
October 2002

ARMY LOGISTICS

Report on Manpower and Workload System Inadequate and System Interface Untested



G A O

Accountability * Integrity * Reliability

Contents

Letter		1
	Results in Brief	2
	Background	4
	Report Does Not Contain Adequate Information to Assess Progress Army Has Not Sufficiently Tested the Interface between AWPS and the Logistics Modernization Program	6 14
	Conclusions	15
	Recommendations for Executive Action	15
	Agency Comments and Our Evaluation	16
Appendix I	Comments from the Department of Defense	18
Appendix II	Task List for 2001 and 2002	21
Appendix III	Milestone Schedule	24
Appendix IV	Scope and Methodology	26
Tables		
	Table 1: Logistics Modernization Program: Milestones to First Deployment	5
	Table 2: Comparison of Criteria Contained in DOD Regulation 5000.2-R and Army's 2002 Report	8
	Table 3: Presence or Absence of Defense Criteria in the Army's 2002 Plan, by Individual Task	9
	Table 4: Army Projected Costs for Fiscal Years 2004-2006	11

Abbreviations

AWPS	Army Workload and Performance System
DOD	Department of Defense



United States General Accounting Office
Washington, DC 20548

October 30, 2002

The Honorable Carl Levin
Chairman
The Honorable John Warner
Ranking Minority Member
Committee on Armed Services
United States Senate

The Honorable Bob Stump
Chairman
The Honorable Ike Skelton
Ranking Minority Member
Committee on Armed Services
House of Representatives

At the direction of the House Committee on National Security,¹ the Army began developing the Army Workload and Performance System in 1996. This automated system was intended to address a number of specific weaknesses highlighted in several of our and Army studies since 1994 regarding the Army's inability to support its civilian personnel requirements by using an analytically based workload forecasting system. The Department of Defense's fiscal years 1997 and 1998 Annual Statements of Assurance highlighted the problems of not being able to relate personnel requirements to workload and budget as a material weakness in the Army's manpower requirements determination system. The Army Workload and Performance System was designed to address this weakness and to coordinate workforce requirements with workloads, initially at the Army's five maintenance depots and subsequently at other Army maintenance and industrial activities.

The Army first outlined its strategy for designing and fielding this system in a master plan in April 1999. We reported in November 1999,² however, that this master plan provided limited and incomplete information on future development plans and insufficient funding information. We

¹ Now known as the House Committee on Armed Services.

² See U.S. General Accounting Office, *Defense Logistics: Army Should Assess Cost and Benefits of the Workload Performance System Expansion*, [GAO/NSIAD-00-16](#) (Washington, D.C.: Nov. 12, 1999).

recommended that the Army strengthen the management controls and oversight for the system's development and prepare a more comprehensive master plan that contained priorities, costs, benefits, and schedules. In response to congressional direction, the Army updated its original master plan in May 2001. Section 346 of the National Defense Authorization Act for Fiscal Year 2002 (P.L. 107-107) required that the Army provide Congress annually a progress report on the implementation of the master plan during the preceding year. In May 2002, the Army submitted to Congress its first progress report on the implementation of the master plan. The report was presented in the form of a revised master plan. Section 346 also required that the General Accounting Office evaluate the Army's progress report. Lastly, section 346 encouraged the Army to develop a process to enhance data sharing between the Army Workload and Performance System and the Logistics Modernization Program.³ Beginning in February 2003, the Logistics Modernization Program will replace many of the old information systems that currently support the workload and performance system, and will become the primary data source for this system.

As agreed with your offices, this report addresses whether (1) the May 2002 report provides adequate information for Congress to assess the Army's progress in implementing the Army Workload and Performance System, and (2) the interface the Army is developing between this system and the Logistics Modernization Program has been sufficiently tested to ensure that data can be shared between the two systems and that the capability of the workload and performance system will not be adversely affected.

Results in Brief

The May 2002 report on the Army Workload and Performance System does not provide Congress with adequate information to assess the Army's progress in implementing the system. In response to the mandate for a progress report, as specified in section 346 of the National Defense Authorization Act for Fiscal Year 2002, the Army submitted an updated version of its May 2001 master plan. This version does not identify the changes that the Army made to the previous plan, particularly in setting out milestones and tasks, as was required by section 346. In addition,

³ In July 2002, the Army changed the name of this program from the Wholesale Logistics Modernization Program to the Logistics Modernization Program. This is a new information system that is intended to help manage the Army's supply, maintenance, and transportation functions.

the May 2002 version does not contain detailed information on the system's cost, schedule, and performance, which is required by Department of Defense regulations for reporting on major automated information systems acquisitions.⁴ Specifically, the 2002 plan does not include (1) a detailed summary of all costs that the Army has incurred, or the expenditures that it anticipates in the future, to develop and implement the system; (2) a list of the milestones that the Army has, or has not, achieved in the previous year and a list of milestones that are projected for the future; and (3) an evaluation of how well the system has performed to date in fulfilling its primary function—that is, of matching manpower needs with depot workloads. Because this data is not included in the updated plan, it is difficult to determine if the system is meeting its original budgetary, scheduling, and performance objectives and if the Army will need additional resources to complete the system's development and implementation. Finally, the updated version does not address the potential duplication and overlap in some functions of the Army Workload and Performance System and the Army's Logistics Modernization Program. Specifically, the module in the Army Workload and Performance System that allows the user to compare actual resource expenditures against production plans, scheduled workloads, and related budgets for specific projects is a capability that also exists within the Logistics Modernization Program. In addition, because the Logistics Modernization Program is not complete, the Army cannot be certain what other capabilities may be duplicated. Army officials are concerned that this potential duplication and overlap may result in unnecessary costs and other inefficiencies.

While the Army has begun developing an interface between the Army Workload and Performance System and the Logistics Modernization Program, it has not sufficiently tested the interface to ensure that data can be shared between the two systems and that the capability of the workload and performance system will not be adversely affected. For example, initial testing of this interface began in August 2002 but will be tested at only one of the five Army depots by February 2003 when the Logistics Modernization Program is scheduled to become operational. Additionally, the Army plans to shut down many of the old information systems

⁴ Mandatory Procedures for Major Defense Acquisition Programs and Major Automated Information System Acquisition Programs (Department of Defense Regulation 5000.2-R, Apr. 5, 2002). While the Army stated that the workload and performance system does not meet the minimum threshold to be considered a major system, we believe that the parameters outlined in this regulation should be addressed in the Army's progress reports.

that provide data for the workload and performance system once the Logistics Modernization Program comes on line even though there are no assurances that the data from the Logistics Modernization Program will allow the workload and performance system to continue to operate. Until the Army has installed and tested the interface at several sites, it will be too early to assess whether data sharing can occur and the extent to which the workload and performance system will be affected.

We are recommending that the Army improve its progress reports to Congress on the Army Workload and Performance System's implementation status and ensure that the interface between this system and the Logistics Modernization Program is evaluated in such a way that its effectiveness and functionality are assured. In its written comments on a draft of this report (see app. I), the Department fully concurred with our recommendations.

Background

The Army Workload and Performance System (AWPS) is intended to resolve long-standing systemic problems in the Army's civilian manpower requirements determination process. It is an information and reporting system that draws production and manpower data from other existing programs, including the Army's Standard Depot System. Its main purpose is to provide decision support tools for linking workload demands to manpower requirements and the budget process. The system was initially installed at Corpus Christi Army Depot, Texas, in June 1996. Since then, it has been put into operation at the Army's four other maintenance depots—Anniston, Letterkenny, Red River, and Tobyhanna. In 1999, the Assistant Secretary of the Army certified the system as fully operational for the maintenance mission at the five maintenance depots.

The Army is moving forward with the installation of AWPS at all of its logistics and industrial activities. To date the system is being used as a decision-making tool in other functional areas, including ammunition logistics, base operations, materials usage, working capital fund budgets, and reporting of net operating results. The Secretary of the Army has directed that AWPS be used throughout the Army as the standard Armywide mechanism for determining manpower requirements for all of its logistics and industrial activities.

The first AWPS master plan, submitted to Congress in April 1999, described the Army's progress and future plans for developing and implementing the system. In our November 1999 report regarding that master plan, we pointed out that the information it contained was

limited, and we recommended that the Army develop a more substantial master plan that incorporated all applications for which the system was to be implemented, along with their priorities, costs and benefits, and proposed schedules. We also recommended that the Army make improvements in the existing management and oversight structures. The House Report to the National Defense Authorization Act for Fiscal Year 2001 required the Army to submit a revised master plan, incorporating our recommendations, by February 2001. Subsequently, section 346 of the National Defense Authorization Act for Fiscal Year 2002 required the Army to submit an annual progress report on its implementation of the revised master plan. Section 346 also required that these reports specifically address any changes made to the master plan since the previous report.

In December 1999, the Army contracted with the Computer Sciences Corporation to create the Logistics Modernization Program, which is a new information system for managing the Army's supply, maintenance, and transportation functions. This system, initially called the Wholesale Logistics Modernization Program, will replace the existing Standard Depot System and many other source data systems, several of which provide data to AWPS. The Logistics Modernization Program is designed to improve readiness and logistics support to the war fighter by (1) reducing requisition response times, (2) improving the availability of supplies, (3) optimizing the use of inventory, and (4) responding more quickly to changing customer requirements. The milestones to the first deployment of the Logistics Modernization Program are shown in table 1.

Table 1: Logistics Modernization Program: Milestones to First Deployment

Milestones	Dates	Status
First deployment and integration phase:	9/20/00-6/30/01	Complete
Proof of concept	6/27/01-6/28/01	Complete
Initial services description document and implementation plan	6/29/01	Complete
Second deployment and integration phase:	7/01-11/02	In process
System integration testing	8/20/02-11/15/02	In process
Process trial	11/02/02	Not complete
Final services description document and implementation plan	11/15/02	Not complete
Begin first deployment	02/03	Not complete

Source: Department of the Army.

Once the Logistics Modernization Program becomes operational at the maintenance depots, the Army plans to shut down many of the old

information systems that currently support AWPS and it will become the primary source for the data that AWPS needs to function. As a result, section 346 of the National Defense Authorization Act for Fiscal Year 2002 encouraged the Army to set up a process that would permit or enhance data sharing between the two systems. To ensure that the Army's AWPS capabilities remained intact, section 346 also mandated that the Army retain AWPS as its standard servicewide manpower system, under the Secretary of the Army's supervision and management. This mandate was further underscored in a letter dated August 9, 2001, from several congressional representatives to the Commander of the U.S. Materiel Command, which further requested that the Army refrain from incorporating the new system into the Logistics Modernization Program.

Report Does Not Contain Adequate Information to Assess Progress

The Army's May 2002 report on its workload and performance system does not contain the information that Congress needs to assess the Army's progress in implementing the system. In response to the requirement for a progress report, as specified in section 346 of the Fiscal Year 2002 National Defense Authorization Act, the Army submitted an updated version of its May 2001 master plan. This updated version did not identify or explain the changes that the Army had made to the master plan since the May 2001 version. In addition, the Army's report did not contain certain cost, schedule, and performance information that would normally be expected. Moreover, the Army's report did not fully discuss the potential duplication and overlap in functions performed by the Logistics Modernization Program and the workload and performance system.

Report Fails to Address Changes in Milestones and Tasks since May 2001

Although required by section 346, the Army's 2002 report did not address the changes made to the milestones or tasks set out in the May 2001 AWPS master plan. Appendixes II and III provide tables showing the milestones and tasks identified in both the 2001 and 2002 reports. In comparing the two reports, we found that several milestones had been changed, but the 2002 report did not identify these changes nor did it provide a detailed discussion of the reasons for these changes or their significance. For example, in its 2001 report the Army had scheduled Corpus Christi Army Depot as the first site to prototype the Net Operating Result capability, beginning in August 2001. We found, however, that in the 2002 report this task was set back by 1 year—to the fourth quarter of fiscal year 2002. The same task was also scheduled to be prototyped at one of the ammunition sites by March 2002, but this milestone was later delayed by about 1 year until sometime between January and March 2003. In each case, the 2002

report did not provide an analysis or explanation for the scheduling change.

We also found discrepancies between the two reports related to the phasing of certain tasks involved in implementing the new system. Some tasks that were assigned to a specific phase in the 2001 report were moved to a different phase in the 2002 report, and there was no discussion of why these changes were made or what their impact on the overall implementation schedule might be. For example, phase 1 of the 2001 report involved only the consolidation of ongoing implementation actions, whereas in the 2002 report phase 1 also included non-Army Material Command maintenance activities. The 2002 report, however, does not clearly address the status of tasks previously listed under phase 1.

Report Lacks Cost, Schedule, and Performance Data

The Army's 2002 plan does not contain the cost, schedule, and performance data that might normally be expected. For example, according to the Department of Defense's (DOD) Regulation 5000.2-R, progress reports related to the acquisition of major new automated information systems should contain detailed information on such key parameters as cost, schedule, and performance. Army officials stated that the scope and cost of the AWPS system does not meet the minimum threshold to be considered a major information system and, thus, the regulation does not apply to it. While we agree that the AWPS system does not meet the threshold requirements of the regulation, we believe certain criteria in the regulation would provide Congress with the necessary information to properly evaluate the AWPS system and should therefore be addressed in the Army's progress reports. Consequently, we have analyzed the AWPS report using criteria from the regulation. Additionally, the Clinger-Cohen Act of 1996 requires agencies to have investment management processes and information to help ensure that information technology projects are being implemented at an acceptable cost and within a reasonable and expected time frame. In effect, these requirements and guidance recognize that one cannot manage what one cannot measure. Finally, in our November 1999 report on the Army's original master plan for AWPS, we identified several shortcomings, including the lack of detailed information on costs and expenditures, milestones, and performance. We recommended in that report that the Army develop a more substantive master plan that included priorities, costs and benefits, and schedules.

In our analysis of the Army's 2002 plan, we found that, while it addresses some of these elements, it does not provide the detailed or complete data

that is needed to adequately assess the Army's progress in implementing the workload and performance system. As table 2 shows, the 2002 plan contained information on a few parameters identified in DOD's guidance, including direct costs; dates for certain events, such as reaching initial operating capabilities; and objectives for operational requirements. However, it did not include information on a large number of parameters, such as total procurement costs, critical schedule dates, and measures of performance.

Table 2: Comparison of Criteria Contained in DOD Regulation 5000.2-R and Army's 2002 Report

Criteria contained in DOD Regulation 5000.2-R	Parameters included in Army 2002 report
Cost parameters	
Total ownership costs	
Direct costs	X
Research and development costs	
Test costs	
Evaluation costs	
Procurement costs	
Military construction costs	
Operating and support costs	
Cost of acquisition items	
Indirect costs attributable to the system	
Infrastructure costs not directly attributable to the system	
Total quantity costs	
Average procurement unit costs	
Program acquisition unit costs	
Life cycle costs	
Other costs	
Scheduling parameters	
Dates for program initiation	X
Major decision points	X
Attainment of initial operating capability	X
Milestone decision authorities' approval	
Specific/critical system events	
Critical schedule dates	
Other system events	X
Performance parameters	
Key performance parameters	
Objectives in the operational requirements document	X
Broadly defined measures of effectiveness	

Criteria contained in DOD Regulation 5000.2-R	Parameters included in Army 2002 report
Broadly defined measures of performance	
Other performance parameters	

Source: DOD Regulation 5000.2-R and GAO analysis.

In addition, the 2002 report did not contain necessary cost, scheduling, and performance data for the individual tasks that the Army has assigned to each implementation phase. Phase 1, implementation of the workload and performance system at non-Army Materiel Command maintenance depots; phase 2, expansion of the system into nonmaintenance missions (e.g., base operations, medical); and phase 3, development of decision-support tools for use at the major command and headquarters levels (e.g., working capital fund budget, links to depot maintenance operational system, and cross-organizational activities). As table 3 illustrates, the Army's report contained cost, scheduling, and performance information for only a small number of these tasks. Furthermore, we could only identify specific costs for one of the tasks and, in most cases, the milestones and performance measures were too broad and did not include interim measures and specific performance targets to measure progress.

Table 3: Presence or Absence of Defense Criteria in the Army's 2002 Plan, by Individual Task

Army Workload and Performance System Tasks included in the Army's 2002 Master Plan	Cost	Milestones	Performance measures
Phase 1—Implementation of AWPS at non-Army Materiel Command maintenance depots			
Basic components of AWPS			
Develop strategic plans and forecasts			Partially ^b
Develop performance measures and controls			Partially ^b
Schedule resource and controls			Partially ^b
Create decision support system			Partially ^b
Upgrade modules from FoxPro programming language to an Oracle/Power Builder/Silver Stream	Yes		
Implement the Enterprise Resource Planning System	Yes		Partially ^b
Phase 2—Expansion of AWPS into nonmaintenance missions			
Consolidate current ongoing implementation			
Maintenance depots	Yes		
Ammunition logistics at eight munitions centers	Yes		
Ammunition manufacturing	Yes		
Base operations at all maintenance depots	Yes		Partially ^b
Manufacturing arsenals	Yes		Partially ^b
Continued upgrade of Web-based executive module			Partially ^b
Expand AWPS to additional maintenance activities	Yes		

Army Workload and Performance System Tasks included in the Army's 2002 Master Plan	Cost	Milestones	Performance measures
Expand AWPS to non-Army materiel command maintenance activities at^a			
General support organizations at Fort Lewis and Fort Riley		Yes	
Aviation repair facility at Fort Rucker		Yes	
National Guard tank engine repair facility at Fort Riley		Yes	
National Guard readiness sustainment maintenance site		Yes	
National Guard aviation repair facility at Springfield, Mo.		Yes	
Expand AWPS into other nonmaintenance missions^a			
Army transformation installation management		Yes	
Medical		Yes	
Conduct review to determine applicability of AWPS in testing, training, and research and development activities			
Phase 3—Development of decision support system tools	Yes	Yes	
Net Operating Result Reporting Capability Module		Yes	Partially ^b
Working capital fund budget linkage			
Material module		Yes	Partially ^b
Depot maintenance operations planning system tool			Partially ^b
Production of Operations Planning budget			
Depot Maintenance Operations Planning System tool to manage 50/50 requirement			
Linkage between depot maintenance operations			Partially ^b
Planning System lock points and AWPS study capability			
Business process re-engineering tools between maintenance provider-process model			Partially ^b
Model to evaluate new investment vs. repair			
Mission indirect		Yes	Partially ^b

Source: GAO analysis.

^aNot included in May 2001 plan.

^bPerformance measures primarily state objectives. These performance measures did not include interim measures and performance targets to measure progress.

Report Lacks Detailed Cost Data

While the Army's May 2002 report provided some estimated funding requirements for AWPS for fiscal years 2004 through 2006, it did not contain the detailed information that could be used to assess the costs of implementing the system thus far and the costs of expanding it into other functional areas in the future. According to the Army Materiel Command, the total estimated costs for the AWPS program were about \$44.8 million for fiscal years 1996 through 2002, and the estimated program costs for fiscal year 2003 are about \$8.9 million. The primary source for this funding has been the Army's working capital fund. These figures and the funding sources, however, were not included in the Army's report. In addition, the Army's report did not identify the extent to which actual expenditures relate to the budgeted amounts. The report also did not

provide any cost estimates for funding the Army's plan to expand AWPS to other nonmaintenance activities, such as base operations support. According to Army officials, these expansion plans will require funding through the Army's appropriated operations and maintenance accounts.

In its report, the Army estimated that it would need about \$20.1 million over the next 3 fiscal years (2004 through 2006), to ensure that the remaining tasks are implemented. Table 4 shows the Army's projected costs for fiscal years 2004 through 2006, which were included in its May 2002 report. According to the report, these future year costs are unfunded and the Army has not yet identified funding sources for them. These officials stated that, other than the funding that has been provided through the working capital fund, the department has not adequately funded the AWPS expansion effort in recent years and that this lack of funding has hampered their ability to plan and implement further expansions.

Table 4: Army Projected Costs for Fiscal Years 2004-2006

Dollars in millions				
Task	Projected costs for fiscal years			
	2004	2005	2006	Total
Additional Army workload and performance system implementation	\$3.7	\$4.9	\$5.5	\$14.1
Decision support tools	2.0	2.5	1.5	6.0
Total	\$5.7	\$7.4	\$7.0	\$20.1

Source: Army May 2002 AWPS master plan.

As table 4 indicates, the Army did not provide a detailed cost analysis regarding the historical and projected costs for AWPS, nor did it provide a complete summary of the estimated costs to complete the tasks listed for each phase. Specifically, the table includes cost estimates for additional system implementation (phase 1) and for the development of decision support tools (phase 3), but it provides no specific estimates for expanding the system into other functional areas (phase 2). Additionally, the Army did not include the associated costs to support the development of all the specific tasks required to complete each phase.

Report Contains Limited Milestone Data

The Army's May 2002 report contained only limited information on the milestones established to implement the new system and no data on whether earlier milestones had been reached, thereby making it difficult to assess the progress of the system's development and implementation. Specifically, the report lacked schedules that include implementation and

completion dates and interim milestones. For example, the Army is updating the Workload and Performance System applications from the original programming language to a more up-to-date programming language. According to the Army, this upgrade has been installed at all five maintenance depots and will be installed at other installations between May 2002 and May 2003. However, specific dates for implementing or completing this upgrade were not included in the May 2002 report. In another example, the Army indicates that it intends to install AWPS at other nonmaintenance activities outside the Army Materiel Command, but it does not provide specific milestones for each location or the specific tasks associated with the development and installation process. As shown in appendix III, the Army has established expected completion dates for some of the AWPS applications, but the completion dates for other long-term applications have not yet been set.

The Army's May 2002 report also did not provide milestones for completing the interface between AWPS and the Logistics Modernization Program. Instead, it simply stated that between May 2002 and February 2003 the system has to accept, and operate with, data from the Logistics Modernization Program. The original date (July 2001) set to operationalize the interface at the first site, the Tobyhanna Army Depot, had changed by about 18 months. In addition, the report noted that the Operations Support Command is scheduled to transition to the Logistics Modernization Program 1 year after the Communications and Electronics Command, which is approximately January 2004. This date is about 2 years beyond the original date of October 2000.

Report Lacks Adequate Performance Assessments

The Army's May 2002 report does not address in detail the extent to which AWPS is providing the Army with the capability to match manpower requirements and workload for which it was initially intended. While the report states that the implementation of AWPS in several mission areas within the Army Materiel Command has shown that the system can efficiently draw data from other existing systems and manipulate this information to link personnel needs with projected workloads, the Army has not demonstrated that AWPS has improved its ability to support its long-term forecasting of civilian personnel requirements based on projected workload. Because the Army did not provide supporting evidence for the statement in its May 2002 report that the system has led to increased operational efficiencies, the extent of the improvements is unclear. We did not independently review the effectiveness of the AWPS system at the depots we visited.

Report Does Not Address Potential Overlap with Logistics Modernization Program

The Army's report also fails to discuss the potential overlap and duplication that exists between AWPS and the Logistics Modernization Program. Although these two systems were designed to serve different functions, Army and contractor officials point out that there is some potential overlap and redundancy in the systems' capabilities. For example, the capability of the performance measurement and control module in the AWPS software also exists in the Logistics Modernization Program software configuration. This module allows the user to compare actual resource expenditures against production plans, scheduled workload, and related budgets for specific projects in order to determine the likelihood of completing a project within its estimated time frame and budget. In addition, because the Logistics Modernization Program is not complete, the Army cannot be certain what other capabilities may be duplicated. Army officials at the Tobyhanna Army Depot expressed concerns that the need to operate and maintain both systems could lead to higher costs and duplication of efforts.

A second module in AWPS, however, the strategic planning and forecasting module, is unique to AWPS and does not currently exist within the software configuration for the Logistics Modernization Program. This module provides the user with the capability to forecast manpower and capacity requirements based on future projected workload. More specifically, this module allows the Army the ability to conduct "what if" analyses for manpower and capacity requirements based on future workload projections at each of its maintenance activities. Contractor officials stated that although this capability could be built into the Logistics Modernization Program, it would have to be modified to be compatible with the current software configuration. By incorporating this capability into the Logistics Modernization Program, the Army could eliminate the need to operate and maintain two separate systems. Computer Sciences Corporation submitted a formal proposal to the Army in August 2001 to incorporate all of the capabilities of AWPS into the Logistics Modernization Program for an estimated contract price increase of about \$2 million. Contractor officials told us in May 2002, however, that because of the amount of work they have dedicated to building the interface between the two systems, this cost estimate is no longer valid.

Army Has Not Sufficiently Tested the Interface between AWPS and the Logistics Modernization Program

Although the Army has begun developing an interface between AWPS and the Logistics Modernization Program, it has not sufficiently tested the interface to ensure that data can be shared between the two systems and that the AWPS capability will not be adversely affected. Once the Logistics Modernization Program is implemented, the Army plans to shut down several systems, including the Standard Depot System, that currently provide data for AWPS. However, the Army has not demonstrated that the Logistics Modernization Program databases will be able to supply AWPS with the data that it needs to continue to function. Until the Army has placed the interface in operation at several sites, it will be too early to assess its effectiveness.

The Army's contract with the Computer Sciences Corporation to develop and field the Logistics Modernization Program required that the contractor would create an interface between the two systems, and this work started in 1999. In February 2002, Army and contractor officials developed an interface control document that identified the data elements that AWPS would need from the Logistics Modernization Program databases to maintain its current capabilities. Since that time, contractor personnel have been working to locate the sources within the Logistics Modernization Program databases for each data element and determine the most expedient way to move that data into AWPS. According to Army and contractor officials, about 90 percent of the data elements had been located by May 2002.

While initial testing of the interface began in August 2002, it will be tested at only one of the five Army depots by February 2003 when the Logistics Modernization Program is scheduled to come on line. Specifically, the Army will be testing the interface at Tobyhanna Army Depot between August 2002 and February 2003, and expects that the interface will be fully functional by the time the Logistics Modernization Program is deployed at the depot in February 2003. Subsequently, the Army plans to install the Logistics Modernization Program and the AWPS interface at the four remaining Army maintenance depots, along with the Army's ammunition maintenance facilities. According to the May 2002 report, the Army expects to shut down the current information systems that support AWPS at the same time as it turns on the Logistics Modernization Program. As a result, there will be no transition period during which the current information systems and the Logistics Modernization Program are in operation at the same time.

Conclusions

The Army's May 2002 report to Congress on the development and implementation of AWPS has a number of significant limitations. The report does not contain key information regarding the changes to the program since the submission of the May 2001 master plan, and it does not provide adequate information on the costs, schedule, and performance of the system. As a result, the report is of limited use to Congress in evaluating whether the AWPS project is still in line with its original cost, schedule, and performance objectives. The Army has not demonstrated to Congress how well the system has helped it thus far to determine future civilian workload requirements based on projected workloads. Moreover, the report does not contain the information that Congress needs to determine how much funding will be required to complete the initial implementation of the system and expand it into other functional areas.

AWPS provides the Army with a capability for strategic planning and forecasting at its maintenance facilities that currently does not exist within the Logistics Modernization Program. The interface that is being developed between the two systems is intended to allow the workload and performance system to maintain its current capabilities, including its strategic planning and forecasting module. Because each system offers the Army certain unique capabilities, a rationale for operating both systems at the same time exists. However, because the two systems may develop some overlap and redundant capabilities in the future, there is some potential for increased costs or other inefficiencies.

Recommendations for Executive Action

In order to improve the quality of the Army's annual progress reports to Congress on the implementation of AWPS and to enhance the efficiency and effectiveness of the system, we recommend that the Secretary of Defense direct the Secretary of the Army to:

- submit to Congress annual progress reports on the implementation of AWPS that contain a complete description of any changes to the master plan since the submission of the previous report and a detailed explanation of the status of the AWPS program in relation to the costs, milestones, and performance data contained in the previous report;
- ensure that these progress reports contain detailed cost, schedule, and performance information to allow Congress to fully assess the status of the Army's implementation of the workload and performance system and its interface with the Logistics Modernization Program, and the extent to which the system is providing the Army with the capability to match manpower and workload requirements;

-
- undertake a review of the interface between AWPS and the Logistics Modernization Program, once it has been successfully installed at the Army's five maintenance depots, to ensure that it is the most efficient and cost-effective use of these two systems; and
 - ensure that the data-sharing mechanisms between the Logistics Modernization Program and AWPS are complete and allow for full functionality of AWPS before turning off the information systems that currently support AWPS.


Agency Comments and Our Evaluation

The Department of Defense fully concurred with our finding and recommendations. In response to our recommendation that the Army ensure that future progress reports contain cost, schedule, and performance information as specified in relevant Defense regulations and other congressional guidance, DOD will implement the recommendation in its February 2003 report. However, DOD noted that the workload and performance system is not a major automated information system and, therefore, is not required to strictly adhere to the requirements of Department of Defense Regulation 5000.2-R. We agree that the workload and performance system does not meet the minimum threshold to be considered a major system. However, we believe that the parameters outlined in this regulation provide an appropriate management framework for the types of information that should be included in future progress reports.

DOD also informally provided other suggested revisions to address certain technical and factual information in the text of the draft report. We reviewed these suggested revisions and made changes where appropriate.

We are sending copies of this report to interested congressional committees, the Secretaries of Defense and the Army, and the Director, Office of Management and Budget. We will also make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

Appendix IV contains our scope and methodology. Please contact me or Julia Denman at (202) 512-8412 if you or your staffs have any questions regarding this report. Key contributors to this report were David Schmitt, Patricia Albritton, Leslie Harmonson, and Nancy Benco.

A handwritten signature in black ink that reads "David R. Warren". The signature is written in a cursive style with a long horizontal flourish extending to the right.

David R. Warren
Director, Defense Capabilities
and Management

Appendix I: Comments from the Department of Defense



DEPUTY UNDER SECRETARY OF DEFENSE FOR
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WASHINGTON, DC 20301-3500

OCT 9 2002

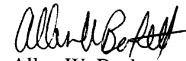
Mr. David R. Warren
Director, Defense Capabilities and Management
U.S. General Accounting Office
441 G Street NW
Washington, DC 20548

Dear Mr. Warren:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "ARMY LOGISTICS: Report on Manpower and Workload System Inadequate and System Interface Untested," September 5, 2002 (GAO Code 350170/GAO-03-21).

The Department concurs with the report's recommendations. However, portions of the report supporting the recommendations could be somewhat misleading, and for that reason we are informally providing your staff suggested changes to the draft report to improve its accuracy and clarity. The DoD appreciates the opportunity to comment on the draft report.

Sincerely,


Allen W. Beckett
Principal Assistant

Enclosure:
GAO Draft Report
(GAO 350170/GAO 03-21)



GAO DRAFT REPORT - DATED SEPTEMBER 5, 2002
GAO CODE 350170/GAO-03-21

“ARMY LOGISTICS: REPORT ON MANPOWER AND WORKLOAD SYSTEM
INADEQUATE AND SYSTEM INTERFACE UNTESTED”

DEPARTMENT OF DEFENSE COMMENTS TO
THE GAO RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommended that the Secretary of Defense direct the Secretary of the Army to:

RECOMMENDATION 1a: Submit to Congress annual progress reports on the implementation of the Army Workload and Performance System (AWPS) that contain a complete description of any changes to the master plan since the submission of the Army’s previous report to Congress and a detailed explanation of the status of the AWPS program in relation to cost, milestones and performance data contained in the previous report. (p.17/GAO Draft Report)

DOD RESPONSE: Concur.

RECOMMENDATION 1b: Ensure that these progress reports contain cost, schedule and performance information as specified in the Department’s regulations and other Congressional guidance related to the acquisition and reporting for major information systems to allow Congress to fully assess the status of the Army’s implementation of the workload and performance system and its interface with Logistics Modernization Program, and the extent to which the system is providing the Army with the capability to match manpower and workload requirements. (p.17/GAO Draft Report)

DOD RESPONSE: Concur. Army will implement the recommendation in their February 2003 report. However, it should be noted that the Army Workload and Performance System is not a major automated information system as defined by DoD 5000.2R. AWPS is essentially a reporting application that is designed to integrate data from data sources in other systems.

RECOMMENDATION 1c: Undertake a review of the interface between AWPS and the Logistics Modernization Program, once it has been successfully installed at the Army’s five maintenance depots, to ensure that the most efficient and cost-effective use of these two systems; and (p.18/GAO Draft Report)

DOD RESPONSE: Concur.

RECOMMENDATION 1d: Ensure that the data sharing mechanisms between the Logistics Modernization Program and AWPS are complete and allow for the functionality of AWPS before turning off the information systems that currently support AWPS. (p.18/GAO Draft Report)

DOD RESPONSE: Concur.

Appendix II: Task List for 2001 and 2002

May 2001 Plan	May 2002 Plan	Comments
Short-Term		
Army Workload and Performance System modules		
Workload	X	Workload and workforce have been combined as the strategic planning and forecasting module.
Workforce	X	
Performance measurement and control	X	
Resource scheduling and control	X	
Decision Support System	X	
Upgrade modules from FoxPro programming language to an Oracle/Power Builder/Silver Stream	X	
Corpus Christi	X	
Remaining depots	X	
Enterprise Resource Planning System	X	
Long-Term		
Phase 1—Consolidate current ongoing implementation		This phase is not included in May 2002 plan. First phase of the plan is to cover non-Army Materiel Command maintenance activities.
Maintenance depots	X	
Corpus Christi	X	
Red River	X	
Tobyhanna	X	
Letterkenny	X	
Anniston	X	
Ammunition Logistics at eight munitions centers	X	
Ammunition manufacturing	X	
Crane Army ammunition activity	X	
McAlester Army ammunition activity	X	
Base operations at all maintenance depots and ammunition logistics activities	X	Base operations at ammunition logistics activities is not included.
Manufacturing arsenals	X	
Rock Island	X	
Pine Bluff	X	
Watervliet	X	
Continued upgrade of Web-based executive module	X	
Phase 2—Cover additional maintenance activities	X	This is the first phase in May 2002 plan. Second phase of the plan is expansion into nonmaintenance missions.
General support organizations-Fort Bragg and Fort Hood	X	
Aviation repair facility at Fort Rucker	X	
Regional support maintenance sites of the National Guard		Not included
Depots' forward repair activities		Not included
Special repair activities		Not included

Appendix II: Task List for 2001 and 2002

May 2001 Plan	May 2002 Plan	Comments
Phase 3-Develop decision support system tools	X	This phase is categorized into three parts.
Part I-Improvements to current AWPS		
Net Operating Result Reporting Capability Module	X	
Maintenance depots	X	
Ammunition logistics	X	
Working capital fund budget linkage	X	
Material module	X	
Corpus Christi-Prototype site	X	
Remaining maintenance depots	X	
Ammunition logistics		Not included
Separate overhead allocation categories		Not included
Separately identify the contractor labor component		Not included
Implementation of the capability resident		Not included
Contractor labor hour reporting process		Not included
Capability to produce "snap shot" of workload		Not included
Linkage between schedule 8 process and existing Army systems		Not included
Tracking capability from Workload and Resource Requirements 902 report through the Workload and Resource Requirements 905 report		Not included
Part II-Improve depot maintenance workload requirements		
Depot maintenance operations planning system tool	X	
Production of Operations Planning budget	X	
Depot Maintenance Operations Planning System tool to manage 50/50 requirement	X	
Linkage between the Depot Maintenance Operations Planning System lock points and AWPS study capability	X	
Tool to track items from the Enterprise Resource Planning Systems/AWPS Locked Budget Plan to induction at depot		Not included
Module to track depot output of major items vs. the budget plan		Not included
Part III-Improve efficiency depot operations		
Business process re-engineering tools	X	
Between maintenance provider-process model	X	
Cost management tool		Not included
Model to evaluate new investment vs. repair	X	
Model to examine the economics of depot vs. private repair for equipment		Not included
Mission indirect	X	Does not include any information on where mission indirect will be installed.
All maintenance depots		
Ammunition missions		

Appendix II: Task List for 2001 and 2002

May 2001 Plan	May 2002 Plan	Comments
Next generation-AWPS		Does not include any information on the status of the Next generation-AWPS.
Corpus Christi		
Letterkenny		
Anniston		
Red River		
Tobyhanna		
Base operations-Next generation		Does not include any information on the status of the Base operations-Next generation.
Anniston		
Corpus Christi		
Letterkenny		
Tobyhanna		
Red River		

Source: GAO analysis.

Appendix III: Milestone Schedule

Combined tasks included in the May 2001 and May 2002 plans	May 2001 plan	May 2002 plan
Short-Term		
Army Workload and Performance System modules		
Workload	No date provided	No date provided
Workforce	No date provided	No date provided
Performance measurement and control	No date provided	No date provided
Resource scheduling and control	Completion late 2001	No date provided
Decision Support System	No date provided	No date provided
Upgrade of modules from FoxPro programming language to an Oracle/Power Builder/Silver Stream		Installed at maintenance depots and will be installed at other sites over the course of the year.
Corpus Christi	Installed, no date provided	
Remaining depots	Over the course of the year	
Enterprise Resource Planning System	No date provided	Completion February 2003 at Tobyhanna and other commodity commands at about 3-month intervals.
Long-Term		
Phase 1—Consolidate current ongoing implementation		
Maintenance depots		
Corpus Christi	Completion June 1996	As of October 2001, AWPS has been operational at all five maintenance depots, ammunition logistics, ammunition manufacturing (Crane and McAlester), and base operations at all maintenance depots.
Red River	Completion March 1999	
Tobyhanna	Completion March 1999	
Letterkenny	Completion March 1999	
Anniston	Completion March 1999	
Ammunition logistics at eight munitions centers	Completion November 2000	
Ammunition manufacturing		
Crane Army ammunition activity	No date provided	
McAlester Army ammunition activity	No date provided	
Base operations at all maintenance depots and ammunition logistics activities	Completion December 30, 2002	No date provided for base operations at ammunition logistics.
Manufacturing arsenals		Deployment June 2003
Rock Island	Completion February 2003	
Pine Bluff	Completion January 2004	
Watervliet	Completion April 2004	
Continued upgrade of Web-based executive module	No date provided	No date provided
Phase 2—Cover additional maintenance activities		
General support organizations—Fort Bragg and Fort Hood	No date provided	Completion FY 2003
Aviation repair facility at Fort Rucker	No date provided	Completion FY 2002

Appendix III: Milestone Schedule

Combined tasks included in the May 2001 and May 2002 plans	May 2001 plan	May 2002 plan
Phase 3—Develop Decision Support System Tools		
Part I—Improvements to current AWPS		
Net operating result reporting capability module		
Maintenance depots	Prototype August 2001	Prototype-fourth quarter, FY 2002
Ammunition logistics	Prototype March 2002	Prototype-second quarter, FY 2003
Working capital fund budget linkage	No date provided	No date provided
Material module		
Corpus Christi-Prototype site	Completion September 2001	Completion fourth quarter, FY 2002
Remaining maintenance depots	Completion August 2002	Completion first quarter, FY 2003
Part II—Improve depot maintenance workload requirements		
Depot Maintenance Operations Planning System tool	No date provided	No date provided
Production of Operations Planning budget	No date provided	No date provided
Depot Maintenance Operations Planning System tool to manage 50/50 requirement	No date provided	No date provided
Linkage between the Depot Maintenance Operations Planning System lock points and AWPS study capability	No date provided	No date provided
Part III—Improve efficiency of operations of the depots		
Business process re-engineering tools	No date provided	No date provided
Between maintenance provider-process model	No date provided	No date provided
Model to evaluate new investment vs. repair	No date provided	No date provided
Mission indirect		
All maintenance depots	Completion August 2002	Completion by the end of 2004
Ammunition missions	Completion June 2003	

Source: GAO analysis.

Appendix IV: Scope and Methodology

To determine whether the Army's May 2002 master plan contains adequate information to assess the Army's progress in implementing AWPS, we reviewed the Army's May 2001 and May 2002 master plans. We compared the contents of these plans to the key requirements set forth in section 346 of the National Defense Authorization Act for Fiscal Year 2002. In addition, we reviewed the May 2002 master plan to determine the extent to which it addressed the recommendations outlined in our November 1999 report.¹ We also examined the Department of Defense's regulation² outlining the mandatory procedures for the acquisition of major automated information systems to determine specific criteria required for a progress report. We compared the contents of the May 2002 master plan to the criteria outlined in this regulation. Although this regulation does not specifically apply to the development of the AWPS system, we believe that sound management practices support the need to address these parameters in the Army's progress reports. We also met with officials at the Headquarters, Department of the Army; Headquarters, Army Material Command; and the Operations Support Command in Rock Island, Illinois, to discuss the development and implementation of the AWPS system. In addition, we discussed the benefits and problems that the depots have experienced with AWPS with officials at Tobyhanna Army Depot, Tobyhanna, Pennsylvania; and Corpus Christi Army Depot, Corpus Christi, Texas. We did not, however, independently review the effectiveness of the AWPS system at the depots we visited. Lastly, we relied on prior work done in connection with the implementation of AWPS.

To identify the measures the Army has taken to ensure appropriate coordination and data sharing between AWPS and the Logistics Modernization Program, we reviewed the February 2002 Interface Control Document developed jointly by the Department of the Army and the Computer Sciences Corporation, and discussed the related interface initiatives with appropriate Army and contractor officials. We also reviewed the actions the Army had taken to facilitate the interface and data sharing between the two systems to identify what additional actions were needed before the Army could be assured that the AWPS system

¹ See U.S. General Accounting Office, *Defense Logistics: Army Should Assess Cost and Benefits of the Workload Performance System Expansion*, GAO/NSIAD-00-16 (Washington, D.C.: Nov. 12, 1999).

² Mandatory Procedures for Major Defense Acquisition Programs and Major Automated Information System Acquisition Programs (Department of Defense Regulation 5000.2-R, Apr. 5, 2002).

would remain fully operational during the transition period. Specifically, we met with officials at the Headquarters, Department of the Army; Headquarters, Army Materiel Command; the Army's Operations Support Command in Rock Island, Illinois; the Logistics Modernization Project Office in Moorestown, New Jersey; and Tobyhanna Army Depot and Corpus Christi Army Depot. Because the interface between the two systems is still being developed and has not been fully tested, we were unable to assess its effectiveness.

We conducted our review between March 2002 and August 2002 in accordance with generally accepted government auditing standards.

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