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**DOD'S ENTERPRISE RESOURCE PLANNING
(ERP) SYSTEM IMPLEMENTATION
EFFORTS**

HEARING

BEFORE THE

PANEL ON DEFENSE FINANCIAL MANAGEMENT
AND AUDITABILITY REFORM

OF THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES

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CONTENTS

CHRONOLOGICAL LIST OF HEARINGS

2011

	Page
HEARING:	
Thursday, October 27, 2011, DOD's Enterprise Resource Planning (ERP) System Implementation Efforts	1
APPENDIX:	
Thursday, October 27, 2011	23

THURSDAY, OCTOBER 27, 2011

DOD'S ENTERPRISE RESOURCE PLANNING (ERP) SYSTEM IMPLEMENTATION EFFORTS

STATEMENTS PRESENTED BY MEMBERS OF CONGRESS

Andrews, Hon. Robert, a Representative from New Jersey, Ranking Member, Panel on Defense Financial Management and Auditability Reform	2
Conaway, Hon. K. Michael, a Representative from Texas, Chairman, Panel on Defense Financial Management and Auditability Reform	1

WITNESSES

Fanning, Eric, Deputy Under Secretary of the Navy and Deputy Chief Management Officer, U.S. Navy	6
Khan, Asif A., Director, Financial Management and Assurance, Government Accountability Office	9
Lewis, Mark, Deputy Chief Management Officer, U.S. Army	4
McGrath, Hon. Elizabeth, Deputy Chief Management Officer, U.S. Department of Defense	3
Tillotson, David, III, Deputy Chief Management Officer, U.S. Air Force	8

APPENDIX

PREPARED STATEMENTS:

Conaway, Hon. K. Michael	27
Fanning, Eric	47
Khan, Asif A.	62
Lewis, Mark	38
McGrath, Hon. Elizabeth	29
Tillotson, David, III	54

DOCUMENTS SUBMITTED FOR THE RECORD:

"Best Practices in Data Conversion," by the DOD Office of the Deputy Chief Management Officer	83
---	----

WITNESS RESPONSES TO QUESTIONS ASKED DURING THE HEARING:

Mr. Andrews	99
Mr. Young	99

QUESTIONS SUBMITTED BY MEMBERS POST HEARING:

Mr. Conaway	103
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**DOD'S ENTERPRISE RESOURCE PLANNING (ERP)
SYSTEM IMPLEMENTATION EFFORTS**

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
PANEL ON DEFENSE FINANCIAL MANAGEMENT AND
AUDITABILITY REFORM,
Washington, DC, Thursday, October 27, 2011.

The panel met, pursuant to call, at 8:00 a.m. in room 2212, Rayburn House Office Building, Hon. K. Michael Conaway (chairman of the panel) presiding.

OPENING STATEMENT OF HON. K. MICHAEL CONAWAY, A REPRESENTATIVE FROM TEXAS, CHAIRMAN, PANEL ON DEFENSE FINANCIAL MANAGEMENT AND AUDITABILITY REFORM

Mr. CONAWAY. Well, good morning, everybody. We will go ahead and start. The clock on the back of the wall has officially gone to 8:00. I would like to welcome each of our witnesses to the hearing this morning on Enterprise Resource Planning Systems, the implementation efforts. In all of our previous hearings, regardless of topic, ERP [Enterprise Resource Planning] systems are always an integral part of the discussion.

Whether the discussion is centered around the skills needed within the management workforce, accountability of assets or the controls needed to prevent potential Antideficiency Act violations. So it is fitting that the panel today hold a separate hearing on the Department of Defense Enterprise Resource Planning Systems.

Today we will examine the scope of the ERP efforts and the status of implementation of the ERPs and their ability to improve the Department's financial management. According to DOD [Department of Defense], the successful implementation of the ERPs is a key element to addressing longstanding weaknesses in financial management and achieving audit readiness. Yet, GAO [Government Accountability Office] has reported over the years that the Department has not effectively employed acquisition management controls to ensure the ERPs deliver the promised capabilities on time and within budget.

The GAO has also reported that delays in the successful implementation of ERPs have extended the use of existing systems and continue the funding of these legacy systems longer than was planned. The Department of Defense OIG [Office of Inspector General] noted in its testimony before the Panel in September, that the development, implementation and effectiveness of these ERP systems are questionable at this point.

With billions of taxpayer dollars at stake, it is critical that the Department of Defense take the necessary actions to ensure that ERPs are successfully implemented. The Secretary of Defense directed the Department to move up the audit readiness date of the statement of budgetary resources from 2017 to 2014. However, certain of the ERPs are not scheduled to be fully deployed until near or during 2017.

In order to meet the 2014 deadline, will the Department move up the ERP deployment dates, make enhancements to the existing legacy systems, improve manual controls or some combination of the three? Also will the DOD need additional resources for these efforts? We will be interested in getting some insight today for the Department of Defense's approach to accomplishing this goal.

One of the key responsibilities of the Department of Defense deputy CMO [Chief Management Officer] and the military department CMOs and their respective deputies is to support business system modernization efforts in a manner that synchronizes these efforts with the financial improvement activities of the reporting entities. This becomes all the more important as DOD works toward achieving audit readiness of the SBR [Statement of Budgetary Resources] by 2014, while also keeping on track to achieve auditability for the full set of financial statements by 2017.

I want to thank our witnesses for coming today. We have with us today the Honorable Elizabeth McGrath, Deputy Chief Management Officer, Department of Defense, Mark Lewis, Deputy Chief Management Officer of the United States Army, Eric Fanning, Deputy Undersecretary of the Navy and Deputy Chief Management Officer for the United States Navy, David Tillotson, III, Deputy Chief Management Officer for the United States Air Force and Asif Khan, Director, Financial Management and Assurance, GAO.

Rob, any comments you would like to make before we start?

[The prepared statement of Mr. Conaway can be found in the Appendix on page 27.]

STATEMENT OF HON. ROBERT ANDREWS, A REPRESENTATIVE FROM NEW JERSEY, RANKING MEMBER, PANEL ON DEFENSE FINANCIAL MANAGEMENT AND AUDITABILITY REFORM

Mr. ANDREWS. Well good morning, Mr. Chairman. Good morning to my colleagues and to the panel this morning. We really appreciate the seriousness and devotion that members of this panel have given to this joint enterprise. You have all contributed in a very valuable way already and we are anxious to hear from you this morning.

The problem with the enterprise systems is the best case study as to why we need auditable financial statements. We spend a lot of money, a lot of time, very mixed results and we really can't quite figure out why. Now people have theories and they have ideas, but one of the reasons we can't really quite figure out why is because the data that would lead us to the conclusions as to why we have had trouble, aren't themselves reliable because we don't have a system that can generate the right data.

It is a classic chicken-and-egg problem. You can't figure out why we couldn't get the enterprise systems right until you have a sys-

tem that tells you what happened. And you can't have a system that tells you what happened until you get the enterprise systems right. So I am glad that we have identified the problem. I am quite confident that the men and women that we have working on solving the problem have very high skills and very good intentions and are very devoted to the cause.

So we are very glad to hear from you this morning, but several of the panel members have said a number of times, how do I explain to people back in my district what we are trying to do here and what the problem is? And the way I look at boiling this down to its most simplistic form is that over the last decade or so, I guess longer, the taxpayers have spent billions of dollars to collapse dozens or hundreds of systems that aren't compatible into 10 that—I guess it is 10, that work.

And we are not quite there yet. And there are a lot of bumps in the road and they would be astonished at that. They wouldn't be very happy about that. And I don't think anybody here is either. So, our collective mission is to figure out where we are, how to get to where we need to be and I think our job as members of Congress is to give you the tools and resources to get you there.

So I look forward to hearing the testimony this morning and asking questions. And I thank you Mr. Chairman for calling the hearing.

Mr. CONAWAY. Thanks, Rob. I appreciate that.

Ms. McGrath. Your opening statement.

**STATEMENT OF HON. ELIZABETH MCGRATH, DEPUTY CHIEF
MANAGEMENT OFFICER, U.S. DEPARTMENT OF DEFENSE**

Ms. MCGRATH. Good morning. Chairman Conaway, Congressman Andrews, other members of the panel, thank you for the opportunity to return to this panel and discuss the role of the Enterprise Resource Planning Systems in achieving our audit readiness goals at DOD. Secretary of Defense Panetta recently highlighted the importance of auditability for the Department.

He discussed it earlier this month in his testimony before the full House Armed Services Committee, also in his October 13th policy memorandum to the Department, which mandated the acceleration of certain aspects of the Department's Financial Improvement and Audit Readiness plan in order to ensure we achieve the Congressionally mandated audit of 2017.

He noted auditability is a goal every commander, manager, functional specialist must understand and embrace to improve efficiency and accountability. DOD has made substantial progress over the last 2 years to improve its business processes, financial controls, workforce and defense business systems. But a significant amount of work still lies ahead.

Implementation of systems to include ERPs is an important component of our progress as the chairman noted. As Secretary Panetta said, while the department systems do tell us where we are spending taxpayer funds, we do not yet have the details and controls necessary in place to pass an audit. The Secretary's mandate underscores the partnership between the Under Secretary of Defense, Comptroller's office, my office, the military department Chief

Management Officers and the Department's other functional business owners.

All of which will be required to achieve our audit goals. We consistently work together to ensure that we are effectively synchronizing our broader business improvement efforts with the Department's audit readiness goal. It is a part of our broader business conversation. By improving our business systems environment by implementing ERPs, modernizing legacy systems when there is a business case that supports it and certainly sunsetting legacy systems not aligned with our business objectives.

The design principles within ERP directly enable key elements of auditability such as, enforcing process and execution standardization among implementing organizations, managing consolidated business data into a single repository that allows centralized access control and handles transactions from an end-to-end perspective. As Congressman Andrews noted, it is all about the data.

Enabling traceability of transactions, documenting repeatable processes and procedures and demonstrating compliance with laws, regulations and standards, all part of a broader business conversation end-to-end processes which systems play a role. Implementing ERPs requires sustained commitments from our senior leaders and often requires—I would say always requires change of processes and policies to achieve successful implementation.

We have placed significant emphasis on orienting our business environment, utilizing our business enterprise architecture, defining end-to-end processes that support our audit goals like procure-to-pay and budget-to-report. We are improving the usability implementation of the architecture because if an architecture isn't usable, nobody will use it.

Very important for us, again documenting the processes, understanding the standards and internal controls. Finally we are also improving our approach to acquiring and implementing our business IT [Information Technology] systems, our new acquisition model for defense business systems called the Business Capabilities Lifecycle is in use today for a growing number of programs across the Department.

It aligns requirements, investment and acquisition processes under an integrated government framework and focuses on incremental delivery of capability within 12 to 18 months. Achieving auditability across the Department not only requires successful modernization of systems, but that we apply a consistent level of process controls across our organization and functional areas.

DOD leadership understands this and is committed to achieving our audit goal. Thank you again for having me here today.

[The prepared statement of Ms. McGrath can be found in the Appendix on page 29.]

Mr. CONAWAY. Thanks, Ms. McGrath.

Mr. Lewis.

STATEMENT OF MARK LEWIS, DEPUTY CHIEF MANAGEMENT OFFICER, U.S. ARMY

Mr. LEWIS. Chairman Conaway, Congressman Andrews, members of the panel, thank you for the opportunity to testify today regarding the Army's efforts to implement its Enterprise Resource

Planning Systems and other actions related to audit readiness. This is an important topic with regard to the Department of Defense's effort to achieve auditability by FY [fiscal year] 2017.

And I am honored to have that opportunity to represent the Army before your panel. The Army believes it has set the conditions towards achieving auditability. At this point we believe that the Army will be able to comply with both the interim target, specified in the fiscal year 2010 National Defense Authorization Act which states for 2015 and to assert audit readiness by fiscal year 2017.

We have increased leader involvement and emphasis from the Secretary of Defense through the Secretary of the Army and the Under Secretary of the Army in his role as the Chief Management Officer. The Secretary of Defense most recently indicated his intent with his 13 October memo directing the Department to be able to assert audit readiness for the statement of budgetary resources by 2014.

We are currently in the 60-day period for review of our plans as he directed. The Army has implemented enterprise governance over business processes and systems involving all the key members of the Army staff and Army commands. These forums bring together the experts and manpower, personnel, logistics, facilities and intelligence in addition to, of course, the financial management and comptroller personnel and functions.

Under the guidance and direction provided by the assistant Secretary of the Army for financial management and comptroller, we have created and implemented the Army's Financial Improvement Plan, FIP, which is the Army's roadmap to audit readiness and ensures alignment with the OSD [Office of the Secretary of Defense] Financial Improvement and Audit Readiness, FIAR, Guidance.

The Army is developing and fielding four ERPs which will greatly support audit readiness as has been mentioned, by providing traceability of actions from source to statement using documented and disciplined processes and demonstrating compliance with laws, directives and standards. Using our business governance forms, we are conducting end-to-end process mapping and continuous process improvement to optimize our business processes and identify gaps and redundancies in our systems.

These actions are continuous and ongoing efforts. With your support and assistance, the Army has provided adequate funding to our ERPs and remaining legacy systems for development and sustainment. Finally, we have established a culture with ongoing training in business case management, cost containment to help ensure that we use our resources efficiently and effectively. Good stewardship of the taxpayers' dollars is nonnegotiable.

Being financially auditable requires input from many financial feeder systems. However the ERPs are the glue that supports the financial auditability.

GFEBS [General Fund Enterprise Business System] will consolidate the management and reporting of our general funds and assets across the Army enterprise. GFEBS is on track to be deployed to 160 locations later this year and will replace over 106 legacy systems when they are audited and certified for removal. GFEBS also provides for real property accountability.

Next, the global combat systems support Army. GCSS [Global Combat Support System]–Army is presently undergoing initial operating tests at Fort Bliss, Texas. This is the first location where both GFEBS and GCSS–Army are deployed jointly and offers us the opportunity to test the financial interfaces between the two ERPs in a live environment.

GCSS–Army contains the master database for Army equipment and will enhance asset transparency and visibility. A key aspect of our 2017 auditability goals. Right now initial indications from that test, things are going as expected, well.

LMP [Logistics Modernization Program] is fully deployed within the Army material command. In December of this year, we will complete the software upgrades to LMP that will update the financial functionality and bring that system into compliance with FISCAM [Federal Information System Controls Manual] standards.

LMP contains the ledger for the Army working capital and should be for an independent audit evaluation later this year.

Finally the Integrated Personnel Pay System–Army, IPPS–Army, our integrated personnel and pay system of the future is in its beginning stages.

The first increment is to create a consolidated data base that brings together the military personnel information from our active duty, United States Army Reserve and Army National Guard soldiers. This database will be the single consolidated source for military pay and personnel and will be delivered by 2013, the database.

While IPPS–Army will continue to be developed for several years when fully deployed, it will be able to calculate military pay directly.

For my part, I bring over 40 years of continuous service to the United States Army both as a commissioned officer and now as a senior civilian for 10 years. I have had numerous staff jobs on the Army and Deputy G–1, Deputy G–3 and now the DCMO [Deputy Chief Management Officer].

I look forward to your questions. Thank you very much.

[The prepared statement of Mr. Lewis can be found in the Appendix on page 38.]

Mr. CONAWAY. Thank you, Mr. Lewis.

Mr. Fanning.

STATEMENT OF ERIC FANNING, DEPUTY UNDER SECRETARY OF THE NAVY AND DEPUTY CHIEF MANAGEMENT OFFICER, U.S. NAVY

Mr. FANNING. Mr. Chairman, Congressman Andrews, members of the Panel, thank you for the opportunity to discuss the role of ERPs and supporting the Department of the Navy's efforts to achieve financial auditability. I am particularly honored to be testifying before the committee where I started my professional career almost 20 years ago to the day.

Financial auditability is one of the top priorities the Department has set out and the Department of the Navy's strategic objectives signed out annually by the Secretary, the Commandant of the Marine Corps and the Chief of Naval Operations.

Auditability is also one of the four main focus areas of the Department's business transformation plan which is administered by

my office. And as Ms. Commons, our Assistant Secretary for Financial Management and Comptroller has already testified, auditability is a key part of the performance measures for any leader who has any role, large or small, in achieving this goal including my boss, the Under Secretary of the Navy.

The Department of the Navy's financial improvement plan timeline is also in compliance with Secretary Panetta's directive to accelerate a validated statement of budgetary resources. The Department had already planned to assert its SBR by the end of fiscal year 2013. We are currently reviewing our strategy to see where we can accelerate our plan in order to mitigate any risk resulting from the new schedule.

Of course we are here today to answer questions on how our investments in ERPs are supporting our efforts to achieve auditability. While the Department is committed to achieving auditability in a legacy environment, deployment of ERPs makes this goal easier to reach, more affordable and is critical to sustaining any audit ready environment.

The Department has three IT efforts that contribute to audit readiness success. The first, Navy ERP provides improved financial discipline, improved accuracy with automated entry of key data fields and an audit trail associating users and electronic documents with transactions. It provides a single system for budgeting, funds availability, and execution across all major acquisition commands.

In addition to financial controls, it results in single data source with common data structures, standardized processes and improved compliance across these commands.

The second is our future personnel and pay solution which is on track to better support our financial improvement plan. After reset the effort in order to reprioritize the business problems it was developed to fix. Instead of a big bang solution delivering the long term future date we have reworked the plan to develop incremental capabilities so as to address our most pressing problems first.

Financial improvements are in the highest priorities in this new construct and the financial management community is much more integrated into this effort than it was before.

The third is the Marine Corps global combat support system. It is currently deployed to 7700 users and is demonstrating business value in several areas. For example, the time to first supply status, the primary measure for logistics responsiveness has been reduced from over 24 hours to an average of 1.5 hours.

Additionally, order shipment times have been reduced by 29.1 percent and maintenance repair cycle time has been reduced 48.5 percent.

But systems and technology alone, of course will not get us to clean audit statements. It is just as easy to automate bad processes as good ones and the work of improving our processes, standardizing our data and enforcing our controls is where we will meet success. And it is in these efforts that the DCMOs and the comptrollers are most closely aligned. Those goals the financial management community needs to accomplish in order to achieve financial improvement are in complete sync with the steps the business transformation community needs to take in order to make our busi-

ness operations as efficient and effective as possible in support of the warfighter and as good stewards of taxpayer dollars.

Thank you, and I look forward to your questions.

[The prepared statement of Mr. Fanning can be found in the Appendix on page 47.]

Mr. CONAWAY. Thank you, Mr. Fanning.

Mr. Tillotson.

**STATEMENT OF DAVID TILLOTSON III, DEPUTY CHIEF
MANAGEMENT OFFICER, U.S. AIR FORCE**

Mr. TILLOTSON. Thank you, Mr. Chairman, Mr. Andrews and members of the panel. It is a privilege to be here today to talk to you about the Army or pardon me, the Air Force's ERP systems—I will talk about the Army's systems, too—and the impact on our progress towards auditability and financial readiness.

The implementation of the enterprise resource programs, which my colleagues have already discussed, is an essential implementation step in achieving the audit readiness goals.

Having said that, the Air Force leadership recognizes that IT systems alone do not actually get us to audit readiness. We also have to address management challenges, process controls and the kind of things Mr. Chairman, you addressed in your opening question.

For the Air Force in particular, that will become a very relevant question because as this panel is well aware, the Air Force schedules for achieving audit readiness tended toward the end of the objective period.

So the goal that Secretary Panetta has recently set will cause us to fundamentally relook at our strategies going forward. And the result of that will be to not only consider what we are doing with the ERP deployments but we are going to have to go back and reconsider legacy remediation as well as increased process controls. And that work is under way as part of the 60-day planning cycle that the Department's—the DOD Comptroller has laid in place.

I have submitted to the panel my written testimony a summary of the three Air Force ERPs that span financial supply chain logistics and human resource management, those systems are the Defense Enterprise and Accounting Management Systems, DEAMS, the Expeditionary Combat Support System, ECSS, and Air Force Integrated Personnel and Pay System.

DEAMS will replace nine legacy systems. It is operational, at Scott Air Force Base. In its first instance, it has actually achieved its second end-of-year closeout, much better than I will report from the previous years.

More importantly from a mission execution point of view and a benefits point of view it has begun to point to the kinds of things that that GAO has suggested we should be finding all the time as we improve audit controls. We have reduced our interest penalty payments which were in fact substantially reduced previously, but we have maintained that record with the new deployment. More importantly, we have highlighted overaged, unmatched disbursements and delinquent account receivable, all of which was good financial management practice and would improve cash flow within

the Department so we are seeing the benefits at least at that base and certainly to expand that out to make that more significant.

ECSS, our logistic and supply chain system, is targeted to underpin a wholesale transformation of our logistic supply chain and maintenance processes. This is a very ambitious project. It is scheduled to replace 240 legacy core systems and ranges from depot level activities, wholesale supply down through flight line maintenance kinds of activities.

Having said that, we have recently undergone some programmatic issues with the ECSS program. We reported it to Congress at the beginning of the year, a change in this program. We have since had to address changes since that report because of program performance. So on a positive note, we have implemented the kinds of management direction that the GAO has suggested back in their November 2010 report for providing better oversight of the ERP program execution. The bad news is when you have bad execution then you have to actually go back and adjust your plans. So we are in the process of doing that.

Bluntly, the re-plan for that is still underway, we report back to the Department by next month, by November. We would be reporting back out more publicly in the December time period about a way ahead for the ECSS program.

The Integrated Personnel and Pay System will integrate 105 personnel and pay processes. We have mapped those quite extensively. We are actually in the early phases of that program. We are in the process of generating the request for proposal that is due to go out here in the next 30 days or so, and we are anticipating a contract award on that program sometime in the Spring/Summer of next year. And that is on schedule so that is not a revised schedule, that is the current schedule for that program.

It will replace ultimately nine legacy systems. Within the Air Force, the Chief Management Officer, the Under Secretary and the CFO [Chief Financial Officer] partner closely on all auditability goals and business transformation goals. And in fact at my level, I co-chair panels with Dr. Morin, our CFO, and recently in our audit acceleration process, it will be me and one of his key directors who will co-chair the acceleration process. So we are coupled at the hip from our point of view on the auditability goals.

And I thank you for the time.

[The prepared statement of Mr. Tillotson can be found in the Appendix on page 54.]

Mr. CONAWAY. Thank you, Mr. Tillotson.

Mr. Khan.

STATEMENT OF ASIF A. KHAN, DIRECTOR, FINANCIAL MANAGEMENT AND ASSURANCE, GOVERNMENT ACCOUNTABILITY OFFICE

Mr. KHAN. Thank you Mr. Chairman, Mr. Andrews, members of the panel, good morning. It is a pleasure to be here today to provide a perspective on the status of DOD's business modernization.

Effective implementation of enterprise resource planning systems is a key in DOD's efforts to reach auditability, to be audit ready and to be audit ready by fiscal year 2017, and now, as you have discussed, to meet the interim goal of preparing an auditable State-

ment of Budgetary Resources by a new department-wide date of 2014, as Secretary Panetta recently announced before the full Armed Services Committee.

Today I will summarize three conditions holding back DOD from achieving its goals in ERP implementation.

First, I will discuss the problems in scheduling and in estimating costs. Second, gaps in functions the systems are able to perform. And finally, a lack of compliance with standards.

My statement today is based primarily on our prior work.

First, scheduling and costs. In October 2010, we reported on 10 ERPs that DOD identified as critical in transforming its business operations. Our review of DOD's data found delays in implementation of these systems ranging from 2 to 12 years. Five systems had incurred cost increases totalling an estimated \$6.9 billion.

In our detailed analysis of four ERPs, we found that the development programs for these systems had omitted certain elements of risk analysis called for in scheduling and cost guidelines issued by DOD, GAO or OMB [Office of Management and Budget].

The DOD IG reported in 2011 that, in estimating \$2.4 billion in¹ costs for implementing its general ledger ERP, GFEBS—Army had not identified all the project's requirements and costs. Had they all been included, the costs might have been significantly higher.

Unreliable schedules can increase costs with additional time and rework needed before the system is fully functional. And as costs for ERP rise above estimates, funding is extended for the legacy systems that cannot yet be replaced.

Second, gaps in functionality. We found significant gaps between needed ERP functions and those delivered. In November 2010 we reported that Army's Logistics Modernization Program, LMP, had not fully developed the capabilities that LMP needed to perform certain basic logistical tasks. For example, maintaining accountability for ammunition.

Officials of the Joint Munitions and Lethality Life Cycle Management Command told us in contrast to the systems LMP was slated to replace, LMP did not enable staff to record the shipping, receiving or transfer of ammunition to another site. Army, to compensate, had planned to hire 172 additional personnel to perform manual data entry until the software could be modified to perform the required functions.

In preliminary results from an ongoing review, we also found problems in our Army GFEBS and Air Force's general ledger system, DEAMS. For example, financial personnel had to devise manual workarounds because of deficiencies in ERPs' ability to accept data directly from other systems, including two-thirds of the data from an invoicing and receiving system. Such manual workarounds are cumbersome, error-prone, expensive and ultimately not sustainable.

Army and Air Force officials told us that they have plans to address the issues that we raised.

Finally, lack of compliance with U.S. Standard General Ledger. To be efficient and effective as a financial management tool, an

¹The written testimony did not include the word "additional" in the sentence. GAO confirmed that the word "additional" should be deleted from the transcript.

ERP must be able to process information according to accounting and financial reporting standards, a basic requirement for consistent reporting of financial information and the preparation of financial reports.

But in November 2010 the DOD IG found that after more than 10 years in development and a cost of \$1.1 billion, Army's LMP system was not compliant with the U.S. Standard General Ledger. For example, the Standard General Ledger contains 11 budget records related to contract authority for working capital funds, but LMP contained only three. As such, as a result it was not recording all the data needed for the Statement of Budgetary Resources.

With a history of slow-moving improvement programs that fall short of their goals, DOD now faces the additional challenge of responding to urgent fiscal demands and serious deadlines. DOD leadership has taken encouraging steps toward positive change. But in order for DOD to achieve its goals, it is critical that leadership sustain its commitment to progress and its involvement in oversight to ensure that capable systems and effective processes are established throughout the Department.

Mr. Chairman, Mr. Andrews, members of the panel, this concludes my prepared statement. I will be happy to answer any questions. Thank you.

[The prepared statement of Mr. Khan can be found in the Appendix on page 62.]

Mr. CONAWAY. Thank you, Mr. Khan.

We will start our questioning with Mr. Todd for 5 minutes. Todd? Oh, Mr. Young, excuse me. Todd?

Mr. YOUNG. Thank you, Mr. Chairman.

Thank you to all of our panelists for being here this morning bright and early. I think we will, I am certainly hopeful we will have all the leadership at the highest levels in the Pentagon, especially with Mr. Secretary's recent indication that we are going to accelerate this whole process. And I know that that will probably be a great point of focus for this working group in the future trying to figure out the implications that has on all aspects of this larger effort. So, I look forward to that.

Ms. McGrath, I know that many years of effort and millions of dollars were invested in an effort to put together a department-wide integrated personnel and payment system, and that that effort wasn't successful. Ultimately there were some complications, some challenges. And instead the military services pursued their own integrated personnel and payment systems.

First, why did that effort fail? And then secondarily, what sort of lessons were learned? And how might those lessons help us as we move forward in developing these ERP systems?

And after you are done, if anyone else would like to add, that would be welcome. Thank you.

Ms. MCGRATH. So the system that you are referring to, the Defense Integrated Military Human Resources System, commonly referred to as DIMHRS, within the Department provides an opportunity for us to learn many lessons. And I think a lot of the opening statements—you have heard some of those lessons actually being conveyed in the opening statements.

The challenges that were identified in DIMHRS implementation started with data. To Mr. Andrews' comments earlier, all about the understanding the authoritative source of the data. How clean is it? Who defines it? So, that we had consistency not only within the components, but across the defense enterprise.

We are not standard across the defense enterprise in the military pay. The way we define certain things like leave, and it is just not standard. And so what DIMHRS was also looking to do is not only pay but achieve standardization of data, processes.

We don't have consistent processes in this space. And so in order to successfully implement a solution, an IT solution, the fundamental aspects of both process and data had to be achieved. And I think that as that system, and Army was the first Service identified for implementation, and we learned through testing, that the Army had a lot of challenges in their data.

And I'll say have heeded that lesson. And so the first aspect of their integrated purse pay solution is establishing the authoritative data within the Army that will feed, I will say the rest of the business processes. And so I would say not only did we learn it, but it is being applied in the Army's integrated purse pay solution.

Now, governance too——

Mr. YOUNG. Could I stop you there just to clarify? I was a management consultant for a period of time, and I tend to focus on business process redesign because the whole ERP systems was an area a bit abstruse for me. But I know the two are very much related.

And one challenge to adopting a department-wide system, it sounds like you are saying, was the difficulty of getting the different services, say, to recognize different pay categories by the same names or to change certain processes. Is that incorrect?

Ms. McGRATH. It is processes. Again, with good reason we execute differently across the military departments. And so to then bring all that into a single solution adds complexity and challenge. And so the getting a standard definition of an end-to-end process, and there are many within an integrated purse pay solution because you are dealing with how do I calculate entitlements, to how do I pay?

Mr. YOUNG. Right.

Ms. McGRATH. And so it is processes across the Services. It is also then the governance required to actually enable those process definitions to happen. Cross-functionally, if you will, you need the personnel folks and the pay to then decide you know how do we come up with a single end-to-end process to effectively execute this business?

Mr. YOUNG. Okay. So, you know maybe we will talk offline here. I think my time is expired. But I would be interested in some of the lessons learned, how you are going to apply them to future success. So, thank you.

[The information referred to can be found in the Appendix on page 99.]

Mr. CONAWAY. Mr. Andrews.

Mr. ANDREWS. Thank you.

Mr. Khan, the GAO looked at the 10 ERPs. And my understanding is that six of them had delays ranging from 2 to 12 years

in implementation. Does that mean the other four were on schedule?

Mr. KHAN. Yes, sir. At least as of last year, from the information we were provided the other four were——

Mr. ANDREWS. So, this is in the 2010 report.

Mr. KHAN. Correct. Yes.

Mr. ANDREWS. And then on cost that 5 of the 10 were generating cost overruns, aggregating the \$6.9 billion.

Mr. KHAN. That is correct.

Mr. ANDREWS. Does that mean the other five were within budget?

Mr. KHAN. Well, we didn't have information for the others.

Mr. ANDREWS. So, we are not sure about that?

Mr. KHAN. We are not sure about those ones.

Mr. ANDREWS. Okay.

I just want to look at GFEBS for a minute. Mr. Lewis, I am not picking on GFEBS, but there is frankly more data about it. So, I just want to kind of walk through this.

The history of GFEBS is that it starts in 2004, right, Mr. Khan?

Mr. KHAN. Correct.

Mr. ANDREWS. When was it originally supposed to be fully fieldable and implemented? Mr. Lewis, do you know? I know you weren't there to—believe me, I understand you walked into this story in the middle and not the beginning, so I get that. But when was it supposed to be done?

Mr. LEWIS. I don't know that date. I do know it was some years before that.

Mr. ANDREWS. Before now. It started in 2004, right?

Mr. LEWIS. Right.

Mr. ANDREWS. That is when the—okay. Mr. Khan, do you know? Maybe if you just supplement the record for us.

Mr. KHAN. I will do that.

[The information referred to can be found in the Appendix on page 99.]

Mr. ANDREWS. How much of the \$6.9 billion in cost overruns is attributable to the GFEBS?

Mr. KHAN. That was one of the systems where we didn't have data, the cost overrun data for GFEBS at that point in time.

Mr. ANDREWS. Okay.

Mr. KHAN. That doesn't mean that there aren't any cost overruns——

Mr. ANDREWS. Well, let's look at the projection. If I understand this correctly, that the GAO report says that there is an estimate of a \$2.4 billion cost to finish the program——

Mr. KHAN. Correct.

Mr. ANDREWS. But you have some doubts about whether that is accurate. What is the cause of those doubts?

Mr. KHAN. Because not all the aspects what goes into building up a cost were considered when those estimates were developed. And I am reporting this information per the—what the IG had reported earlier on this year.

Mr. ANDREWS. If you had to give a professional judgment as to what you think the cost will turn out to be, you think it is higher than 2.4?

Mr. KHAN. I would imagine so, just based on some of the problems that I have highlighted in my oral statement.

Mr. ANDREWS. Do you have an opinion about how much higher it is going to be?

Mr. KHAN. I would not guess at this point in time.

Mr. ANDREWS. When are you next scheduled to go in and examine that program?

Mr. KHAN. As part of our ongoing work we continue to look at these systems. We will be following up on our prior recommendations.

Mr. ANDREWS. Now, Mr. Lewis, as someone who served both in uniform and the civilian sector, thank you. I would be interested, if we could wind the clock back to before GFEBS got started, knowing what you know about where we are now in terms of delay and potential cost overruns, how would you do it differently? If you were working with a blank slate of paper—sheet of paper, excuse me, and could take us from the beginning of this idea, this enterprise system, where we are now, what would you do differently?

Mr. LEWIS. Mr. Andrews, thank you for that question. With these systems, as all systems, it has been alluded to and referred to in some of the statements here this morning starting with a good requirement. You have to get your requirements down and what do you want that system to do.

Mr. ANDREWS. In this case did we—was the requirement over-inclusive, underinclusive? What did we do wrong on the requirement in this case?

Mr. LEWIS. Anecdotal—this conversation—on paper, but we didn't have all the requirements, all the interfaces. Remember, our ERPs in the Army were all started at a different time, mainly for functional purposes. And the good news is that the three of them are SAP-based and so now—

Mr. ANDREWS. So we were underinclusive in our requirement process? We didn't ask for all the stuff that we needed.

Mr. KHAN. Is that part of the reason we have the present problems that you observed about this manual entry of data that I read about, which seems to be—must be an enormous hassle for the men and women who work—is that the reason why we have that problem do you think?

Mr. KHAN. I mean that is part of the issue that we had highlighted, that the requirements up-front have not been correctly ascertained. So once the development progresses, additional requirements come to light.

Mr. ANDREWS. Now, Mr. Lewis, this is not a rhetorical question, but it—why do you think we got the requirements wrong? How did we mess that up?

Mr. LEWIS. Well these systems, as you know, are very complex and nobody has a—you know, all the knowledge on this and they are incrementally developed. And as we rolled them out, you know, we got—thank goodness we got most of it right, but there are that around the fringes that everybody talks here and we just have to pull those back in as we go along.

And things grow over time. Technology changed over time—

Mr. ANDREWS. Yes.

Mr. LEWIS [continuing]. So the more—

Mr. ANDREWS. My time has expired. I will just mention to the chairman that the work that we have done together on procurement, that this is an echo what we are hearing this morning that—the good work the GAO has done on cost overruns in major weapons systems generally that—in my view the main part of that story is getting the requirements wrong consistently.

And you know, we all blame the contractors and sometimes they deserve it. But sometimes we need to blame ourselves because we keep changing the requirements on people and it tends to create these cost overruns so I—if I could do one—I will answer my own question—if I could do one thing in this area, it would be to figure out how we could all get the requirements consistent and right more often in this process. I think it would help us. Thank you.

Mr. CONAWAY. Thank the gentleman.

Mr. Rigell, 5 minutes.

Mr. RIGELL. Good morning and welcome to everyone. Thank you Mr. Chairman for holding the hearing and good to see my colleagues this morning. It is a very, very big topic and some of my question is more to help me just simply understand the issue as much as it is to maybe provide guidance here. But Ms. McGrath, could you help me to understand, if we had for example a matrix chart and on the vertical column was the different functions.

For example, transportation, supply, maintenance, engineering, payroll and then across the top of the matrix was the different Services, could you tell me where there would be alignment. For example on compensation, is there a common vendor? Have we tried to seek a common vendor to help with compensation almost specialized in that? Or is the work of these ERPs and our vendors more by service and—I am trying to understand the degree to which the DOD has sought commonality between different functions and vendors.

Ms. MCGRATH. So, I think we are more trying to define common standards across the enterprise and then acquire solutions that will help enable implementation of the common standard vice, buying one solution that has standards embedded in it that we then all use. Because then that allows for competition, certainly if the Department is defining its business standards and processes and then publishing—

Mr. RIGELL. Okay, so we—

Ms. MCGRATH [continuing]. Vendors can—

Mr. RIGELL. And it makes sense as big as DOD is that we have more than—certainly more than one vendor helping us with pay issues for example across different Services. But then that leads to, to what degree are we seeking like best practices from one, if we are having real success. This company has really got this down, they are doing really well. Do you all meet together on a regular basis to say, “Hey this company X is doing a great job for us. They are on track. They have got a low cost solution.”

Ms. MCGRATH. Certainly we use past performance and data in awarding contracts, but I think that the lessons learned in sharing, especially in these ERP—big ERP programs is we do have venues where we bring all of the ERP program managers together to identify lessons learned in terms of implementation. There are network

issues. There are standard issues. We certainly understand the measures we are putting in place.

Not only with the vendor but with ourselves in terms of, you know, best practices and lessons learned. We are adopting those, embedding them into the oversight, not necessarily looking at one particular vendor's performance.

Mr. RIGELL. Well, I have been impressed by the—really the quality of the people that I have interacted with in my short time here. And I am sure you are doing that. I have learned in life that you really can't over communicate and getting people together, sharing best practices is just a terrific way to improve performance, so I just encourage you to pursue that.

In the 2 minutes that I have left, Mr. Khan I wanted to shift over to you sir and to ask you—I wanted to follow up on some comments that were made by the Ranking Member, Congressman Andrews, and—related to some of the ERPs are on track, a few aren't. Let's talk about—I wish I had time to talk about the successes. Let's talk about the ones that are having trouble.

Is there any commonality among those? Is there a company that is giving us a bumpier time than others? Could you explain that to us? Give us a—just a quick overview?

Mr. KHAN. The commonality primarily is in requirements—requirements management, collecting requirements, up-fronts and how those requirements are actually developed into the system itself. So that is the—

Mr. RIGELL. So it is more our side—it is more the government is that—I want to make sure I understand your point here. Is it more that we have not been clear? It is almost like a change order on a house. You start remodeling your house and the builder gives you a certain date and you go, no I really want to do this and you start doing change orders and you are off-track.

Mr. KHAN. That is correct, but it is hard to distinguish whether it is the government's issue or the contractor issue because for the most part, teams usually are integrated to be able to collect this information. I was just answering your question that the—one of the major issues that we—when we were doing our work we found was the up-front requirement collection was a problem.

Mr. RIGELL. Okay. Well in the 20 or so seconds that I have left, I just would encourage all of you to, you know, to reward those who are doing good work and to hold accountable those who are not. And that has to be brought into our procurement process, evaluation of vendors and I—as time goes on I would like to—for us to explore and see and identify those companies that are not performing as well and understand why.

Thank you. I yield back.

Mr. CONAWAY. Thank you gentleman.

Mr. Ryan, 5 minutes.

Mr. RYAN. Thank you Mr. Chairman. I just kind of want to piggy back a little bit on where the discussion just went as far as it sounds like the crux of it is incentives or can be incentives. Whether you are talking about the scheduling and the cost like Mr. Khan was talking about, or the lack of compliance. Can you help us identify some carrots and possibly some sticks that we need to look at in order to expedite this?

Especially when you are talking about the scheduling and the cost. You know, as we are moving into austerity I guess and cuts within the military, and every other program across the board, I think it is important for us to know early on what the exact numbers are. So, Mr. Khan can you give us some advice from your vantage point going through this with a fine tooth comb on what some carrots would be and what some possible sticks would be?

And then Ms. McGrath, too, if you could comment on that?

Mr. KHAN. Yes, sir. One of the key aspects is additional oversight, especially as far as investment management is concerned to make sure that a particular project, especially ERP development doesn't go forward, until they are meeting the initial requirements, or the requirements of a particular phase. That is where government and oversight becomes critical.

Mr. RYAN. What would the numbers look like? What investments would we have to make into that kind of oversight? How many people would we need for example?

Mr. KHAN. I mean that is hard for me to say. I think we have got the structure in place now with the CMOs at the various components itself. There is a government structure in place under the leadership of the DCMO who are providing this oversight at this point in time. Other than that, I think as we go along it will be—I mean just the results will speak for themselves whether the projects are moving forward and what the results are.

Mr. RYAN. So we have the manpower in place to be able to do this?

Mr. KHAN. I cannot answer that question. We haven't looked into that.

Mr. RYAN. If anyone else on the panel would like to comment on that?

Ms. MCGRATH. I would be happy to. So I think the shift over the last couple of years, in particular with all the tools that Congress has given us in terms of oversight and architecture development, investment review boards, the chief management officer, legislation and the business process re-engineering, have all helped in terms of enabling better execution of these programs.

Another shift that has happened is that previously it was just the acquisition team, the acquisition oversight, the service acquisition or component acquisition executives looking at the, you know, is the program doing cost, schedule and performance. With the introduction of the CMOs and in particular my role with the acquisition oversight for these programs coupled with the investment reviews, you actually have everybody at the table who needs to be at the table to understand the impact of this particular—a particular investment.

So you have got all the functional areas represented. You have the corporate business, you know, the folks at the table here represented to say, you know, how does this thing fit into my broader business conversations? So I actually do think if you looked over the last 2 years as opposed to the last 10, I would hope that you would see actually more implementation of systems, delivering capability closer to on time and at cost than they had been previously.

Because we better understand, you know, the implementation aspects from a much broader perspective. Another lesson learned frankly, to get back to a couple of questions is the requirements piece. I mean that is the thing that bites us every time. And part of what we have learned is we overrequire. We think this is the only time we are ever going to have a shot at putting all the requirements in so the programs are big and complex.

And part of the business capability's lifecycle is a different acquisition approach, if you will, to IT and business is to say, okay we know you want sort of this big thing, but can you chunk it such that we can, you know, talk about it in smaller terms and deliver it in smaller—understanding that it is incomplete when we first deliver it, but it is part of the broader plan.

And I think part of the better buying power initiatives that AT&L [Acquisition, Technology and Logistics] and Dr. Carter have been promoting and part of the broader business is to figure out, you know, how do we structure the contracts using the right balance of incentive fees and firm fixed price versus time materials? I mean, we sometimes issue a firm fixed price contract when the requirements aren't yet baked enough to really communicate to the vendor what it is we want.

And so I think it is a balance of I am going to say all those things that we are really embedding into this entire conversation. And so you see—you will see changes in the way that some of the contracts—ECSS is actually a very good example from a contracting perspective.

And so yes, I do think we have the oversight. And I would hope that if we did look from a shorter term that progress would be much, much better than it has been from a 10-year cycle. And I do think that it is every aspect that is required to make it better.

Mr. RYAN. Thank you.

Thank you, Mr. Chairman.

Mr. CONAWAY. Thank the gentleman. Again, thank you everybody for coming this morning. I want to make sure we try to get as much of everybody as we can. Talk about a statement.

Mr. Lewis, the GFEBS and the rollout, one of the things that we have been told is that legacy data, or much of the data from the legacy systems won't necessarily be converted into the GFEBS systems for some period of time. Can you help us understand the—is that—obviously a planned decision. But from a manager's standpoint, a cost standpoint is that the most effective way to manage that transition over time?

Mr. LEWIS. Mr. Chairman, thank you. We would like that transition, as this was the first year that we closed out with using GFEBS. We would like all that to be seamless and electronic, but there are some interfaces that need a little extra help, that need some manpower to make that data move over. We have got eyes on target.

That is one of those things, as Ms. McGrath said, large, complex systems, as we get experience using these systems we got to fix that. But yes, we would like to have it all be inputted into GFEBS and be resident in there, be manipulated in the system. And that also—

Mr. CONAWAY. But are you tracking—is there enough pressure from the cost of maintaining legacy systems that are extra to the system to make sure that you do in fact move everything as expeditiously as possible into GFEBS?

Mr. LEWIS. Oh, most affirmative. In an era here of declining resources, everybody is after legacy systems, lots of people, budgeters, programmers, those of us in the functional management types, and the people that run the systems. The pressure is on there. We have them scheduled. As soon as they are certified, the system certified they can handle it, we will take the legacy and shut it down.

Mr. CONAWAY. All right.

Mr. Tillotson, the stop order for the—your ECSS program, especially your comments I was going to ask a question relative to that, but apparently you are going to have more information on that next month. One of the carrots in this thing is savings associated with doing things better, doing things quicker and faster. And you have got an estimate out there for almost \$3 billion of savings over a 10-year period once these things are implemented.

Present value of those savings get smaller and smaller as that 10-year window gets beyond the 2017 date. Can you visit with us about where you are in terms of the 2014 date? Could you get there by 2017?

Mr. TILLOTSON. So, from a broad Air Force point of view, the 2017 date, as Dr. Morin reported I think to this panel some weeks ago, is a moderate risk state for the Air Force as a whole for the total audit readiness condition. For the statement of budgetary resource we are aggressively looking now at what changes we need to make.

As I indicated in my opening remarks, because of ECSS program performance even before the 2014 mandate from Secretary Panetta we were having to reconsider a mix of legacy process and ECSS deployment in order to stay on track to meet the audit goal, even at 2017. So, we will be doing more of that as we go forward.

So, monthly we are looking at all of the above, and we actually have done a very detailed deep dive on this.

Mr. CONAWAY. Okay. Thanks, Mr. Tillotson.

Ms. McGrath, given the things that are going on with the Air Force, where in that broad array of organization chart, is the Office of the Secretary responsibility for watching what the Air Force is doing and understanding what they are—watching what the Army is doing with respect to that. Is that your office that will be monitoring and helping us with the oversight? Where does that oversight lie within your system?

Ms. MCGRATH. With the acquisition—milestone decision authority for all but the logistic systems resides with me. And then for the logistic systems like ECSS and some of the GCSSs that you have heard today, they are within AT&L. And then I run the subordinate body. But all of them come into the Investment Review Board. And so it is both the Investment Review Board and the acquisition oversight. Again, most of them are with me, the logistic systems are with AT&L.

Mr. CONAWAY. Okay.

We have heard across the panels at some of these hearings that performance evaluations next year will be somewhat driven by success against getting this done. Is that—is a similar—we are looking forward to seeing how that works. I wanted to hear your comments about what your perspective is on that. But is the responsibility for watching, for the lack of a better phrase, Mr. Tillotson and Mr. Lewis' efforts is that a performance requirement with whoever that performance review, whoever that Investment Review Board is. Because the point is, if everybody is in charge of something then nobody is in charge of it. And so comment first on the individual performance review standards particular within the system on getting the details, but also on the folks who are watching it to make sure that they are held accountable for their role as well.

Ms. MCGRATH. I think as we testified when Mr. Hale and I were here last time we ensure that audit readiness is part of the strategy of the Department. It is in the strategic management plan that we just recently released. Also in the Department's organizational guidance, which establishes the priorities for the Departments, which are cascaded into performance plans, which is why it is important.

So, we have measures from a strategic perspective that cascade throughout the Department. And then we report on those on a quarterly basis. How is it going with regard to, you know, the Statement of Budgetary Resources or some of the milestones identified in the FIAR plan. And so institutionally we have those baked in, which I think is extremely important.

Also, we are looking at cost schedule and performance of these ERPs, and also how they achieve the business goals. That is done through I think multiple governance bodies, not the least of which is the FIAR governance body that both Mr. Hale and I co-chair, and also from an acquisition perspective. Some of the things I just mentioned, do we have the right contract strategy and those kinds of things. And so it is both the investment review, acquisition oversight and the overarching total performance.

Mr. CONAWAY. Okay.

Ms. MCGRATH. Your face says I didn't answer your question.

Mr. CONAWAY. Well, yes. Part of it is just as you mentioned baked into the system. If you looked at the organization chart, and we have had this conversation before with others, there is nobody in charge. But the whole package, other than Mr. Panetta.

I guess we will just have to hold Mr. Panetta in charge because if you look at the way it is bifurcated, you have got the audit responsibility going this direction. You have got ERPs under a different group of folks. And so I am having a hard time figuring out who I need to hold accountable other than Mr. Panetta to make this thing work. And so, there are a lot of folks who have a little piece of a bunch of it.

Ms. MCGRATH. Well, I think that is both part of the challenge and the opportunity is that achieving a clean audit is not just one person or one organization or one functional area's responsibility. It really does take the Department—

Mr. CONAWAY. I understand that part. But—anyway.

We have got—left. Do you want to do another round, Mr. Andrews?

Mr. ANDREWS. I do. More than a question I have a suggestion. And that would be before the full committee begins its deliberations on next year's authorization bill, we should get this year's done first. But before we being our deliberations on next year's authorization bill, I think it would be helpful if the GAO would revisit its review of these 10 systems so we would have in front of us—

Mr. CONAWAY. Mr. Khan, you didn't actually—you said you would do it. Is there something on the books right now to update your November 10 analysis?

Mr. KHAN. No, not specifically. What I meant was that as part of our recommendation follow up we do—

Mr. CONAWAY. I understand. But you don't have a—

Mr. KHAN. I do not, no.

Mr. ANDREWS. I would like us to be in a position when the full committee considers the fiscal year 2013 authorization bill that we have the current state of play with these 10 systems as to where they are, where they are going so that any resources we need to add to try to make them succeed or subtract because they are not succeeding, we could make an intelligent decision about that.

I mean, I come back to the beginning of this that I think Secretary McGrath said this. This is the glue that holds this whole thing together. And you know we have some problems here.

And I think in order for us to assess how to best address those problems I would like to think the committee would benefit from a current state of affairs, as stated by the GAO, before we get to the decisionmaking phase in next year's bill. So, that would be my suggestion to the chairman if we could accomplish that.

Mr. CONAWAY. All right—

Thank you for coming this morning.

You know, part of the oversight role is to not second-guess and Monday morning quarterback too much. It is clear that you are looking at the personnel system for the entire Department of Defense. You know in hindsight that might have been clearly too big of a project to try to make happen and busting it up into smaller pieces makes more sense. And we are doing those kinds of things. And so you are looking at the way—to see where the system—Department got to decide let's just do one.

You know, it is kind of intuitive to start with. But making it a requirement that the Standard General Ledger be a piece of the—be one of the things that comes out of it, I mean in the comments that Mr. Khan made that the logistics management piece, the LMP thing didn't meet the Standard General Ledger issues on the front end. I don't know how you missed that one.

So, we are going to try—you know, obviously that is water under the bridge and our focus really is from where we are today going forward. Unless there are some lessons to be learned about things that we have done.

But I appreciate the panel being here this morning. You guys do great work on behalf of the taxpayers of our country. And you have got a tough, tough job to make this all happen. And our role is to, again, try to not Monday morning quarterback too much, but at least try to help us understand so that we can communicate back to the folks who pay all our salaries that you are doing the best job you can with the resources you have got.

And so if there are no other comments, again, thank you very much for being here this morning.

This hearing is adjourned.

[Whereupon, at 9:00 a.m., the panel was adjourned.]

A P P E N D I X

OCTOBER 27, 2011

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

OCTOBER 27, 2011

Statement of Hon. K. Michael Conaway
Chairman, Panel on Defense Financial Management and
Auditability Reform
Hearing on
DOD's Enterprise Resource Planning (ERP) System
Implementation Efforts
October 27, 2011

I'd like to welcome everyone to today's hearing on DOD's Enterprise Resource Planning (ERP) System Implementation Efforts. In all of our previous hearings, regardless of the topic, the Enterprise Resource Planning systems were always an integral part of the discussion, whether the discussion centered around the skills needed within the financial management workforce, accountability of assets, or the controls needed to prevent potential anti-deficiency act violations. So, it is fitting that the Panel hold a separate hearing on DOD's Enterprise Resource Planning systems. Today, we will examine the scope of the ERP efforts, the status of the implementation of the ERPs, and their ability to improve DOD's financial management.

According to DOD, the successful implementation of the ERPs is a key element to addressing long-standing weaknesses in financial management and achieving audit readiness. Yet, GAO has reported over the years "that the Department has not effectively employed acquisition management controls to help ensure the ERPs deliver the promised capabilities on time and within budget." GAO has also reported that delays in the successful implementation of ERPs have extended the use of existing systems and continued the funding of these legacy systems longer than planned. The DOD Office of Inspector General noted in its testimony before the Panel on September 22, 2011, that "The development, implementation and effectiveness of these ERP systems are questionable at this point." With billions of taxpayer dollars at stake, it is critical that DOD take the necessary actions to ensure that the ERPs are successfully implemented.

The Secretary of Defense directed the Department to move up the audit readiness date of the Statement of Budgetary Resources (SBR) from 2017 to 2014. However, certain of the ERPs are not scheduled to be fully deployed until near or during 2017. In order to meet 2014, will the Department move up ERP deployment dates, make enhancements to existing legacy systems, improve manual controls, or some combination of the three? Also, will DOD need additional resources for this effort? We will be interested in getting some insight today on DOD's approach to accomplishing this goal.

One of the key responsibilities of the DOD Deputy CMO and Military Department CMOs (and their respective deputies) is to support business system modernization efforts in a manner that synchronizes these efforts with the financial improvement activities of the reporting entities. This becomes all the more important as DOD works towards achieving audit readiness of the SBR by 2014, while also keeping on track to achieve auditability on the full set of financial statements by 2017.

I would like to thank our witnesses in advance for their testimony and agreeing to be with us this morning. We have with us today:

- The Honorable Elizabeth McGrath, Deputy Chief Management Officer, U.S. Department of Defense;
- Mr. Mark Lewis, Deputy Chief Management Officer, United States Army;
- Mr. Eric Fanning, Deputy Under Secretary of the Navy and Deputy Chief Management Officer, United States Navy;
- Mr. David Tillotson III, Deputy Chief Management Officer, United States Air Force; and
- Mr. Asif A. Khan, Director, Financial Management and Assurance, Government Accountability Office.

Statement of

The Honorable Elizabeth A. McGrath
Deputy Chief Management Officer
Department of Defense

before the

House Armed Services Committee
Panel on Defense Financial Management and Auditability Reform

October 27, 2011

Embargoed until released
by the House Armed Services Committee

Chairman Conaway, Congressman Andrews, members of the panel, thank you for the opportunity to discuss the role of Enterprise Resource Planning systems (ERPs) in helping to achieve audit readiness in the Department of Defense. The importance of auditability to the Department was recently affirmed in Secretary of Defense Panetta's testimony before the full House Armed Services Committee, and his corresponding policy memorandum to the Department, on October 13, 2011. In each instance, Secretary Panetta underscored the importance of overhauling the way DoD does business in today's constrained fiscal environment. He also mandated the acceleration of certain aspects of the Department's financial improvement and audit readiness plan in order to ensure that we achieve the Congressionally mandated requirement to be audit ready by 2017 and continue to demonstrate good fiscal stewardship over taxpayer dollars. In his direction, the Secretary not only pledged his personal engagement in the achievement of this goal, but also noted that "auditability is a goal that every commander, every manager, and every functional specialist must understand and embrace to improve efficiency and accountability" within the Department.

While the Department has made substantial progress over the past two years to improve its business processes, financial controls, workforce, and defense business systems, we certainly recognize there is still a significant amount of work ahead of us to achieve and sustain auditable financial statements. The continued development and modernization of our business systems environment, including the implementation of ERPs, is an important component of our success. Many of our systems are old and handle or exchange information in ways that do not readily support current standards or record data at the transaction level, a capability essential to audit success. The systems were designed decades ago to meet Federal budgetary rather than commercial accounting standards and tend to be non-standard and sometimes do not include strong financial controls. As Secretary Panetta said, "While the Department's systems do tell us where we are spending taxpayer funds, we do not yet have the details and controls necessary to pass an audit."

The Secretary's mandate underscores the importance of the partnership that the Under Secretary of Defense (Comptroller) has formed with my office, the Military Department Chief Management Officers, and the Department's other functional business owners. Together, we are working to ensure that we effectively synchronize our broader business improvement efforts with the Department's audit readiness goal; this includes our business system modernization strategy.

Today, I'd like to highlight for you our efforts to implement ERPs, as well as the Department-wide business management efforts that are helping us achieve effective, agile and innovative business operations.

Enterprise Resource Planning Systems

Strategically, the Department is pursuing improvements in its business systems environment by appropriately implementing ERPs, modernizing legacy systems when necessary and supported by a business case, and aggressively sun-setting legacy systems that are obsolete, redundant, or not aligned with our business objectives. For example, the fielding of Navy ERP has enabled the retirement of 27 systems to date, with 69 more planned by 2016. Our goal is to deliver a streamlined, 21st-century systems environment comprised of IT capabilities that work seamlessly together to support effective and efficient business processes and operations.

The implementation of ERPs is a central part of our business systems modernization strategy because the design principles within an ERP directly enable key elements of auditability. Among those principles, ERPs are designed to handle transactions end-to-end, enforce process and execution standardization among implementing organizations, manage consolidated business data in a single repository that allows centralized access control, and facilitate the flow of information both within an organization and with outside stakeholders. These design principles within an ERP directly enable these capabilities essential to auditability:

- Traceability of all transactions from source to statement
- The ability to recreate a transaction
- Documented, repeatable processes and procedures
- Demonstrable compliance with laws, regulations and standards
- A control environment that is sufficient to reduce risk to an acceptable level

Today, DoD is developing and implementing multiple ERPs across the Military Departments and Defense Agencies to serve as the IT backbone of their financial and supply operations. Each of these implementations is at a different stage of its lifecycle and most have experienced challenges as they have moved from design to implementation. However, the Department has made notable progress over the past two years. Examples include:

- The Marine Corps has experienced operational success with their Global Combat Support System (GCSS-MC) and recently requested approval to accelerate deployment. GCSS-MC is a portfolio of systems that supports logistics elements of command and control, joint logistics interoperability, and secure access to and visibility of logistics data, which is a key aspect of achieving a clean audit. The program is currently deployed to 10,000 users and is demonstrating business value in several areas. For example, “Time to First Supply Status,” a primary measure for logistics responsiveness, has been reduced from over 36 hours to average of 6.2 hours at the units using GCSS-MC. Additionally, “Order Shipment Times” has been reduced by 2.9% and “Maintenance Repair Cycle Time” has been reduced by 6%.
- The Army’s General Fund Enterprise Business System (GFEBS) brings the majority of Army financial and real property management processes into a single system, integrates performance data and produces full costs. GFEBS provides real-time visibility of transactions, and produces financial accounting, cost and decision support information. It also enables end-to-end financial processes and provides a clear audit trail from the financial transaction to the originating event. GFEBS is deployed at 160 major locations, with over 38,000 users.
- The Navy Enterprise Resource Planning (Navy ERP) program achieved a final deployment decision and is currently deploying to the remaining sites within the Navy. Navy ERP is an integrated business management system that modernizes, streamlines, and standardizes how the Navy manages people, money, programs, equipment, and supplies. At present, there are approximately 66,000 users worldwide, managing approximately 47% of the Navy’s Total Obligation Authority. Navy ERP has enabled the retirement of 27 systems to date, with 69 more to be retired by 2016. This has garnered a realized cost avoidance of \$116M from FY08-10. The program is demonstrating business value in several areas. For example, the deployment of Navy ERP is enabling inventory reductions, real-time visibility of fleet assets, resources, and inventory, and improved financial management controls.
- Within the Air Force, Defense Enterprise Accounting and Management System (DEAMS), is successfully deployed as a pilot to 1000 users at both Scott AFB and Defense Finance and Accounting Service (DFAS) Limestone. The Air Force, in

partnership with DFAS, has successfully closed the accounting records for the last two fiscal years using DEAMS. DEAMS will manage appropriated and Transportation Working Capital Funds (TWCF) for the Air Force and provides an enterprise-level view of the financial data supporting decision-making at all levels.

Importantly, the Department recognizes that implementing ERPs is not solely an IT task, or even a financial management task. Implementing ERPs, or any new system, requires commitment from the most senior leaders within our Department, and often requires change of processes and policies to achieve successful implementation.

Enterprise Environment Improvements

Despite their inherent advantages, however, ERPs cannot achieve auditability for the Department without additional improvements to our overarching business environment. To achieve these broader improvements, we have placed significant emphasis in several key areas:

- Orienting the Business Enterprise Architecture (BEA) around end-to-end processes;
- Improving the usability and implementation of the BEA; and
- Improving business systems acquisition.

First, consistent with the ERP design principle of handling a transaction end-to-end, we have oriented our BEA and oversight processes around end-to-end business processes that support audit goals, including Procure-to-Pay, Budget-to-Report, Order-to-Cash and Hire-to-Retire. The BEA, guided by strategic Departmental priorities, is an integrated information architecture that provides a blueprint for business system modernization investments and is used to help guide and constrain our investments through the Department's governance process. The BEA defines the Department's future business environment, including the necessary data standards, business rules, performance metrics, and standard system configurations that will allow our systems to be interoperable. Department-wide application of the BEA will ensure that when data is exchanged between systems, it happens securely and maintains the integrity of the data.

Using this framework of end-to-end business processes, rather than an organizationally or functionally stove-piped approach, ensures that we think about our business in a holistic way, recognizing the connections and dependencies that each individual business area has on the others. From there, we can make targeted investments in IT systems – acquiring ERP systems or

other new systems, modernizing existing systems to bring them into compliance with our standards, and retiring legacy systems whenever they are no longer needed. This last point is important as it means replacing systems that do not support commercial audit standards with those that will enable Services and Defense Agencies to meet clean audit goals. This end-to-end approach will also help minimize the number of required data exchanges and system-to-system interfaces, thus reducing the potential for error and increasing the degree of process standardization, also essential to a clean audit.

Second, we are improving the usability and implementation of the BEA across the Department, consistent with industry leading practices. This will make it easier for the Department to ensure compliance with the BEA and interoperability between its systems, thereby enabling auditability. Through the next release of the BEA, we will apply open standards and protocols to architecture development, leveraging Semantic web technologies, common business process modeling approaches, and agile development methodologies. To implement these new approaches, I recently directed the Department to use these specified standards, and the end-to-end process framework, in the development of both the BEA and all subordinate Enterprise and solution architectures federated or asserting compliance with the BEA.

Third, we have taken steps to improve our current approach to acquiring and implementing business IT systems. The Department has created an improved acquisition model for our defense business systems, called the Business Capability Lifecycle (BCL), which is in use today for a growing number of programs and is an essential pilot effort for our broader IT reform effort. BCL is a comprehensive process that aligns the requirements, investment, and acquisition processes for defense business systems under an integrated governance framework and focuses on the incremental delivery of capability, within eighteen months of program initiation. This new, incremental acquisition approach will help put capability in the hands of the Department's users more quickly, including capability instrumental to our audit efforts.

In addition to improving acquisition policy, the Department is working to improve specific acquisition outcomes of its business Major Automated Information System (MAIS) programs through more rigorous acquisition oversight and investment review. This includes creating better outcome-focused measures of success for the implementation of specific ERP

programs, thus enhancing our ability to monitor progress toward clean audit goals. The Department is also tying business outcomes to acquisition milestones and specifically requiring that individual programs, such as Army's General Fund Enterprise Business System (GFEBS) and Navy ERP, define the role that they play in their organizations' auditability efforts and end-to-end processes. For example, in the June 24, 2011 GFEBS Acquisition Decision Memorandum we explicitly required that the Army:

- Obtain the Under Secretary of Defense (Comptroller) (USD(C)) and Department of Defense Deputy Chief Management Officer (DCMO) approval of the end-to-end process and system portions of the Army plan to achieve audit readiness by September 2017 as defined in Financial Improvement and Audit Readiness (FIAR) Guidance. Specifically, the Army plan must address the GFEBS role in achieving audit readiness in the work products defined in phases 1 and 3 of the FIAR Guidance Methodology.
- Obtain USD(C) concurrence that the end-to-end business systems and processes within Army control support auditable financial statements where GFEBS has been implemented and integrated. The USD(C) will rely on the opinion of an independent public accounting firm expressed in an examination of the Army audit readiness assertion of a GFEBS entity currently planned for December 31, 2012 and will allow for remaining minor system and process enhancements scheduled for completion within 12 months.

Another objective is to ensure our business systems are compliant with the Department's Standard Financial Information Structure (SFIS) and the United States Standard General Ledger (USSGL). To achieve this objective, the Department has initiated independent assessments of every applicable system. SFIS and USSGL provide a uniform Chart of Accounts and technical guidance for the standardization of the Department's agency accounting. Importantly, SFIS allows revenues and expenses to be reported by program, as opposed to appropriation, categories. Our assessments will look at the underlying systems' SFIS configuration, USSGL posting logic, ability to interface using SFIS, and financial reporting capabilities. This will ensure compliance with all appropriate SFIS business rules. Throughout these reviews we will continue to work closely with the DoD Inspector General, the Program Offices, and the Office of

the Under Secretary of Defense (Comptroller) to correct any deficiencies that have been identified.

Conclusion

Improved systems alone will neither eliminate our weaknesses nor guarantee auditable statements. Achieving auditability requires that we apply a consistent level of process controls across organizations and functional areas. The Department's senior leadership understands this and is committed to achieving our audit goal. This commitment is embodied by the panelists with me today from all of the Military Departments. We hear and are answering the Secretary's call to accelerate, and the Congress' call to meet, our audit timeline.

Mr. Chairman, this concludes my statement. I welcome your questions.



Elizabeth A. McGrath

Deputy Chief Management Officer for Department of Defense



Ms. Elizabeth (Beth) A. McGrath was sworn in as the Department's first Deputy Chief Management Officer, a Senate-confirmed and politically appointed position, on July 1, 2010. Ms. McGrath leads the Department's efforts to better synchronize, integrate and coordinate DoD business operations and serves as the Principal Staff Assistant (PSA) and advisor to the Secretary and Deputy Secretary of Defense for matters relating to management and improvement of business operations. Ms. McGrath is focused on achieving sustainable and enduring improvements and efficiency and effectiveness in the Department's business related enterprise policies, processes and systems. She also serves as the DoD Performance Improvement Officer and is responsible for formulating the legislatively mandated Departmental Strategic Management Plan.



Ms. McGrath serves as the Milestone Decision Authority for numerous business-focused Major Automated Information Systems (MAIS) and also executes the Department's primary governance body for business transformation, the Defense Business System Management Committee; establishes performance goals and measurements for the Department's business operations; implements the Department's Continuous Process Improvement efforts; and is the Vice-Chair of the Performance Accountability Council that is responsible to the President to reform the government-wide security clearance process. Her responsibilities require extensive integration and coordination across the Department as well as with many Federal agencies, such as the Office of Management and Budget, Director for National Intelligence and the Department of Veterans Affairs.

Previously, Ms. McGrath served as the Deputy Director for Systems Integration, Defense Finance and Accounting Service (DFAS) where she created a financial migration strategy that was executed with a collective budget of approximately \$1B. She managed the entire financial architecture supporting DoD-wide standard financial systems, integrating it with the Department's evolving target, enterprise architecture. Project scope included logistics, personnel, medical, acquisition and financial missions including many information technology solutions.

Prior to joining DFAS, Ms. McGrath served in a variety of program management roles culminating in Program Executive Office-level oversight responsibility. She possesses extensive knowledge of acquisition-related statutes, regulations and policies with over 20 years applied acquisition experience with Major Defense Acquisition Programs and MAIS. She served as the Business and Acquisition Manager on an international torpedo defense program with the United Kingdom and held numerous other financial, acquisition and program management positions within the Department of the Navy.

Ms. McGrath was awarded the Meritorious Executive Presidential Rank Award for Fiscal Year 2008 and the Office of the Secretary of Defense Exceptional Civilian Service Award in October 2008. She holds a bachelor's degree in Economics from George Mason University, is a graduate of the Federal Executive Institute, is certified Acquisition Level III in Program Management, Financial Management and Logistics and is a member of the DoD Acquisition Professional Community.

Statement of

Mr. Mark R. Lewis

Deputy Chief Management Officer for the Department of the Army

before the

House Committee on Armed Services

Panel on Defense Financial Management
and Auditability Reform

October 27, 2011

Embargoed until released

by the House Armed Services Committee

Chairman Conaway, Congressman Andrews, members of the Panel, thank you for the opportunity to testify today regarding the Army's efforts to implement its Enterprise Resource Planning (ERP) systems. This is an important topic in the ongoing discussions with regard to the efforts of the Department of Defense to achieve auditability by FY 2017, and I am honored to have the opportunity to represent the Army before your panel. Your Army senior leadership: the Secretary of the Army, the Chief of Staff Army, the Undersecretary of the Army serving as the Chief Management Officer (CMO) and I, remain committed to improving the Army's business systems that facilitate the financial processes and controls to assist in meeting the auditability requirements as mandated in law. In a period of declining budgets, efficient and effective use of our resources is paramount. Good stewardship of our Nation's resources is not negotiable.

The Assistant Secretary of the Army for Financial Management and Comptroller, the Honorable Dr. Mary Sally Matiella testified before this distinguished panel in September and reported that the Department of the Army would be audit ready by September 2017. I, too, believe the Army will meet that requirement by leveraging our business management forums to ensure that our Army ERP and supporting systems will support auditable business processes. The key leaders within the Department understand the necessity of this goal and are committed to reaching it on schedule. We are working with the offices of the Under Secretary of Defense (Comptroller) and the Department of Defense Deputy Chief Management Officer to clearly identify, communicate, and account for any adjustments we must make to meet Secretary Panetta's recent directive to have an auditable Statement of Budgetary Resources

(SBR) by FY 2014. Currently, we are in the 60-day period that Secretary Panetta directed we use to adjust our plans toward audit readiness.

Standardized processes, effective internal controls, and auditable, U.S. Standard General Ledger-compliant business systems will assist in achieving auditability. Having financially compliant systems with integrated automated controls is key to having Army business processes that reduce or mitigate financial risks. The Army Financial Improvement Plan (FIP) and Business Systems Information Technology (BSIT) Strategy complement each other to achieve this goal. A primary goal of the Army BSIT Strategy is supporting auditable financial statements. The Army FIP supports and synchronizes the deployments of ERPs by requiring independent financial audits of the Army's ERP systems as they are implemented.

The Army FIP is the Army's roadmap to achieving and sustaining a business environment that publishes auditable financial statements. The FIP aligns with the Office of the Under Secretary Defense (Comptroller) Financial Improvement Audit Readiness (FIAR) Guidance and documents the key control objectives to be met with both manual and automated controls, including corrective actions. The critical connection of our Financial Improvement Plan with our business systems strategy assures us that the development and modernization of business systems is synchronized with audit readiness requirements.

The Army is investing in modernized business systems which are centered around the fielding of our four Enterprise Resource Planning (ERP) systems. The Integrated Personnel and Pay System – Army (IPPS-Army) will consolidate personnel processes and management across the Active Army, U.S. Army Reserve and Army National Guard. This will enhance the management of Army military personnel in support of the Combatant Commanders while also

providing an authoritative source for personnel pay and entitlements. The Global Combat Support System – Army (GCSS-Army) will modernize logistics and supply management for tactical and installation units as well as consolidate reporting for all Army equipment. The Logistics Modernization Program (LMP) is already improving the visibility and reliability of national level depot maintenance activities within the Army Materiel Command. Collectively these three ERP systems provide support to Army readiness while also improving our financial reporting. The General Fund Enterprise Business System (GFEBS), our fourth ERP and backbone of our reporting system, unifies the financial reporting and management and controls across the Army. There is a close linkage between GFEBS, the Army's other ERPs, and multiple other Army business systems that provide feeder information to the ERPs. The Army's goal is to have a systems architecture consisting of business systems that are financially compliant with streamlined business processes that are effective enablers for generating unit readiness while being as efficient as possible. The ERPs are the nucleus for this environment, supported by a reduced number of legacy systems. The four Army ERPs are in various stages of deployment or development. The Army is experiencing successes and has achieved the requisite milestones in the fielding of business systems. First, we have fielded GFEBS, the general fund's business and accounting system, to approximately 38,000 users at more than 160 Deployment Sites, and currently have an independent public accounting firm auditing selected business processes and controls in the GFEBS environment. As of July 1, 2012, GFEBS will be fully fielded to all approved users and the Army will begin FY 2013 with the material balance of current and future general funds distributed and accounted for within GFEBS. The remaining ERPs will be

completely or substantially deployed in time to support the FY 2017 financial auditability timelines.

As an interim milestone, we plan to complete our internal assessment of GFEBS against Federal Information System Control Audit Manual (FISCAM) standards in December 2011, and conduct an audit examination by an independent public accountant in FY 2012 that will include an assessment of the system's access, process, and interface controls. The results of our FY 2011 FISCAM assessment and the FY 2012 follow-up systems audit will provide assurance that the GFEBS is able to fully support the Army's audit readiness goals well in advance of our FY 2014 Statement of Budgetary Resources assertion. In September, we began a similar FISCAM assessment of the Global Combat Support System-Army (GCSS-Army). We expect to complete this internal assessment in FY 2012 and will work concurrently to address any deficiencies we identify. The Army FIP calls for including GCSS-Army in future independent audit examinations in the GFEBS environment to ensure that the system supports auditable business processes. Currently, GCSS-Army is being operationally tested at Fort Bliss, Texas. GFEBS is also currently deployed to Fort Bliss. Finally, we are working with the program office for Integrated Personnel and Pay System-Army (IPPS-Army), the ERP that will support Army military pay, to provide an understanding of the system's auditability requirements and to make sure we can audit the more than \$50 billion in annual appropriations that will flow through IPPS-Army to the Army's SBR.

Continued investments in our ERPs along with improvements to enduring non-ERP feeder systems will be instrumental for reaching the FY 2014 (SBR) and FY 2017 (audit readiness) goals. The Army's planned activities and systems investments represent our path to

auditability. However, this does not mean we will completely avoid additional challenges. The Army recognizes areas in which we must make further improvements and will continue to identify additional areas throughout system deployments and audits.

Recent reviews of our ERP schedules and costs have focused on how each developing program supports financial auditability. Program delays or resource constraints will require adjustments as they occur; however, we are confident that our program schedules are optimized to support FY 2017 and our cost estimates reasonable. Unplanned delays or constrained funding may, in fact, cost more as the result of having to rely on manpower intensive and manual audit processes. The best course for the Army is to continue the current paths for GCSS-Army, GFEBS, LMP and IPPS-Army.

In summary, we have committed significant resources to developing and fielding our ERPs because we believe they are an essential element to transforming the way business is done within the Department of the Army and an important aspect to meeting the mandate to be fully auditable by FY 2017. The Army is making progress because of the robust support from our senior Army leaders and business process owners. As the Deputy Chief Management Officer, I am committed to this effort and working closely with Secretary Matiella's team to ensure the Army can meet these important goals. The Army's Chief Management Officer assures synchronization and cooperation among all parties to success. The offices of the Under Secretary of Defense (Comptroller) and Department of Defense Deputy Chief Management Officer have greatly assisted the Department of the Army in its systems' investments, process mapping, and direction. We will continue to work closely with the Department of Defense

leadership, the General Accounting Office and, of course, the members of this Panel and the United States House of Representatives and the United States Senate to improve the business transformation of the Department of the Army. We will continue to keep you informed. Thank you for allowing me to appear before you today and thank you for your support of the U.S. Army. I look forward to your questions.

Mark R. Lewis
Army Deputy Chief Management Officer
(DCMO)



Mr. Mark R. Lewis was appointed the United States Army's Deputy Chief Management Officer following a four year assignment as the United States Army's Assistant Deputy Chief of Staff, G-3/5/7.

Mr. Lewis began his Army career when he was commissioned in the Regular Army as a Lieutenant of Infantry following graduation from the University of Minnesota in 1971. His initial assignment was with the 3rd Battalion (Airborne) 325th Infantry. In 1974, he was assigned to the Third United States Infantry (The Old Guard) in Washington, DC, where he served as Assistant S-3 for Operations and Training and as a Rifle Company commander. Mr. Lewis also served as a White House Aide. Following the Infantry Officer Advanced Course in 1978, Mr. Lewis returned to the University of Minnesota and received a Master's Degree concentrating in Operations Research and Systems Analysis. Upon completion of graduate school, Mr. Lewis served as the Construction Program Analyst for the Deputy Chief of Staff, Resource Management at Headquarters, United States Army, Europe.

In 1982, Mr. Lewis returned to the 82d Airborne Division where he served as the Deputy Inspector General, S-3 of 3rd Battalion (Airborne) 325th Infantry, and participated in Operation Urgent Fury to Grenada. He also was a Battalion Executive Officer and the Division Operations Officer. Upon graduation from the Command and General Staff College, Mr. Lewis was assigned to the Program Analysis and Evaluation Directorate in the Office of the Chief of Staff, Army. From 1988 to 1990, Mr. Lewis commanded the 1st Battalion (Airborne) 507th Parachute Infantry Regiment.

In 1991, Mr. Lewis graduated from the Industrial College of the Armed Forces and was again assigned to the Pentagon, where he served consecutively as the Special Assistant and, then, upon promotion to Colonel, Executive Officer to the Deputy Chief of Staff for Personnel, Army. His next assignment was Assistant Director for Land Warfare, Office of Assistant Secretary of Defense (Special Operations and Low-intensity Conflict).

In August 1995, Mr. Lewis became Chief of Plans Division, Office of the Deputy Chief of Staff for Personnel, Army, G-1. A year later he was promoted to Director of Plans, Resources, and Operations Directorate, responsible for military manpower and compensation and entitlements. In Jun 2004 he was appointed the Assistant Deputy Chief of Staff, G1.

Mr. Lewis' awards and decorations include the Decoration for Exceptional Civilian Services (2d Award), Distinguished Service Medal, the Defense Superior Service Medal, Legion of Merit, Bronze Star Medal, Meritorious Service Medal (three Oak Leaf Clusters), Joint Service Commendation Medal, Army Commendation Medal (Oak Leaf Cluster), Army Achievement Medal, National Defense Medal, Armed Forces Expeditionary Medal, Overseas Service Ribbons, Combat and Expert Infantryman's Badges, the Ranger Tab, Master Parachutist Badge, Pathfinder Badge, and the Army Staff and Office of the Secretary of Defense Identification Badges. He also has two awards of the Decoration for Exceptional Civilian Service.

Mr. Lewis and his wife, Glenda, have two daughters, Suzanne and Natalie.

Not for Publication until released by
the House Armed Services Committee

Statement of

Mr. Eric Fanning

**Deputy Under Secretary of the Navy/Deputy Chief Management
Officer**

Before the

**The Defense Financial Management
and Auditability Reform Panel**

of the

House Armed Services Committee

Subject:

**DOD's Enterprise Resource Planning (ERP) System
Implementation Efforts**

October 27, 2011

Not for Publication until released by
the House Armed Services Committee

Members of the House Armed Services Committee, thank you for the opportunity to discuss the Department of the Navy's efforts at achieving and sustaining audit readiness. First let me say, the Navy remains committed to the statutory deadline for achieving financial auditability by 2017 and understands the importance of this milestone.

Stemming from the auditability discussion is the question about the systems working toward this end. Because of the large volume of supporting documentation required during an audit, there must be an audit infrastructure that will allow the smooth and quick transfer of immense volumes of data to the auditors. The issue however, is that Navy's accounting systems, for many years, have been at the transaction level of detail. This means Navy is able to go in and look at data but actually pulling that data out for the auditors becomes more difficult. The reality is that Navy's systems were never designed to do proprietary accounting the way we are being asked to do it today. The systems were designed for budgetary accounting, which the Navy does very well.

This disconnect is in the Navy's business processes – which were not designed from end-to-end. In other words, if you were in the civilian personnel business, your system was designed to support hiring, getting people on board, and making sure they were in the system. These actions were not necessarily coordinated with the financial system.

For example, during a typical audit, an auditor will look at financial records and determine an employee is being paid. The next question that will be asked is to see the data supporting that entry in the accounting system. The supporting data, however, is a personnel action, be it from a Standard Form (SF)-52 or a 50. To get that supporting documentation Navy would have to go to the personnel people who are, in these terms, not integrated with the accounting system.

The above example illustrates where the Navy's processes have not been optimized. The Navy recognizes these shortcomings and is working to make sure the linkages between the various business owners are in place. This will enable an auditor the ability to see and understand the transaction and the accounting system, the supporting documentation for that transaction, and the entire end-to-end process.

Currently, Naval Air Systems Command (NAVAIR) is leveraging Navy ERP to strengthen internal controls and enhance standardization to improve the quality of information available to our decision makers. The implementation of Navy ERP has provided increased fidelity of our financial data providing our program managers timely insight into program execution and the ability to track dollars committed, obligated, and expended. Navy ERP functionality is also being leveraged for Asset and Inventory Management for greater financial compliance and accountability of our assets.

Further, Navy ERP gives program managers and field teams increased visibility into the program costs, schedules, resources, and risks. Naval Air Systems Command remains committed to supporting both Navy and the DOD to improve the quality of financial information and businesses processes necessary to achieve clean financial audits by 2017. More importantly, NAVAIR believes that the resources invested will provide a significant return on investment for the warfighter and the American taxpayer.

Navy ERP provides improved financial discipline, improved accuracy (with automated entry of key data fields), and an audit trail associating users and electronic documents with transactions. Navy ERP

provides a single system for budgeting, funds availability, and execution across all major acquisition Commands. Some specific examples of capabilities that improve financial controls include:

- Dual-sided accounting (credits/debits)
- Funds availability controls ensures funds authorized are not exceeded (at the appropriation level, prevents Anti-Deficiency Act violations, and prevents overspending for reimbursable funding documents or direct cite)
- Enables validation of funds availability prior to contract obligations, invoice pre-validation, and invoice payment.
- Navy ERP provides visibility of financial information across projects and System Commands enabling improved resource decisions.

Navy ERP supports auditability through not only the improved financial controls, but also by having a single data source with common data structures, standardized processes, and improved compliance across Commands. Navy ERP provides simplified access to standardized financial data. It provides a single system interface to multiple legacy systems. In addition, the audit trail and electronic archiving provide the ability to trace the source of data and transactions.

To close with a particular example of working toward the goal of auditability, the Marine Corp is currently undergoing the second year audit of the statement of budgetary resources (SBR). It has been challenging, but the DOD, inspector general staff, and the private firm auditing the statement of budgetary resources has noted the significant progress made by the Marine Corp this year. They have already agreed that 11 of the remediation actions taken by the Marine Corps are effective, and third quarter testing will assess the effectiveness of the remaining remediation actions. They have indicated they will provide their assessment to Ms. Commons in October 2011.

Future Pay and Personnel Solution (FPPS)

In October 2010, FPPS was reset from milestone B to a pre-milestone A program. The current work is focused on deconstructing the problem statement and addressing any and all auditability issues. The overarching goal is to first understand any issues affecting financial controls and the business processes leading toward auditability. Once those issues are clear, the next steps will be to determine the appropriate remedy to enable solutions.

Below is a table depicting funding for FY10 – FY12. With this funding Navy intends to execute a series of building block activities to improve personnel processes that are currently labor intensive, untimely, and inefficient. The building blocks will add functionality, automation, and reengineer manually intense processes by integrating data, performing business process modeling and simulation, and establishing an enterprise information environment. The ultimate goals will reduce errors, provide timely data to personnel systems, reduce manpower requirements, and accomplish foundational activities towards auditable personnel and pay processes.

(TYSM) APPN	FY10	FY11	FY12
PB12 OMN	17.8	18.1	16.6
(TYSM) APPN	FY10	FY11	FY12

PB12 RDTE	10.4	27.4	55.1
(TY\$M) APPN	FY10	FY11	FY12
PB12 OPN	1.0	1.9	0.0
(TY\$M)APPN	FY10	FY11	FY12
Total	29.2	47.5	71.6

To date, FPPS has had numerous accomplishments illustrated below in five major categories:

- 1) Business Process Improvement
- 2) Business Process Mapping
- 3) Capability Based Assessment
- 4) Concept of Operations
- 5) Established Governance Structure

Navy ERP

Navy ERP is an integrated business management system that modernizes, streamlines, and standardizes how the Navy manages people, money, programs, equipment, and supplies. At present, there are approximately 66,000 users worldwide, managing approximately 47% of the Navy's Total Obligation Authority (TOA). By its final deployment in October 2012, Navy ERP will serve over 71,000 users and manage over 50% (which is ~\$63B) of the Navy's TOA.

Enumerated below are four high level program benefits:

- 1) The deployment of the Single Supply Solution enables projected inventory savings of \$276M through FY2017 and expected cost avoidance of \$456M for FY2018 through FY2023.
- 2) By automating previously manual processes with an integrated single data environment, Navy provides real-time visibility to manage fleet assets, resources, and inventory.
- 3) Navy ERP improves financial management, enabling auditability, compliance, and improved internal controls.
- 4) There has been a retirement of 27 systems to date, with 69 more to be retired by 2016. This has garnered a realized cost avoidance of \$116M through FY08-10 with an expected cumulative combined cost savings and avoidance of \$682M through FY2016 based on OPNAV N40 Feb 2011 data call.

There have been a number of program deployments thus far. Those completed are as follows:

- Financial & Acquisition
 - Naval Air Systems Command (NAVAIR) deployed October 2007
 - Naval Supply Systems Command (NAVSUP) deployed October 2008
 - Space & Naval Warfare Systems Command (SPAWAR) deployed October 2009
 - Naval Sea Systems Command (NAVSEA) (General Fund) deployed October 2010
- Wholesale and Retail Supply

- Phase 1 of NAVSUP Weapons System Support (WSS) Deployment began February 2010 with users active in the system March 2010 and stabilized six months later
- Phase 1 Fleet Logistics Center (FLC) & Partner Sites Deployment began July 2011

The current status of program development and deployment is as follows:

- Financial & Acquisition
 - NAVSEA (Working Capital Fund) initiated October 2011 with FOT expected by December 2011.
 - ONR & SSP scheduled October 2012
- Wholesale and Retail Supply
 - Phase 2 FLC & Partner Sites Deployment November 2011
 - Phase 3 FLC & Partner Sites Deployment March 2012
 - Phase 4 FLC & Partner Sites Deployment August 2012

Navy ERP's last major milestone came on June 30, 2011 with the Full Deployment Decision (FDD). The next major milestone date is the Full Deployment (FD) decision point which is planned for August 2013. From a budgetary standpoint, the Navy total projected appropriated costs from FY10 – FY16 (in then year dollars) are shown in the below table.

	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Total
Operations & Spt (\$M)	117.1	102.5	111.7	92.8	80.8	90.7	107.8	703.5
Base Spt / Info Technology PE 0709020N, BLI/BSIT								
R&D (\$M)	16.5	-	-	-	-	-	-	16.5
Navy IT Dev / Mod R-1#131, PE060501BN								
Procurement (\$M)	4.0	5.0	6.2	4.5	1.4	6.9	5.4	32.3
Command Spt Equipment P-1#105, PE0709020N								
Total (\$M)	137.6	107.5	116.9	97.3	82.2	97.5	113.2	752.3

* Costs include preliminary activities to implement Navy ERP capabilities across the full Navy enterprise, and includes only Appropriated funding.

Global Combat Support System – Marine Corps (GCSS-MC)

GCSS-MC is a portfolio of systems that supports logistics elements of command and control, joint logistics interoperability, and secure access to and visibility of logistics data. At present, there are over 7,700 users and in June of 2011 III MEF (Japan and Hawaii) were fully fielded. Due to the success of the program, the Marine Corps accelerated the fielding schedule four months to the remaining I and II MEF units, Marine Forces Reserve, and the supporting establishments with I and II MEF starting cutover September 17, 2011. On July 18, 2011, a request to increase the number of users from 10,000 to 36,000 for Increment 1, Release 1.1, was made by the ASN RD&A to the Milestone Decision Authority (MDA). The OIPT/CIRB met August 17, 2011 and recommended the MDA approve this request.

Enumerated below are three major program improvements that have been made:

- 1) "Time to First Status" reduced from over 24 hours to an average of 1.5 hours
- 2) "Order Ship Time" reduced by 29.1% - 8.77 days to 6.22 days
- 3) "Repair Cycle Time" reduced by 48.5% - 40.58 days to 20.89 days

The below table shows the timeline for the major schedule of events:

Scheduled Decision Points	Current Estimate or Actual
Milestone A	Jul 04*
Milestone B	Jun 07*
Milestone C	May 10*
FDD	Jul 12 (Threshold Date)
FD	TBD

The table below shows the cost for FY10 – FY12. Please note, FY10 and FY11 reflect actual program execution with the exception that FY11 does not include \$9.765M of OMMC OCO funds that support the preparation and planning to field GCSS-MC to units in OEF. The fielding to OEF is a DC I&L pilot effort that is not part of the program of record. The FY12 numbers reflect PB12 controls. These figures include the \$22.2M R&D upgrade to the Oracle e-Business Suite Release 12 that is currently included in the draft PB12 controls.

	FY10	FY11	FY12
RDT&E	\$60.567	\$24.983	\$36.780
PMC	\$8.021	\$27.017	\$13.897
O&M,MC	\$46.959	\$77.362	\$41.685
Total	\$115.547	\$129.632	\$92.362



Eric Fanning
Deputy Under Secretary of the Navy and Deputy Chief Management Officer

Eric Fanning is the Deputy Under Secretary of the Navy and Deputy Chief Management Officer. Previously, he was deputy director of the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, which issued its report in December of 2008. He joined the commission staff from CMG, a strategic communications firm, where he was managing director. From 2001 to 2006, he was Senior Vice President for Strategic Development at Business Executives for National Security (BENS), a Washington, DC-based think tank. At BENS, he was in charge of international programs and all regional office operations in six cities across the country. During his time at BENS, he traveled to more than 30 countries, mostly in Africa, the Middle East and Europe, including multiple trips to Iraq and Afghanistan. Prior to joining BENS, he was at Robinson, Lerer & Montgomery (RLM), a strategic communications firm based in New York City. From 1997 to 1998, he worked on the national and foreign assignment desks at CBS National News in New York. From 1991 to 1996, he worked in various political positions in Washington, D.C.: he was a research assistant with the House Armed Services Committee, a special assistant in the Immediate Office of the Secretary of Defense, and associate director of political affairs at the White House. He is a graduate of Dartmouth College.

Statement of

DAVID TILLOTSON, III, SES
Deputy Chief Management Officer and
Director, Office of Business Transformation

before the

House Armed Services Committee

Defense Financial Management
and Auditability Reform Panel

October 27, 2011

Embargoed until released
by the House Armed Services Committee

Thank you for the opportunity to discuss with this Panel the Air Force's implementation of Enterprise Resource Planning (ERP) systems and their impact on our progress towards financial improvement and audit readiness. ERPs are commercial software packages which have been developed over time to reflect reasonably standard business practices in areas common to all large organizations. Common areas addressed by ERPs include financial management, logistics and supply chain management, and human resource management. Moreover, these software packages also include process controls that lend themselves to making the business practices they support repeatable and auditable. The implementation of ERPs provides an opportunity for the Air Force to adopt these standard practices and take advantage of the controls they provide to improve financial management and achieve audit readiness. However, the Air Force recognizes that use of information technology such as ERPs does not in and of itself guarantee sound financial management and auditability. We will in all cases also need improved process controls and workforce training to assure success.

Achievement of the congressionally-mandated audit readiness date of 2017 is a major focus of the Air Force's business transformation efforts. As the Air Force Deputy Chief Management Officer, I work closely with the Chief Financial Officer to ensure audit readiness and financial accountability are key outcomes to any transformation effort. Because they are an important component to achieving audit readiness, the Air Force has implemented regular, detailed reviews of the ERP programs to identify and address any obstacles to success of those efforts. The Air Force has three ERPs that are instrumental to achieving audit readiness: Defense Enterprise Accounting and

Management System (DEAMS), Expeditionary Combat Support System (ECSS), and Air Force Integrated Personnel and Pay System (AF-IPPS). DEAMS and ECSS are programs that have been underway for several years, and AF-IPPS is the Air Force program that will accomplish the Service-level objectives of the Defense Integrated Military Human Resource System (DIMHRS).

DEAMS is jointly sponsored by the Air Force, U.S. Transportation Command (USTRANSCOM), and the Defense Finance and Accounting Services. DEAMS will provide accurate, reliable, and timely financial information using standardized business rules and processes that comply with existing laws, regulations, and policies. DEAMS will provide transportation working capital fund support to USTRANSCOM and full general ledger accounting to all Air Force bases. DEAMS provides the Air Force with a transaction-based general ledger which serves as the basis for auditable financial statements. DEAMS will replace nine legacy systems and provide the Air Force with financial management capabilities, including collections, commitments and obligations, cost accounting, general ledger, funds control, receipt and acceptance, accounts payable and disbursement, billing, and financial reporting for the general fund. When fully operational, DEAMS is expected to maintain control and accountability of about \$160B in Air Force general funds.

DEAMS has been used at Scott Air Force Base and DFAS Limestone since 2010, and has been successfully used to process over \$20B in transactions and to conduct end-of-year close out for both Fiscal Years 2010 and 2011. Moving forward, our current program plan calls for stabilization of the current operational baseline by April 2012, followed by deployment of that capability to 4 additional Air Force bases by

June 2013. We expect to complete development and deployment of DEAMS across TRANSCOM by August 2014, and across the operational Air Force by July 2016. DEAMS will not only be critical to managing audit accountability, but the improved financial management it brings should also have real cost benefit. The Air Force expects that DEAMS will support a \$335M annual savings past full deployment by providing real-time visibility into costs and allowing timely reallocation of dollars. This translates to an ability to reduce unliquidated obligations and accounts receivable by \$1.67B from 2017-2021. The Air Force has invested \$313.2M in DEAMS to date, and expects to invest another \$678M to bring the system to full operational status by the fourth quarter of FY2016. The Air Force is updating the Service Cost Position to align with the streamlined acquisition policies put forward by the Department of Defense and Office of Management and Budget.

ECSS will provide the Air Force with a single, integrated logistics system, including transportation, supply, maintenance and repair, engineering, and acquisition, for both the general and working capital funds. ECSS will streamline the supply chain management process in the Air Force and is scheduled to replace 240 legacy core logistics and financial systems and 564 interfaces. As reported to Congress in February 2011, when ECSS is fully developed and fielded, the estimated 10-year supply chain benefits total \$9B. The estimated 10-year supply chain and IT benefits for the first increment total \$0.67B. The restructured first increment of ECSS has been in development since 2009, with initial pilot operating capability running at Hanscom Air Force Base since 31 July 2010. Under the program reported to Congress in February 2011, the Air Force expected completion of ECSS Increment 1 by June 2013,

addressing vehicle maintenance and base supply and accountability, including support to flight line operations. Deployment of ECSS Increment 1 capability across the Air Force was scheduled to begin in October 2013, with completion of the remaining key elements of ECSS to support audit readiness by FY2017. When fully implemented, ECSS was expected to control and account for \$122B of inventory, consisting of \$49B in General Fund (GF) Operating Materiel and Supplies inventory, \$43B in GF General Equipment assets, \$28B in Working Capital Fund (WCF) Inventory, and \$2B in WCF General Equipment assets.

Unfortunately, the development and implementation of ECSS have lagged. As a result, the Air Force raised concerns to the DoD Milestone Decision Authority and the Department is now engaged in strategic reassessment of the overall program. That reassessment maintains focus on addressing both audit readiness, and achievement of genuine return on investment. The joint OSD-Air Force team will make recommendations on the way ahead for this program to the Milestone Decision Authority by December 2011, and we will make appropriate program changes immediately following that review. Alternatives under consideration include building on the current ERP software, leveraging other service/Defense Agency solutions, and/or modifying legacy capability.

AF-IPPS will integrate 105 Personnel and Pay processes, including the core personnel actions that drive payroll management, for the more than 500,000 Active Duty, Reserve, and Guard members of the Air Force. AF-IPPS will directly enable synchronization of data, improve personnel asset visibility for Combatant Commanders, reduce payroll errors, and streamline clean audit compliance.

AF-IPPS was initiated in FY2009 as a replacement for the OSD-led DIMHRS program and is planned for full operational capability by October 2016. AF-IPPS is expected to replace 20 legacy information technology platforms saving more than \$0.5B in system operation costs during the lifecycle. AF-IPPS will replace the Air Force's pay operations currently conducted on the Defense Joint Military Pay System (DJMS) and will reduce today's 85,000 annual pay cases requiring manual processing by 75% and improve payroll timeliness from 93% to 97%. The overall estimate for developing and achieving full operational capability for AF-IPPS is \$662M. The Air Force expects to have a Request for Proposal for its AF-IPPS program out by November 2011.

The Air Force anticipates approximately \$2.84B in net savings from our ERP investments over the period from 2017-2027. Savings come from eliminating thousands of system interface requirements and hundreds of system modernization efforts. The Air Force will reduce or eliminate contract support requirements, maintenance costs, and upgrades for hundreds of core legacy systems that are technically obsolete, not well integrated, lack necessary internal controls, are costly to operate, and drive manual rework and reconciliation. By reducing the amount of time Airmen spend on administrative processes, more time will be available to devote on tasks directly supporting the warfighter.

As important as ERPs are, the drive to financial improvement and audit readiness is not solely focused on new information technology. The Air Force is taking steps to address audit readiness through a combination of business process improvements and implementation of audit controls. Air Force leadership is strongly committed to achieving the audit acceleration goals set by Secretary Panetta for the

Statement of Budgetary Resources (SBR) by the end of 2014. We all agree that the taxpayer should expect and are owed auditable financials across from the Air Force, DoD, and all of federal government. Prior to Secretary Panetta's 2014 goal, Dr. Jamie Morin testified that the Air Force sees moderate risk in meeting the 2017 legal deadline based on our systems modernization timelines; achieving a 2014 SBR audit has us rethinking parts of our approach. Dr Morin has initiated an Air Force Audit Acceleration Tiger Team review, with participation from leaders across the financial, acquisition, personnel, IT, and logistics communities, as well as representatives from OSD and DFAS, to help refine options for accelerating key components of the Air Force audit readiness effort. Our Acceleration Tiger Team review will provide input to the broader 60 day review that Secretary Hale is leading for Secretary Panetta.

In some cases, this acceleration will likely require us to temporarily rely on resource intensive "brute force" approaches until new financial systems are fully deployed and can help us achieve annual audits in a more efficient and sustainable way. Our efforts will rely on support assured from Secretary Hale on resources needed for the near term audit effort.

Thank you for this opportunity and for the Panel's continued interest and focus on this important effort. The involvement of Congress, OSD, and GAO, as well as the very strong commitment of today's Air Force leadership, is crucial to ensuring continued progress towards improved financial processes and full audit readiness by 2017.



BIOGRAPHY

UNITED STATES AIR FORCE

DAVID TILLOTSON III

David Tillotson III, a member of the Senior Executive Service, is Deputy Chief Management Officer, Office of the Under Secretary of the Air Force, Washington, D.C. Mr. Tillotson exercises the Under Secretary's Chief Management Officer responsibility for improving the effectiveness and efficiency of Air Force business operations. Mr. Tillotson advises Air Force senior leadership on establishing strategic performance goals, and managing Air Force-wide cross functional activities to meet those goals. Mr. Tillotson also serves as the Director of Business Transformation for the Air Force and oversees implementation of continuous process improvement initiatives Air Force wide.



Mr. Tillotson was commissioned upon graduation from the U.S. Air Force Academy in 1975. His assignments include ground theater air control system units with Air Combat Command and U.S. Air Forces in Europe, as well as at headquarters level with USAFE, U.S. Air Force and the North American Aerospace Defense Command. Mr. Tillotson has served twice as a unit commander with responsibility for conventional air defense employment and counterdrug operations with international law enforcement and air traffic control authorities. At the staff level, Mr. Tillotson has been responsible for air defense planning and system requirements, including air defense and air traffic control systems integration, in both NATO and North American settings. Following assignments in operations, Mr. Tillotson moved to the Air Force acquisition corps, where he initially served as the Deputy Mission Area Director, Information Dominance, Office of the Assistant Secretary of the Air Force for Acquisition. He was assigned to the Electronic Systems Center at Hanscom Air Force Base, Mass., as Chief of Experimentation with the Integrated Command and Control System Program Office and was responsible for the Air Force's Joint Expeditionary Experiment series. He then became the System Program Director for the Intelligence, Surveillance and Reconnaissance Integration Program Office.

Mr. Tillotson entered the Senior Executive Service in November 2002, following retirement from active duty. As a senior executive, Mr. Tillotson served as Director, Architecture and Operational Support Modernization, Office of the Deputy Chief of Staff for Warfighting Integration; and Director, Policy, Planning and Resources, Office of the Chief of Warfighting Integration. Prior to being assigned as the Deputy Chief Management Officer, Mr. Tillotson was the Deputy Chief, Warfighting Integration and Deputy Chief Information Officer, Office of the Secretary of the Air Force.

United States Government Accountability Office

GAO

Testimony
Before the Panel on Defense Financial
Management and Auditability Reform,
Committee on Armed Services, House of
Representatives

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DOD FINANCIAL MANAGEMENT

Challenges in the Implementation of Business Systems Could Impact Audit Readiness Efforts

Statement of Asif A. Khan, Director
Financial Management and Assurance



GAO-12-177T



Highlights of GAO-12-177T, a testimony before the Panel on Defense Financial Management and Auditability Reform, Committee on Armed Services, House of Representatives

Why GAO Did This Study

As one of the largest and most complex organizations in the world, the Department of Defense (DOD) faces many challenges in resolving its long-standing financial and related business operations and system problems. DOD is in the process of implementing modern multifunction enterprise resource planning (ERP) systems to replace many of its outdated legacy systems. The ERPs are intended to perform business-related tasks such as general ledger accounting and supply chain management. Modernizing DOD's business systems is a critical part of transforming the department's business operations, addressing high-risk areas, and providing more-accurate and reliable financial information to Congress on DOD's operations.

The Panel requested that GAO provide its perspective on DOD's ERP implementation efforts and the impact implementation problems could have on DOD's efforts to improve financial management and be audit ready by fiscal year 2017.

This statement is based on GAO's prior work, reports issued by the Department of Defense Inspector General (DOD IG), and GAO's ongoing oversight of selected DOD ERP efforts. Over the years, GAO has made numerous recommendations to improve the department's financial management operations.

View GAO-12-177T. For more information, contact Asif A. Khan at (202) 512-9869 or khana@gao.gov.

October 27, 2011

DOD FINANCIAL MANAGEMENT

Challenges in the Implementation of Business Systems Could Impact Audit Readiness Efforts

What GAO Found

DOD has invested billions of dollars and will invest billions more to develop and implement 10 ERPs that it has estimated will replace over 500 legacy systems that reportedly cost hundreds of millions of dollars to operate annually. DOD considers implementation of the ERPs as critical not only for addressing weaknesses in financial management, but also for resolving weaknesses in other high-risk areas such as business systems modernization and supply chain management. The ERPs are also important for DOD's goal of departmentwide audit readiness by fiscal year 2017. Furthermore, in light of the Secretary of Defense's recent decision that the Statement of Budgetary Resources is to be audit ready by fiscal year 2014, it is critical that the department have such systems in place to support its auditability goals.

To date, however, DOD's ERP implementation has been impaired by delays, cost increases, failures in delivering the necessary functionality, and a lack of compliance with required standards. Delays in implementation have extended the use of existing duplicative, stovepiped systems, and the need to fund them. More specifically,

- GAO has reported that, based upon the data provided by DOD, 6 of the 10 ERPs DOD had identified as critical to transforming its business operations experienced schedule delays ranging from 2 to 12 years, and five had incurred cost increases totaling an estimated \$6.9 billion.
- GAO's review of 6 ERPs found that none of the programs had developed a fully integrated master schedule, a best practice and tool in the management of business-system development that is crucial to estimating the overall schedule and cost of a program.
- DOD IG has reported that the Army's Logistics Modernization Program, which is intended to provide financial management capabilities for the Army Working Capital Fund, was not compliant with the U.S. Government Standard General Ledger, which supports the consistent recording of financial information and the preparation of standard reports required by the Office of Management and Budget and the Department of the Treasury.

Further, GAO's preliminary results from an ongoing audit of two ERPs—the Army's General Fund Enterprise Business System and the Air Force's Defense Enterprise Accounting and Management System—found that the systems did not provide Defense Finance and Accounting Service users with the expected capabilities in accounting, management information, and decision support. System problems identified include interface issues between legacy systems and the new ERPs, lack of ad hoc query reporting capabilities, and reduced visibility for tracing transactions to resolve accounting differences. To compensate for these operational deficiencies, users were relying on manual workarounds to perform day-to-day operations. Such performance deficiencies, delays, and other problems in ERP implementation can negatively impact DOD's auditability goals.

Chairman Conaway, Ranking Member Andrews, and Members of the Panel:

It is a pleasure to be here today to discuss the Department of Defense's (DOD) efforts to improve the efficiency and effectiveness of its business systems,¹ in particular its enterprise resource planning (ERP) systems.² The modernization of the department's business systems is an essential part of the DOD's efforts to transform its business operations and achieve audit readiness by fiscal year 2017 as directed by the National Defense Authorization Act for Fiscal Year 2010.³ In the light of the Secretary of Defense's recent decision that the Statement of Budgetary Resources is to be audit ready by fiscal year 2014, it is critical that the department have in place the systems to support its auditability goals. To support its business functions, DOD has reported that it relies on over 2,200 business systems,⁴ including financial management, acquisition, logistics, and personnel systems. For fiscal year 2012, the department requested about \$17.3 billion to operate, maintain, and modernize its business systems.

The implementation of an integrated, audit-ready systems environment through the deployment of ERP systems underlies all of DOD's financial improvement efforts and is crucial to achieving departmentwide audit readiness as well as addressing long-standing weaknesses in financial management and weaknesses in other high-risk areas such as business systems modernization and supply chain management. In October 2010,

¹DOD's business systems are information systems including financial and nonfinancial systems that support DOD business operations, such as civilian personnel, finance, health, logistics, military personnel, procurement, and transportation.

²An ERP solution is an automated system using commercial off-the-shelf (COTS) software consisting of multiple, integrated functional modules that perform a variety of business-related tasks such as general ledger accounting, payroll, and supply chain management.

³Pub. L. No. 111-84, § 1003(a), (b), 123 Stat. 2190, 2439-40 (Oct. 28, 2009).

⁴DOD excludes from its business systems those designated as national security systems under section 2222(j) of Title 10, United States Code. National security systems are information systems where the function, operation, or use of which involves intelligence activities, cryptologic activities related to national security, command and control of military forces, equipment that is an integral part of a weapon or weapon system or is critical to the direct fulfillment of military or intelligence missions (unless used for routine administrative and business applications), or is protected at all times by classification procedures in the interest of national defense or foreign relations, as authorized by law or executive order.

we reported on the status of DOD's ERP implementation efforts.⁵ DOD identified 10 ERPs⁶—2 of which it reported as having been fully deployed—as essential to its efforts to transform its business operations. According to DOD, it has invested billions of dollars to develop and implement these ERPs and will invest additional billions before the remaining ERPs are fully implemented. DOD has stated that the ERPs will replace over 500 legacy systems that reportedly cost hundreds of millions of dollars to operate annually.

My statement today is based primarily on our prior and ongoing work and includes information from reports issued by DOD, its components, and the DOD Inspector General (DOD IG) related to the department's business transformation and financial management improvement activities. We discussed with DOD officials the preliminary findings from the ongoing ERP audit that are included in this testimony and considered their comments in this statement. Our work on which this statement is based was conducted in accordance with generally accepted auditing standards. Our previously published reports contain additional details on the scope and methodology for those reviews. 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 the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

DOD is one of the largest and most complex organizations in the world. For fiscal year 2012, the budget requested for the department was approximately \$671 billion—\$553 billion in discretionary budget authority and \$118 billion to support overseas contingency operations. The department is currently facing near- and long-term internal fiscal

⁵GAO, *DOD Business Transformation: Improved Management Oversight of Business System Modernization Efforts Needed*, GAO-11-53 (Washington, D.C.: Oct. 7, 2010).

⁶The 10 ERPs are as follows: Army—General Fund Enterprise Business System (GFEBS), Global Combat Support System-Army (GCSS-Army), and Logistics Modernization Program (LMP); Navy—Navy Enterprise Resource Planning (Navy ERP) and Global Combat Support System-Marine Corps (GCSS-MC); Air Force—Defense Enterprise Accounting and Management System (DEAMS) and Expeditionary Combat Support System (ECSS); Defense—Service Specific Integrated Personnel and Pay Systems and Defense Agencies Initiative (DAI); and Defense Logistics Agency—Business System Modernization (BSM). According to DOD, BSM was fully deployed in July 2007 and LMP in October 2010.

pressures as it attempts to balance competing demands to support ongoing operations, rebuild readiness following extended military operations, and manage increasing personnel and health care costs and significant cost growth in its weapons systems programs. For more than a decade, DOD has dominated GAO's list of federal programs and operations at high risk of fraud, waste, abuse, and mismanagement.⁷ In fact, all of the DOD programs on GAO's High-Risk List relate to business operations, including systems and processes related to management of contracts, finances, the supply chain, and support infrastructure,⁸ as well as weapon systems acquisition. Long-standing and pervasive weaknesses in DOD's financial management and related business processes and systems have (1) resulted in a lack of reliable information needed to make decisions and report on the financial status and cost of DOD activities to Congress and DOD decision makers, (2) adversely affected its operational efficiency in business areas, such as major weapon systems acquisition and support and logistics, and (3) left the department vulnerable to fraud, waste, and abuse. In support of its military operations, DOD performs an assortment of interrelated and interdependent business functions, such as logistics management, procurement, health care management, and financial management. The DOD systems environment that supports these business functions has been overly complex and error prone, characterized by (1) little standardization across the department, (2) multiple systems performing the same tasks, (3) the same data stored in multiple systems, and (4) the need for data to be entered manually into multiple systems.

**Ten Critical DOD ERP
Systems**

The department has stated that the following ERPs are critical to transforming the department's business operations and addressing some

⁷DOD bears responsibility, in whole or in part, for 14 of the 30 federal programs or activities that GAO has identified as being at high risk of waste, fraud, abuse, and mismanagement. The seven specific DOD high-risk areas are (1) approach to business transformation, (2) business systems modernization, (3) contract management, (4) financial management, (5) supply chain management, (6) support infrastructure management, and (7) weapon systems acquisition. The seven governmentwide high-risk areas that include DOD are: (1) disability programs, (2) interagency contracting, (3) information systems and critical infrastructure, (4) information sharing for homeland security, (5) human capital, (6) real property, and (7) ensuring the effective protection of technologies critical to U.S. national security interests.

⁸Support infrastructure includes categories such as force installation, central logistics, the defense health program, and central training.

of its long-standing weaknesses. A brief description of each of the ERPs is presented below.

- **The General Fund Enterprise Business System (GFEBS)** was initiated in October 2004 and is intended to support the Army's standardized financial management and accounting practices for the Army's general fund, with the exception of that related to the Army Corps of Engineers, which will continue to use its existing financial system, the Corps of Engineers Financial Management System. GFEBS is intended to allow the Army to share financial, asset and accounting data across the active Army, the Army National Guard, and the Army Reserve. The Army estimates that when fully implemented, GFEBS will be used to control and account for about \$140 billion in annual spending.
- **The Global Combat Support System-Army (GCSS-Army)** was initiated in December 2003⁹ and is expected to integrate multiple logistics functions by replacing numerous legacy systems and interfaces. The system is intended to provide tactical units with a common authoritative source for financial and related nonfinancial data, such as information related to maintenance and transportation of equipment. The system is also intended to provide asset visibility for accountable items. GCSS-Army will manage over \$49 billion in annual spending by the active Army, National Guard, and Army Reserve.
- **The Logistics Modernization Program (LMP)** was initiated in December 1999 and is intended to provide order fulfillment, demand and supply planning, procurement, asset management, material maintenance, and financial management capabilities for Army's working capital fund. The third and final deployment of LMP occurred in October 2010.
- **The Navy Enterprise Resource Planning System (Navy ERP)** was initiated in July 2003 and is intended to standardize the acquisition, financial, program management, maintenance, plant and wholesale supply, and workforce management capabilities at Navy commands.

⁹Prior to the initiation of the current ERP effort, the Army had been developing custom software since May 1997.

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- **The Global Combat Support System–Marine Corps (GCSS-MC)** was initiated in September 2003 and is intended to provide the deployed warfighter with enhanced capabilities in the areas of warehousing, distribution, logistical planning, depot maintenance, and improved asset visibility.
 - **The Defense Enterprise Accounting and Management System (DEAMS)** was initiated in August 2003 and is intended to provide the Air Force the entire spectrum of financial management capabilities, including collections, commitments and obligations, cost accounting, general ledger, funds control, receipts and acceptance, accounts payable and disbursement, billing, and financial reporting for the general fund. According to Air Force officials, when DEAMS is fully operational, it is expected to maintain control and accountability for about \$160 billion in spending.
 - **The Expeditionary Combat Support System (ECSS)** was initiated in January 2004 and is intended to provide the Air Force a single, integrated logistics system—including transportation, supply, maintenance and repair, engineering and acquisition—for both the Air Force's general and working capital funds. Additionally, ECSS is intended to provide the financial management and accounting functions for the Air Force's working capital fund operations. When fully implemented, ECSS is expected to control and account for about \$36 billion of inventory.
 - Each of the military departments is in the process of developing its own **Service Specific Integrated Personnel and Pay System**. The military departments' integrated personnel and pay systems replace the Defense Integrated Military Human Resources System that was initiated in February 1998 and intended to provide a joint, integrated, standardized personnel and pay system for all military personnel.
 - The **Defense Agencies Initiative (DAI)** was initiated in January 2007 and is intended to modernize the defense agencies' financial management processes by streamlining financial management capabilities and transforming the budget, finance, and accounting operations. When DAI is fully implemented, it is expected to have the capability to control and account for all appropriated, working capital and revolving funds at the defense agencies implementing the system.
 - **The Enterprise Business System (EBS)** is the second phase of the Defense Logistics Agency's (DLA) Business System Modernization

(BSM) effort, which was initiated in November 1999 and implemented in July 2007. BSM focused on DLA's operations in five core business processes: order fulfillment, demand and supply planning, procurement, technical/quality assurance, and financial management. In September 2007, the name of the program was changed to Enterprise Business System as it entered the second phase, and according to the agency, EBS will further enhance DLA's supply chain management of nearly 6 million hardware and troop support items.

**Schedule Slippages,
Cost Increases, and
Gaps in Functionality
Impair the Usefulness
of DOD's ERPs and
Hinder Progress
toward Accountability
and Auditability**

Implementation of the ERPs is intended to standardize and streamline DOD's financial management and accounting systems, integrate multiple logistics systems and finance processes, and provide asset visibility for accountable items. Effective implementation of the ERPs is also critical to DOD's auditability efforts and goals. However, to date, DOD's ERP implementations have been negatively impacted by schedule delays, cost increases, failures in delivering the necessary functionality, and a lack of compliance with required standards. Delays in the implementation of ERPs increase costs with the additional time and rework needed on the new system. The cost of additional time and rework needed have continued the funding of these legacy systems longer than anticipated and further eroded the estimated savings that were to accrue to DOD as a result of modernization. If the ERPs do not provide the intended capabilities, DOD's goal of modernizing and streamlining its business processes and strengthening its financial management capabilities leading to auditable financial statements could be jeopardized. The following are examples of weaknesses in DOD's implementation efforts.

**Schedule Slippages and
Cost Increases**

Accurate and reliable schedule and cost estimates are essential for DOD management to make good decisions regarding ERP implementation and for overseeing progress of the project. The success of any program depends on having a reliable schedule of the program's work activities that will occur, how long they will take, and how the activities are related to one another. As such, the schedule not only provides a road map for systematic execution of a program, but also provides the means by which to gauge progress, identify and address potential problems, and promote accountability. As highlighted below, we and the DOD IG have questioned the accuracy and reliability of the ERPs' schedule and cost estimates.

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- In October 2010, we reported¹⁰ that based upon the data provided by DOD, 6 of the 10 ERPs DOD had identified as critical to transforming its business operations had experienced schedule delays ranging from 2 to 12 years, and five had incurred cost increases totaling an estimated \$6.9 billion. DOD told us that the ERPs will replace hundreds of legacy systems that cost hundreds of millions of dollars to operate annually. According to the program management officers, while there had been schedule slippages and cost increases for several of the ERP efforts, the functionality that was envisioned and planned when each program was initiated remained the same. While the original intent of each program remained the same, the anticipated savings that were to accrue to the department may not be fully realized.

Our October 2010 report also noted that our analysis of the schedule and cost estimates for four ERP programs—DEAMS, ECSS, GFEBs, and GCSS-Army—found that none of the programs were fully following best practices for developing reliable schedule and cost estimates. More specifically, none of the programs had developed a fully integrated master schedule that reflected all activities, including both government and contractor activities. In addition, none of the programs established a valid critical path or conducted a schedule risk analysis.¹¹ The report also noted that in July and September 2008, we reported that the schedules for the GCSS-MC and the Navy ERP were developed using some of these best practices, but several key practices were not fully employed that are fundamental to having a schedule that provides a sufficiently reliable basis for estimating costs, measuring progress, and forecasting slippages.¹²

Furthermore, our analysis of the four ERP programs' cost estimates found that ECSS, GFEBs, and GCSS-Army did not include a

¹⁰GAO-11-53.

¹¹A critical path is the longest duration path through a sequenced list of activities within a schedule. A schedule risk analysis uses statistical techniques to predict a level of confidence in meeting a completion date.

¹²GAO, *DOD Business Systems Modernization: Key Marine Corps System Acquisition Needs to Be Better Justified, Defined, and Managed*, GAO-08-322 (Washington, D.C.: July 28, 2008) and *DOD Business Systems Modernization: Important Management Controls Being Implemented on Major Navy Program, but Improvements Needed in Key Areas*, GAO-08-396 (Washington, D.C.: Sept. 8, 2008).

sensitivity analysis, while cost estimates for GFEBS did not include a risk and uncertainty analysis. GAO, Office of Management and Budget (OMB), and DOD guidance¹³ stipulate that risk and uncertainty analysis should be performed to determine the level of risk associated with the dollar estimate. A sensitivity analysis would assist decision makers in determining how changes to assumptions or key cost drivers (such as labor or equipment) could affect the cost estimate. We also previously reported¹⁴ similar concerns regarding the GCSS-MC and the Navy ERP. A reliable cost estimate that includes sensitivity analysis and information about the degree of uncertainty provides the basis for realistic budget formulation and program resourcing, meaningful progress measurement, proactive course correction, and accountability for results.

- In a June 2011 report,¹⁵ the DOD IG reported that the Army estimated it will spend \$2.4 billion on the implementation of GFEBS. However, the report noted that the Army had not identified all of the requirements and costs associated with the project. In addition, the Army used unsupported and incomplete life-cycle cost estimates to determine \$1.4 billion in cost savings and used an inappropriate methodology to determine the estimated \$3.9 billion in benefits for implementing GFEBS.

Intended Functionality Not Always Provided

To support its business functions, DOD has reported that it relies on about 2,200 business systems, including accounting, acquisition, logistics, and personnel systems. DOD has stated that its ERPs will replace over 500 legacy systems that cost hundreds of millions of dollars to operate annually. However, some ERPs we reviewed did not deliver the functionality they were intended to provide, and thereby requiring continued operation of the existing systems.

¹³GAO, *Cost Estimating and Assessment Guide Best Practices for Developing and Managing Capital Program Costs*, GAO-09-3SP (Washington, D.C.: March 2009). OMB Revised Circular No. A-94, *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs* (Oct. 29, 1992); and DOD Instruction 7041.3, *Economic Analysis for Decisionmaking* (Nov. 7, 1995).

¹⁴GAO-08-822 and GAO-08-896.

¹⁵DOD Inspector General, *Previously Identified Deficiencies Not Corrected in the General Fund Enterprise Business System Program*, D-2001-072 (Arlington, Virginia: June 15, 2011).

-
- In November 2010, we reported¹⁶ that after two deployments of its LMP system, the Army had improved its implementation strategy, but continued to face problems that might prevent the system from fully providing its intended functionality at sites planned for the third and final deployment. While the Army improved its data-testing strategy for the third deployment, data quality problems continued at previous deployment sites and prevented staff at the sites from using LMP as intended. Also, new testing activities to support the third deployment were designed to assess how well the software functions but did not evaluate whether the data loaded into LMP were of sufficient quality to support the system's processes.

We found that the Army had yet to fully develop the software capabilities that LMP needed to achieve its intended functionality for some third-deployment sites. Without this functionality, LMP might limit the ability of staff at these sites to perform certain tasks, such as maintaining accountability of ammunition. For example, the Joint Munitions and Lethality Life Cycle Management Command conducts operations related to the production, management, and maintenance of ammunition. Officials at the command's sites told us that LMP—unlike the systems that will be replaced once LMP is deployed—did not enable them to ship, receive, inventory, or perform stock movements for ammunition. LMP program management officials told us that the omission of an ammunition-specific functionality was identified in 2009, and that its development began in January 2010. The Army planned to deliver the functionality and interfaces in phases through March 2011. The Army has mitigation plans to address this functionality gap. For example, the command planned to hire 172 additional personnel to perform manual data entry until the software can perform the required functions.

We recommended that Army report to Congress on the extent to which the third deployment sites were able to use LMP as intended, the benefits that LMP was providing, an assessment of the Army's progress in ensuring that data used in LMP can support the LMP processes, timelines for the delivery of software and additional

¹⁶GAO, *Defense Logistics: Additional Oversight and Reporting for the Army Logistics Modernization Program Are Needed*, GAO-11-139 (Washington, D.C.: Nov. 18, 2010).

capabilities necessary to achieve the full benefits of LMP, and the costs and time frames of the mitigation strategies.

Our preliminary results from an ongoing ERP review identified problems related to GFEBS and DEAMS providing Defense Finance and Accounting Service (DFAS) users with the expected capabilities in accounting, management information, and decision support. To compensate for the deficiencies, DFAS users have devised manual workarounds and applications to obtain the information they need to perform their day-to-day tasks. GFEBS is expected to be fully deployed during fiscal year 2012, is currently operational at 154 locations, including DFAS, and is being used by approximately 35,000 users. DEAMS is expected to be fully deployed during fiscal year 2016, is currently operational at Scott Air Force Base and DFAS, and is being used by about 1,100 individuals.

Examples of the problems in these systems that DFAS users have identified include the following:

- The backlog of unresolved GFEBS trouble tickets¹⁷ has increased from about 250 in September 2010 to approximately 400 in May 2011. According to Army officials, this increase in tickets was not unexpected because the number of users and the number of transactions being processed by the system have increased, and the Army and DFAS are taking steps to address problems raised by DFAS.
- Approximately two-thirds of invoice and receipt data must be manually entered into GFEBS from the invoicing and receiving system (i.e., Wide Area Work Flow) due to interface problems.¹⁸ DFAS personnel told us that manual data entry will eventually become infeasible due to increased quantities of data that will have to be manually entered as GFEBS is deployed to additional locations. Army officials acknowledged that there is a problem with the interface between Wide Area Work Flow and GFEBS and that this problem had reduced the

¹⁷Trouble tickets represent user questions and problems with transactions or system performance that have not been resolved.

¹⁸Office of Federal Financial Management, *Core Financial System Requirements* (Washington, D.C.: January 2006), states that a core financial system must deliver workflow capabilities including integrated workflow, workflow process definition and processing exception notices.

effectiveness of GFEBS, and that they are working with DOD to resolve the problem.

- GFEBS lacks the ability to run ad hoc queries or to research data to resolve problems or answer questions.¹⁹ The Army has recognized this limitation and is currently developing a system enhancement that Army officials expect will better support the users' needs.
- Manual workarounds are needed to process certain accounts receivable transactions such as travel debts. DFAS personnel told us that this problem is the result of the improper conversion of data transferred from the legacy systems to DEAMS.
- DFAS officials indicated that they were experiencing difficulty with some DEAMS system interfaces.²⁰ For example, the interface problem with the Standard Procurement System has become so severe that the interface has been turned off, and the data must be manually entered into DEAMS.
- DFAS officials told us that DEAMS does not provide the capability—which existed in the legacy systems—to produce ad hoc query reports that can be used to perform the data analysis needed for daily operations.²¹ They also noted that when some reports are produced, the accuracy of those reports is questionable.
- Army and Air Force officials told us that they have plans to address these issues, and the Army has plans to validate the audit readiness of GFEBS in a series of independent auditor examinations over the next several fiscal years. For DEAMS, the DOD Milestone Decision

¹⁹Office of Federal Financial Management, *Core Financial System Requirements*, states that a core financial system must provide an integrated ad hoc query capability to support agency access to and analysis of system-maintained financial data.

²⁰Office of Federal Financial Management, *Core Financial System Requirements*, states that a core financial system financial transaction can be originated using multiple external feeder applications. These feeder systems and the core financial system must interface seamlessly so that data can move effectively between them. The core system must be able to process and validate the data independent of origination. There must also be a process for handling erroneous input and correction.

²¹Office of Federal Financial Management, *Core Financial System Requirements*, states that a core financial system financial transaction must deliver an integrated ad hoc query capability to support agency access to and analysis of system maintained financial data.

Authority²² has directed that the system not be deployed beyond Scott Air Force Base until the known system weaknesses have been corrected and the system has been independently tested to ensure that it is operating as intended.

**Financial Management
Compliance**

To be efficient and effective as accounting and financial and business information tools, DOD's ERPs must be able to process information according to accounting and financial reporting standards. However, this has not always been the case.

In a November 2010 report,²³ the DOD IG stated that after more than 10 years in development and a cost of \$1.1 billion, the Army's LMP system was not compliant with the U.S. Government Standard General Ledger, which supports the consistent recording of financial information and the preparation of standard reports required by the OMB and the Department of the Treasury. Agencies are required by law²⁴ to maintain financial management systems that "comply substantially" with the Standard General Ledger, which contains two series of accounts—budgetary accounts used to recognize and track budget approval and execution and proprietary accounts used to recognize and track assets, liabilities, revenues, and expenses. Specifically, the DOD IG found that LMP did not contain 42 general ledger account codes necessary to record the Army working capital fund financial transactions. As a result, LMP cannot record all working capital fund transactions correctly and will therefore continue to inaccurately report financial data for the Army's working capital fund operations.

The DOD IG report further noted that the Army and DOD financial communities had not established the appropriate senior-level governance needed to develop, test, and implement the financial management

²²The Milestone Decision Authority is the senior DOD official who has overall authority to approve entry of an acquisition program into the next phase of the acquisition process and is accountable for cost, schedule, and performance reporting, including congressional reporting.

²³DOD Inspector General, *Insufficient Governance Over Logistics Modernization Program System Development*, D-2011-015 (Arlington, Virginia: Nov. 2, 2010).

²⁴Federal Financial Management Improvement Act of 1996, Pub. L. No. 104-208, div. A, title VIII, § 803, 110 Stat. 3009, 3009-390 (Sept. 30, 1996).

requirements and processes needed in LMP to record Army Working Capital Fund financial data at the transaction level. As a result, LMP was not substantially compliant with the Federal Financial Management Improvement Act of 1996.²⁵ The DOD IG also reported that the system also did not resolve any of the Army Working Capital Fund internal control weaknesses. The report concluded that the Army will need to spend additional funds to comply with U.S. Government Standard General Ledger requirements and achieve an unqualified audit opinion on its Army Working Capital Fund financial statements.

GAO will continue to monitor the department's progress of and provide feedback on the status of the department's financial management improvement efforts. More specifically, we are in the process of finalizing our work related to GFEB and DEAMS.

Closing Comments

DOD has invested billions of dollars and will invest billions more to implement the modern business systems it will rely on for timely, accurate, and reliable information in managing its financial and other business operations, preparing auditable financial statements, and maintaining accountability for its stewardship of public funds. Too often, though, costs exceed estimates by millions as system-development programs run years behind schedule. Even with extended periods of development, we have found new systems that are missing interfaces needed to integrate them with existing systems while others, slated to replace legacy systems, are delivered without some of the functionalities performed by the systems they are expected to replace. Meanwhile, the department continues to operate largely in the duplicative, stovepiped environment of its legacy systems.

The continued deficiencies in the development and implementation of its ERPs also erode savings DOD has expected to accrue as a result of more-efficient business systems. While the implementation of the ERPs is a complex, demanding endeavor, the success of these systems is critical if DOD is to reach its auditability goals. Effective planning and implementation and the best efforts of a committed leadership, management, and staff will be critical.

²⁵Pub. L. No. 104-208, div. A, title VIII, 110 Stat. 3009, 3009-389 (Sept. 30, 1996).

Mr. Chairman and members of the panel, this concludes my prepared statement. I would be pleased to respond to any questions that you or other members of the panel may have at this time.

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DOCUMENTS SUBMITTED FOR THE RECORD

OCTOBER 27, 2011



Office of the
DEPUTY CHIEF
MANAGEMENT OFFICER

Best Practices in Data Conversion

Best Practices in Data Conversion	1
Activities for Data Conversion	1
Conversion Strategy and Planning	1
Observed Best Practices in the Federal Sector	2
Design and Technical Approach	3
<i>Conversion Programs</i>	3
<i>Mock Conversion</i>	3
<i>Additional Use of Conversion Data</i>	3
Elements to Convert	4
Data Readiness	4
Level 1	5
Level 2	5
Level 3	6
Level 4	6
Categories of Data Conversion	6
Roles and Responsibilities	8
Conversion approach and associated complexity	9
Definitions of complexity	9
<i>Low:</i>	10
<i>Medium:</i>	10
<i>High:</i>	10
Sample Conversion Deliverables	11
Table: Conversion Deliverables (DO – Data Owner, SI – System Integrator)	11

Best Practices in Data Conversion

This document highlights some of the best practices in data conversion in particular as it relates to ERP data conversion in the Federal Sector. It outlines the scope of activities related to data conversions, common best practices utilized in conversions, types of data elements to be converted, data conversion tasks and finally a discussion on data readiness.

Activities for Data Conversion

Conversion Strategy and Planning

Data conversion is a critical element associated with a successful system implementation. The initial step in planning for a successful conversion is the development of a conversion strategy to act as the road map for identifying the scope of activities that need to be addressed as part of a successful conversion.

The strategy also serves as the high-level approach for the design and execution of the conversion process. It defines the scope, sets parameters of the conversion, and identifies what and how much data will be converted. It does not cover specific conversion designs, conversion build plans, conversion test plans, or conversion timeframes. Rather, it establishes the parameters within which these items are defined.

After completing the strategy, an overarching conversion plan should be developed. This detailed document should be created and approved by the full conversion team comprised of legacy system/business process experts, target system/business process experts, and data conversion experts.

There are several key elements to successful Conversion Strategies and Conversion Plans and specific elements may reside in the Conversion Strategy, Conversion Plan or other project documents based on the methodology adapted by the program and the program's integrator. Because of these variations, rather than defining specific document requirements, a single list of areas that need to be addressed as part of a successful conversion are identified below:

- *Issues and Risks* associated with the data conversion
- *Conversion Assumptions*, including all contractual assumptions regarding roles and responsibilities between the government and the integrator
- *Critical Milestones and dependencies*, includes the timeline and check points in the process
- *Resource Plans*, including the timing and level of effort required by both internal and external resources
- *Primary Points of Contact* for all key technical and functional experts, particularly as they relate to legacy systems
- Plan for developing *Memorandum of Agreements (MOAs)* with all stakeholders involved in the design, development, testing and execution of the conversion
- *Rollback planning*, in the event that production needs to shift back to legacy system(s) after conversion has taken place and the new system has gone operational.
- The anticipated level and type of *Data Cleansing* needed as part of the Conversion Plan.
- The *Scope* of the data conversion, including the type of data, level of detail, and legacy systems
- If applicable, the potential impact that the conversion strategy would have on legacy system *Decommissioning Plans* (e.g. placement of historical data)
- The *Conversion Approach* to be used for each type of data
- *Test Plans*, including clearly defined exit criteria for successful test execution

Observed Best Practices in the Federal Sector

While there is no best way to complete a data conversion, the following items are generally observed best practices that may to varying degrees apply to Federal sector implementations:

- A key element of data readiness is to commence data cleansing activities in well in advance of conversion rather than as part of conversion
- Conversion on fiscal year breaks
- Convert all the “active” master data (customers, vendors, items, etc.). Make sure duplicates have been eliminated as part of the data cleansing.
- Conversion of open items at the transaction level
- Conversion of closed business and historical activity at the trial balance level
- Consider the implementation of a data mart for storing historical transactions are stored in a denormalized manner. This allows for easy access of historical data and facilitates the ability to decommission legacy systems.
- Cancel all outstanding open M-Year Obligations, Accruals and Accounts Payable activity prior to executing conversion (this is a key consideration for executing conversion at the fiscal year break)
- Minimize the amount of open transactions immediately prior to conversion (e.g. for systems that create ready to pay files, a freeze on all disbursement activity sufficiently in advance of conversion so as to be able to confirm that all payments were successfully disbursed prior to conversion).
- Conversion around peak business cycles (e.g. an acquisition system that has increased business activity due to fourth quarter reprogramming)
- Write-off all aged debt with a low likelihood of collection
- Review and consider revising upwards Agency policy thresholds for tracking accountable property and capitalization thresholds
- Review dollar thresholds in legacy system for tracking accountable and capitalized property and remove items from conversion that fall below Agency policy thresholds
- System Source: All transactions that are converted should be identifiable with a transaction source type of “conversion/converted” this rule applies to interfaced transactions after go-live as well.
- Validation – Manual: After extraction from legacy system, provide user friendly screens and spreadsheets for the business users to validate and correct data before loading it into the system.
- Validation – Automated: Since all transactions cannot be manually validated plan to have controls in place to validate the data in an automated manner. Validation points are (1) after extract from legacy, (2) after transformation into destination format and (3) after loading into new system. Remember Legacy does not equal ERP so make sure you account for the data and transaction controls appropriately.
- Post go-live: There is a possibility that post go-live you may need to convert additional data that was missed. Plan for that and keep the programs/screens developed pre go-live at hand
- Closed Transactions: Plan for the potential risk of entering duplicates and making duplicate payments on invoices or shipping products twice or sending duplicate invoice to customers. This can not be avoided completely but can be reduced. A large number of programs would make this a manual process where the person entering certain information would need to manually log into the read only version of legacy and query the transaction to make sure an existing record does not already exist. This issue is compounded if there are multiple systems that need to be queried. By leveraging a data mart for conversion of historical activity simple screens can be developed to access the data manually or a simple database trigger can be written to go check for duplicates against the data mart for key elements.

Design and Technical Approach

The design and technical approach outlines all tasks to be performed and the methodology for their performance.

An important part of the design process is data mapping both at the field and value level. This will uncover missing data elements required to support the business, reveal data inconsistencies, and identify required translation rules. Careful mapping also provides more accurate information on the time and resources required for developing conversion programs.

When mapping data elements, it is necessary to determine which data is:

- To be transferred
- To be translated / converted
- Redundant
- Missing
- To be verified / balanced / reconciled

Data gaps and issues will be documented, in accordance with the project issues management process, and resolved early in the process to minimize the overall impact to the design of the new system. Tools and data dictionaries will be utilized to complete the mapping process efficiently.

Data conversion design determines the automated or manual method of implementation and the overall design specification. Depending upon the data accuracy, complexity, number of records, technology used and time constraints, data conversion can be automated or performed manually. For automated methods, detailed specifications, unit test plans, and reconciliation procedures must be designed. For manual processes, data entry procedures must be developed.

Conversion Programs

By using the designs, technical approach, and other program specifications conversion programs are developed along with reconciliation queries, and automated scripts (e.g., batch scripts). Each is unit tested according to test plan approved earlier in the process.

Mock Conversion

The mock conversions serve as “dry runs” of the entire data conversion process and provide the opportunity to record timing statistics. This tests the programs and allows for fine tuning that will expedite the conversion itself.

Once the mock conversion tests have been executed, the results are analyzed and documented to note any performance issues, timing and dependency constraints, and changes required to the conversion procedures and programs. Output from this task is recommendation for the cut over Plan, which also includes timing of the conversion execution. The time required for the full conversion of data from source to target systems is an important consideration in the implementation stage of the lifecycle, since it will be necessary to have accurate scheduling information available when the system is brought live.

Additional Use of Conversion Data

During the mock runs the conversion software will be executed to convert legacy tables into a test environment to support the testing according to the schedule requirements defined in the project plan. This activity involves the loading and reconciling of converted data and is comprised of the iterative

process of executing the test, correcting any deviations, and re-testing as needed. Lessons learned from the performance test data conversion will be incorporated into the final conversion plan.

Elements to Convert

Data conversion involves identifying what data needs to be converted, identifying how much data to convert, determining the best method to convert the data, and verifying that the data was converted accurately and completely. The data conversion effort will consist of specific stages with exit and entry criteria.

There are a few conversion options available: manual entry, automated entry, or no entry. It is important to note that the conversion approach is chosen on a table-by-table basis, the decision usually driven by the volume of data stored in the table. In addition to sheer volume playing a role in the ultimate decision, the complexity of defining field values specific to new system may become the deciding factor. In some cases, COTS tables call for data that cannot be extracted or derived from a legacy system. Rather than develop complex programs to handle these individual cases, it is more efficient to designate the tables as manual entry.

For those tables that are to be converted using the automated approach, programs should be written to extract and format the data so that it is compliant to standards. These conversion programs should follow the same SDLC as the base software. It is also important to test the programs thoroughly as one would the software itself.

The wrong strategy:

- Convert nothing – start fresh
- Convert everything – get all the data from the legacy system so that it is readily available (remember LEGACY does not equal to ERP)

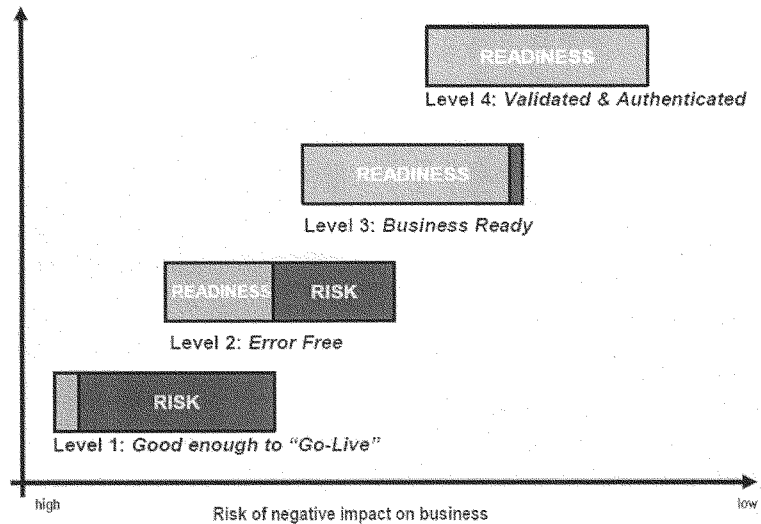
The right answer is in the middle and it truly depends on the organization, level of BPR being done, scope of the project, volume of legacy data, daily transaction volumes, number of users, and business criticality of the application, organizational maturity and finally number of legacy systems being migrated/subsumed.

Data Readiness

Data cleansing activities should commence well in advance of conversion activities, preferably in advance of the actual solicitation process for the system integrator. The focus of the data cleansing effort is to achieve a high level of data readiness. Unfortunately, the typical approach to data cleansing is to significantly under-estimate the level of data cleansing required for a successful conversion effort. This entails a high level of business risk and subsequently cost in error correction, duplication and continued cleansing.

The diagram below provides an overview of the four levels of data readiness.

The Four Levels of Data Readiness



Level 1

The first level of data readiness, which is often referred to as *"good enough to Go-Live"*, is the point where a company accepts an error rate simply to get the system up and running rather than risk further delays, frequently because the project has already extended far beyond the estimated dead-line or may face the dreaded costly delay postponing go-live. Most implementations face this critical point regarding data, and the business ramifications of that "acceptable" level of error are often unknown for some time. The problem is mainly that this process is common practice and most companies are never presented with alternatives other than accepting the "apparent status quo" of data chaos.

Level 2

Realizing that the bar can be raised because there is no reason to settle with an "acceptable" error rate and that data must be error free is the first step in moving towards the second level of data readiness. At this level, all data that is loaded into COTS is accurate. One might wonder why error free is not the standard, but the reality is that many managers are forced to compromise their expectations through a project's lifespan because of a flawed or absent data migration methodology that leaves them swinging in the wind as configuration and other problems dominate the planning focus of the implementation team.

Level 3

To most people it may seem that error free is the highest level of data readiness – what else is there to gain? Well, at this level you are only assured that the data that has been loaded is error free. Not that all business critical data has been loaded. So to make sure that no data is omitted it is necessary to climb one more step to become business ready. This means that the data as business objects is tracked through normal business procedures assuring that all necessary data is available and loaded error-free and will have zero negative impact on the daily business of the firm when executed on go-live.

Level 4

Throughout all levels of data readiness, data should be validated and traceable but for particular industries needing to adhere to legal restrictions, this final step of validation is a legal or moral necessity. As an example, a company dealing with life sciences not only needs to validate and trace the changes but an authentication of these changes must be recorded as well, so that responsibility can be determined as necessary to meet federal regulations.

Categories of Data Conversion

The table below provides an initial list of categories of business data that should be converted to an ERP. The final list will depend upon the source systems and the scope of the project. Particular emphasis should be placed on data cleansing activities where data has a High COTX Complexity and a high volume.

No.	Category	Conversion Item/Type	Attributes	COTS Complexity
1.1	Setup Data (Master Data)	Suppliers (Vendors)	Active and inactive vendors that are associated to any document that will be converted	Low
1.2		Customers	Active and inactive customers that are associated to any document that will be converted	Low
1.3		Employees	Active employees	Low
1.4		Inventory/Service Logistics Items	Active or referenced items	Low
2.1	Budgets	Appropriation Data	All open, expired, and non-cancelled appropriations	Medium

2.2		Budgets (Funds Control Limits)	All open budgets	High
3.1	Intra Defense Organization Orders	Un-fulfilled customer orders	All unfulfilled customer orders	Medium
4.1	General Ledger	Account Balances	All open GLs	High
5.1	Cost and Payment Management	Commitments	All open commitments	Medium
5.2		Obligations	All open obligations	Medium
5.3		Invoices/Entitlements	All invoices that are unpaid (fully or partially)	Medium
6.1	Procurement	Contracts	All open contracts	Medium
6.2		Receipts	All partial and full receipts	Medium
7.1	Billing and Accounts Receivable	Receivables	All open receivables	Medium
7.2		Bills	All bills that have not been collected (fully or partially)	Medium
8.1	Asset Management	Assets	All records associated with assets such as CIP, PP&E, and military equipment	Medium
9.1	Cost Accounting	Costs	Costs for labor, travel, and other miscellaneous items that are costed	High

9.2	Project Tasks & Task elements	All open projects and task elements (either open or closed) related to these open projects.	High
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Roles and Responsibilities

Both the Government and the System Integrator(s) have a role in data conversion. The Government is primarily responsible for understanding the business process and the data elements associated with them. They will also have responsibility for the legacy system environment.

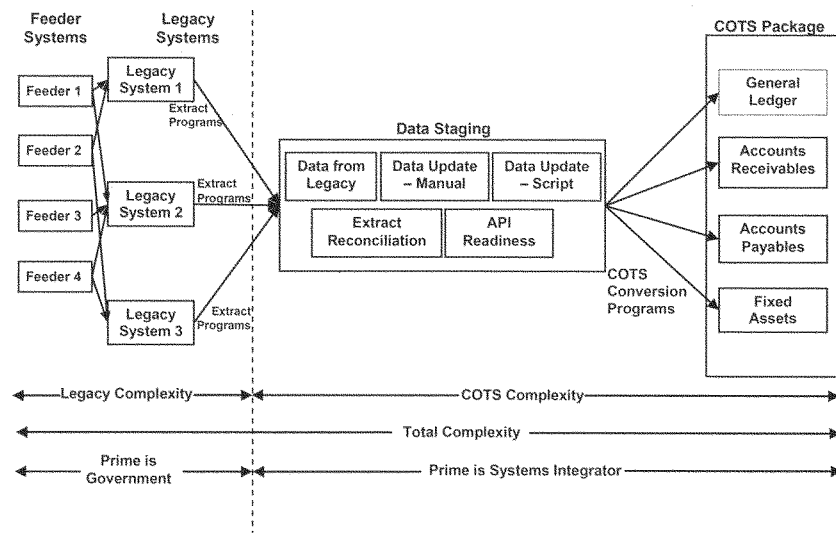
This table provides an illustrative overview of the types of tasks & responsibilities of the entities that are involved in a data conversion effort.

Table: Conversion Roles & Responsibilities (DO – Data Owner, SI – System Integrator)

No.	Task/Activity	Primary Responsibility
1.	Confirm legacy source systems (systems of record) and inventory of data to be converted including approximate data volumes	DO
2.	Develop Baseline Detailed Conversion Plan	SI
3.	Assess data quality	SI
4.	Recommendations and options for data cleansing	SI
5.	Data cleansing	DO
6.	Recommendation on conversion method (automated vs. manual)	SI
7.	Develop detailed Business Reconciliation Plan	SI
8.	Test and simulate Business Reconciliation Plan	SI
9.	Execute Business Reconciliation Plan (post-conversion)	DO
10.	Develop legacy data extract strategy, approach, logic and format	SI
11.	Develop legacy data extract programs and scripts	DO
12.	Execute legacy data extracts	DO
13.	Make recommendations on conversion method	SI
14.	Design data mapping from legacy extracts to COTS	SI
15.	Prepare and commission Conversion Instance	SI
16.	Design, develop, and test conversion programs including automated conversion tools	SI
17.	Develop detailed conversion test plans	SI
18.	System testing of converted data	DO
19.	Conduct manual conversions	DO
20.	Develop Conversion Fallback Plan	DO
21.	Test and simulate Conversion Fallback Plan	SI
22.	Make recommendations on conversion Waves for conversions spanning multiple fiscal years	SI
23.	Make decisions on recommendations on conversion increments for conversions spanning multiple fiscal years	PM

Conversion approach and associated complexity

The Government will have primary responsibility for performing the tasks associated with the Legacy Complexity Stage (shown to the left of the dotted line) and the System Integrator(s) will have primary responsibility for performing the tasks associated with the COTS Complexity Stage (shown to the right of the dotted line).



Definitions of complexity

Legacy complexity is defined as the complexity inherent in data cleansing, cross walking legacy data elements between true source system(s) and other systems of reference (i.e. feeder systems), and designing and developing programs to extract data from the legacy and feeder systems. The data that is extracted at this stage will feed the 'Data Staging' system in the following stage.

Assessment of legacy complexity is 'high' for the following reasons:

- There are multiple source systems for data in the legacy environment
- The COTS package will require additional data attributes that are not readily available in the legacy environment. For example, information that will be required for SFIS may be missing, and
- The current 'quality' of legacy data may not meet audit standards

The Systems Integrator(s) will be responsible for the COTS Complexity Stage. COTS complexity has two main activities, data staging and COTS conversion. During data staging, the Systems Integrator(s) will design and develop the data staging system. Legacy data using extract programs will be imported into the data staging system, data updates including assigning a mapping to SFIS elements will be performed by script or manually, reconciliations of the extracts will be performed and the functional Subject Matter Experts will help perform and confirm the mapping during the API Readiness process.

After the data staging activity, the Systems Integrator(s) will perform the COTS conversion. For COTS conversion, COTS conversion programs will be designed and developed that will import data from the data staging system into the COTS package. The COTS conversion programs will ensure that the necessary data fills the required data tables in each of the COTS areas (i.e. General Ledger, Accounts Receivables, Accounts Payables, Fixed Assets, etc.).

The matrix given below provides an initial assessment of the COTS complexity of conversions proposed for the listed data categories. COTS complexity is rated on a scale of High, Medium, and Low. Definitions of COTS complexity rating are as given below:

Low:

- Data is being extracted from one source system (a system or set of systems with identical configurations)
- No historical data is being converted
- Effort to design, develop, and unit test conversion programs/scripts is in the range of 120 – 199 person hours
- Standard off-the shelf conversion tool(s) with basic tool setups can be used to perform conversion
- Programs/scripts that require 10 – 40 person hours of development effort to conduct extract and conversion reconciliations

Medium:

- Data is being extracted from 1 – 3 source systems (a system or set of systems with identical configurations)
- Some (1 – 18 months) historical data is being converted
- Effort to design, develop, and unit test conversion programs/scripts is in the range of 199 – 350 person hours
- Standard off-the shelf conversion tool(s) requiring advanced setups and other updates/modifications to the tool to perform conversions
- Programs/scripts that require 41 – 80 person hours of development effort to conduct extract and conversion reconciliations

High:

- Data is being extracted from more than 3 source systems (a system or set of systems with identical configurations)
- Significant (more than 18 months) historical data is being converted
- Effort to design, develop, and unit test conversion programs/scripts is greater than 350 person hours
- Standard off-the shelf conversion tool(s) requiring advanced setups and other updates/modifications to the tool to perform conversions
- Programs/scripts that require 81 – 120 person hours of development effort to conduct extract and conversion reconciliations

Sample Conversion Deliverables

This section provides a sample list of Deliverables based on ERP implementation. This is not meant as an authoritative list given that there can be significant variations the number and types of deliverables based on the nature of the conversion and the methodology being used. Rather, this list is provided for illustrative purposes to provide insight into the types of deliverables that may be created.

Table: Conversion Deliverables (DO – Data Owner, SI – System Integrator)

No.	Deliverable Name	Primary Responsibility
1.	Inventory of data to be converted, including approximate data volumes	DO
2.	Conversion approach and plan, including recommendations on conversion method, data extract strategy, conversion resources, and timelines.	SI
3.	Data quality assessment report including cleansing assessment, approach, and tools.	SI
4.	Conversion business reconciliation plan	SI
5.	Conversion business reconciliation and audit reports	SI
6.	Conversion design documents including detailed data mapping	SI
7.	Automated conversion scripts and automated tool	SI
8.	Conversion test plans	SI
9.	Conversion instance strategy and plan	SI
10.	Conversion test results & reports	SI
11.	Conversion issues, recommendations, and resolutions	SI
12.	Fallback Contingency Plan	SI
13.	Conversion test results and reports from conversion contingency plan	SI
14.	COTS instance with converted data that supports Organization Operations	SI

**WITNESS RESPONSES TO QUESTIONS ASKED DURING
THE HEARING**

OCTOBER 27, 2011

RESPONSE TO QUESTION SUBMITTED BY MR. YOUNG

Ms. McGRATH. The Department is actively applying its lessons learned to the entire lifecycle of business systems. As a result of the DIMHRS experience, we have implemented and reinforced several key strategies to enable ERP integration.

First, business processes must be consistently applied and data must be consistently defined so the Department can have the visibility to make effective, informed decisions. We continue to improve business system interoperability by sufficiently defining the business and solution architectures using a standard methodology and with tools based on open standards. Our Enterprise Information Web (EIW) capability, for example, gives decision-makers enterprise visibility and access to financial, personnel and asset data across the DOD enterprise and its domains to support planning and policy development. The EIW's semantically-based technology aggregates data using established standards, regardless of code values or format, to support analysis and decisions in a near real-time environment.

Second, the Department has instituted formal governance bodies to enforce standards compliance. Three- and Two-Star level governing councils were dedicated to resolving post-DIMHRS transition issues, establishing rules of engagement for enterprise-level system implementation, and proactively addressing emerging or potential concerns. Finally, the Department remains committed to a transparent and collaborative approach to communication. Both during and following DIMHRS, the Department sought to make decisions openly and in partnership with stakeholders and to facilitate expectation management. Cross-Service and Department-wide teams at tiered levels have eased collaboration by fostering an open forum for information sharing. The recognition of consistent standards and data as the key to business system interoperability, substantiated by governance and transparency, has enabled the Department to use the lessons of DIMHRS as a platform for successful ERP implementation. [See page 12.]

RESPONSE TO QUESTION SUBMITTED BY MR. ANDREWS

Mr. KHAN. As discussed in our October 2010 report the originally scheduled fiscal year for full deployment and the actual or latest estimated fiscal year for full deployment were 2011, in both cases. As noted in the report, the information was provided by the GFEBS program management office. Subsequently, the Army's Deputy Chief Management Officer's October 27, 2011 testimony before the Panel stated that GFEBS will be fully fielded to all approved users by July 1, 2012. [See page 13.]

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

OCTOBER 27, 2011

QUESTIONS SUBMITTED BY MR. CONAWAY

Mr. CONAWAY. Please provide the number of “legacy” systems currently in use to support business functions (e.g., financial management, acquisitions, logistics, personnel, etc) for each Service and the Fourth Estate. For each of the ERPs being implemented, please provide the number of legacy systems that will be retired and the estimated cost savings or cost avoidance once each of these ERPs are implemented. Furthermore, provide an explanation for the reasoning for not retiring the systems that will not be retired once the ERPs are implemented.

Ms. MCGRATH. [The information was not available at the time of printing.]

Mr. CONAWAY. At what level are decisions made to retire/maintain legacy systems and approve ERP customizations?

Ms. MCGRATH. [The information was not available at the time of printing.]

Mr. CONAWAY. Historically, the quality and integrity of the data undergoing conversion is a major contributor to schedule slippages and cost increases for ERP systems. What lessons are you applying from past problems with data conversion and data cleanliness to improve future outcomes for ERP deployments?

Ms. MCGRATH. The lessons learned from the Department’s early challenges with data conversion have been incorporated into the document “ERP Data conversion—Best Practices” that has been made available in the Department’s Enterprise Integration Toolkit, which is posted on the defense acquisition community’s internal collaboration website. [This document can be found on page 83.]

Mr. CONAWAY. As the ERPs are implemented, what type of training is each of the users receiving? Is this training incorporated into broader training explaining the importance of good financial management?

Ms. MCGRATH. Each of our ERP programs is delivering a diverse set of training courses to educate the workforce in preparation for implementation. The types of training that are offered include, Computer Based Training (CBT), Web based training, Train the Trainer, Instructor Led Training (ILT), and Classroom/School-house Training. These classes are coupled with extensive hands-on exposure in the testing and training environment before the users are allowed in the production environment. Additionally, in-depth assistance is generally offered at go-live for a period of 30 to 60 days at each site by expert trainers and super-users and refresher training is offered on a recurring basis or as new capabilities are introduced.

While training on specific ERP systems has generally not been incorporated into the Department’s overarching financial management training courses, the importance of strong technology controls and the role of the ERPs in our overall audit environment have been incorporated.

Mr. CONAWAY. Please provide the number of “legacy” systems currently in use to support business functions (e.g., financial management, acquisitions, logistics, personnel, etc) for each Service and the Fourth Estate. For each of the ERPs being implemented, please provide the number of legacy systems that will be retired and the estimated cost savings or cost avoidance once each of these ERPs are implemented. Furthermore, provide an explanation for the reasoning for not retiring the systems that will not be retired once the ERPs are implemented.

Mr. LEWIS. The Army uses 720 business systems currently to support business functions. The Army is developing/modernizing four ERPs. The development of these ERPs will allow the Army to retire 100 systems and partially subsume 39 others.

Overall, cost savings/avoidance is estimated in excess of \$382 million. This does not include any cost savings/avoidance attributable to IPPS—A fielding, because that cost position is still under review. The following are numbers of systems that will be retired or subsumed associated with each ERP and estimated cost savings based upon their business cases:

- General Funds Enterprise Business System (GFEBS) fielding has resulted in 13 legacy systems being retired and an additional six systems being partially subsumed. Upon completion of GFEBS fielding, an additional 55 legacy systems will be retired and 39 systems partially subsumed. The cost savings/avoidance associated with GFEBS implementation is estimated to be \$60 million.

- Logistics Modernization Program (LMP) fielding will result in two legacy systems being retired. The cost saving/avoidance is estimated to be \$313 million.
- Global Combat Support System–Army (GCSS–A) fielding will result in seven legacy systems being retired. The cost savings/avoidance is estimated to be \$9 million.
- Integrated Personnel and Pay System–Army (IPPS–A) fielding will result in 56 legacy systems being retired. The cost savings/avoidance has not yet been finalized, pending the completion/approval of the cost-benefit analysis.

Some systems will not be retired because they are non-Army systems that support other DOD Organizations, while some will continue to provide some functionality that is not provided by the ERP solutions. Others will be partially sunset because the native functionality will be performed by the ERP.

Mr. CONAWAY. At what level are decisions made to retire/maintain legacy systems and approve ERP customizations?

Mr. LEWIS. Within the Army, the Secretary of the Army provides oversight, but has delegated responsibility for retiring/maintaining business systems management and approving customizations to the functional proponent, HQDA 3 Star or higher. This is consistent with statutory language found in 10 USC 2222 and DOD implementation guidance. Given this authority, the functional proponent decides which legacy systems to retire or sustain to support their business function. The functional proponent incorporates senior level guidance provided during the PPBE cycle, the capabilities required to execute their Title 10 responsibilities, cost-benefit analysis, and other Army initiatives into their decision-making process.

During the systems review process, the functional requirements are reviewed at proponent, Army and OSD levels for Major Automated Information Systems (MAIS). As part of the acquisition review and approval for MAIS systems, the cost benefit analysis for investment in an ERP includes the benefits and savings associated with legacy business systems that are being partially or fully subsumed by the new system.

The Army also established the Business System Information Technology Executive Steering Group (BSIT) in February 2011, to govern enterprise resource planning (ERP) and other business systems using a structure that fully reflects enterprise considerations and employs business process analysis and systems portfolio management principles. The governance structure will ensure end-to-end business processes support mission requirements. The BSIT forums will review existing governance forums and authorities for IT requirements, resourcing, technical standards and acquisition and make recommendations to the Chief Management Officer of how to improve and streamline IT governance.

Mr. CONAWAY. Historically, the quality and integrity of the data undergoing conversion is a major contributor to schedule slippages and cost increases for ERP systems. What lessons are you applying from past problems with data conversion and data cleanliness to improve future outcomes for ERP deployments?

Mr. LEWIS. The key lesson learned regarding the quality and integrity of the data undergoing conversion is to ensure that extensive planning is completed early enough in the program development to accurately migrate and cleanse data.

The lessons learned from the initial release of LMP taught us a great deal about data conversion/data cleansing, which we have incorporated into all our ERP efforts. It is critical to have accurate data prior to the fielding of ERP systems to ensure reliability. The Army's Enterprise Data Management Office, a component of the US Army Logistics Support Agency, are applying lessons learned from LMP deployments to assist with cleansing legacy logistics systems' data in support of GCSS–Army fielding development.

In addition, the Army has incorporated Army Enterprise System Integration Program (AESIP) into the GCSS–Army program to serve as a data broker between ERP and non-ERP logistics systems. AESIP provides a degree of quality assurance for data and translates the data into the common format.

The financial audit activities supporting our 2014 and 2017 auditability goals will provide assurances that GFEBS is an accurate and reliable source for financial information. IPPS–Army will eventually consolidate all components into one database, replacing numerous legacy systems, and will consolidate personnel and pay. Ensuring data quality and integrity data is the primary goal of Increment 1. For that reason, the Army has placed the data consolidation at the beginning of the acquisition lifecycle for IPPS–Army.

Mr. CONAWAY. In your testimony, there is no mention of the Army Enterprise System Integration Program (AESIP) system. What is it, and why is it important to the Army's overall strategy for ERP implementation?

Mr. LEWIS. AESIP integrates business processes and systems by serving as the Enterprise hub for the Army's logistics and financial ERP business systems. It enables integration by linking business processes and data across existing IT systems. This integration optimizes business processes and supports Enterprise-level information requirements. AESIP has successfully delivered a Web-based solution for the creation and management of customer and vendor master data and implemented an optimized messaging and hub services capability.

AESIP has been operational since 2006 delivering customer, vendor, and material master data to systems across the Army and to the Defense Logistics Agency—this includes the data flowing to legacy systems currently being used in Iraq and Afghanistan. GCSS-Army and AESIP program costs are evaluated and managed together (AESIP is part of GCSS-Army). These costs have been validated by the Office of the Secretary of Defense, Cost Analysis and Program Evaluation (CAPE) division. Additionally, the Deputy Assistant Secretary of the Army for Cost and Economics has approved these anticipated life cycle costs and associated benefits.

The major systems supported by AESIP are: Global Combat Support System-Army (GCSS-A), the tactical logistics system; Logistics Modernization Program (LMP), the national logistics system; and General Fund Enterprise Business System (GFEBS), the Army's financial system. In addition, AESIP provides integration services for Non-Army systems and enduring non-ERP systems.

Mr. CONAWAY. As the ERPs are implemented, what type of training is each of the users receiving? Is this training incorporated into broader training explaining the importance of good financial management?

Mr. LEWIS. As each ERP is fielded, training is provided at all levels, from the person entering data up to senior level management. Training consists of new equipment training (both computer based (CBT) and instructor led (ILT)), business process training, audit-readiness training, post-deployment/sustainment training and refresher training. The training provided is to standards and competencies demonstrating proper internal controls.

The Project Manager for each of the new ERPs develops and delivers "new equipment training" which is focused on how to perform tasks in the ERP. Functional training that focuses on end to end processes and job-based scenarios is also provided. A key focus of business process training has been on the development of cost management competencies to leverage the power of the ERP decision support tools. However, the training curriculum impacts more than just the tasks executed inside of the ERP systems. As a key partner in ERPs implementations, DFAS develops training on the business processes its employees perform which are impacted by the changing ERP environment. To supplement OUSD(C)'s audit-readiness training, the Army has also established Army specific audit readiness and corrective action training for Command and Installation-level staff. Fiscal responsibility and cost culture are also topics in General Officer and SES training courses.

The Army, along with the DOD, has maintained an active professional development program for its Comptroller career field including civilian and military personnel. The Functional proponent for Financial Management is working closely with the Army's Soldier Support Institute to ensure course material provided to the financial management workforce incorporates the new financial management systems. Course materials would include, but are not limited to, use of the new ERPs, principles of sound financial management, principles of cost management, managerial accounting, etc. The context of these courses reinforces efforts to satisfy audit standards, but go further to developing a fiscally responsible workforce.

As an example, every course in our GFEBS curriculum (except those focused on specific user groups, e.g., power users, Governance, Risk, and Compliance (GRC) approvers, Army Learning Management System (ALMS) training coordinators) is provided by GFEBS to the end-user. We engage users through workshops, CBT and ILT delivery methods, and we do not rely on the gaining organizations to take over the training delivery in order to go live on GFEBS.

In addition to the formal training, GFEBS also provides 90 days of on-site, over-the shoulder post deployment assistance to help the user gain a confidence in their work and in use of the new system, answering questions and resolving issues which the end user may encounter.

The Army Financial Management School (AFMS) Soldier Support Institute (SSI) plans to provide sustainment GFEBS training starting in FY12. GFEBS is already working with the AFMS to transition the training materials and support their deployment of sustainment training. In addition, GFEBS is also working with United States Army Financial Management Command (USAFMCOM) and Defense Finance and Accounting Service (DFAS) to ensure a complete business process transformation for soldiers and their roles within the system.

Mr. CONAWAY. Please provide the number of “legacy” systems currently in use to support business functions (e.g., financial management, acquisitions, logistics, personnel, etc) for each Service and the Fourth Estate. For each of the ERPs being implemented, please provide the number of legacy systems that will be retired and the estimated cost savings or cost avoidance once each of these ERPs are implemented. Furthermore, provide an explanation for the reasoning for not retiring the systems that will not be retired once the ERPs are implemented.

Mr. FANNING. With the roll-out of Navy ERP, there has been a retirement of 14 legacy systems to date, with 82 more to be retired by 2016. This has garnered a realized cost avoidance of \$116M through FY08–10 with an expected cumulative combined cost savings and avoidance of \$682M through FY2016.

The deployment of the Single Supply Solution enables projected inventory savings of \$276M through FY2017 and expected cost avoidance of \$456M for FY2018 through FY2023.

As the Navy ERP has been deployed to date, some receiving commands, notably Naval Sea Systems Command, found it more cost effective to maintain a few systems whose functions were assumed by the ERP on reduced, maintenance levels to keep critical contract information available for reference versus converting that data for Navy ERP.

In the present fiscal environment, the Department of the Navy and Navy leadership has decided to complete the current Navy ERP program of record, but to suspend any further development. Other system functionalities may be added to the Navy ERP at some future dates, if a business case supports that decision.

GCSS-MC is the Logistics Chain Management tool for the Marine Corps. It is not an overarching ERP since the scope is limited to the Logistics Chain. There are four legacy systems that will be retired through GCSS-MC Increment 1 implementation after attaining Full Deployment in 2nd Quarter, FY13. These systems are listed as follows: SASSY, MIMMS, PC MIMMS, and ATLASS. The estimated cost savings or cost avoidance is \$2M/year. Looking forward, the Marine Corps is adjudicating within the Expeditionary Force Development System (EFDS) process the potential retirement of approximately 30+ legacy systems identified within the Draft GCSS-MC Increment 2 Capabilities Development Document/Business Capabilities Lifecycle (CDD/BCL). The impact of this new capability on these systems still needs to be assessed once a viable GCSS-MC Increment 2 material solution (Capabilities Production Document (CPD)) is designed, developed, tested, approved, and implemented.

Mr. CONAWAY. At what level are decisions made to retire/maintain legacy systems and approve ERP customizations?

Mr. FANNING. Decisions as to what systems would be retired by Navy ERP were made primarily by the Resource Sponsors for Navy ERP and the systems in question; with input from the relevant Functional Area Managers.

ERP configuration changes must be approved by the Navy ERP Senior Integration Board, in which the Assistant Secretary of the Navy (RDA), DON CIO, Deputy Under Secretary of the Navy DCMO, Deputy Assistant Secretaries C4I and AP, the Naval Systems Commands and other receiving commands (e.g., Office of Naval Research) participate.

The decision to retire/maintain legacy systems is made by the Functional Advocate, Deputy Commandant, Installations and Logistics. The approval of ERP customizations, specifically Change Requests (CRs), are made by an Enterprise Configuration Control Board (E-CCB) established by the Functional Advocate. Chaired by I&L, the E-CCB is comprised of members from CD&I, the OpFors (MEFs), LOGCOM, and the MARFORs (MARFORCOM, MARFORPAC), P&R, and C4 for their vetting/approval/prioritization/resourcing of CRs. Other ERP customizations such as Engineer Change Proposals (ECPs) are adjudicated by the E-CCB but deferred to the GCSS-MC Future Requirements Working Group (G-FRWG) for inclusion as a future increment in the draft CDD/BCL developed by CD&I (requirements and capabilities).

Mr. CONAWAY. Historically, the quality and integrity of the data undergoing conversion is a major contributor to schedule slippages and cost increases for ERP systems. What lessons are you applying from past problems with data conversion and data cleanliness to improve future outcomes for ERP deployments?

Mr. FANNING. To document and leverage the lessons learned from each deployment, Navy ERP developed and annually updates the Navy ERP Command Implementation Guidance (CIG). This Guide provides details of the Navy ERP implementation process and key information on structuring a command's implementation teams and efforts for success. It also identifies critical success factors and provides timelines and checklists to help focus a command's resources on the right things at the right time including data conversion and cleansing. Navy ERP establishes Data Conversion Agreements (DCA) with each Command owning a system from which

data will be converted into Navy ERP to ensure the accuracy and timeliness of data exchange between the respective systems. Approximately 24 months prior to deployment, Navy ERP conducts a Deployment Planning Kickoff Meeting with Command to discuss lessons learned including data conversion and cleansing. Navy ERP communicates the need to limit the conversion only to the data needed to execute in Navy ERP. Additionally, Navy ERP hosts a Data Conversion Workshop with Command to review the data conversion requirements, determine what data objects are required from each legacy system data and finalize plans for moving forward, to include the status of Command on-going data cleaning efforts.

Navy ERP and the Command jointly developed a Data Conversion Strategy and Data Load Plan. The Data Conversion Strategy documents the data required to support the conversions and the activities to be performed by the legacy data owners in preparation for the cutover, including validation and reconciliation. The plan is a detailed, networked schedule of data conversion activities from legacy data extraction through data load into the Navy ERP solution. The strategy and plan includes multiple mock conversions and cutover practice to validate data. During the mock conversions Navy ERP provides a sandbox for the Commands to test business process scenarios using their own data allows them the opportunity to test and validate data quality. The Command's extensive use of this environment to complete all data cleansing activities prior to deployment significantly improved the quality of converted data and enabled commands to use the converted data as part of their training which increased user readiness. Successful application of the lessons learned, the extensive data cleansing work by the System Commands and their partnering with Navy ERP resulted in 100% data accuracy for the 3,659,908 converted data objects for the Naval Sea Systems Command Working Capital Fund sites, and 100% data accuracy for the 22,241,247 converted data objects for the Fleet Logistic Centers and their partner sites prior to their deployments in October and November 2011 respectively. Achieving 100% data accuracy for converted data enables commands to complete cutover activities and resume full operations in Navy ERP in approximately six weeks which minimizes impact to command business and ability to support fleet operations.

The lessons learned from the contamination of ERPs by tainted data is resolved up front prior to a unit's cutover into GCSS-MC. BLUF: Contaminated data is NOT loaded into GCSS-MC. Questionable data is "fenced off" and arbitrated outside of the system. Once cleansed, data is loaded in GCSS-MC. Procedurally, a thorough, 12-week cutover process comprising of equipment accountability, personnel training, use of a data cleansing tool, and testing (mock conversions) are conducted before any equipment data is loaded into the system. This stringent process screens/filters is attributable to a high level of data cleanliness. As previously mentioned, all questionable data is identified and segregated for causative analysis by the unit to adjudicate outside of the system and, once the data is cleansed, it is loaded into GCSS-MC. To date, using unit data accuracy is 99% and Marine Corps Logistics Command data accuracy is 98% (with 1%-2% being resolved outside of the system).

Mr. CONAWAY. As the ERPs are implemented, what type of training is each of the users receiving? Is this training incorporated into broader training explaining the importance of good financial management?

Mr. FANNING. Navy ERP end user training strategy incorporates best practices learned from years of private industry experience in training end users of ERP systems. Navy ERP's Business Process Experts, FMO and DFAS participate in all financial functional testing to ensure the system supports existing financial policy/guidance (FMR and U.S. Treasury). Navy ERP training strategy is based on knowledge transfer between the functional and business process experts at Navy ERP, Navy Financial Management Office (FMO) and those at each of the Systems Commands. That transfer begins with extensive business process workshops 18-24 months prior to deployment. The transfer continues through a Train-the-Trainer event generally scheduled four months prior to go-live. The knowledge gained by the deploying command's business process experts is transferred to the command's end users through just in time training events generally scheduled from two months prior to go-live to two months after. Finally, the knowledge transfer is continued through Navy ERP Program Office functional experts deployed to each command site providing over-the-shoulder support directly to command end users from three months prior to deployment through six months post-deployment to ensure effective business operations through the transition period. Basic users, those using primarily time and attendance functions, receive training through Web Based Training course. Power Users, those using more functionality and may have multiple roles, receive Instructor Lead Training provided by their Command's trainers and business process experts. For example, approximately 21,000 basic users and 9,854 power users were trained for the NAVSEA Working Capital Fund deployment and

approximately, 4,500 basic users and 807 power users were trained for the November deployment of the Single Supply Solution to Fleet Logistics Centers and their partner sites.

The Navy ERP Program Office develops and maintains standard training materials. These incorporated both Navy standard financial management guidelines from Navy FMO and industry best practices. The training material consists of:

- Presentations containing business processes and best practice business rules
- Step-by-step work instructions
- Hands-on exercises and supporting data
- Simulations of Navy ERP transactions

Deploying commands have the option of supplementing the standard training materials with additional command-specific information, generally in the form of local business rules and command-specific data sets for hands-on exercises thereby enhancing the importance of the command financial management practices. The Navy ERP Program Office maintains a live training environment for hands-on exercise and practice. The configuration of the training environment is updated to mirror the Production environment once each quarter. The data is revised regularly to reflect changed or new functionality.

GIT works with our Business Process in developing the training materials. GIT is not the owner or lead of the functionality. We get guidance from our BP Teams. Our BP Leads, including Financial BP Leads, work with FMO on development, testing, review and validation of the functionality and compliance matters. The implementation of training and its development for GCSS-MC is twofold. First, training is incorporated into the 12-week cutover process for using units to train users on their Role-Based Access (RBAC) within GCSS-MC. Second, Marine Corps, Training Education Command recently implemented a formal training curriculum for the Formal MOS-producing schools at Marine Corps Combat Service Support Schools (MCCSSS). As with any new curriculum, revisions to the curriculum are being developed to closely align usage of the system in the OpFors and Supporting Establishment. The volume of training received is directly attributable to their specific role within the system (e.g., entry-level users vs supervisors/managers). The formal training developed by TECOM addresses the macro-level issue of good financial management depending on RBAC (e.g., supply or fiscal personnel) from an ethical perspective for requisitions as stewards of taxpayer dollars.

Mr. CONAWAY. Please provide the number of “legacy” systems currently in use to support business functions (e.g., financial management, acquisitions, logistics, personnel, etc) for each Service and the Fourth Estate. For each of the ERPs being implemented, please provide the number of legacy systems that will be retired and the estimated cost savings or cost avoidance once each of these ERPs are implemented. Furthermore, provide an explanation for the reasoning for not retiring the systems that will not be retired once the ERPs are implemented.

Mr. TILLOTSON. LOGISTICS SYSTEMS: There were approximately 400 logistics legacy systems identified and analyzed for ECSS processes, of which 240 will be retired following ECSS full deployment. We estimate information technology savings of \$2B (10-yr lifecycle costs) after ECSS is fully deployed. The persistent systems are a mix of classified systems (ECSS is unclassified only), command- or program-specific systems which manage local processes (e.g., training records or production tooling), outside the scope of ECSS (e.g., military construction and environmental management), or are jointly owned/operated with another DOD component.

PERSONNEL AND PAY SYSTEMS: There are 32 personnel & pay legacy systems within the AF, of which, 20 will be retired following AF-IPPS full operational capability. We estimate \$60M annually in savings on sustainment costs after AF-IPPS is fully deployed. The scope of AF-IPPS is focused upon executing the Pers/Pay mission, and retiring those systems with the highest sustainment costs (including the Air Force Military Personnel Data System (MILPDS) and Defense Joint Military Pay System (DJMS)), producing the most immediate return on investment. The remaining 12 systems are tangential to the core AF-IPPS mission of enabling and executing Personnel to Payroll outcomes (e.g., Wounded Warrior support, promotion board management) and are not targeted to be subsumed into AF-IPPS.

FINANCIAL MANAGEMENT SYSTEMS: The Air Force uses 36 Financial Management systems, 9 of which will be retired from use by the Air Force with Defense Enterprise Accounting and Management System (DEAMS) Full Operating Capability (FOC). At FOC the Air Force expects to save on average \$18M annually by the replacement of legacy information technology systems. The remaining systems are not being subsumed because they contain core functionality outside the DEAMS program scope (e.g., Budget Formulation, Funds Distributions), or are being ad-

ressed by other ERP systems (e.g., Military Pay in AF-IPPS, and Working Capital Fund Accounting in ECSS).

Mr. CONAWAY. At what level are decisions made to retire/maintain legacy systems and approve ERP customizations?

Mr. TILLOTSON. Decisions to retire or maintain legacy systems are made at the Deputy Chief of Staff (3-star level) in Headquarters Air Force. As a matter of course, we do not customize ERPs, but address requirements outside core ERPs through Reports, Interfaces, Conversions and Extensions (RICE).

Mr. CONAWAY. Historically, the quality and integrity of the data undergoing conversion is a major contributor to schedule slippages and cost increases for ERP systems. What lessons are you applying from past problems with data conversion and data cleanliness to improve future outcomes for ERP deployments?

Mr. TILLOTSON. The Air Force Integrated Personnel & Pay System (AF-IPPS), Defense Enterprise Accounting & Management System (DEAMS) and Expeditionary Combat Support System (ECSS) actions described below help summarize the three lessons that we have learned from other ERP efforts. First, initiate the data cleansing effort as early in the acquisition process as possible. Second, the government should take the primary role in getting data cleansed—instead of handing the work off to an external vendor. Third, connect the data effort back to the business rules to make sure every business process performance metric is achieved.

We have made data cleansing an early and very deliberate part of our ERP initiatives. Using lessons learned from the Army and other ERP efforts, ECSS has established a Data Management Organization (DMO) which has implemented ongoing data quality improvements and measurements. The ECSS DMO cooperates with the DEAMS program office in gathering data for review. The processes of the DMO are focused on identifying and executing cleansing tasks in existing operational systems, and these repeatable processes are adapted as additional data quality concerns/targets are identified.

The Air Force has embarked on an extensive clean-up and data cleansing effort to support transition to DEAMS and our other major ERPs in the area of financial management data. To promote consistency among the ERPs, we are also working to ensure data business rules are uniform. Our Financial Management data management team reviews old, unstructured legacy data elements and values, understanding what each data element was designed to represent, and provides structure (one value to one definition) to translate to Standard Financial Information Structure (SFIS). The Air Force Financial Management Data Quality Service (FM DQS) is the Air Force repository for FM data elements and data element values. The Air Force ERPs validate any FM Data request thru FM DQS. A dashboard tracks the data cleansing efforts for management oversight and action. The Air Force also created an application to track the status of open documents (data clean-up) in the accounting system. Tri-Annual Review (TAR) is an application which resides in the FMSuite system. The 3 times a year reviews concentrate on identifying dormant obligations. Resource Advisors (RAs) research each document for validity or closure. Additionally, organizational RAs continually monitor the Open Document List (ODL) and take follow-up action to close unsupported, duplicative, remaining balances, or erroneous documents in the accounting system.

The Air Force has initiated a process for the AF-IPPS implementation well ahead of system development, to ensure that we have a controlled, mature data cleansing operation in place when the data is needed to support development, testing, and transition activities for AF-IPPS. Further, the Air Force is also constructing a Data Management Environment (DME) which will provide the venue and tools for cleansing Personnel and Pay data, and hosting the Services to make the data available to authorized consumers. The DME will be built and tested prior to AF-IPPS contract award.

Mr. CONAWAY. As the ERPs are implemented, what type of training is each of the users receiving? Is this training incorporated into broader training explaining the importance of good financial management?

Mr. TILLOTSON. For all the ERPs, the Air Force conducts (or plans to conduct) role-based training which is aligned with the implementation of the ERP and the new business processes. Integral to the training is instruction in the processes and controls that assure the completeness of transactional information critical to ensuring adherence to financial and materiel controls. These detailed, controlled processes are the strength of ERPs.

The DEAMS program will continue role-based training as we move forward with deployments. DEAMS-specific training is currently grouped into four major categories—DEAMS/Oracle Familiarization Training, Initial Deployment Training, Sustainment/Recurring Training, and Post Deployment/Pipeline Training. DEAMS takes a blended-learning approach to training, i.e., training is delivered using a va-

riety of methods including classroom Instructor Led Training (ILT), Web Based Training (WBT), and Computer Based Training (CBT). Future options will include delivery of instruction via Video Conferencing (VTC), Defense Connect Online (DCO), or similar capabilities. DEAMS training will be developed in accordance with AETC standards. In its final form, DEAMS training will be hosted on the AF Learning Management System (LMS) and accessed through the Financial Management Distance Learning Center (FMDLC) which can be utilized for delivering computer based training (CBT). Training materials will be made available via the FMDLC for access across the enterprise during deployment and post-deployment sustainment.

ECSS training will be conducted through a blended learning approach to include a combination of role-based, instructor-led, and computer based training courses. Training materials will be made available in a centralized location to allow for management across the enterprise during fielding and post-fielding sustainment. In addition, end users will have access to training materials in the Online Performance Support System (OPSS) within the ECSS application.

For AF-IPPS, we are addressing training as a subset of our strategic change management effort, preparing the entire workforce for the integration of Personnel and Pay. This will include training all 500,000+ Airmen as customers of AF-IPPS—and will include an extensive effort to train each Personnel & Pay technician on how to operate the new environment on behalf of the end-users. As noted above, the training will be role-based, and focus not only the software, but also upon how the end-to-end business process will execute. Each of the 105 Personnel and Pay business processes will be pre-defined to include the specific performance metrics, along with the auditing standards required to demonstrate financial control as transactions are engaged. The AF-IPPS training materials and classes will be built around the end-to-end processes to ensure our workforce is prepared to both run and use AF-IPPS immediate upon deployment.

