

May 1999

BALLISTIC MISSILE DEFENSE

More Common Systems and Components Could Result in Cost Savings





B-280494

May 21, 1999

The Honorable William S. Cohen
The Secretary of Defense

Dear Mr. Secretary:

Affordability is a major concern for ballistic missile defense programs. According to the Ballistic Missile Defense Organization's (BMDO) November 1998 development plan, the organization faces a shortfall of several hundred million dollars per year when its baseline acquisition programs are compared to available funding in the future years' defense plan. Because using common subsystems and components when designing systems can reduce system costs, BMDO and the services¹ have considered the feasibility of sharing designs among some of their programs.

We reviewed the Department of Defense's (DOD) efforts to incorporate common subsystems and components in its ballistic missile defense acquisition programs. Specifically, we (1) identified the key benefits that BMDO and service officials believe could be achieved through commonality, (2) determined what BMDO and the services have done to incorporate commonality into their programs, and (3) identified BMDO's plans for instilling commonality in the future. We are addressing this report to you because of the potential cost savings from commonality and because your support is needed for DOD to take advantage of such potential savings.

Results in Brief

According to BMDO and service officials, the key benefits of commonality—using the same or interchangeable subsystems and components in more than one weapon—are cost savings and improved interoperability among BMDO systems. Increased use of common items can reduce both production costs and total life-cycle costs of a system. Because BMDO systems must interoperate with each other, DOD officials said that commonality is directly linked to the success of interoperability.

¹The military services execute most of the BMDO-funded acquisition programs.

While commonality is theoretically possible at any level of a weapon system, BMDO has achieved commonality primarily at lower levels of assembly, such as in components. According to BMDO and program officials, they have had limited success in designing common systems or major subsystems mostly because of differences in system requirements and operating environments and difficulties in incorporating new technologies into systems with mature designs. These officials said that the greatest benefits of commonality can be produced at the component level. BMDO has sought to promote commonality within its ballistic missile defense systems through the use of an “open systems” approach and technology insertion at the component level—an approach that seeks to use commonly available commercial products in DOD systems, rather than developing program unique components.

BMDO officials said that they expect more commonality in the future for a variety of reasons, such as having fewer suppliers and more opportunities to upgrade systems with newer technologies. Although BMDO tries to promote commonality in its programs, it does not have a structured process to systematically identify promising common technologies and has provided little funding to evaluate the feasibility of the use of these technologies. Although some technologies have been identified and preliminary estimates show that they could save substantial dollar amounts, these technologies must be thoroughly evaluated. Without adequate evaluation, program offices and their prime contractors are reluctant to convert to unproven technologies.

To better achieve commonality, BMDO needs to establish a structured effort or program with appropriate funding to identify and evaluate potential common systems and components.

Key Benefits of Commonality in Ballistic Missile Defense Programs

According to DOD officials, the primary benefit from the use of common subsystems and components is cost savings, especially over the life of a system. One way to achieve commonality is to insert common technologies into existing systems. BMDO’s November 1998 development plan states that the success of technology insertion can be improved by using open systems concepts in system design. These concepts, introduced into DOD in 1994, promote affordability by extensive use of common components. Open systems, according to DOD documents, allow DOD to use commercially available, widely accepted standard products from multiple vendors. The advantage of this is that wide availability of a potentially large variety of compliant products makes rapid design and

prototyping much easier than when every element of the system must be custom designed. DOD documents note that the long-term payoffs for open systems include lower life-cycle costs for weapon systems, better system performance with greater interoperability between systems, and more rapid technology upgrades. Army missile defense program officials told us that the advantage of commonality is that as the quantity of an item increases, both fixed and unit component production costs are reduced. Increased commonality results in reduced life-cycle costs.

Another benefit of commonality, according to BMDO, is improving interoperability among BMDO systems. Officials from the Army's Theater High Altitude Area Defense (THAAD) program told us that each BMDO program is required to interoperate with the other programs and that BMDO plans to have common messages, communication, and processing equipment. Navy officials said that commonality is inherently linked to the success of interoperability. Army officials told us that commonality also may enhance reliability. According to these officials, experience in the electronics industry has shown that when the quantity of production items increases, reliability increases.

Mixed Success in BMDO's Commonality Efforts

Depending on the particular circumstances, commonality is possible at any level of a weapon, from the entire system or a major subsystem to components or piece parts. BMDO has had limited success in achieving commonality in entire systems or major subsystems. The use of a common interceptor missile for the Army's THAAD program and the Navy's Theater-wide program has been studied extensively, and cost savings have been shown to be outweighed by modification and integration costs and risks. BMDO and service officials believe that system commonality has been limited because of differences in system requirements and operating environments. BMDO and the services have had some success in achieving commonality below the system level, especially at the component level.

System Level Commonality

To date, the most ambitious attempt at instilling commonality in a BMDO program relates to considering a common interceptor for the Army's THAAD program and the Navy's Theater-wide program. Since 1991, several DOD studies have examined the possibility of such a common interceptor. These studies looked primarily at adapting the THAAD missile for the Theater-wide program since the THAAD program was further along in development. While initially, a common interceptor appeared attractive given that the threats, defense objectives, and system functions are very

similar, the studies generally found that differences in the systems' mission requirements and operating environments would be difficult and costly to overcome. For example, in 1993, a DOD committee reported that a common THAAD and Navy Theater-wide interceptor would likely be impractical because of safety concerns unique to shipboard operations. Also in 1993, DOD's independent Cost Analysis Improvement Group reported that although it was too early to assess cost-effectiveness, it was unlikely that the objective of a common interceptor could be achieved, in part, because of different operating environments. THAAD subsystems may be spaced out over an area of several square miles, while the Navy system must operate from a ship at sea. Navy radars and missiles will be much closer together, increasing the possibility of interference and the hazards associated with flammable materials. Also, THAAD is intended to be located near critical assets and to intercept missiles both inside and outside the atmosphere as they fly toward the system. The Theater-wide missile will be designed to intercept a target missile in all stages of flight outside the atmosphere. In many cases, the target missile will travel away from the defense system, which will require an interceptor that is roughly twice as fast as the planned THAAD interceptor.

More recent studies have further defined the risks associated with a common interceptor. The Navy's 1997 cost analysis, which specifically evaluated whether the Navy Theater-wide system could use the THAAD interceptor's kill vehicle,² concluded that the kill vehicle could not be used in the Navy system without significant modifications. The study concentrated on two variants of the THAAD kill vehicle. The first variant would be about 85-percent common with the Army's kill vehicle and would result in commonality benefits totaling \$150 million. However, these benefits, according to the analysis, were almost totally offset by increases in safety-related costs associated with the Army's use of liquid fuels in the kill vehicle's design. The use of liquid fuels, which are toxic, corrosive, and explosive, would require additional Navy investments in safety equipment and training. The second variant was estimated to be 54-percent common with the Army's kill vehicle and it would result in commonality benefits of \$50 million versus additional costs of \$500 million. These additional costs were primarily for developing a new seeker capable of longer range intercepts and a new solid fuel control system to reduce shipboard safety

²The kill vehicle is the front end of an interceptor that will see the target and destroy it by colliding with it.

hazards. A 1997 BMDO study³ reconfirmed that designing a common interceptor for the two programs would increase costs and risks and recommended that both systems proceed as planned. The study also recommended that both programs be structured to support commonality objectives when they are upgraded and suggested that commonality could be revisited as a mitigation approach if major problems occur in either program.

Commonality Below the System Level

BMDO has had more success at incorporating commonality below the system or major subsystem level, as the following examples show.

- The THAAD⁴ and National Missile Defense⁵ radars use several common components, including common hardware, software, and processors. Program officials believe that measurable cost savings have been achieved by this commonality, but the magnitude of the savings is yet to be determined.
- Both Navy theater missile defense systems rely on technology that has evolved from earlier versions of the Standard missile and the AEGIS weapon system. For example, the Navy Area program⁶ is modifying an earlier version of the Navy's Standard missile and is upgrading the existing AEGIS system in order to perform its theater ballistic missile defense mission. DOD officials could not provide an estimate of the cost savings associated with this commonality.
- The Navy Theater-wide program and the National Missile Defense program are developing common infrared seekers and propulsion systems. DOD officials could not provide an estimate of the cost savings associated with this commonality.

BMDO and service officials said that component level commonality has been the focus of most recent initiatives. BMDO has emphasized commonality at the component level through the use of open systems and

³BMDO, *The Commonality Alternatives Systems Study*, 1997.

⁴For more details on the THAAD program, see *Ballistic Missile Defense: Improvements Needed in THAAD Acquisition Planning* (GAO/NSIAD-97-188, Sept. 12, 1997).

⁵For more details on the National Missile Defense program, see *National Missile Defense: Even With Increased Funding Technical and Schedule Risks Are High* (GAO/NSIAD-98-153, June 23, 1998).

⁶For more details on the Navy Area program, see *Ballistic Missile Defense: Improvements Needed in Navy Area Acquisition Planning* (GAO/NSIAD-98-34, Nov. 14, 1997).

technology insertion. To this end, BMDO has established several working groups, including the Open Systems Working Group and the Government/Industry Open Systems Applications Group. The purpose of the Working Group,⁷ which meets quarterly, is to coordinate the use of open systems within the BMDO community, and the purposes of the Applications Group⁸ are to provide a forum for communication regarding specific and planned open systems implementation opportunities and to enhance the consistent application of open systems. The Applications Group met three times in 1998. Participants at the Working Group's and Applications Group's meetings have generally been pleased with the results to date.

According to BMDO officials, BMDO recently implemented two processes that, while not primarily focused on commonality, should help identify promising common technologies. These are the technology master plan process and the Family of Systems architecture. The technology master plan process has identified multiple potential applications for new technology. For example, four different window technology efforts, supporting two different programs, were combined into one "advanced window" effort to support both programs. The Family of Systems architecture is focused on systems interoperability, but, according to BMDO officials, commonality and affordability are inherently linked to the systems design trade-offs necessary to achieve interoperability.

Factors That Restrict Commonality

We discussed factors that have restricted the use of common subsystems and components in ballistic missile defense systems with BMDO and service officials. These officials said that commonality must be incorporated into the design phase of a system or subsystem when requirements are being established for maximum benefit. They identified several reasons why commonality in BMDO systems has been difficult to achieve.

One reason given was different performance requirements. BMDO systems are designed to meet specific service performance requirements that may be compromised with common components. For example, according to the National Missile Defense Joint Program Office, an inertial measurement

⁷The Working Group consists of representatives from BMDO and its program offices.

⁸The Applications Group's members include not only BMDO and program office representatives, but also representatives from BMDO's prime contractors and major subcontractors.

unit developed for a theater missile defense interceptor could be used for the National Missile Defense Program's interceptor. However, the weight, volume, and power requirements may not be fully compatible with the National Missile Defense program goals, possibly lowering performance. Navy officials said where operating requirements and environments are substantially different, commonality may not be appropriate, especially if cost and performance goals must be sacrificed to achieve it.

A second reason was mature designs. BMDO systems have mature designs and integration of common systems may involve high integration costs. As noted previously, for example, the cost to integrate the Army's THAAD interceptor into the Navy's Theater-wide system was estimated to be between \$150 million and \$500 million. Officials from the Army's missile defense program office told us that the stage of maturity of a weapon system limits the extent to which changes can be implemented. While some components such as batteries can be changed easily, others, such as composite airframes, cannot. They added that the only way to make changes at a system level for a mature system is through future upgrades.

A third reason given by officials was that candidate common systems emanating from other programs have to be proven to a program office or prime contractor before either one will accept them. That is, program offices and prime contractors are reluctant to accept systems they did not design. THAAD officials told us that commonality is a design constraint that must be considered at the beginning of the design process and that program managers would resist changing the baseline design after it has been established. According to the Army's missile defense program office, DOD acquisition reforms have given prime contractors total system performance responsibility, and thus, they have little incentive to use common systems that can be produced by another contractor. Navy officials added that a company that produces a common product for all applications is unlikely to encourage a competitive industrial base for that product.

A fourth reason was management challenges. A joint service program is likely to require many more decision trade-offs than would a single service development, and there are complex budget, cost, and schedule interactions that affect the delivery of products for both services. The effort will result in a successful conclusion only if all parties are willing to make the necessary compromises to maintain commonality.

BMDO's Plans for Enhancing Commonality in the Future

Despite the limited commonality that exists, officials told us that they expect to see more commonality in the future because there will likely be fewer suppliers and more opportunities to upgrade existing designs with newer technology. Several efforts that involve increased commonality have already started. However, BMDO does not have a structured process to systematically identify promising common technologies. Furthermore, even when promising technologies are identified, BMDO's ability to incorporate them into weapon systems is hampered because it does not have a consistent source of funding to evaluate the feasibility of using the technologies.

DOD's Future Emphasis on Commonality

The decreasing number of defense contractors, subcontractors, and suppliers is forcing DOD system designs to contain common subsystems or components that are made by the same supplier. One BMDO official told us that industry is moving away from producing defense-specific parts; thus, defense programs will be forced toward more commonality. Also, BMDO's requirement that all of its theater ballistic missile defense systems operate in an integrated manner, that is, interoperate with each other—a concept known as the Family of Systems—will facilitate the use of common items. According to Navy officials, commonality, affordability, schedule, and performance are inherently linked to interoperability success.

Most officials said that commonality will become more prevalent as systems are improved through periodic upgrades. The BMDO development plan notes that new technology has primarily been viewed as a contributor in the earliest stages of development before a system's design has been "frozen." It states that many of the current BMDO component technologies are already obsolete and often unavailable. With the lifetime of many microelectronic devices at less than 2 years, BMDO will have to modify system designs several times during the development phase. Finally, it notes that programs must plan to make use of emerging commercial and defense developed technologies based on availability of technology rather than on DOD acquisition phases. A BMDO official said that BMDO programs have mature system designs and thus seeking commonality could result in high engineering costs. However, in the future, when these systems are upgraded, common subsystems and components could be inserted more affordably.

Several system upgrades related to commonality are being developed. For example, BMDO is developing the next generation radar transmit/receive modules to replace modules that are currently planned for use in both National Missile Defense and THAAD radars. Also, BMDO's Advanced Interceptor Technology program is to develop a new interceptor that can be used to upgrade current systems. Although it does not have commonality as a specific goal, the program, according to many officials, would result in greater BMDO commonality through system upgrades. For example, Navy officials said that a number of common components are being developed under this and other programs, including common infrared seekers and common propulsion systems.

Further Application Limited By Lack of Structured Process for Identifying and Funding Promising Technologies

BMDO currently promotes component commonality primarily by acting as a "clearinghouse" for information. The working groups meet and discuss common technologies that could possibly be shared by the services or may be available commercially. However, even with the working groups and the process initiatives, BMDO officials told us that they lack a formal process to systematically identify promising common technologies. One BMDO official described BMDO's effort as "hit or miss."

Furthermore, even if a promising common technology is identified, BMDO does not have a consistent source of funding to evaluate the feasibility of the use of that technology. Evaluation is necessary to assess (1) the costs and risks of transitioning to a new technology and (2) the cost impact of operating and maintaining that technology after system deployment. Funding for evaluations often comes from reprogrammed sources or from excess program funds; a budget account for such evaluations does not exist.

Through the Applications Group, BMDO has identified 16 possible common technologies, but only 4 have been funded for evaluation. One technology involves replacing ring laser gyroscopes, which cost \$70,000 to \$100,000 each, with interferometric fiber optic gyroscopes,⁹ which cost \$15,000 to \$30,000 each. The cost to evaluate the feasibility of this one technology is estimated to be \$500,000, with funding being provided by BMDO. Another \$7 million is estimated to be needed to develop the technology for program insertion. This development funding is expected to be provided by BMDO,

⁹These gyroscopes are part of an interceptor's inertial measurement units and allow the interceptor to track and intercept the target.

the Defense Advanced Research Projects Agency, and the Patriot Advanced Capability-3 Program Office. According to BMDO, while the Army's THAAD and Patriot Advanced Capability-3 programs would be the initial beneficiaries of this common component, other programs may also benefit in the future. BMDO's preliminary estimate of the cost savings that would result from the use of the common gyroscopes is about \$116 million over the life of the systems.

The average cost to evaluate the other three technologies was estimated at \$1 million to \$1.8 million, versus average projected life-cycle cost savings of \$33 million. BMDO's preliminary estimates show that five of the other technologies could save \$113 million if implemented, but they have not received funding for the needed evaluations. Army officials told us that many good common technologies are never realized because the near-term funding needed to quantify the technical and cost benefits for those candidates is insufficient.

To better structure its commonality effort, BMDO could consider the example of other DOD programs, such as the Army's Horizontal Technology Integration Program, which has many of the same goals as BMDO's effort. The purpose of this program is to apply common technologies across multiple systems within a force to increase effectiveness. The program seeks to reduce overall cost while allowing for rapid fielding of high payoff technologies, ensure interoperability and commonality, and facilitate simultaneous system upgrades.

The Army's process for this is more structured than BMDO's. Proposals are forwarded to an executive secretariat and are then reviewed by a "council of colonels." If the proposal is promising, it is reviewed by a council of general officers for formal approval. The program provides funding to the appropriate program offices for approved projects so as to control design and funding. The Army estimates that the program has already resulted in cost savings of \$2 billion.

Conclusions

Because DOD and BMDO studies have demonstrated the potential for reducing costs and enhancing interoperability through increased commonality within BMDO systems, BMDO has taken some initial steps to make its systems more affordable through the use of commonality, primarily at the component level. BMDO expects to have greater commonality in the future, either through the use of upgrades to existing systems or through more common designs in future weapon systems.

However, at the time of our review, BMDO did not have a structured effort or program with appropriate funding to systematically identify and evaluate potential common systems and components. In our opinion, developing such an effort is both feasible and potentially beneficial. The Army's Horizontal Technology Integration program is an example of another DOD program that has many of the same goals as BMDO's. While we recognize that BMDO must fund many pressing priorities within its available resources, we believe that the potential for significant cost savings warrants formalization of BMDO's commonality activities. In commenting on a draft of this report, DOD said that BMDO had recently begun planning for a structured and funded commonality program.

Recommendation

In light of potential cost savings that will enhance the affordability of ballistic missile defense programs, we recommend that the Secretary of Defense take steps to ensure that BMDO implements plans to establish a structured program, with appropriate milestones and funding, to identify and evaluate potential common systems and components for its missile defense systems.

Agency Comments and Our Evaluation

In commenting on a draft of this report, DOD partially concurred with our recommendation. DOD concurred with the intent of the recommendation but stated that action by the Secretary of Defense was unnecessary because BMDO was in the process of establishing the recommended structured and funded program. In clarifying DOD's comments, a BMDO official told us that the organization began internal discussions aimed at establishing the program in March 1999 and that a process action team, established in April 1999, recommended the following actions.

- Criteria be established to judge commonality proposals; the criteria will include readiness of the technology, its producibility, benefits to more than one program, future potential, and the ability to build on existing technologies.
- A working group be formed to evaluate proposed technologies.
- Promising technologies be forwarded to an existing BMDO advanced technology and cost benefits team that will estimate life-cycle costs.
- Technologies with reasonable cost estimates be passed to a senior level steering group for approval.

The official told us that this process had not yet been finalized or implemented and that no decision had been made on how the evaluations would be funded. We modified our report to recognize that BMDO has begun planning a structured and funded program for identifying and evaluating potential common systems and components. We have also modified our recommendation to emphasize the need for the Secretary of Defense to take steps to ensure that BMDO's plans for a structured program are implemented, with appropriate milestones and funding.

DOD also provided additional technical comments, which were incorporated as appropriate. DOD's comments are included in appendix I.

Scope and Methodology

To describe the benefits of commonality to BMDO programs, we interviewed agency officials and reviewed pertinent documentation, including the BMDO Development Plan, the BMDO Open Systems Deployment Plan, and the Theater Missile Defense Engineering and Technology Commonality Study. We analyzed the various factors that have contributed to commonality within BMDO programs.

To determine what current efforts have been undertaken by BMDO and the services to achieve commonality, we interviewed agency officials and analyzed relevant documentation, including the Navy Theater-wide Phase II Cost and Operational Effectiveness Analysis, the BMDO Commonality Alternatives System Study, and committee charters and meeting summaries. We examined BMDO's open systems and technology insertion efforts to determine achievements and future plans. We also interviewed government and industry participants in commonality meetings and forums.

To identify BMDO's plans to instill commonality in the future, we interviewed agency officials and analyzed documentation related to BMDO's commonality efforts and the Army's Horizontal Technology Integration program, which has goals similar to BMDO's commonality effort.

We interviewed responsible agency officials at the Office of the Secretary of Defense, the Joint Staff, BMDO, and the Defense Advanced Research Projects Office, in Washington, D.C.; the Office of the Assistant Secretary of the Army (Research, Development & Acquisition) and the Office of the Army's Deputy Chief of Staff for Operations and Plans, in Washington, D.C.; the Army's Program Executive Office for Air and Missile Defense, and

THAAD and Patriot program offices, in Huntsville, Alabama; the Navy's Program Executive Office (Theater Surface Combatants) in Washington, D.C.; the Naval Surface Warfare Center in Dahlgren, Virginia; the Office of the Secretary of the Air Force, Theater Air Defense Division, Washington, D.C.; and industry officials in Washington, D.C.

We conducted our review from June 1998 to February 1999 in accordance with generally accepted government auditing standards.

As you know, the head of a federal agency is required by 31 U.S.C. 720 to submit a written statement of actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Reform not later than 60 days after the date of this report. A written statement also must be submitted to the Senate and House Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to appropriate congressional committees; Lieutenant General Lester L. Lyles, Director, BMDO; the Honorable Louis Caldera, Secretary of the Army; the Honorable Richard Danzig, Secretary of the Navy; and the Honorable F. Whitten Peters, Acting Secretary of the Air Force. We will also make copies available to others on request.

If you or your staff have any questions concerning this report, please contact me on (202) 512-4841. Major contributors to this report were Lee Edwards, David Hand, and Judy Lasley.

Sincerely yours,



Allen Li
Associate Director
Defense Acquisitions Issues

Comments From the Department of Defense



ACQUISITION AND
TECHNOLOGY

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WASHINGTON, DC 20301-3000

27 APR 1999

Mr. Allen Li
Associate Director, Defense Acquisitions Issues
National Security and International Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Li:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "BALLISTIC MISSILE DEFENSE: More Common Systems and Components Could Result in Cost Savings," dated March 23, 1999 (GAO Code 707368/OSD Case 1772).

The Department partially concurs with the draft report's recommendation that the Secretary of Defense direct the Director, Ballistic Missile Defense Organization (BMDO) to establish a structured effort or program with appropriate funding for identifying and evaluating potential common systems and components, with comments in the enclosure.

The draft report refers to a number of prior DoD studies on commonality, including a "1997 BMDO study" (page 5 of the draft report). This is BMDO's 1997 Commonality Alternatives Systems Study (CASS). The Department recommends that the final report's "Results in Brief" section mention CASS and its key findings. CASS considered in depth many of the architectural, engineering, and compatibility issues associated with pursuing common interceptors and kill vehicles for the Theater High Altitude Area Defense and Navy Theater Wide programs. CASS recommended against immediate or near-term restructuring of these programs to use a common interceptor or kill vehicle, and the Department concurred. CASS also recommended that the Department: 1) structure both programs to support commonality block upgrades; and 2) be ready to revisit commonality if either program faltered. The Department's current planning substantially reflects these recommendations.

The Department recommends that the GAO incorporate its comments, as well as detailed technical comments on the draft report provided separately, into the final report. The Department appreciates the opportunity to comment on the draft report.

Sincerely,

George R. Schneiter
Director
Strategic and Tactical Systems

Enclosure



Now on p. 5.

Appendix I
Comments From the Department of Defense

GAO DRAFT REPORT- DATED MARCH 23, 1999
(GAO CODE 707368) OSD CASE 1772

**BALLISTIC MISSILE DEFENSE: MORE COMMON SYSTEMS AND
COMPONENTS COULD RESULT IN COST SAVINGS**

DOD COMMENTS ON THE GAO RECOMMENDATION

RECOMMENDATION: In light of potential cost savings that would enhance the affordability of ballistic missile defense programs, the GAO recommended that the Secretary of Defense direct the Director, Ballistic Missile Defense Organization (BMDO) to establish a structured effort or program with appropriate funding for identifying and evaluating potential common systems and components. (p. 12/GAO Draft Report)

DOD RESPONSE: Partially concur. The Department concurs with the intent of the recommendation, but believes that action by the Secretary of Defense is unnecessary since BMDO is already in the process of establishing the recommended structured and funded program. The BMDO program will fund multi-system technology insertion programs of mature, validated technologies. Cost reduction and commonality will be major criteria for project selection. BMDO held an internal meeting on March 15, 1999 to discuss the need for an organization-wide process for near-term technology insertion and is holding a process action team meeting in April. Funding for near-term projects will be addressed in BMDO's FY2000 allocations. The Department will support follow-up discussions between BMDO and the GAO on this matter prior to publication of the final report by the GAO.

Now on p. 11.

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