapidly with no end in sight.

This configuration of MFPs could also serve as a template for writing the DPG. Providing policy guidance in a format that allowed the services to program against it in a straightforward manner would make their work and the program review process more efficient and effective.

## Integrate Jointness into POM Submissions

One of McNamara’s aims in developing the PPBS was to ensure that the capabilities of the services were mutually enabling and synergistic. Every Secretary of Defense since has pursued this goal. While progress has been made, there still is a long way to go. More importantly, the nature of war now and for years to come demands forces that can bring firepower to bear on the battlefield from every

medium in a coordinated, seamless fashion. A seamlessly operating joint force cannot be assembled just before an operation; it must be equipped and trained to operate jointly months or years in advance. Building such a force is the aim of transformation.

Starting at the planning and programming phase, at least some elements of the PPBS, especially the programming, must be done jointly. This would be a painful process, but it would force close coordination among the service programmers. At the very least, it would make services aware of the details of each other's programs. At the very best, the resultant programs would incorporate interoperable design from the beginning. This would be a substantial step toward transforming the force.

The first step could be to direct an integrated, joint POM submission in the area of C4ISR programs. An interoperable C4ISR suite is critical to seamless operation of forces that will depend on strong information dominance over the enemy, a shared common operational picture, and targeting data. Chairman of the Joint Chiefs of Staff General Richard Myers has already proposed taking this step, acknowledging that it will be difficult but will yield a high payoff.

The next MFP that could be prepared jointly is the Mobility Forces MFP. This should be far less difficult than preparing a joint C4ISR MFP submission. Following that, programs for Forward Presence and International Activities (which would include peacekeeping operations) could be prepared jointly. Finally—and critically—joint program preparation could be extended to the Joint Expeditionary Forces MFP.

## Review Operations and Maintenance

Operations and maintenance (O&M) has grown faster in absolute dollars and in percentage than the other major budget categories. Table 1 below illustrates this growth.

The absolute dollar increase in O&M is greater by 50 percent than that of investment spending (procurement and RDT&E combined). While there is not a one-to-one correspondence between investment spending and force transformation, the process is supported by targeted investment in those technologies that enable force transformation: command, control, and communications; reconnaissance; surveillance; and precision strike, to name four. The causes of O&M growth are complex and need careful analysis, but the fact remains that growth can choke off investment needed to enable transformation.

Incentives need to be provided to put the brakes on the growth of the O&M budget. At present, there is very little incentive to save O&M costs; in fact, there are disincentives. As a unit approaches the end of a fiscal year, it often feels an imperative to accelerate O&M spending, lest it lose the surplus and receive a reduced allocation the following year. The most promising incentive is to allow a service or an installation to keep whatever O&M they can save and plow it back into improving the quality of its program. While this would not roll back O&M spending substantially, it would provide a strong incentive to flatten off its growth.

## Incentives for Transformation

While most senior DOD leaders believe that transformation is important, there are many competing priorities for resources, and there will never be enough money left over from core programs to fund transformation priorities. The problem is not a lack of good ideas; it is the lack of a budget incentive to make these programs a priority for the services. Some progress was made in the past budget cycle, when the services were asked to identify programs that were transformational, and those programs received extra support in the program review.

This is a good start, but more can be done. One impediment to these initiatives is the difficulty of breaking into the programmatic priorities of the services. The key is to target funding incentives to the services to transition new equipment or processes with the understanding that, after a short time, the transformation programs would be integrated into the core service program. The Office of Force Transformation would be the appropriate OSD element for this function, and Joint Forces Command could be the cognizant military organization to review the candidates for this transition funding.

## Conclusion

The PPBS is widely recognized as a barrier to transformation. Moving to a full PPBS cycle every other year will enable senior DOD leaders to shift their attention from the end of the process, where budgeting details dominate, to the beginning, where transformational initiatives can be introduced. This modest reform will give OSD and the services some breathing space that will enable them to innovate further. In a few years, the budget process might be sufficiently reformed that DOD can engage in wholesale transformation

**Table 1: Budget Growth by Category**  
(billions of FY03 dollars)

	FY99	FY03	Increase (dollars)	Increase (percentage)
Military Personnel	83.2	94.3	11.1	13.3
Operations and Maintenance	114.2	150.2	41.2	37.8
Procurement	54.2	68.7	14.5	26.8
Research and Development, Testing and Evaluation	40.9	53.8	12.9	31.5

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