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Acronyms and Abbreviations
ADM    Acquisition Decision Memorandum
BCA    Business Case Analysis
BTA    Business Transformation Agency
COA    Course(s) of Action
DBSMC  Defense Business Systems Management Committee
DFAS   Defense Finance and Accounting Service
DIMHRS Defense Integrated Military Human Resources System
ERAM   Enterprise Risk Assessment Methodology
IRB    Investment Review Board
IT     Information Technology
MAIS   Major Automated Information System
MCTFS  Marine Corps Total Force System
USD(AT&L) Under Secretary of Defense for Acquisition, Technology, and Logistics
MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION, TECHNOLOGY, AND LOGISTICS


We are providing this report for review and comment. We considered management comments on a draft of this report when preparing the final report.

DOD Directive 7650.3 requires that all recommendations be resolved promptly. The comments from the Director, Acquisition Resources and Analysis were not responsive. Accordingly, we request the Under Secretary of Defense for Acquisition, Technology, and Logistics to respond to the recommendation by March 8, 2010.

If possible, please send a .pdf file containing your comments to auddbo@dodig.mil. Copies of management comments must contain the actual signature of the authorizing official. We are unable to accept the /Signed/ symbol in place of the actual signature. If you arrange to send classified comments electronically, you must send them over the SECRET Internet Protocol Router Network (SIPRNET).

We appreciate the courtesies extended to the staff. Please direct questions about this report to me at (703) 604-8900 (DSN 664-8900).

Mary L. Ugone
Deputy Inspector General for Auditing
What We Did

Our objectives for the audit were to determine whether the Defense Business Systems Management Committee and Investment Review Boards coordinated business system modernization initiatives to eliminate conflicts and duplication of effort and ensured proper allocation of funds. This report on the Defense Integrated Military Human Resources System (DIMHRS) is the first in a series on the Investment Review Board process.

Since 2003, DOD has spent about $800 million developing DIMHRS. In April 2009, because of schedule delays and the results of system acceptance testing, the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD[AT&L]) outlined four options for the future development of DIMHRS in an Acquisition Decision Memorandum (ADM). Under Option 1, DOD would develop DIMHRS as originally planned—a single integrated military personnel and pay system. The other three options required the development of four systems (one for DOD data and one each for the Army, Air Force, and Navy). The April ADM required the Director, Acquisition Resources and Analysis to lead a team to develop a Business Case Analysis (BCA).

On September 8, 2009, the USD(AT&L) signed another ADM (see Appendix B) and selected the option that would allow the Army, Navy, and Air Force to develop separate systems and for the Marine Corps to continue using the Marine Corps Total Force System. We analyzed the ADMs and lifecycle cost information in the June 24, 2009, draft BCA.

What We Found

The USD(AT&L) made a decision before the lifecycle costs associated with each alternative had been determined. Although the decision stated that cost differences were not the determining factors in selecting the best course forward, cost estimates rose from $1.7 billion in December 2008 to an estimated $16.1 billion for the alternative selected in September 2009. The draft BCA did not detail or fairly represent the specific variable costs associated with the various alternatives. In addition, the selection of Service-level integrated personnel and pay systems may increase governance risk and overall technical complexity of DIMHRS for DOD. Without a complete analysis of all alternatives, DOD may incur excessive costs and still not achieve the intent of the DIMHRS initiative, which was “a single integrated military personnel and pay system.”

What We Recommend

We recommended that USD(AT&L) reconsider the decision on DIMHRS after the BCA Team prepares a thorough, complete, and objective BCA that has been independently verified and consider cost as a key factor.

Management Comments and Our Response

USD(AT&L) disagreed with the recommendation and stated that the decision to move forward was based on governance risk, technical complexity, technical risk, and past performance and that cost was not a determining factor in his decision. The comments were not responsive and we request comments to the final report. Please see the recommendation table on the back of this page.
Recommendations Table

<table>
<thead>
<tr>
<th>Management</th>
<th>Recommendations Requiring Comment</th>
<th>No Additional Comments Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under Secretary of Defense for Acquisition, Technology, and Logistics</td>
<td>All</td>
<td>None</td>
</tr>
</tbody>
</table>

Please provide comments by March 8, 2010.
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Introduction

Objectives
This report is the first in a series on the Investment Review Board process. We conducted this audit in conjunction with our on-going audit of the DOD Investment Review Process (DOD IG Project No. D2009-D000FB-0082.000). Our objectives for the audit were to determine whether the Defense Business Systems Management Committee (DBSMC) and Investment Review Boards (IRBs) coordinated on Defense business systems modernization initiatives to eliminate conflicts and duplication of effort and ensured proper allocation of appropriated funds. However, during the audit, we identified deficiencies in an ongoing Business Case Analysis¹ (BCA) for the Defense Integrated Military Human Resource System (DIMHRS) that needed immediate elevation and resolution to ensure DOD decision-makers had sufficient information for deciding the future of DIMHRS. (See Appendix A for a discussion of the scope and methodology.)

Background
Public Law 105-262, “Department of Defense Appropriations Act of 1999,” October 17, 1998, Section 8147, directed DOD to develop and implement:

...information systems in support of manpower and personnel to include an enterprise level strategic approach, performance and results based management, business process improvement and other non-material solutions, the use of commercial or government off the-shelf technology, the use of modular contracting as defined by Public Law 104–106, and the integration and consolidation of existing manpower and personnel information systems.

In July 2001, the Director, Joint Requirements and Integration Office, completed the Operational Requirements Document that anticipated initial operational capability for DIMHRS by 2003. In September 2003, DOD awarded Northrop Grumman a 9-year, $281 million contract to develop DIMHRS. The Under Secretary of Defense for Personnel and Readiness had primary responsibility for the contract and worked with the Navy on system requirements. The contract included delivery of a personnel and pay database. Since 2003, DOD has spent approximately $800 million on developing DIMHRS.

¹A Business Case Analysis provides a best-value analysis that considers not only cost, but also other quantifiable and non-quantifiable factors supporting an investment decision. See the Glossary for the definition of this and other technical terms.
Public Law 108-375, “Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005,” October 28, 2004, Section 332, established the DBSMC to oversee transformation in the Business Mission Area. The overall goal of the DBSMC is to ensure that the Business Mission Area meets the needs and priorities of the Warfighting Mission Area. The IRBs are the authoritative bodies that review, recommend, and certify the investment priorities to the DBSMC for all Defense business systems related to financial management, human resource management, real property lifecycle installation management, and Weapons and Materials. The DBSMC is the final approval authority for DOD investments in the Business Mission Area.

In October 2005, the Deputy Secretary of Defense established the Business Transformation Agency (BTA), and, in December 2005, BTA assumed control over the DIMHRS acquisition process. The Under Secretary of Defense for Personnel and Readiness retained responsibility for the DIMHRS enterprise requirements and the Human Resources Management Investment Review Board process.

The September 2008 Enterprise Transition Plan (a BTA product) provides this description of DIMHRS and its intended purpose:

DIMHRS is the vehicle through which Department of Defense is revolutionizing military personnel and pay to support the 21st century warfighter. DIMHRS will be a fully integrated personnel and pay system for the Department that will support military personnel throughout their careers and retirement. It will consolidate nearly a hundred legacy DoD personnel support systems and provide a common military Human Resource (HR) and pay system for the Department using standardized business processes that generate data in a singular operating environment. This consolidation will result in greater standardization of data between Components, increased accuracy and timeliness of pay actions and will provide greater visibility of all military personnel. DIMHRS provides a single system of record encompassing most facets of a military career--supporting personnel and pay functions for Regular, Reserve and Guard personnel (and their families), whether on active duty or not, throughout their entire military careers through periods of peacetime, mobilization and war—regardless of movement between Components...one system, one record.

In November 2008, the Deputy Secretary of Defense directed a program review to gain a comprehensive understanding on the status of DIMHRS. Accordingly, BTA conducted an Enterprise Risk Assessment Methodology (ERAM) in November 2008 and gave the assessment to the DIMHRS program manager. The ERAM results showed that functional oversight over the development of DIMHRS was ineffective and that the DIMHRS program lacked disciplined processes that included issue resolution, decision-making, and communication. In December 2008, BTA briefed senior leadership and indicated that the DIMHRS’ initial operational capability would be delayed by more than one year.
Option 1. A single, integrated, personnel and pay system, utilizing the DIMHRS Information Technology (IT)\textsuperscript{2} investment to the maximum extent practical, centrally developed, implemented and maintained by an enterprise level office.

Option 2. Integrated personnel and pay system for each Service, utilizing the DIMHRS IT investment to the maximum extent practical, developed, implemented, and maintained by an enterprise level office.

Option 3. Integrated personnel and pay system for each Service, utilizing the DIMHRS IT investment to the maximum extent practical, developed, implemented, and maintained by the Service program office.

Option 4. Integrated personnel and pay systems for each Service, utilizing the DIMHRS IT investment to the maximum extent practical, developed, implemented and maintained by Service program offices after completion of full testing of DIMHRS Core IT Investment software.

On June 24, 2009, the BCA team issued a draft BCA, as required by the April ADM. The draft BCA focused on cost and schedule estimates, risk, benefits, and technical characteristics of each course of action (COA). It provided high-level descriptions of the COAs and discussed lifecycle costs associated with development, implementation, and sustainment for a 20-year period. The draft BCA included an assumption that all 3,209 specifications and 39 interfaces (Common Core) would be developed by September 30, 2009, and it included limited plans for unit and Common Core completion testing. The BCA further divided Option 3 into three separate courses of action (COAs).\textsuperscript{3}

- COA 3A: The draft BCA defined COA 3A as Service-specific versions of PeopleSoft based on the DIMHRS Core IT Investment.
- COA 3B: The draft BCA defined COA 3B as Army, Navy, and Air Force versions of PeopleSoft based on DIMHRS Core IT Investment. The Marine Corps would continue to use the MCTFS.
- COA 3C: The draft BCA defined COA 3C as Service-specific solutions informed by DIMHRS Core IT Investment. Essentially, COA 3C would allow all Services to develop new systems from “scratch.”

The April ADM required that the BCA team complete its analysis and provide the results to the USD(AT&L) by June 30, 2009. It also authorized the Enterprise Program

\textsuperscript{2} DIMHRS Core IT Investment is the “core” set of Common data and process elements (Common Core) that are required to achieve timely and accurate military pay. The Core includes 3,209 specifications and 39 interfaces.

\textsuperscript{3} The draft BCA refers to the ADM “options” as “COAs.”
Management Office to obligate up to $40 million from the date of the ADM (April 7, 2009) through September 30, 2009, without further approval from the USD(AT&L).

On September 8, 2009, the USD(AT&L) signed an ADM (September ADM) and selected the option (COA 3C) that would allow the Army, Navy, and Air Force to develop separate systems and for the Marine Corps to continue using the MCTFS (see Appendix B).

**Review of Internal Controls**

DOD Instruction 5010.40, “Managers’ Internal Control (MIC) Program Procedures,” January 4, 2006, require DOD organizations to implement a comprehensive system of internal controls that provides reasonable assurance that programs are operating as intended and to evaluate the effectiveness of the controls. Our audit of the Investment Review Board process is ongoing. We will include internal control weaknesses associated with DIMHRS project management when we complete our fieldwork for the audit.
Finding. Acquisition Decision Memorandum for the Defense Integrated Military Human Resources System

The Acquisition Decision Memorandum that the USD(AT&L) signed on September 8, 2009, for the future of DIMHRS was premature. The September ADM was premature because the BCA was not complete and the draft BCA did not:

- explain why estimated lifecycle costs increased so significantly from lifecycle estimates previously submitted to Congress,
- detail or fairly represent the variable costs associated with the various alternatives,
- clearly define what the Common Core consisted of, and did not explain what Northrop Grumman would deliver to the Services on September 30, 2009.

Without a complete analysis of all alternatives, DOD may incur excessive costs and still not achieve the intent of the DIMHRS initiative, which was “a single integrated military personnel and pay system.” In addition, the selection of Service-specific integrated personnel and pay systems (COA 3C), as stated in the September ADM, may increase governance risk and overall technical complexity of DIMHRS for DOD.

Acquisition Decision Memorandum

The Acquisition Decision Memorandum that the USD(AT&L) signed on September 8, 2009, for DIMHRS’ future was premature. USD(AT&L) made a decision before the lifecycle costs associated with each alternative had been finalized. On August 3, 2009, we shared a preliminary report draft, for discussion purposes, with USD(AT&L) about of the decision options for DIMHRS; on August 26, 2009, we discussed our concerns with the Director, Acquisition Resources and Analysis. The Director stated that the new ADM had been drafted (signed September 8, 2009) and that the decision would be based on issues other than cost. The Director added that the costs associated with the alternatives were still being analyzed and finalized. Although the September ADM stated that cost differences were not the determining factor in selecting the best course forward, the selected alternative was 820 percent higher than the previous estimate on DIMHRS lifecycle costs that USD(AT&L) submitted to Congress in December 2008. Estimated costs rose from $1.7 billion in December 2008 to an estimated $16.1 billion for the selected alternative. DOD funds are finite and the magnitude of growth in estimated costs (820 percent) warrants cost as a key consideration.

Life Cycle Cost Estimates

The draft BCA did not explain why estimated lifecycle costs increased so significantly from lifecycle estimates previously submitted to Congress. The lifecycle costs USD(AT&L) reported in the annual Major Automated Information Systems (MAIS) report varied significantly from the costs presented in the draft BCA 6 months later.
Section 2445b, title 10, United States Code requires the Secretary of Defense to submit an annual MAIS report as a budget justification document regarding cost, schedule, and performance for each MAIS program. DIMHRS is a MAIS program because its total lifecycle costs are estimated to exceed $378 million in FY 2000 constant dollars—including operation and maintenance costs. USD(AT&L) submitted the MAIS report to Congress in December 2008. The estimated lifecycle costs for all the COAs in the draft BCA, June 2009, were significantly higher than those reported in historical MAIS submissions:

Table 2. Lifecycle Costs
($ millions)

<table>
<thead>
<tr>
<th>(1) Alternative</th>
<th>(2) Total Cost of Alternative</th>
<th>(3) DFAS Operational Costs</th>
<th>(4) Legacy System Costs</th>
<th>(5) Total Lifecycle Cost for each Alternative(^1)</th>
<th>Percent of Increase from December 2008 MAIS Report to Congress(^2) and June 2009 Draft BCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>COA 1</td>
<td>$28,890</td>
<td>$706</td>
<td>$1,518</td>
<td>$26,666</td>
<td>1,542%</td>
</tr>
<tr>
<td>COA 2</td>
<td>25,049</td>
<td>706</td>
<td>1,173</td>
<td>23,170</td>
<td>1,340</td>
</tr>
<tr>
<td>COA 3a</td>
<td>25,639</td>
<td>706</td>
<td>1,173</td>
<td>23,760</td>
<td>1,374</td>
</tr>
<tr>
<td>COA 3b</td>
<td>16,051</td>
<td>706</td>
<td>1,173</td>
<td>14,172</td>
<td>820</td>
</tr>
<tr>
<td>COA 3c</td>
<td>16,051</td>
<td>706</td>
<td>1,173</td>
<td>14,172</td>
<td>820</td>
</tr>
<tr>
<td>COA 4</td>
<td>25,708</td>
<td>706</td>
<td>1,173</td>
<td>23,829</td>
<td>1,378</td>
</tr>
</tbody>
</table>

Source for Columns 1 through 5: Draft BCA

\(^1\) We removed DFAS Operational Costs and Legacy System Costs from the costs identified in the draft BCA because they were not associated with DIMHRS lifecycle costs.

\(^2\) The December 2008 MAIS Report to Congress reported $1,783.5 million in lifecycle costs for DIMHRS. We divided the lifecycle costs reported in the MAIS report by the total lifecycle costs for each alternative and multiplied the result by 100 to arrive at the percentage increase shown in the table.

Neither the draft BCA nor the September ADM addressed the significant discrepancy between previous lifecycle estimates and those proposed in the draft BCA.

Section 2445c, title 10, United States Code, requires DOD to notify Congress when estimated lifecycle costs exceed 25 percent of its baseline estimates. Consequently, DOD has 60 days from the September 8, 2009, ADM (to November 7, 2009) to notify Congress that its estimates for DIMHRS have increased 820 percent and more from its December 2008 MAIS report (from $1.7 billion to $16.1 billion). Prior to the September 8 ADM decision by USD(AT&L), the Comptroller issued a letter to congressional leaders on August 31, 2009, requesting a redistribution of $78.8 million. The letter stated that beginning in October, BTA would transition the DIMHRS Core IT capabilities to the Services who would stand up a program office for overseeing, building, and deploying the required personnel and pay capabilities. Consequently, the $78.8 million would not be needed to fund DIMHRS. However, the letter did not provide any information about the cost impact of such a decision.
Variable Costs
The draft BCA did not detail or fairly represent costs associated with DFAS operational costs, data warehousing costs, hardware costs, or software licensing costs.

DFAS Operational Costs
The draft BCA did not detail or fairly represent the variable costs associated with maintaining the “nearly 100” legacy systems that DIMHRS was to replace until DIMHRS is fully implemented (according to the September 2008 Enterprise Transition Plan). The draft BCA stated that DFAS would consistently incur $706 million in costs to maintain these legacy systems for each alternative. However, the draft BCA is inaccurate because DFAS costs will vary for each COA because of the different estimated completion dates. For example, the draft BCA shows completion dates in FY 2017 for COAs 3B and 3C, but COAs 1 and 2 show completions in FY 2024 (7 years longer). With the difference in the timeframes for implementing the COAs, there would be a variance in DFAS operational costs. In addition, COAs 3A, 3B, 3C, and 4 will require DFAS to develop and maintain interfaces with four different pay systems operated by four different organizations instead of one, and its operational costs would permanently increase.

Data Warehousing Costs
The draft BCA did not detail or fairly represent the variable costs associated with building and maintaining data warehouses. A data warehouse is a crucial piece of the DIMHRS system because it would maintain DOD-wide data for supporting personnel and pay functions. The draft BCA did not determine who would be responsible for maintaining or funding data warehouses.

Although the draft BCA included limited discussion on data warehousing costs, details on those were not enough for a clear assessment for each of the COAs. The draft BCA included only high-level costs for each of the COAs and did not detail requirements for building and maintaining data warehouses. For example, it stated that DOD would need $56 million for hardware and software to build a single data warehouse under COA 1. However, COAs 2, 3A, 3B, 3C, and 4 would require at least $56 million for each data warehouse, with an approximate total cost of $280 million for five separate warehouses (one for the DOD-wide warehouse and one for each of the four Services).

Personnel costs associated with maintaining the data warehouses also vary among the COAs. According to the draft BCA, 42 personnel would be required to maintain one data warehouse at an annual cost of about $9 million per year. We determined that COAs 2, 3A, 3B, 3C, and 4 would each require an additional 168 personnel to maintain the additional four data warehouses at an additional annual cost of $36 million. Developing and maintaining the data warehouses and obtaining additional support staff may result in higher expenses.
**Hardware Costs**

The draft BCA did not detail or fairly represent the variable costs associated with periodic hardware replacement. The draft BCA estimated hardware was to be replaced once every 5 years, but it did not estimate costs for leasing or purchasing new equipment. The DIMHRS system engineers stated that the DIMHRS equipment was already 5 years old. The system engineers also stated that the equipment leases would expire in 2010 with no contract extension. Hardware costs under COAs 2, 3A, 3B, 3C, and 4 could be substantially higher for DOD because DOD would maintain four systems instead of the single DOD-wide system as under COA 1.

**Software Licensing**

The draft BCA did not detail or fairly represent the variable costs associated with software licensing. PeopleSoft is the commercial-off-the-shelf product that Northrop Grumman used to develop DIMHRS. In August 2001, DOD paid PeopleSoft Incorporated $48 million for an enterprise software license. The license covered all DOD personnel who needed to use DIMHRS (DOD military personnel in all Services and their Components, military retirees and survivor personnel, and DOD civilians who administered DIMHRS). COA 1 is the only option that would not require changes to the enterprise software license.

Based on the Services’ answers to senior leadership queries, if COAs 2, 3A, 3B, 3C, or 4 were selected, the Services planned divergent paths. The Army stated it planned to continue working with Northrop Grumman; therefore, the Army would continue to use PeopleSoft software. The Air Force stated it planned to request proposals for its integrated personnel and pay system, and, therefore, may need a new software licensing agreement. The Navy stated it had not determined its path for a pay system. In addition, under COAs 2, 3A, 3B, 3C, and 4, each Service may require developmental licenses depending on whether they would be using PeopleSoft or other software to develop DIMHRS to their specifications. Software costs could be significantly higher under COAs 2, 3A, 3B, 3C, and 4 because new agreements may need to be developed and implemented.

**Common Core**

According to the draft BCA, all 3,209 “Core” specifications and the 39 interfaces would be developed by September 30, 2009, and include plans for unit and Core completion testing. However, the draft BCA did not clearly define what the Common Core consisted of and did not explain what Northrop Grumman would actually deliver on September 30, 2009. For example, the draft BCA states:

> It is critical to understand that these “Core” elements are not an operational capability and do not make up single integrated business processes that can be tested through rigorous integration but are instead independent discrete and marginally connected “chunks” of functionality that are not necessarily proven to work as fully integrated processes.
The draft BCA did not describe the actual deliverables, such as minimum documentation, configured PeopleSoft database tables, and data dictionaries. It stated only that the Enterprise Program Management Office would “manage” the level of delivered requirements and the amount of testing and documentation to be delivered. In addition, system acceptance testing was a requirement in the contract with Northrop Grumman. The draft BCA was not clear on whether the software delivered by Northrop Grumman in September 2009 would be ready for the Enterprise Program Management Office to accept in accordance with the contract terms.

On June 19, 2009, DIMHRS senior leadership queried the Services on what they expected from the “Core” regarding its quality, sufficiency, and completeness (that is, what Northrop Grumman would deliver). The Services’ expectations on what Northrop Grumman would deliver varied significantly. For example:

- The Army expected that Northrop Grumman would complete and successfully test and pass all of the specifications and interfaces in the Common Core.
- The Navy also expected that Northrop Grumman would complete and successfully test and pass all of the specifications and interfaces in the Common Core. In addition, the Navy expected Northrop Grumman to deliver the documentation required to rebuild the development and unit test environment, the Common Core test scripts and scenarios, as well as the documentation that is part of the Common Core contract modification.
- The Air Force expected that it would receive everything that Northrop Grumman had developed as of September 2009, regardless of whether the Common Core was 100 percent complete, but it also wanted quality, accurate documentation so that it could effectively manage the investment.
- The Marine Corps stated that it was uncertain how it would use the Common Core because it did not have sufficient information about its functionality or documentation.

DIMHRS senior leadership also identified a need for updated system documentation such as an interface control document, system design document, and database design description to the same level of detail required in 2004 before BTA assumed control of DIMHRS in 2005. Given the short timeframe for delivery, it is unclear whether Northrop Grumman can deliver the detailed documentation by September 30, 2009.

**BCA Impact**

Without a complete analysis of all alternatives, DOD may incur excessive costs and still not achieve the intent of the DIMHRS initiative, which was “a single integrated military personnel and pay system.” In addition, the selection of Service-level integrated personnel and pay systems (COA 3C) as stated in the September ADM may increase governance risk and overall technical complexity of DIMHRS for DOD.
**DIMHRS Costs and Deployment**

DOD may incur excessive costs and still not achieve the intent of the DIMHRS initiative, which was “a single integrated military personnel and pay system.” Although the draft BCA provided estimated lifecycle costs of $28.9 billion for COA 1 and $16.1 billion for COA 3C, the estimates were incomplete. A complete analysis may significantly change the estimates for costs associated with each alternative. The primary costs of software come from the upgrades and maintenance to keep the software running. The figure shows the typical distribution of costs associated with a software-based procurement, as the system moves through its lifecycle.

![Typical DOD Software Lifecycle Cost/Effort Distribution](source)

The draft BCA did not provide the costs factors associated with the different alternatives in sufficient detail to explain why deploying one integrated system (COA 1 at $28.9 billion) would cost 44 percent more than deploying four separate systems (COA 3C at $16.1 billion).

**Governance Risk and DIMHRS Complexity**

The USD(AT&L) decision for Service-level integrated personnel and pay systems may increase DOD governance risk. The September ADM stated that the capabilities DOD needs are best met through Service-level use of the DIMHRS Core IT Investment to the maximum extent practical. The September ADM acknowledged that Service-level integrated personnel and pay systems were high risk. The draft BCA eliminated COA 1 because of the difficulty in defining and controlling requirements and in managing and governing the centralized program. By allowing each Service to develop its own personnel and pay system, DOD may increase its risk of developmental failure, interface problems, and an increased number of disparate user requirements. With four separate
developmental efforts (DOD Warehouse, and separate Army, Navy and Air Force systems), even more diligence would be required—by all organizations involved in the management, use, design, development, maintenance, and operation of those systems—to ensure that DOD-wide personnel, finance, and enterprise functional requirements, data, and information standards are met.

The September ADM concluded that leveraging previous investments where appropriate, and providing necessary flexibility and management control at the Military Department level was the best approach. According to the September ADM, DOD will establish a strong governance structure to oversee the Service efforts to ensure DOD-wide personnel, finance, and accounting standards are met by the Service-level integrated personnel and pay systems. The September ADM also stated that the governance structure established for the DIMHRS Core IT Investment, including the O-8 and O-9 governance committees would continue. However, these two governing bodies existed since the program’s inception, and they did not ensure that the DIMHRS program had effective functional oversight or disciplined processes that included issue resolution, decision-making, and communication.

Risk management is integral to the success of enterprise governance because it integrates best practices of planning and organizing, acquiring and implementing, delivering and supporting, and monitoring IT performance to ensure that the enterprise’s information and technology supports the enterprise’s business objectives. With the development of separate Army, Navy, and Air Force Service-level personnel and pay systems and the additional enterprise-level information warehouse, it is unclear whether DOD will be able to mitigate its four-fold governance risk and DIMHRS complexity.

Management Comments on the Finding and Our Response

Under Secretary of Defense for Acquisition, Technology, and Logistics Comments

Although the recommendation was made to USD(AT&L), the Director, Acquisition Resources and Analysis, provided the comments for USD(AT&L). The Director included additional comments on the overall report. See the Management Comments section for a complete text of the comments.

The additional comments stated that we did not consistently summarize the memorandum issued by Deputy Secretary of Defense on January 16, 2009, on the enterprise-level visibility led by DCMO [Deputy Chief Management Officer]. In addition, the comments stated that the memorandum did not direct the Navy to develop a BCA, but that the Military Services were to stand up program offices and develop their own personnel and pay capabilities.
The additional comments also:

- reiterated that the details and rationale for each cost driver were provided in the draft BCA, cost factor estimates were based on historical DOD experience and on analogy, and that the estimates were made with the greatest level of fidelity;

- acknowledged that the selected alternative would have the highest probability of success considering the risk; and

- stated that the FY 2010 NDAA required the Secretary of Defense to establish a DIMHRS development and transition council that would provide advice to the Secretary of Defense and the Secretaries of the Military Services on modernizing the integrated pay and personnel systems, and collecting data into the enterprise information warehouse.

**Our Response**

We acknowledge the Director’s additional comments. We have included the full text of the memorandum at Appendix C. The memorandum states that the Navy must comply with the requirements of the Public Law 109-364, the FY 2007 National Defense Authorization Act, section 324, October 16, 2006, that directed the Secretary of the Navy to prepare a report on MCTFS that included:

- an analysis of alternatives with a comparison between the costs of deploying and operating MCTFS within the Navy and the cost of including the Navy in DIMHRS,

- an analysis of the compatibility of MCTFS with the DOD business enterprise architecture, and

- a business case analysis of the costs and benefits to the Navy and DOD.

The additional comments did not provide any supplementary details on why deploying one integrated system (COA 1 at $28.9 billion) would cost 44 percent more than deploying four separate systems (COA 3C at $16.1 billion). The additional comments reiterate that Service-level integrated personnel and pay systems are high risk with a high probability of success.

The requirement on establishing a DIMHRS development and transition council appears redundant. As previously stated in the report, the September ADM stated that the governance structure established for the DIMHRS Core IT Investment, including the O-8 and O-9 governance committees, would continue. However, these two governing bodies existed since the program’s inception, and they did not ensure that the DIMHRS program had effective functional oversight or disciplined processes that included issue resolution, decision-making, and communication. The O-8 and O-9 committee members may be the same members that would be providing the advice to the Secretaries and thus may not
provide the oversight needed on the modernization of the integrated pay and personnel system for each department and the collection of data generated by each such system into the enterprise information warehouse.

**Recommendation, Management Comments, and Our Responses**

**Revised Recommendation**

We revised the draft recommendation by removing the requirement to notify Congress within 60 days from September 8, 2009 (when the Acquisition Decision Memorandum was signed) because the milestone occurred before our report was published.

We recommend that the Under Secretary of Defense for Acquisition, Technology, and Logistics reconsider its decision on DIMHRS and:

- Develop a detailed Business Case Analysis that provides a complete explanation of the factors used that increased the estimated lifecycle costs in the draft Business Case Analysis from those previously reported in the December 2008 Major Automated Information System report.

- Notify Congress that DOD’s estimate for DIMHRS has increased at least 820 percent from its December 2008 MAIS report (from $1.7 billion to $16.1 billion for the selected option) as required by section 2445c, title 10, United States Code.

**Director, Acquisition Resources and Analysis Comments**

The Director disagreed and stated that the draft BCA was not built on the same DIMHRS program that was previously reported in the December 2008 MAIS report. In addition, the program was restructured through the critical change process into the DIMHRS Core IT Investment, which was defined from the common data and process elements in the December 2008 DIMHRS program and the DOD Enterprise Inbound and Outbound Interfaces. Further, the comments stated that the DIMHRS Core IT Investment program, completed on September 30, 2009, provided the software foundation, to the maximum extent practical, for building and deploying the required personnel and pay capabilities.

The Director reiterated that the DIMHRS program was restructured through the critical change process described in her comment to the previous recommendation point. She stated that capabilities to achieve timely and accurate military pay are included in the draft BCA. In addition, the draft BCA is not final and that updating cost estimates would be based on data from the Services due the end of November 2009. The Director stated that the figures in the December 2008 MAIS report are not comparable to the draft BCA because the programs are different. Further, congressional defense committees were aware of the restructured DIMHRS program and that BTA and Military Service representatives met with staffers from the House Armed Services Committee, Senate Armed Services Committee, and the Senate Appropriations Committee-Defense in September 2009, to outline the Way Ahead discussed in the September 8, 2009, ADM
and the redistribution of FY 2010 DIMHRS funding. The comments also stated that the congressional defense committees were notified of these changes in letters sent in April and September 2009. The Military Services will submit MAIS Annual Reports with additional detail once their individual pay and personnel systems are established.

Our Response

We consider these comments non-responsive. Although the comments stated that the draft BCA was not built on the same DIMHRS program previously reported in the December 2008 MAIS report, the BCA did include a cost analysis of COA 1. The draft BCA stated that COA 1 was defined as a continuation of the current DIMHRS single global instance of the PeopleSoft product to be used by all Services based upon the output of the DIMHRS Core IT Investment effort. The December 2008 MAIS Report included the description of DIMHRS as a single integrated system as described in the draft BCA. Further, the DIMHRS MAIS baseline report for December 2007 also showed $1.7 billion for total lifecycle cost. The comments did not provide any additional information on the factors used that increased the estimated lifecycle costs in the draft BCA to $16.1 billion from those previously reported in the MAIS reports as $1.7 billion.

The April 7, 2009, letters to congressional leaders stipulated a change in schedule for the DIMHRS program and do not address any increase in lifecycle cost. In addition, the August 31, 2009, letter from the Under Secretary of Defense (Comptroller)/Chief Financial Officer to congressional leaders requested a redistribution of $78.8 million from BTA to the Military Services for overseeing, building, and deploying the required personnel and pay capabilities. However, neither of these letters to congressional leaders specifically address the previously reported cost increase from $1.7 billion in the December 2008 MAIS report to a potential $16.1 billion in the June 2009, draft BCA. In addition, the December 2008 MAIS report also showed that the 2007 lifecycle cost was stated as $1.7 billion.

Although the comments indicate that congressional staffers were aware of the changes to the DIMHRS program, there was no written submission to congressional leaders on the proposed increases as required in sections 2445c and 2445d, title 10, United States Code. Section 2445c states that MAIS program managers are to submit quarterly reports to the senior DOD official responsible for the program, identifying any variance in the projected development schedule, implementation schedule, life-cycle costs, or key performance parameters. In addition, Section 2445d directs the responsible senior DOD officials to submit written reports to Congress when such variances occur. The April 7, 2009, letter is a schedule change. The August 31, 2009, letter is a redistribution of $78.8 million to the Military Services and addresses only FY 2010 funding needs and not $16.1 billion lifecycle costs. Therefore, BTA still needs to report to Congress on the change in lifecycle cost.
• Ensure that the revised Business Case Analysis detail and fairly represent the variable costs associated with each alternative.

**Director, Acquisition Resources and Analysis Comments**
The Director partially agreed and stated that because of the short timeframe for developing the draft business case, it represents a thorough review of all the costs including variable costs, costs for DFAS, data warehouses, and hardware associated with each alternative based on the available information. The Military Services must submit acquisition strategies that fully justify service cost positions to support forthcoming acquisition decisions to the milestone decision authority by March 30, 2010.

**Our Response**
We consider the comments partially responsive and agree that because of the short timeframe the BCA included the cost information available at that time. However, USD(AT&L) should not have made a decision of this magnitude without a detailed cost estimate and acquisition strategy.

• Delay implementing COA 3C until final costs and analysis is completed and independently verified.

**Director, Acquisition Resources and Analysis Comments**
The Director disagreed and stated that delivery of the final BCA was already delayed by senior DOD decision makers to ensure that the analysis and information is complete as possible. The comments stated that the business case team agreed that cost differences were not the determining factor for selecting the course of action. Costs for the individual personnel and pay services would be scrutinized as part of the acquisition process. In addition, the Director stated that selection of COA 3C was based on government risk, technical complexity, technical risk and past performance of the original DIMHRS program, and that capabilities needed by the Department are best served by the Service-level individual personnel and pay systems using the DIMHRS Core IT Investment to the maximum extent practical. Further, the comments indicated that the individual personnel and pay system risk factors were high, but the option chosen was believed to be the way for achieving the requirements of the Operational Requirements Document.

**Our Response**
We consider the comments non-responsive. We acknowledge that USD(AT&L) has already made the decision to implement Service-level individual personnel and pay systems. However, the comments provided no new supplementary information to support the September ADM assertion that the selected alternative is the way forward for DIMHRS. Cost should be considered as a determining factor for selecting the way forward for DIMHRS because there is such a significant increase in the prior estimated cost from $1.7 billion to $16.1 billion for the development of four separate Service-level individual personnel and pay systems instead of one.
The September ADM did not include any oversight and governance other than establishing a Joint Enterprise Change Management Board for ensuring that the four separate systems would be integrated and use the Core IT investment to the maximum extent practical. The draft BCA eliminated COA 1 because of the difficulty in defining and controlling requirements and in managing and governing the centralized program. With four separate developmental efforts (DOD warehouse, and separate Army, Navy and Air Force systems), even more oversight and governance is required to ensure that DOD-wide personnel, finance, and enterprise functional requirements, data, and information standards are met. It is unclear how four separate pay systems would reduce delays and errors in pay, the need for reconciling and correcting data, losses due to overpayments, and costs to recoup overpayments. It appears that in this case, DOD has abandoned an integrated enterprise-wide system concept and advocates each Service to develop its own pay system. Governance and management oversight will need to play a key role in managing the development of four separate personnel and pay systems.

**Management Comments Required**

We request that the USD(AT&L) reconsider the position established by the Director, Acquisition Resources and Analysis and respond to the final report.
Appendix A. Scope and Methodology

We conducted this audit from December 2008 through November 2009 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions, based on our audit objectives.

This report is the first in a series on the Investment Review Board process. We conducted this portion of our performance audit from December 2008 through September 2009, in conjunction with our ongoing audit of the DOD Investment Review Process (DOD IG Project No. D2009-D000FB-0082.000). Our objectives for the audit were to determine whether the IRBs and DBSMC coordinated with Defense business system modernization initiatives to eliminate conflicts and duplication of effort and ensured proper allocation of funds.

We audited seven separate funding investments for $1.4 billion that the IRBs certified and the DBSMC approved in FY 2006, FY 2007, and FY 2008. In FY 2008, the DBSMC approved an additional $136.77 million investment for DIMHRS. Since 2003, DOD has spent approximately $800 million on developing DIMHRS. Therefore, we reviewed the following documentation—including lifecycle costs—that may have had an affect on the future of DIMHRS.

- DIMHRS Operational Requirements Document, July 2001
- Joint Requirements Oversight Council guidance memo, November 2008
- ERAM findings, December 2008
- Memorandum from Under Secretary of Defense for Personnel and Readiness on his opinion of the four options, January 12, 2009
- Deputy Secretary of Defense Memorandum, January 16, 2009
- DIMHRS Critical Change Process briefing charts, February 25, 2009
- ADM issued April 7, 2009
- DIMHRS Core/Army System Acceptance Test (SAT) Test Report, May 14, 2009
- Business Case Analysis briefing charts, May 26, 2009
- DIMHRS Core IT Investment O-8 Steering Group briefing charts, June 19, 2009
- Draft Business Case Analysis, June 24, 2009
- ADM issued September 8, 2009

We interviewed the following individuals from the DIMHRS Enterprise Program Management Office in New Orleans, Louisiana:

- Program Manager
- Deputy Program Manager
- Acquisition Manager
• System Engineers
• Configuration Management
• Lead Engineer from Northrop Grumman

We also interviewed personnel from the following:

• Air Force Cost Analysis Agency
• Business Case Analysis Team
• Chair, Human Resources Management Investment Review Board
• Director, Acquisition Resources and Analysis
• ERAM Team

**Use of Computer-Processed Data**

We did not use computer-processed data to perform this audit.

**Prior Coverage**

We found no prior coverage on the DIMHRS Business Case Analysis during the last 5 years.
MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARIES OF DEFENSE
DEPUTY CHIEF MANAGEMENT OFFICER
ASSISTANT SECRETARY OF DEFENSE FOR
LEGISLATIVE AFFAIRS
ASSISTANT SECRETARY OF DEFENSE FOR
NETWORKS AND INFORMATION
INTEGRATION/DOD CHIEF INFORMATION OFFICER
DIRECTOR, ADMINISTRATION AND MANAGEMENT
DIRECTOR, COST ASSESSMENT AND PROGRAM
EVALUATION
DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Defense Integrated Military Human Resources System (DIMHRS)
Capability Way Ahead Acquisition Decision Memorandum (ADM)

For Official Use Only
MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
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ASSISTANT SECRETARY OF DEFENSE FOR NETWORKS
AND INFORMATION INTEGRATION / DOD CIO
DIRECTOR, ADMINISTRATION AND MANAGEMENT
DIRECTOR, PROGRAM ANALYSIS AND EVALUATION
DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Defense Integrated Military Human Resources System (DIMHRS) Program

The Department of Defense has been modernizing its business capabilities in support of the management of military personnel and pay under the DIMHRS program. This effort has been pursued as a single enterprise-wide system targeted to field a common solution for all DoD military members.

In November 2008, I directed a review of the program to gain a more comprehensive understanding of the status of this important initiative, as well as to understand the key risks that are being encountered during the development process. The assessment highlighted a number of governance, program management, and requirements related challenges associated with an effort that is as large and complex as DIMHRS. Subsequent to this review, I directed a follow-on effort to provide a list of options to consider how best to proceed with delivering this core capability to our military, including but not limited to the current course of action.

Based on the options presented and the understanding of the challenges associated with this large undertaking, I have determined that the Department will be better positioned to deliver these important capabilities by leveraging the extensive effort that has been delivered to date, but also providing additional flexibility and management control over the solution at the individual military department level. To this end, I am directing the following actions:

- The military departments, including Active, Guard and Reserve Components, with the support of the Business Transformation Agency (BTA), OUSD(P&R)
and the Defense Finance and Accounting Service (DFAS), will confirm the “core” enterprise requirements of the current solution, which will primarily be restricted to those common data and process elements that are required to achieve timely and accurate military pay.

- Once confirmed, and to the degree that is agreed to by the military departments, the BTA will complete the development of the “core” solution.
- Once the ‘core’ is deemed complete by the military departments, the enterprise portion of the DIMHRS program will be concluded, at which time the solution as configured and associated documentation will be transitioned to the individual military departments.
- The military departments will stand up their own senior governance boards and acquisition program offices to oversee, build out and deploy their own required personnel and pay capabilities using this “core” to the maximum extent practical.
- The Department of the Navy must comply with the requirements of the NDAA 2007, Section 324, which imposed additional restrictions on pursuing avenues to expand the use of the Marine Corps Total Force System (MCTFS) as its solution to Navy-wide military personnel and pay or seek congressional relief.
- To meet the Department’s requirements for enterprise-level information visibility to support the needs of OSD and the Combatant Commands, the enterprise will continue to manage the delivery of these information capabilities under the leadership of the Office of the Deputy Chief Management Officer (DCMO). This will include establishing an enterprise-level information warehouse and the necessary functional and technical requirements to enable the delivery of this capability in close coordination with the delivery of the personnel and pay transaction systems by the individual military departments.
- The military departments will work with the USD(AT&L) and BTA to coordinate on all acquisition activities, to include transition of program management responsibilities, that need to be made to accommodate this modified approach to delivering these personnel and pay capabilities.
- The military departments will identify an accountable 3-star general/flag officer to represent them in any ongoing enterprise-level governance activities.
- OSD(Comptroller) will support the BTA in facilitating any funding/reprogramming actions necessary to implement this revised approach, as well as to address current FY09 funding shortfalls in the DIMHRS program.

It is imperative that the Department field enhanced capabilities to deliver timely and accurate pay to our men and women in uniform, as well as provide the broader DoD enterprise with effective access to information about our military personnel. That
requirement has not changed. However, I believe that this revised approach to delivering that solution, which leverages the significant work performed by the DIMHRS program to date, but provide the military departments more flexibility and control in the final delivery of the solution, significantly increases the probability of success.
Glossary

**Acquisition Decision Memorandum (ADM).** An Acquisition Decision Memorandum is a memorandum signed by the Milestone Decision Authority that documents decisions made as the result of a Milestone Decision Review or other decisions such as funding. The USD(AT&L) signed the acquisition decision memorandum on April 7, 2009. It provided guidance on the four Options and defined requirements that the BCA team and the Services needed to complete by June 30, 2009.

**Business Case Analysis (BCA).** A Business Case Analysis provides a best-value analysis that considers not only cost, but also other quantifiable and non-quantifiable factors supporting an investment decision. A business case analysis can include, but is not limited to, performance, reliability, maintainability, and supportability enhancements.

**Common Core.** The DIMHRS Core IT Investment is the “core” set of enterprise requirements of the current DIMHRS solution, which are primarily restricted to those common data and process elements that are required to achieve timely and accurate military pay. It is critical to understand that these “core” elements are not an operational capability and do not make up single integrated business processes that can be tested through rigorous integration but are instead independent discrete and marginally connected “chunks” of functionality that are not necessarily proven to work as fully integrated processes. The delivery of the DIMHRS Core IT Investment is intended to provide the foundation for a common platform that enables Service implementation of processes.

**Commercial-Off-The-Shelf.** Commercial-off-the-shelf is a term for products that are ready-made and available for sale, lease, or license to the public, in this case for software or hardware, generally technology or computer products. These can be alternatives to in-house developments. Many government and business programs are mandating the use of commercial-off-the-shelf products, as they may offer significant savings in procurement and maintenance.

**Data Warehouse.** A data warehouse is a repository of electronically stored data. Data warehouses are used as sources for data management, data reporting, and analysis.

**Enterprise Risk Assessment Methodology (ERAM).** ERAM is a proactive and independent risk assessment process that BTA used to reduce systemic risk and to support informed decision-making. It focuses on delivering business capabilities rapidly, reducing system development costs, identifying program vulnerabilities, and assisting in developing mitigation solutions. ERAM addresses risks across seven dimensions: scope, people, strategy, technology, contracting, process, and external factors. BTA developed the ERAM to assess project risk for systems development efforts.

**Initial Operational Capability.** In general, initial operational capability is attained when some units or organizations in the force structure that are scheduled to receive a system 1) have received it, and 2) have the ability to employ and maintain it.
**Investment Review Board (IRB).** DOD has five distinct Investment Review Boards, each dedicated to a particular functional area: Human Resources, Finance, Real Property and Logistics, Weapons, and Information Management. Each Investment Review Board is a forum that reviews Defense business system modernization funding requests. For DIMHRS, the Human Resource Management Investment Review Board certifies funding requests to the Under Secretary of Defense for Personnel and Readiness. The Defense Business Systems Management Committee approves the funding requests.

**Legacy System.** A legacy system refers to an outdated computer system or application program that is still in use, typically because it still functions for the users' needs, even though newer technology is available.

**Major Automated Information System (MAIS).** Section 2445b, title 10, United States Code states that MAIS is a DOD acquisition program for an Automated Information System (either as a product or as a service) that is either designated by the milestone decision authority as a MAIS or is estimated to exceed:

- $32 million in FY 2000 constant dollars for all expenditures, for all increments, regardless of the appropriation or fund source, directly related to the automated information system definition, design, development, and deployment, and incurred in any single fiscal year; or
- $126 million in FY 2000 constant dollars for all expenditures, for all increments, regardless of the appropriation or fund source, directly related to the automated information system definition, design, development, and deployment, and incurred from the beginning of the Materiel Solution Analysis Phase through deployment at all sites; or
- $378 million in FY 2000 constant dollars for all expenditures, for all increments, regardless of the appropriation or fund source, directly related to the automated information system definition, design, development, deployment, operations and maintenance, and incurred from the beginning of the Materiel Solution Analysis Phase through sustainment for the estimated useful life of the system.

**Operational Requirements Document.** An Operational Requirements Document is a practical and useful document for managers that are responsible for defining system capabilities needed to satisfy a mission need.
MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL DEFENSE BUSINESS OPERATIONS

SUBJECT: Response to DoD IG Draft Report on Acquisition Decision Memorandum for the Defense Integrated Military Human Resources System (Project No. D2009-D000FB-0082.000)