

**A** *udit*



**R** *eport*

STANDARD PROCUREMENT SYSTEM USE  
AND USER SATISFACTION

Report No. D-2001-075

March 13, 2001

Office of the Inspector General  
Department of Defense

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### **Acronyms**

AMS	American Management Systems, Incorporated
DCMA	Defense Contract Management Agency
DDP	Director, Defense Procurement
JITC	Joint Interoperability Test Command
MS	Microsoft
PMO	Program Management Office
SPS	Standard Procurement System



INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE  
400 ARMY NAVY DRIVE  
ARLINGTON, VIRGINIA 22202-4704

March 13, 2001

MEMORANDUM FOR DIRECTOR, DEFENSE PROCUREMENT

SUBJECT: Audit Report on Standard Procurement System Use and User Satisfaction  
(Report No. D-2001-075)

We are providing this report for review and comment. We conducted the audit in response to a congressional request. We considered comments from the Director, Defense Procurement, and the Defense Contract Management Agency when preparing the final report.

DoD Directive 7650.3 requires that all management comments be resolved promptly. The Director, Defense Procurement, and Defense Contract Management Agency comments were partially responsive. As a result of management comments, we added Recommendation A.1.b.4.; revised Recommendations B.1.a and B.1.c., deleted Recommendation B.2.b; and revised and redirected Recommendation B.2. Therefore, we request the Director, Defense Procurement, provide additional comments on Recommendations A.1., and B.1. through B.3., in response to the final report. We request management provide comments by May 14, 2001.

We appreciate the courtesies extended to the audit staff. Questions on the audit should be directed to Ms. Kimberley A. Caprio at (703) 604-9139 (DSN 664-9139) (kcaprio@dodig.osd.mil) or Ms. Cynthia G. Williams at (703) 604-9168 (DSN 664-9168) (cwilliams@dodig.osd.mil). See Appendix D for the report distribution. The audit team members are listed inside the back cover.

A handwritten signature in black ink that reads "David K. Steensma".

David K. Steensma  
Acting Assistant Inspector General  
for Auditing

## Office of the Inspector General, DoD

Report No. D-2001-075

(Project No. D2000FG-0091)

March 13, 2001

### Standard Procurement System Use and User Satisfaction

#### Executive Summary

**Introduction.** The audit was performed in response to concerns expressed by the Chairman, House of Representatives Committee on Budget that DoD was not effectively spending Federal funds to acquire the Standard Procurement System (SPS) and SPS lacked needed functionality. SPS is an automated information system that will support procurement functions from receipt of requirements until contract closeout at all DoD procurement organizations. SPS is intended to replace 76 procurement systems and manual processes. As of December 30, 2000, the Program Management Office reported that SPS was used by 16,207 users at 745 DoD sites. By the end of FY 2003, SPS is expected to serve 43,000 users at 1,100 DoD sites. Estimated costs for SPS are \$433.5 million to procure commercial software licenses and support services. Estimated life-cycle costs for FY 1995 through FY 2005 are \$3.7 billion. Operational benefits from SPS are estimated at \$1.4 billion derived primarily from increased productivity and reduced costs associated with paper transactions.

The Director, Defense Procurement, selected a contractor to provide a commercial off-the-shelf product to accomplish 45 percent of a total of 299 DoD procurement functions. The remaining 55 percent would be accomplished through modifications to the commercial product. As of December 2000, DoD had deployed four versions of SPS, through version 4.1.

**Objectives.** The audit objective was to evaluate allegations related to SPS functionality, user satisfaction, system implementation and operation, and system controls. An additional objective was to follow up on recommendations made in our May 1999 report. System controls will be discussed in a future report.

**Results.** Audit results were based on responses to a web-based survey of statistically selected personnel from a population of SPS 4.1 users at 534 DoD procurement sites (see Appendix C). About 85.9 percent of SPS users stated that SPS was available always or most of the time. The SPS Program Management Office in the Defense Contract Management Agency had taken steps to better meet user needs, and respondents stated that SPS had the potential of being a very effective and useful tool, but more needed to be done to improve the software and gain greater acceptance and user confidence. Specifically, the projected survey results indicated that:

- 60.8 percent of SPS users preferred a procurement system other than SPS,
- 45.8 percent of SPS users stated that the number of workarounds increased,
- 51.4 percent of SPS users stated that productivity has not increased since SPS version 4.1 was implemented, and
- 63.5 percent of SPS users stated that SPS had not substantially contributed to the DoD goal of paperless contracting (finding A).

Further, based on survey responses, we projected that about 26.5 percent of the personnel licensed to use SPS version 4.1 have not used it because SPS either lacked the functionality for those sites or employees received SPS when it was not needed to perform their jobs. We estimate that the Program Management Office spent up to \$2.1 million of the \$7.9 million in license costs on licenses for users who could not or would not use SPS (finding B).

DoD has experienced a 50 percent reduction in the procurement workforce without a commensurate reduction in workload. Conceptually, SPS should assist in automating and standardizing a variety of procurement tasks and thus assist in more efficiently completing the workload. According to the survey, however, functionality remains a serious concern. Management needs to respond to this concern when deploying new SPS versions and, if SPS does not fully meet mission needs, should consider supplementary and alternative tools for the procurement workforce.

**Summary of Recommendations.** We recommend that the Director, Defense Procurement, direct the SPS Program Manager to perform tests to ensure that SPS meets user needs; to develop and evaluate SPS against quantifiable performance measures that gauge meeting mission objectives, improving productivity, achieving the goal of paperless contracting, and delivering intended benefits; and purchase future licenses only after sites clearly demonstrate the need and determine the number required. We also recommend that the Director, Defense Procurement, direct the DoD Components to coordinate training and the transition to the SPS, demonstrate that SPS meets site needs before deployment, and provide assurance that they have accurately determined license needs.

**Management Comments.** The Director, Defense Procurement, and the Director, Defense Contract Management Agency, generally concurred with the recommendations that testing and performance measures are necessary, but stated that both already exist. The Director, Defense Procurement, also agreed to better coordinate training needs. Both Directors partially concurred that, prior to any future deployments of SPS, the DoD Components should determine that the version meets functionality requirements and identify the number of licenses required. However, both Directors disagreed that the DoD Components' determinations need review or validation before future purchases of SPS licenses, stating that it is the responsibility of the DoD Components to determine license requirements. A discussion of management comments is in the Findings section of the report and the complete text is in the Management Comment section.

**Audit Response.** The management comments were responsive regarding coordinating training needs. However, the other comments did not fully address the core issues identified by the customer survey. There is a need for more appropriate testing prior to future deployment. About 38 percent of respondents contend that SPS version 4.1 had only some or none of the functionality needed, despite testing. Present performance measures do not address mission needs such as enhancing customer service, reducing problem disbursements, increasing contractor personnel productivity, or eliminating redundancy. We agree that DoD Components have the responsibility for identifying SPS licensing needs with due diligence and we modified the related recommendation to allow management flexibility in determining how to obtain more credible assurance that stated requirements are valid. We request that the Director, Defense Procurement, provide additional comments in response to the final report by May 14, 2001.

# Table of Contents

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## Executive Summary

## Introduction

Background	1
Objectives	3

## Findings

A. Standard Procurement System User Satisfaction	5
B. Use of the Standard Procurement System	30

## Appendixes

A. Audit Process	
Scope	37
Methodology	38
Prior Coverage	40
B. Statistical Projections	41
C. Estimating the Number of Standard Procurement System Version 4.1 Users	44
D. Report Distribution	48

## Management Comments

Director, Defense Procurement	51
Defense Contract Management Agency	58

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## Background

The audit was performed in response to concerns expressed by the Chairman, House of Representatives Committee on Budget, that DoD was not effectively spending Federal funds to acquire the Standard Procurement System (SPS) and SPS lacked needed functionality. The report is one in a series and discusses functionality, user satisfaction, system implementation, and operation of the SPS.

**The SPS Program.** The Director, Defense Procurement (DDP), initiated the SPS program in November 1994 to provide an automated system that would perform DoD procurement functions. The DDP is responsible for acquiring and deploying SPS, as well as for software installation, training, and all steps necessary to gain user acceptance of SPS. Procurement functions begin with receipt of a requirement and end with contract closeout. Standard procurement functions include, but are not limited to, acquiring supplies and services by describing requirements; determining the appropriate acquisition method; soliciting and selecting sources; and awarding, reporting, modifying, terminating, and closing out contracts.

According to the Mission Need Statement, dated April 9, 1998, SPS should replace 76 legacy systems. In addition, SPS should provide standard policies, processes, procedures, shareable data, and electronic commerce<sup>1</sup> capability. SPS deployment should also provide more timely response to customer requirements, permit more cost-effective procurements, improve visibility of contract deliverables, reduce procurement lead times, reduce problem disbursements, and provide more accurate procurement information through shared data. Although the elimination of paper handling tasks was an expected benefit of SPS, the paperless contracting was not specifically addressed in the Mission Need Statement until April 8, 1998, when it was added in response to the DoD paperless contracting initiative.

As of December 30, 2000, the Program Management Office (PMO) reported that SPS was used by 16,207 users at 745 sites. SPS was expected to serve 43,000 users at 1,100 DoD procurement sites by the end of FY 2003. Program funding for SPS was estimated at \$433.5 million to procure commercial licenses and support services for the software application. For FYs 1995 through 2005, estimated life-cycle and program costs were estimated at \$3.7 billion with approximately \$1.4 billion in operational benefits to be derived primarily from increased productivity and reduced costs associated with paper transactions.

**Responsibility for the SPS Program.** The DDP, in the Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics), had primary responsibility for the SPS program. On April 7, 1997, the DDP announced the selection of American Management Systems (AMS), Incorporated, Fairfax, Virginia, to furnish the procurement software and related services for SPS. The DDP delegated responsibility for managing and deploying SPS to the PMO

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<sup>1</sup>Electronic commerce is the interchange and processing of information using electronic techniques for accomplishing transactions.

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within the Defense Contract Management Agency. The PMO also monitors contractor performance. Offices in each DoD Component responsible for SPS implementation acted as liaisons between SPS user organizations in the DoD Components and the PMO and established Component-level guidance on configuration control, data migration, interface development, training, site migration, and transition from legacy systems to SPS.

**Contract Details.** DoD acquired SPS, a commercial off-the-shelf software application, under an indefinite-delivery contract with AMS. The contract required AMS to provide DoD with Procurement Desktop – Defense, a modified version of the AMS Procurement Desktop commercial computer software<sup>2</sup> that was also available to Federal agencies from the General Services Administration Supply Schedule. The contract required AMS to obtain and deploy the commercially available software, as well as provide related software support and support services, with options for continued maintenance, training, and support for up to 10 years. Because the initial commercial software would accomplish only 45 percent of DoD procurement functions, the contract required development of software enhancements and modifications to meet the remaining DoD functional requirements. Inspector General, DoD, Report No. 99-166, “Initial Implementation of the Standard Procurement System,” May 26, 1999, stated that the acquisition of SPS as a commercial product was questionable because of the need to make major modifications to the commercial software.

**Incremental Deployment.** According to the SPS acquisition strategy, SPS would be delivered in increments of increasing functionality. SPS has been deployed sequentially with the Navy receiving SPS first, followed by the Army, Air Force, the Marine Corps, Defense Logistics Service Center, then other Defense agencies and the Defense Contract Management Agency (DCMA). To date, versions 3.1, 3.5, 4.0, and 4.1 have been deployed. The functionality of version 4.1 was designed for procurement functions at DoD posts, camps, and stations. Version 4.1 had five maintenance releases from 4.1a through 4.1e. Deployment of version 4.2 is scheduled in the second quarter of FY 2001. Version 4.2 will be designed for improved post, camp, and station functionality and for contract administration procurement functions. Deployment of version 5.0 is scheduled in the second quarter of FY 2002. The functionality of version 5.0 will be designed for major weapons system procurement functions. Deployment of version 5.1 is scheduled in the second quarter of FY 2003. The functionality of version 5.1 will be designed for procurement functions at inventory control points.

**Workforce Reduction Impacts.** The Inspector General, DoD, issued Report No. D-2000-088, “DoD Acquisition Workforce Reduction Trends and Impacts,” February 29, 2000, on the impact of the workforce reduction. The report states that although acquisition organizations improved efficiency in contracting through acquisition reform initiatives, concern is warranted because staffing reductions have clearly outpaced productivity increases and acquisition

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<sup>2</sup>Commercial computer software is a software developed or regularly used for non-governmental purposes that has been sold, leased, or licensed to the public; has been offered to the public; or will be available for commercial sale, lease, or license.

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workforce capacity to handle its still formidable workload. There was cause for serious concern in the likelihood of the DoD acquisition workforce losing about 55,000 experienced personnel through attrition by FY 2005 and in the overall disconnects between workload forecasts, performance measures, productivity indicators, and plans for workforce sizing and training. In addition, from FY 1990 through FY 2000 the number of procurement actions increased from about 13.2 million to about 15.5 million, or about 17 percent. The acquisition workforce reductions caused an increased backlog in closing out completed contracts, resulted in insufficient staff to manage requirements, reduced scrutiny and timeliness in reviewing acquisition actions, and increased procurement action lead time.

## **Program Risk Previously Identified**

We previously issued two reports on the SPS implementation. Inspector General, DoD, Report No. 99-166 states that the SPS evolutionary approach did not provide some critical functional requirements to meet user needs and may not meet the mission need to standardize procurement policies, processes, and procedures. In addition, users were not receiving adequate training, guidance, and support from the contractor help desk. Inspector General, DoD, Report No. 96-219, "Allegations to the Defense Hotline Concerning the Standard Procurement System," September 5, 1996, stated that the acquisition strategy increased the risks that the program would not meet the overall objective of a fully functional, DoD-wide standard procurement system and that user needs might not be met.

## **Objectives**

The audit objective was to evaluate allegations related to SPS. Specific objectives were to evaluate SPS functionality, user satisfaction, system implementation, and operation. An additional objective was to follow up on recommendations made in our May 1999 report. The status of agreed-upon actions on recommendations in the May 1999 report is partially addressed in this report and may also be addressed in a future report. System controls will be discussed in a future report. See Appendix A for a discussion of the scope and methodology.

## **Survey of SPS Users**

We developed a password protected web-based survey to gather data from statistically selected users regarding their SPS experience, training, and guidance. We statistically selected users who had SPS installed for at least 3 months before completing the survey. See Appendix A for a full explanation of the statistical sampling methodology. See Appendix B for complete information on the statistical projections and Appendix C for complete

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information on estimating the number of users of SPS version 4.1. The information contained in this report reflects the survey respondents' views and opinions about SPS.

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## A. Standard Procurement System User Satisfaction

Based upon responses to a statistical web-based survey of SPS 4.1 users at 534 DoD procurement sites, except for positive perceptions on SPS reliability, the audit generally substantiated that the user community remained fundamentally dissatisfied with SPS. The audit also confirmed congressional concerns regarding SPS functionality and cost. Survey respondents who stated that they used SPS version 4.1 indicated that more needed to be done to improve user satisfaction in the areas of SPS functionality, implementation, and operation. Specifically, user satisfaction needed to be improved because the PMO prematurely deployed SPS and had not developed performance measures to track whether SPS met the mission objectives and delivered intended benefits. In addition, DoD Components<sup>3</sup> did not effectively coordinate training and transition to SPS. As a result, the projected survey results indicated that about:

- 60.8 percent of SPS users preferred a procurement system other than SPS,
- 45.8 percent of SPS users stated that workarounds increased,
- 51.4 percent of SPS users stated that productivity does not exceed productivity before SPS version 4.1, and
- 63.5 percent of SPS users stated that SPS had not substantially contributed to the DoD goal of paperless contracting.

### Mission Requirements

According to the SPS Mission Need Statement, April 9, 1998, the need for a standard DoD procurement system arose from the requirement to improve efficiency and customer service by standardizing DoD processes, standardizing and sharing cross-functional data, and using current technology. Specifically SPS was expected to:

- facilitate user productivity by eliminating duplicate data entry, labor-intensive processes, and duplicate information;
- provide more accurate fund citation information;
- provide for paperless contracting;

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<sup>3</sup>DoD components were the Army, Navy, Air Force, Defense Logistics Agency, and other Defense agencies.

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- improve management reporting and workload management;
  - increase efficiency of contract actions by automation and provide an automated environment where electronic commerce<sup>4</sup> is the standard interface with industry;
  - reduce problem disbursements in contracting;
  - improve visibility and access to contract and contractor performance histories through on-line data; and
  - provide on-line audit trails of contract data.

## Guidance on Performance Measures

Performance measures are required for all investments in information technology. Effective performance measures help ensure that information technology delivers the intended benefits.

**Clinger-Cohen Act.** The Clinger-Cohen Act of 1996 requires DoD to evaluate the results of investments in information technology. The Act requires DoD to prescribe performance measurements for all information technology acquired. Performance measurements gauge how well the information technology supports specified mission requirements and should be designed to ensure that investments in information technology provide measurable improvements in mission performance. In addition, a system of milestones should measure progress on the capability of information technology to meet specified requirements.

**Executive Order 13011.** Executive Order 13011, “Federal Information Technology,” July 16, 1996, requires performance measures to be aligned with the DoD performance plans under the Government Performance and Results Act of 1993. The 2001 DoD Performance Plan established a performance measure for reforming information technology management. This performance measure links investments in information technology to mission goals.

**Office of Management and Budget Circular No. A-130.** The Office of Management and Budget Circular No. A-130, “Management of Federal Information Resources,” February 8, 1996, requires management oversight of information systems to ensure that each information system meets agency mission requirements, meets user requirements, and delivers intended benefits. The management oversight should provide periodic reviews of information systems to determine whether the systems fulfill mission requirements. The oversight includes systematic measures of mission performance and post-implementation reviews to validate mission performance. The post-implementation reviews should assess whether the information technology meets the original objectives and achieves the projected

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<sup>4</sup>Electronic Commerce is the interchange and processing of information using electronic techniques for accomplishing transactions.

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benefits. Post-implementation reviews provide management a baseline for deciding whether to continue without adjustment, to modify the system to improve performance, or, if necessary, to consider alternatives to the implemented system.

**Operation of the Defense Acquisition System.** DoD Instruction 5000.2, “Operation of the Defense Acquisition System,” October 23, 2000, establishes a framework for translating mission needs into stable, well-managed acquisition programs. The framework includes a series of milestones that must be met for the acquisition program to advance to the next phase of the acquisition process. The Milestone Decision Authority is the individual authorized to approve an acquisition program’s entry into the next phase. However, for information systems, the Milestone Decision Authority cannot approve an acquisition program’s entry into the next phase until certain actions are completed. One required action is a written confirmation by the Chief Information Officer of the DoD Component responsible for the information system. The written confirmation must indicate that:

- the information system is being developed in accordance with the Clinger-Cohen Act, and
- performance measures, which are mission-related and outcome-based, have been developed and linked to strategic goals.

In addition, for information systems such as SPS, which are being implemented in phased, successive increments, the confirmation must state that each increment:

- meets part of the mission need, independent of future increments, and
- delivers a measurable benefit, independent of future increments.

## **SPS User Satisfaction**

The PMO has taken steps to better identify and meet user needs, and respondents stated that SPS has the potential of being a very effective and useful tool. However, although 85.9 percent of SPS users stated that SPS was available always or most of the time, the audit generally substantiated the concerns expressed by the Chairman, House of Representatives Committee on Budget. According to the survey respondents who stated that they used SPS version 4.1, more needed to be done to improve user satisfaction in the areas of SPS functionality, implementation, and operation. The following discussion provides details on the survey questions, projected survey results for users who used SPS version 4.1, and additional information provided by survey

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respondents in essay questions.<sup>5</sup> Also included in the discussion is the information obtained based on Joint Interoperability Test Command (JITC) Operational Assessments of SPS performed from March through July 2000.

**Prior Audit Identified Functionality Issues.** As a result of Inspector General, DoD, Report No. 99-166, the SPS Program Manager acknowledged the concerns of SPS users regarding the adequacy of critical functional requirements and took immediate steps to address user concerns. Specifically, in May 1998 the SPS PMO established a Joint Requirements Board to reevaluate deficiencies identified by SPS users and changes needed in SPS to meet user needs. According to the DDP and PMO officials, the Joint Requirements Board was at that time addressing 36 additional enhancements identified by users. The Joint Requirements Board met monthly to address user requirements and concerns.

**Improvement to SPS Functionality.** According to the survey of users, the projected survey results, shown in Table 1, indicated that overall functionality continued to be an area that needed improvement. Although about 62 percent of users indicated SPS had all or most of the functionality needed, about 38 percent of the users indicated that SPS had only some or none of the functionality needed.

<u>Answer Choice</u>		<u>Percent</u>
1	All of the functions I need	12.6
2	Most of the functions I need	49.0
3 & 4	Some or none of the functions needed	38.4
<b>Total</b>		<b>100.0</b>

The survey results also indicated whether SPS had the functionality necessary for respondents to do their jobs. The results varied by user group based on raw data. The respondents were assigned to user groups based on DoD Component, job title, version 4.1 maintenance release used, and length of use. Respondents most satisfied with functionality were system administrators.

In addition, respondents reported that they were satisfied with some areas of SPS functionality. In the essay portion of the survey, respondents indicated the best features were the document management capability and that SPS was a Windows-based system. In addition, based on raw data, users were satisfied with edit checks.

In the essay portion, respondents reported that they were not satisfied with some areas of SPS functionality and indicated some capabilities that needed

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<sup>5</sup>The additional information from the essay questions provided in this report reflect comments received from multiple users.

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improvement. Specifically, respondents identified needed improvements for fund citations, report generation, contract clause selection, electronic transmission, historical data access, indefinite-delivery contracts, contract modifications, and saving and printing documents.

**Fund Citations.** SPS was expected to eliminate labor-intensive processes and provide more accurate fund citation information. However, SPS did not have the ability to search, edit, or globally change fund citations. Therefore, respondents stated that they used a manual workaround to select fund citations; however, the workaround was time-consuming, as users had to manually scroll down through numerous fund citations for each contract line item. Respondents suggested that functionality could be improved with a query, edit, and global change capability. JITC Operational Assessments also identified a need for a search feature for fund citations.

**Report Generation.** One of the expected benefits of SPS was to improve management reporting capability and workload management. Respondents stated that the SPS reporting capability was inadequate for accurate management and workload data, including lead-time statistics. In addition, respondents reported that their legacy systems were used as a workaround to generate reports. Respondents suggested the functionality of SPS be improved so that reports could be tailored for management needs. JITC Operational Assessments also reported a need for increased report generation functionality.

**Contract Clause Selection.** When asked about the adequacy of the contract clause selection, raw data indicated respondents who used that functionality were about evenly split between those who said the clause selection was inadequate and those who said that the clause selection was adequate or better. Numerous respondents reported that SPS did not automatically select the appropriate contract clauses. Respondents also reported that SPS generated duplicate clauses. In addition, clauses were not put in the correct order, which forced users into a manual workaround of cutting and pasting the clauses into the correct order. Respondents suggested that this labor-intensive process could be simplified if SPS automatically listed clauses in the proper order. In addition, respondents suggested a clause template. JITC Operational Assessments also identified a need for improved clause selection functionality.

**Electronic Transmission.** Respondents reported a need for improved functionality for electronic transmission. Of the respondents who had transmitted files to contractors, raw data indicated that more than one-half stated the electronic transmission functionality was not adequate. One of the objectives of SPS was to facilitate user productivity through the elimination of duplicate information and to provide an automated environment for electronic commerce. However, SPS did not meet these objectives and required manual workarounds. For example, to send a document to a contractor, respondents indicated that they had to save the SPS generated document into Microsoft (MS) Word and then send the contractor an e-mail with the MS Word file attached. Because the MS Word file was read only, the contractor could not use the MS Word document to submit a proposal. In addition, this process did not work for modifications. Therefore, contracting officials either processed modifications in SPS and sent a paper copy to the contractor or processed the modifications without SPS and sent an electronic copy to the contractor. Further, drawings

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and specifications that were larger than 8.5 by 11 inches could not be input into SPS for electronic transmission. JITC Operational Assessments also identified a need for an SPS capability to import large documents and electronically transmit documents.

**Historical Data Access.** Respondents reported a need for improved historical data functionality. SPS was supposed to improve visibility and access to contract and contractor performance information through on-line contractor past performance histories. However, respondents reported that the SPS historical data capability was inadequate because historical data could not easily be viewed and searched. Respondents, including respondents who had used SPS for more than 12 months, reported that they used legacy systems as workarounds to obtain historical data. Respondents suggested that the functionality of SPS could be improved with an independent view and search capability. In addition, respondents suggested that the search capability include more variables. JITC Operational Assessments also reported a need for an enhanced search capability for contract and contractor performance information.

**Indefinite-Delivery Contracts.** Respondents reported a need for improved functionality for indefinite-delivery contracts,<sup>6</sup> including construction, architect, and engineer contracts. Respondents reported that SPS lacked the necessary functionality for contract award, delivery orders, task orders, and tracking. Therefore, respondents reported using time-consuming workarounds, including manual processes, to compensate for the lack of SPS functionality.

Respondents suggested that SPS be enhanced to handle indefinite-delivery contracts efficiently. JITC Operational Assessments also reported a need for an enhanced functionality for indefinite-delivery contracts.

**Contract Modifications.** One of the expected benefits of SPS was to increase efficiency of contract actions through automation. However, respondents stated that processing contract modifications in SPS was time-consuming, required workarounds, and were difficult to track. In addition, JITC Operational Assessments indicated that contract modifications, which previously required hours to complete, required days to complete with SPS. Therefore, some respondents reported that they did not use SPS for contract modifications. However, not using SPS for contract modifications defeated one of its expected benefits—development of on-line audit trails of the contract process and contract data. In addition, because workarounds were being used to process a contract modification, an on-line audit trail through SPS was not available.

Respondents also reported that SPS caused unnecessary modifications to contracts. Respondents stated that, if they found an error in a document that had been released in SPS but not issued, the only way to correct the document was to issue a modification because the document could not be recalled in SPS.

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<sup>6</sup>Federal Acquisition Regulation subpart 16.5, “Indefinite-Delivery Contracts,” provides that indefinite-delivery contracts are used to acquire supplies and/or services when the exact time and exact quantities of future deliverables are not known at the time of contract award. There are three types of indefinite-delivery contracts: definite-quantity contracts, requirement contracts, and indefinite-quantity contracts.

Respondents suggested that the functionality of SPS should be improved to include the ability to reverse the release of a document before the contract is issued. JITC Operational Assessments also identified a need for a capability to unrelease documents when changes are required before distribution.

**Saving and Printing Documents.** Respondents indicated a need for improved save functionality. One of the expected benefits of SPS was increased efficiency through the elimination of duplicate data entry. However, respondents indicated that some changes, which could only be made while using the document view feature, could not be saved. Therefore, SPS required a manual workaround that involved duplicate data entry of changes that could not be saved. In addition, respondents indicated that they could not save in all SPS screens without having to exit the screen. This resulted in either time-consuming saves or lost data when SPS locked up. The lost data necessitated duplicate data entry. Respondents suggested the functionality of SPS be improved so that data could be saved quickly at any screen in SPS. JITC Operational Assessments also stated that SPS needed an automatic save feature.

Respondents also indicated a need for an improved print functionality. Respondents could delete the page breaks only while using the document view feature. However, as stated above, changes made while using the document view feature could not be saved. Without deleting the page breaks, SPS printed only two contract line items per page, resulting in unnecessarily lengthy documents or the use of a manual workaround that could not be saved. Respondents suggested that the SPS functionality be improved to print multiple contract lines per page.

**SPS Implementation.** According to our survey of users, more needed to be done to improve user satisfaction in the area of SPS implementation. Users identified needed improvements in the transition to SPS and training.

**Transition to SPS.** The projected survey results indicated that the transition to SPS needed improvement. Table 2 shows the projected survey results on transition to SPS indicating that approximately 70 percent of users experienced many problems in transitioning to SPS version 4.1.

<b>Table 2. “How extensive were any problems encountered during the transition to SPS?”</b>	
<u>Answer Choice</u>	<u>Percent</u>
1 & 2 No or few problems	30.1
3 Many problems	<u>69.9</u>
<b>Total</b>	<b>100.0</b>

Problems encountered during transition to SPS varied by user group based on raw data. Respondents who had the most transition problems were users who had used SPS for 24 months or more and buyers. Respondents who had the fewest number of transition problems were procurement clerks.

Respondents stated that transition problems arose because of initial system downtime and because training classes were attended too far in advance of the transition to SPS. By the time SPS was installed, the respondents had forgotten much of the information learned during training. Some respondents stated that they received training more than 1 year before they transitioned to SPS. When training was received too early, respondents requested refresher courses. Respondents suggested that training and transition to SPS coincide. A JITC Operation Assessment stated that training received too early hindered initial effectiveness in using SPS.

**SPS Training.** The projected survey results indicated that training was an area that needed improvement. Table 3 shows the projected survey results on SPS training. Based on the results, training adequately prepared about 35 percent of users to operate and understand SPS and training did not adequately prepare about 65 percent of SPS users to operate and understand SPS.

<u>Answer Choice</u>	<u>Percent</u>
1 & 2 Yes, completely or to a large extent	35.4
3 To a small extent	54.9
4 Not at all	<u>9.7</u>
<b>Total</b>	<b>100.0</b>

How well the training prepared respondents to operate and understand SPS varied by user group based on raw data. Respondents most satisfied with training were system administrators and respondents who had used SPS for 24 months or more. Respondents least satisfied with training were contracting officers.

In an essay portion of the survey, respondents indicated specific areas of training that needed more coverage. Based on responses to the survey, training coverage could have been improved in areas related to contract modifications; delivery orders; clause selection; post awards; purchase requests, including splitting and combining; small purchases; task orders; and report generation. Survey respondents also reported that indefinite-delivery, architecture and engineering, and construction contracts were not covered. In addition, the respondents stated that more hands-on training was needed, including troubleshooting and workarounds.

**SPS Operation.** According to the survey of users, more needed to be done to improve user satisfaction in the areas of SPS operation. Users identified needed improvement in the areas of SPS guidance and problem resolution resources. However, users were generally satisfied with the availability of SPS.

**SPS Guidance.** The projected survey results indicated that guidance was an area that needed improvement. Guidance included user manuals, release notes, product information provided by AMS, standard operating procedures, and documented workarounds. Table 4 shows the projected survey results on SPS guidance. Users were about equally divided on whether guidance was helpful. However, about 16 percent of users indicated that no guidance was received.

<u>Answer Choice</u>	<u>Percent</u>
1 & 2 Very helpful or helpful	40.6
3 & 4 A little helpful or not helpful	43.3
5 No guidance received	<u>16.2</u>
<b>Total</b>	<b>100.0*</b>
*Total does not equal sum of percents due to rounding	

Satisfaction with the helpfulness of guidance varied by user group based on raw data. Respondents most satisfied with guidance were procurement clerks, system administrators, Air Force users, other Defense agency users, and respondents that had used SPS for 24 months or more. Respondents least satisfied with guidance were buyers, managers, and Army users.

Respondents identified needed improvements in the user manual. They indicated that the user manual was too generic to be practical and did not cover all the steps necessary to perform a task. Respondents suggested a need for guidance with an index and step-by-step instructions for each type of contract. Respondents stated that error messages generated by SPS were not understandable or explained in any guidance. JITC Operational Assessments also stated that the error messages were difficult to understand.

**SPS Problem Resolution.** The projected survey results indicated that problem resolution was an area that needed improvement. Table 5 shows the projected survey results on SPS problem resolution. Results indicate that available problem resolution resources were not adequate for approximately 54 percent of users.

**Table 5. “Overall, when you have a problem, are the available resolution resources adequate?”**

<u>Answer Choice</u>	<u>Percent</u>
1 & 2 Completely or to a large extent	45.3
3 To a small extent	46.3
4 Not at all	<u>8.4</u>
<b>Total</b>	<b>100.0</b>

Satisfaction with the adequacy of help resources available varied by user group based on raw data. Respondents most satisfied with the help resources were users who had used SPS for 24 months or more, procurement analysts, and system administrators. Managers were the least satisfied with the help resources.

Respondents identified needed improvements in problem resolution. Specifically, respondents identified needed improvements for remote sites, the help desk, and the SPS on-line help feature.

**Remote Sites.** Respondents at remote sites with databases and offsite system administrators indicated that problem resolution resources were not adequate. For these sites, the problem resolution resources had not adequately addressed downtime due to connectivity problems. Because DoD Components were in the process of moving toward regional administration of SPS, which will result in more remote sites, it is important that the issue of problem resolution at remote sites be addressed.

**Help Desk.** Respondents indicated needed improvements at the help desk. The most common complaint was that numerous calls were required before help was provided. In addition, respondents indicated that they were told to perform the process again, which resulted in duplicate data entry.

**SPS On-Line Help Feature.** Respondents indicated that the SPS on-line help feature needed improvement. The on-line help feature did not adequately resolve problems.

**SPS Availability.** The projected survey results indicated that SPS is generally available. Table 6 shows the projected survey results on SPS availability. The survey results indicated that for about 86 percent of SPS users, SPS was available always or most of the time.

**Table 6. “How often is SPS functional and available for your use?”**

<u>Answer Choice</u>		<u>Percent</u>
1	Always	12.7
2	Most of the time	73.2
3 & 4	Down more than up or never available	<u>14.1</u>
<b>Total</b>		<b>100.0</b>

Satisfaction with the availability of SPS varied by user group based on raw data. Respondents most satisfied with availability of SPS were Air Force users.

Some respondents stated that the biggest problem with SPS availability was lock ups and Dr. Watson<sup>7</sup> errors, which necessitated duplicate data entry. When SPS locked up and Dr. Watson errors occurred, data were lost and documents had to be recreated and information reentered, resulting in duplicate data entry. In addition, when SPS was not available, contract actions were performed outside of SPS using Form Flow.<sup>8</sup> Then when SPS was available, the contract actions performed outside SPS had to be re-entered in SPS, resulting in duplicate data entry.

Other respondents indicated that the availability problems with SPS were due to connectivity to the server. The concern with connectivity was a common concern with respondents with an offsite database and/or server. Because DoD Components were moving toward regional administration, which will result in offsite databases and/or servers, it is important that connectivity from remote sites be addressed.

## **Deployment and Performance Measures**

According to the survey, more needed to be done to improve user satisfaction because the:

- PMO prematurely deployed SPS,
- PMO had not developed performance measures to track whether SPS met the mission objectives and delivered intended benefits, and

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<sup>7</sup>Dr. Watson is a program error debugger that detects and diagnoses program errors and then logs the resulting diagnostic information. In the event of a program error, Dr. Watson starts automatically. Technical support personnel can then use the information logged by Dr. Watson to diagnose problems.

<sup>8</sup>Form Flow is a software package created and marketed by the Jet Form Corporation. The program provides blank forms which can be filled in with the necessary information.

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- DoD Components did not effectively coordinate training and the transition to SPS.

**Premature Deployment.** Respondents indicated that problems with SPS functionality were due to premature deployment. Respondents felt that testing was performed by the SPS users after deployment and more testing should have been done prior to the deployment of SPS. Although system testing generally will not identify all problems with a system, adequate testing will minimize problems when the system is deployed. In 1997, JITC conducted an initial Operational Test and Evaluation of SPS Increment 1 (SPS version 3.1) and a follow-on Operational Test and Evaluation of SPS Increment 2 (SPS version 3.5). In 1998, JITC conducted a follow-on Operational Test and Evaluation of SPS Increment 3 (SPS versions 4.0 and 4.1). In all three assessments, JITC concluded that these increments were not operationally effective or operationally suitable, except for contracting offices having little or no existing automated procurement support. However, despite the JITC assessments, the PMO deployed SPS increments 1 through 3 to sites where SPS was not operationally effective or operationally suitable. SPS was deployed despite the JITC assessments in order to retire legacy systems before year 2000 and to address DoD problem disbursements. To prevent further premature deployment, the PMO should perform adequate testing of the functionality of future versions to ensure that they meet the needs of the intended users.

**Performance Measures.** The PMO had not developed performance measures to track whether SPS met the mission objectives and delivered intended benefits. Although the PMO developed system performance and capability measures, those measures were not adequate. Therefore, the PMO needs to develop and evaluate additional performance measures or risk developing a procurement system that does not meet agency mission requirements, meet user requirements, or deliver intended benefits.

**Existing Performance Measures.** Although the PMO developed system performance and capability measures in the Operation Requirements Document, April 6, 1998, the audit clearly indicated that those measures were not adequate to determine whether SPS met mission requirements, user requirements, and delivered intended benefits. For example, there were thresholds for data accuracy, data relevancy, data currency, edit checks, and data integrity. However, there were no measures to gauge whether SPS was providing measurable improvements in mission performance. In addition, although there was a threshold for SPS availability, the threshold excluded downtime caused by connectivity problems. Therefore, the threshold did not measure the actual availability of the system for users. Further, although the PMO indicated that the quarterly Defense Acquisition Executive Summaries contained information on performance measures, those measures were not adequate as the measures were similar to the performance measures in the Operation Requirements Document. In addition, the performance characteristics reported in the quarterly Defense Acquisition Executive Summaries did not differentiate between different SPS versions and maintenance releases.

**Development of Performance Measures.** The PMO had not developed performance measures to determine whether SPS is incrementally meeting the mission objectives and delivered intended benefits. To adequately

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manage risk, it is necessary to develop performance measures early in the information system life cycle. Effective performance measures reduce risk and help ensure that each version of information technology incrementally meets mission objectives and delivers intended benefits. Although the SPS mission objectives and intended benefits are documented, the PMO did not develop performance measures to gauge whether the mission objectives and intended benefits were incrementally being achieved. The SPS Mission Need Statement documented the mission needs and intended benefits. The SPS Economic Analysis quantified the intended benefits and concluded that SPS would be a cost-effective solution to the mission needs.

**Mission Need Statement.** Although the Mission Need Statement documented the mission needs and intended benefits of SPS, the PMO did not develop performance measures for all the mission needs and intended benefits in the Mission Need Statement. For example, there are no performance measures for the following mission needs and intended benefits of SPS:

- facilitating user productivity through elimination of duplicate information;
- providing an automated environment for electronic commerce, including the capability to exchange data within DoD and with industry;
- improved access to contract and contractor performance histories;
- facilitating end user productivity through elimination of redundant databases, data transmission, and duplication of information;
- increasing efficiency of contract actions through automation;
- eliminating paper handling tasks and achieving paperless contracting,
- enhanced customer service; and
- reduced problem disbursements.

**Economic Analysis.** Although the SPS Economic Analysis quantified intended operational benefits of \$1.4 billion, the PMO did not develop performance measures for all of the intended operational benefits. For example, there were no performance measures for the following operational benefits, which accounted for 57 percent of the intended benefits.

- A productivity increase due to the graphic user interface<sup>9</sup> was estimated to achieve \$486 million in intended benefits, which was equal to 35 percent of the total intended benefits.

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<sup>9</sup>A user interface that displays in graphic or pictorial format rather than in text only.

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- A reduction in paper and file handling costs for paper and files, paper and photocopy costs, and floor space for storing files was estimated to achieve \$305 million in intended benefits, which was equal to 22 percent of the total intended benefits.

**Evaluation of Performance Measures.** To adequately manage risk, it is necessary to periodically evaluate performance measures throughout the information system life cycle. The Clinger-Cohen Act of 1996 requires DoD to monitor and evaluate information technology programs using performance measures to determine whether to continue, modify, or terminate a program. Periodic evaluations identify problems in a timely manner and allow DoD to take prompt corrective action when necessary. Post-implementation evaluations are required to assess whether the information system meets the original objectives and achieves the intended benefits. For incrementally developed systems like SPS, the post-implementation evaluations allow DoD to determine whether SPS is incrementally meeting mission requirements, user requirements, and delivering intended benefits that were used to justify the information system. At a minimum, performance measures should be reviewed after each version or maintenance release is deployed. The post-implementation review would allow management to adequately address the risks before deploying a new version or maintenance release.

**Risks from Performance Measures.** The risks for developing a procurement system that does not meet agency mission requirements or user requirements, and does not deliver intended benefits are increased without periodic evaluations of performance measures. In addition, the risk increases the longer it takes to validate mission performance using performance measures. In order to minimize risks, the PMO should develop quantifiable performance measures and use them to evaluate each new version and maintenance release of the SPS to ensure that SPS is incrementally meeting the mission objectives, delivering the intended benefits, and providing measurable improvements to mission performance. If the performance measures indicate that the SPS is not incrementally meeting mission and user requirements, the PMO should minimize the risks by determining corrective actions to ensure measurable improvements to mission performance. By using performance measures to evaluate mission performance and minimize risks, DoD can assure that the final version of SPS will meet all mission needs and achieve all the benefits that were used to justify SPS.

**Coordination of Training and Transition to SPS.** The DoD Components did not effectively coordinate training and transition to SPS. Respondents indicated that training was received too far in advance of the transition to SPS. It is important to carefully coordinate training and the transition to SPS because the effectiveness of training is reduced when held too far in advance of using a new computer system. The DoD Components and PMO should coordinate the training and the transition to SPS and provide refresher courses if training is held too early.

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## Results of SPS Use

The projected survey results indicated that:

- 60.8 percent of SPS users preferred a procurement system other than SPS,
- 45.8 percent of users stated that workarounds increased,
- 51.4 percent of SPS users stated that productivity does not exceed productivity before SPS version 4.1, and
- 63.5 percent of SPS users stated that SPS had not substantially contributed to the DoD goal of paperless contracting.

The following discussion shows the survey questions related to the impact of user satisfaction, projected survey results for users who used SPS version 4.1, and supporting information provided by survey respondents in essay questions.

**Preferred Procurement System.** The projected survey results indicated that a majority of SPS users preferred a legacy procurement system or other means to perform procurement functions other than SPS. Table 7 shows the projected survey results on the preferred procurement system. Specifically, while about 40 percent preferred SPS, about 60 percent preferred a system other than SPS.

**Table 7. “If you had a choice of procurement systems, would you choose?”**

	<u>Answer Choice</u>	<u>Percent</u>
1	SPS	39.2
2	Legacy system	31.5
3	Other	<u>29.3</u>
	<b>Total</b>	<b>100.0</b>

The procurement system of choice varied by user group based on raw data. Respondents most likely to choose SPS as their system of choice were procurement clerks and system administrators.

The projected survey results indicated that about 60 percent of SPS users would choose a legacy procurement system or other means to perform procurement functions other than SPS. That may have reflected respondent dissatisfaction with the functionality and operation of SPS. In essays, respondents stated that SPS had less functionality, required more steps, and was slower than their legacy system. In addition, all necessary interfaces had not been built, such as interfaces with supply and accounting systems.

**SPS Workarounds.** The projected survey results indicated that workarounds in SPS increased in comparison to the use of workarounds with the users' legacy systems. Table 8 shows the projected survey results on SPS workarounds. Specifically, about 45 percent of users indicated an increase in the number of workarounds since implementing SPS as compared to 31 percent who stated the number of workarounds with SPS were about the same or less than those used with a legacy system.

**Table 8. “Compared to your legacy system (previous automated system), how many workarounds are you using in order to make SPS function appropriately for your site?”**

<u>Answer Choice</u>	<u>Percent</u>
1 Did not use a legacy system	22.9
2 & 3 A lot more or more	45.8
4 About the same	16.3
5 & 6 Less or a lot less	<u>15.0</u>
<b>Total</b>	<b>100.0</b>

The number of workarounds varied by user group based on raw data. Respondents who reported the least workarounds were procurement clerks. Respondents who reported the most workarounds were managers and Air Force users.

Respondents indicated that the lack of functionality resulted in time-consuming workarounds. First, respondents waited for the workarounds to be developed. Then respondents performed the workarounds, which were often time-consuming. Respondents reported that workarounds were required for all phases of the procurement process including fund citations, report generation, contract clause selection, electronic transmission, historical data access, indefinite-delivery contracts, contract modifications, and saving and printing documents. JITC Operational Assessments also reported concerns with the number of workarounds and the time required to perform the workarounds. The increase in workarounds was contrary to the DoD Functional Area Reform Goal of reforming the information technology management processes to increase efficiency and mission contribution.

The workarounds included manual changes to SPS generated documents. For example, when SPS did not correctly number a modification, users manually changed the modification number. In a paper-based procurement process, manual changes to computer-generated documents may have been acceptable, but as DoD moves to paperless contracting, manual changes cannot not be used to compensate for system deficiencies, without jeopardizing the intended benefits of electronic transmission.

**Productivity.** The projected survey results show that the level of user productivity does not exceed productivity levels achieved before the introduction of the SPS, 4.1 series. Table 9 shows that about 13 percent of users stated that productivity increased, 36 percent stated productivity was about the same, and 51 percent of users reported that productivity had not increased since SPS version 4.1 was implemented.

<b>Table 9. “Since the deployment of the SPS 4.1 series:”</b>	
<u>Answer Choice</u>	<u>Percent</u>
1 & 2 Productivity increased immediately or productivity initially decreased but has since increased and now exceeds productivity before SPS, 4.1 series	12.7
3 About the same	35.9
4 & 5 Productivity decreased or productivity initially decreased but has since increased, however, productivity still does not exceed productivity before SPS, 4.1 series	<u>51.4</u>
<b>Total</b>	<b>100.0</b>

The impact of SPS on productivity varied by user group based on raw data. Respondents who were most satisfied with the level of productivity were Navy users. Respondents who were least satisfied were Air Force users.

The projected survey results indicated that a majority of SPS users stated that productivity had not increased which was contrary to the DoD Functional Area Reform Goal of reforming the information technology management processes to increase efficiency and mission contribution. The decrease in productivity reflected the lack of SPS functionality and problems in implementation and operation of SPS. For example, one respondent, who had used SPS for more than 1 year, stated that SPS takes 25 to 30 percent longer. Another respondent, who had used SPS for more than 6 months, stated that an action that would take 15 to 30 minutes in the legacy system took 2 to 2.5 hours in SPS.

**Paperless Contracting.** According to the survey, SPS had not substantially contributed to the DoD goal of paperless contracting. Table 10 shows the projected survey results on paperless contracting. Specifically, about 37 percent of users reported that SPS allowed them to move completely, or to some extent toward, paperless contracting while about 63 percent of users reported that SPS allowed them to move a small extent or not at all toward paperless contracting.

**Table 10. “Has SPS allowed you to move toward paperless contracting?”**

<u>Answer Choice</u>	<u>Percent</u>
1 & 2 Completely or to a some extent	36.5
3 To a small extent	35.8
4 Not at all	<u>27.7</u>
<b>Total</b>	<b>100.0</b>

The impact of SPS on paperless contracting varied by user group based on raw data. Respondents who reported the greatest movement to paperless contracting were users who had used SPS for more than 24 months and system administrators. Respondents who reported the least movement to paperless contracting were buyers, procurement clerks, and other Defense agency users.

The projected survey results indicated that SPS allowed only about 37 percent of SPS users to move completely or to some extent toward paperless contracting. However, the DoD Functional Area Reform Goal is to decrease paper transactions by 50 percent. Respondents stated that SPS did not contribute substantially toward paperless contracting because of the lack of functionality. In addition, to meet the DoD goal of being 90 percent paperless by January 1, 2001, some users stopped using SPS for contract modifications. Users stated that they did not use SPS for contract modification because modifications generated in SPS could not be electronically transmitted.

The projected survey results differed substantially from the published DoD reports on paperless contracting, which indicated that more than 67 percent of contracting actions were paperless. The difference between the survey results and the DoD reports was attributable to how paperless contracting actions were counted for DoD reports. For example, the Army web-based paperless contracting metrics guidance provided that a signed paper copy is counted as paperless if the paper copy was created electronically with an automated contracting system. The Navy web-based paper-free acquisition metrics guide provided that a signed paper copy is counted as 90 percent paperless. The Air Force web-based instruction provided that a signed paper copy is counted as paperless. The Air Force also counted transactions as paperless when documents were both transmitted electronically and via a paper copy. For example, if a vendor requested a paper copy of a solicitation, the transaction was counted as paperless if the solicitation was also made available via other non-hard copy means. For DoD reporting purposes, some paper transactions are counted as paperless. The survey respondents stated, however, that they actually dealt with the paper copies, and, therefore, indicated that SPS had not substantially contributed to paperless contracting.

Some respondents indicated an increased use of paper since SPS was implemented. This was because SPS printed only two contract line items per page, making documents longer than documents created in legacy systems.

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To validate that SPS is achieving the goals of paperless contracting, the DDP needs to establish a performance measure to measure SPS progress in meeting that goal.

## **Conclusion**

Implementation of any new system as far-reaching and complex as SPS can expect initial difficulties in implementation, user resistance, and user dissatisfaction. Since our last report, the PMO has worked hard to coordinate with the DoD Components to address user concerns. However, except for positive perceptions on SPS reliability, the user community remained fundamentally dissatisfied, and more needed to be done to promote greater acceptance and user confidence in the areas of SPS functionality, implementation, and operation. The PMO tested and accepted SPS, and DoD Components determined whether to deploy SPS. However, respondents to the survey stated that testing was inadequate to determine whether SPS was operationally effective or operationally suitable for their sites. In addition, the lack of effective performance measures affected management ability at the DoD Component level to make deployment decisions based on whether SPS would meet the intended mission objectives and deliver the intended benefits. Appropriate performance measures would enable DoD Components to make more effective deployment decisions. Using performance measures would help assess whether each new version of SPS was incrementally improving mission performance so that, by the time the final version of SPS is deployed, DoD either will be assured that all SPS objectives are met or can consider supplementary or alternative tools for the procurement workforce.

At the outset, the DDP and the PMO accepted the initial functionality shortfalls in an effort to get SPS deployed, particularly to those sites that still relied on manual processing of procurement requirements. Although their motives to assist procurement officials in performing their jobs more efficiently may be laudable, the survey indicated that SPS version 4.1 still has not closed the functionality gap. The degree to which version 4.2 will close the gap and generate greater user satisfaction remains to be seen. The PMO needs to monitor testing, implementation, and user satisfaction to ensure that version 4.2 and any subsequent versions deliver the intended benefits.

The acquisition approach called modular or spiral development poses certain advantages in terms of putting advanced technology into the hands of users quickly. The SPS program's experience has shown, however, that user acceptance of this approach may not be easy to attain.

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## Recommendations, Management Comments, and Audit Response

**A.1. We recommend that the Director, Defense Procurement, direct the Standard Procurement System Program Manager to:**

**a. Perform adequate testing to ensure that each future version has the functionality required to meet the needs of intended users prior to the release of each new version of the Standard Procurement System.**

**DDP Comments.** The DDP concurred with the recommendation. The DDP stated that a formal, multi-step testing process is an integral part of the SPS acquisition strategy and has been in place since contract award to ensure that SPS meets contractual requirements and users needs. Testing has included contractor testing prior to release to the Government, Government acceptance testing to verify that the software satisfies contract requirements, independent operational testing, and user field testing to determine whether the SPS satisfied user needs. In addition, user recommended enhancements are referred to a structured requirements process for consideration.

**DCMA Comments.** DCMA concurred with the intent of the recommendation. Like the DDP, DCMA stated that testing is a critical part of PMO and DoD Component efforts to ensure the adequacy of each SPS version. The testing process begins with the definition of contract requirements by the Joint Requirements Board and includes testing during development, acceptance testing based on contract requirements, and testing to confirm that SPS operates in the representative operational infrastructure. Representatives of the DoD Components have been involved in all phases of the testing. Because of the existing testing process, DCMA stated that no further action was required.

**Audit Response.** Although the DDP and DCMA concurred with the recommendation, we do not consider the comments to be fully responsive. We agree that testing procedures already exist. However, audit results indicate that existing test procedures did not ensure that intended users have the functionality needed to perform their jobs. About 38 percent of survey respondents stated that SPS version 4.1 had only some or none of the functionality needed. In addition, survey respondents believed that testing, which should have been done before deployment, had to be performed by SPS users after deployment. Furthermore, JITC conducted three operational assessments of SPS, including one since the Joint Requirements Board was established to better address user needs. In all three assessments, JITC concluded that SPS was not operationally effective or operationally suitable, except for sites having little or no existing automated procurement systems. Despite the JITC assessments, the PMO accepted, and DoD Components deployed SPS to sites where SPS did not have the functionality for the sites' missions.

Further evidence of the shortcomings in present testing procedures was the use of numerous and time-consuming workarounds. According to a JITC operational assessment, users reported that although new releases of SPS corrected problems that required workarounds, the new releases contained new

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problems that required new workarounds. Users also expressed concern with the number, complexity, and inefficiency of the workarounds. Although system testing generally will not identify all system problems, adequate or more appropriate testing should minimize the need for workarounds once a release is deployed.

Despite existing test procedures, more needs to be done to ensure that future versions of SPS are operationally effective and contain the functionality required to reasonably meet user needs.

We request that the DDP provide additional comments to the final report that specifically address how testing procedures will be improved to ensure that each future version of SPS prior to release has the functionality required to meet intended user needs.

**Additional Recommendation.** As a result of management comments, we added Recommendation A.1.b.4. to clarify the required performance measures.

**b. Develop quantifiable performance measures that gauge whether the Standard Procurement System:**

- 1. Meets the mission objectives.**
- 2. Increases productivity of contracting personnel.**
- 3. Achieves the goals of paperless contracting as envisioned.**
- 4. Delivers intended benefits.**

**DDP Comments.** The DDP partially concurred with the recommendations A.1.b.1. through A.1.b.3. The DDP stated that SPS was a commercial product that is being modularly enhanced to satisfy DoD requirements. As such, the SPS acquisition strategy explicitly accepted commercial product performance for the initial software release, and subsequent requirements identify the functions DoD wants SPS to perform without specifying how SPS must perform those functions. In addition, the DDP identified impediments to developing performance measures at this time. For example, the SPS Operational Requirements Document established requirements to satisfy mission needs; however, a productivity performance measure was not practicable because contracting activities have different supporting infrastructures that affect software performance. Thus the lack of a common baseline did not permit establishing meaningful, DoD-wide, productivity measures for SPS.

The DDP also stated that the real contribution of SPS is its ability to exchange information with financial, logistics, and requirements generation systems, and suggested that performance measures could be developed once these systems come on line. Further, the DDP suggested that performance measures for paperless contracting be considered once requirements are better defined for the “end-to-end process.”

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**DCMA Comments.** DCMA concurred with the intent of the recommendations A.1.b.1. through A.1.b.3. However, DCMA indicated that because performance measures already exist and are tested, no further action is required. DCMA stated that SPS is a commercial product and performance measures were already defined in the Operational Requirements Document. DCMA also commented that SPS was not established to achieve productivity enhancements for individual DoD Components, but for DoD as a whole and that performance measures for specific versions of SPS were not included in the contract. DCMA also stated that although SPS version 4.1 has the paperless contracting capability, full implementation of paperless contracting is dependent on the exchange of data between procurement, logistics, and finance systems, which are not yet complete. DCMA stated that no further action was required on the recommendations.

**Audit Response.** The DDP and DCMA comments were nonresponsive. We agree that the Operational Requirements Document established performance measures for some operational capabilities. Further, by purchasing a commercial product, we may not have the ability to specify how proprietary software will perform. However, as reported in Inspector General, DoD, Report No. 99-166, "Initial Implementation of the Standard Procurement System," May 26, 1999, the DDP acknowledged that the initial SPS product would only accomplish 45 percent of DoD procurement functions, with 55 percent being accomplished through modifications to the commercial product. As such, it is important to ensure that the other 55 percent meets user needs.

Although the Operational Requirements Document included performance measures for data accuracy, data relevancy, data currency, edit checks, and data integrity, these performance measures did not determine whether SPS meets mission needs. As such, existing performance measures have not effectively assessed the adequacy of SPS performance within DoD. The SPS Mission Need Statement identified goals such as increasing contractor personnel productivity; eliminating redundant databases; data transmission, and duplicate information; achieving paperless contracting; reducing problem disbursements; facilitating electronic commerce; making historical data accessible; and enhancing customer service. For example, according to audit results, about 51 percent of survey respondents indicated that productivity did not exceed productivity before SPS. Survey respondents also stated that SPS has not enhanced customer service. In addition to the survey results, a JITC Operational Assessment also reported a decrease in customer satisfaction.

The Mission Need Statement added paperless contracting in 1998, and the SPS Economic Analysis identified about \$305 million of intended benefits from reduced costs for paper and filing, photocopy, and storing paper files. According to the survey, SPS paperless contracting capabilities needed improvement. For example, survey respondents indicated that to transmit a contract electronically, a document must be saved in MS Word, then attached to an e-mail rather than being transferred by SPS directly. This requires the performance of duplicate steps and creates duplicate files. Also, contracting officials either had to process modifications in SPS and send a paper copy to the contractor or process modifications without SPS and send an electronic copy to the contractor. Further, large drawings and specifications could not be input

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into SPS and electronically transmitted. As such, a performance measure should be initiated to better identify how SPS is achieving the expected cost savings and meeting user needs.

The Clinger-Cohen Act requires that performance measures be established for any system to gauge how well a system is meeting mission requirements. Thus, to meet Clinger-Cohen requirements as well as to fully assess whether SPS is achieving the intended benefits and meeting the mission objectives, the PMO needs to develop performance measures for the factors that were used to justify SPS.

We request that the DDP provide additional comments in response to the final report that specifically address how it will gauge whether SPS is meeting mission needs, increasing productivity, achieving paperless contracting goals, and achieving the intended benefits that were used to justify SPS. In addition, the DDP should provide comments on Recommendation A.1.b.4. that was added to the final report to clarify that the SPS performance measure need to determine whether SPS is delivering intended benefits.

**c. Evaluate each new version of the Standard Procurement System against performance measures before deploying a new version or maintenance release.**

**d. Determine corrective actions, when the performance measures indicate the Standard Procurement System is not meeting mission requirements, user requirements, and delivering intended benefits.**

**DDP Comments.** The DDP concurred with Recommendations A.1.c. and A.1.d. The DDP stated that since contract award, a formal testing process has been in place to assure SPS meets the contractual requirements and users needs. Testing included contractor testing to assure that SPS is ready for release to the Government, Government acceptance testing to verify that the software satisfies contract requirements, and independent operational and user field testing to determine whether the SPS satisfied user needs. In addition, potential enhancements suggested by the user during field testing are referred to a structured requirements process that assures user recommendations are considered.

**DCMA Comments.** The DCMA concurred with the intent of Recommendations A.1.c. and A.1.d. However, DCMA stated that if SPS does not meet mission requirements nor deliver intended benefits, the Milestone Decision Authority is responsible for directing program changes. As such, the DCMA stated that no further action was required.

**Audit Response.** Although the DDP and DCMA concurred with the intent of the recommendations, the comments were not fully responsive. The audit results clearly indicate that significant progress still needs to be made for SPS to meet the mission needs and deliver measurable benefits. The Milestone Decision Authority cannot make an informed decision without adequate information. Therefore, to provide the Milestone Decision Authority with a

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baseline for deciding whether to continue SPS without adjustment or to make significant changes to SPS in order to improve performance, the DDP and PMO must:

- develop appropriate performance measures (Recommendation A.1.b.),
- evaluate each new version of SPS against performance measures to determine whether SPS is incrementally meeting the mission needs and delivering measurable benefits, independent of future versions (Recommendation A.1.c.), and
- determine corrective actions, if the evaluation of the performance measures indicates that SPS is not meeting mission needs and delivering measurable benefits (Recommendation A.1.d.).

Once the above actions are completed, the DDP and PMO can determine whether corrective actions should be taken, and what Milestone Decision Authority approvals are needed. If SPS cannot fully meet user needs, supplementary or alternative tools may be necessary.

The Milestone Decision Authority is scheduled to decide on the next SPS milestone in April 2002. According to DoD Instruction 5000.2, "Operation of the Defense Acquisition System," October 23, 2000, the DCMA Chief Information Officer must provide a written confirmation to the Milestone Decision Authority that SPS is being developed in accordance with the Clinger-Cohen Act, including a description of how each increment of SPS meets mission needs and delivers a measurable benefit, independent of future versions. Thus, to meet Clinger-Cohen requirements and to attest to the Milestone Decision Authority that SPS is incrementally meeting mission needs and delivering measurable benefits, the DDP needs to complete actions under Recommendations A.1.b., A.1.c., and A.1.d.

We request that the DDP provide additional comments in response to the final report that specifically address how it will evaluate each new version of SPS against performance measures to determine whether SPS is incrementally meeting mission needs and delivering measurable benefits, and indicating whether DDP will seek supplementary or alternative tools if necessary to meet mission objectives.

**A.2. We recommend that the Director, Defense Procurement, direct the DoD Components to:**

**a. Coordinate, with the Program Manager, training and the transition to the Standard Procurement System Program so that the Standard Procurement System is available for use when personnel receive training classes.**

**b. Provide refresher courses for individuals receiving training too far in advance of the transition to the Standard Procurement System Program.**

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**DDP Comments.** The DDP partially concurred. The DDP stated that the DoD Components are responsible for ensuring that training at their sites is adequate and timely. The DDP further stated that the PMO confers weekly with the DoD Components to ensure that training courses are scheduled as close to site installations as possible. However, the DDP agreed to remind the DoD Components to determine whether any employees require any additional training and to coordinate the training requirements and schedules with the PMO.

**Audit Response.** The DDP comments were responsive.

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## B. Use of the Standard Procurement System

According to our survey of SPS users, we projected that about 26.5 percent of individuals identified by DoD Components as licensed to use SPS version 4.1 have not used it. Respondents indicated that they have not used SPS version 4.1 because the DoD Components:

- deployed SPS to sites even though SPS did not have the functionality needed for those sites' missions, and
- deployed SPS to employees that did not require SPS to perform their jobs.

In addition, the DoD Components identified employees as licensed to use SPS even though those employees did not have SPS installed on their computers.

As a result, we estimated the PMO spent up to \$2.1 million of the \$7.9 million in license costs on licenses for users who could not or did not use SPS. These funds could have been put to better use elsewhere. In addition to the license costs, the PMO and DoD Components spent time and resources for unnecessary SPS deployments.

### SPS Usage

According to our survey of users, we projected that about 26.5 percent of individuals identified by DoD Components as licensed to use SPS version 4.1 did not use it. Respondents indicated that, rather than use SPS version 4.1 to perform their job, they used an earlier version of SPS, a legacy system, a manual process, MS Office products, or other means.

Respondents who have not used SPS version 4.1 did not do so because the DoD Components deployed SPS to sites even though SPS did not have the functionality needed for those sites' missions and deployed SPS to employees that did not require SPS to perform their jobs. In addition, the DoD Components identified employees as licensed to use SPS even though those employees did not have SPS installed on their computers.

**Incremental Deployment.** According to the SPS acquisition strategy, SPS would be delivered in 4 increments (versions 3.1, 3.5, 4.0, and 4.1) of increasing functionality until a total of 299 procurement functions were deployed. Increment 1 included 69 of the 299 functions identified as suitable for testing and deployment to DoD sites that had limited or no automated procurement capabilities (mostly Navy sites). Increment 2 was to undergo operational testing while Increment 1 was being deployed; Increment 2 would be back-fitted and deployed to sites that had already received Increment 1, as well

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as to other sites. The practice would be repeated with each increment. DoD began receiving version 4.1 in September 1998. As such, the PMO recognized and accepted that shortfalls in functionality would be unavoidable.

**Functionality Needs of Sites.** The DoD Components deployed SPS version 4.1 to sites even though SPS did not have the functionality needed for the missions at those sites. For example, respondents indicated that there were no SPS users at two of the sample sites, including sites that performed procurement functions for construction, and architecture and engineering services. Respondents indicated that SPS version 4.1 was not used because it did not have all the functionality needed for construction, architecture, and engineering contracting—which is their mission.

**Operational Assessment Results.** The JITC, which conducted Operational Assessments of SPS version 4.1 at 24 sites, also found that SPS version 4.1 was deployed to sites even though SPS version 4.1 did not have the functionality needed for that site's mission.<sup>10</sup> JITC found three sites that did not use SPS version 4.1 and one site that awarded only a small portion of its contracts using SPS version 4.1.

**Sites Using SPS.** Three sites did not use SPS version 4.1 because SPS did not have the functionality needed for those sites' missions. JITC determined that multiple versions of SPS had been deployed to the Space and Naval Warfare Systems Command, San Diego, California. That site, which procured major weapons systems, had not used SPS because SPS did not have the functionality needed for major weapons systems. SPS will not have the functionality needed for major weapons systems until version 5.0, which is scheduled for deployment in the second quarter of FY 2002. In addition, JITC found that since 1997 multiple versions of SPS were deployed to the Superintendent of Shipbuilding, Newport News, and Portsmouth, Virginia, although those sites did not use SPS because SPS did not have the needed functionality for the sites' missions.

**Contracts Awarded Using SPS.** JITC found that the Naval Facilities and Engineering Command, San Diego, California, used SPS version 4.1 to award only a small portion of its contracts. Prior to deploying SPS in August 1999, the Naval Facilities and Engineering Command at San Diego had no automated procurement system. Since the SPS deployment, the site awarded only 4 contracts using SPS of the approximate 40 to 50 contracts awarded per month. This is because SPS did not have the functionality for large and complex contracts, which comprise most of the contracts awarded at the site. In addition, 40 percent of the site's contracts were awarded through simplified acquisition procedures, but SPS was not used for the simplified acquisitions because there was no site requirement to use SPS. Further, users were hesitant to invest much time and effort in using SPS because users believed that SPS may ultimately not meet the site's mission needs.

**SPS Needs of Employees.** The DoD Components deployed SPS version 4.1 to employees who did not require SPS to perform their jobs. For example, SPS

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<sup>10</sup>These sites were not included in our sample of sites.

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was deployed to employees such as engineers, engineering technicians, and attorneys although they did not use SPS. However, SPS was intended for use by contracting employees and not by engineers or attorneys. In addition, SPS was deployed to contracting employees who did not require SPS to perform their jobs. For example, SPS was deployed to employees performing functions such as administering construction contracts and procurement management reviews who stated that they did not need SPS to perform their jobs. SPS will not have the functionality needed for contract administration until version 4.2, which is scheduled for deployment in the second quarter of FY 2001.

**Identification of Users.** The DoD Components identified employees as licensed to use SPS even though those employees did not have SPS installed on their computers. For purposes of the survey, we requested from the DoD Components and were supplied with a list of personnel who, according to DoD Component records, received SPS version 4.1 licenses and were considered “SPS users.” However, based on results of the survey, the lists were not accurate. We contacted individuals that chose not to remain anonymous when responding to the survey and stated that they did not use SPS. Of the 22 individuals who responded, 7 indicated they did not have SPS installed on their computers and did not need it to perform their jobs.

## **Resources Expended and Implementation of Future Versions**

We estimate that the PMO spent up to \$2.1 million of the \$7.9 million in license costs on unnecessary licenses for personnel who did not use SPS. In addition to the license costs, the PMO and DoD Components spent time and resources for unnecessary SPS deployments. Furthermore, by deploying SPS without the needed functionality to meet sites’ missions, the DoD Components may have made users reluctant to implement future versions of SPS.

**License Costs for Sites.** The PMO incurred unnecessary license costs when SPS was provided to sites even though SPS did not have the functionality needed for the sites’ missions. For example, we determined that there were no users at two sites because, according to survey respondents, SPS functionality did not meet the sites’ missions. For another 11 of the 120 sites in the survey, all respondents stated that they did not use SPS. In addition to our survey, JITC determined that 3 of the 24 sites included in its Operational Assessments had no SPS users.

**License Costs for Employees.** The PMO may have incurred unnecessary license costs when SPS was deployed to employees who did not require SPS to perform their jobs. We cannot precisely quantify the total amount of unnecessary license costs because of the way in which licenses were purchased. Licenses were purchased in blocks of 1, 2–10, 11–24, 25–50, 51–100, 101–250, 251–500, and 501–1000. The license cost was also dependent on the office suite used (WordPerfect or MS Office), and the hardware platform. For example, if a site had 51 users, MS Office, and a Hewlett-Packard 9000 platform, the license costs for the site were \$24,335 in 2000. If the site had 100 users, the license costs were also \$24,335 in 2000. However, if the site had 101 users, the license costs for the site were \$47,171 in 2000.

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**Estimate of License Costs.** We estimate that the PMO spent up to \$2.1 million, or up to 26.5 percent of the \$7.9 million in license costs, on unnecessary licenses for users who did not use SPS. We estimated the unnecessary license costs based on the projection that about 26.5 percent of users, identified by DoD Components as licensed to use SPS version 4.1, did not use version 4.1. According to the PMO, some of the \$2.1 million is time value of money as a result of his purchasing licenses before necessary. Based on our review of the license costs, although some of the license costs increased in the option years, other costs decreased.

**Other Resources.** In addition to expending unnecessary funds on licenses, the PMO and DoD Components spent time and resources for unnecessary SPS deployments. Deployment costs include time and resources for installation, travel, and training. In addition, some DoD Components contracted with AMS and other contractors for deployment support. For example, Inspector General, DoD, Report No. 99-166, "Initial Implementation of the Standard Procurement System," May 26, 1999, stated the Air Force Contracting Information System Program Office estimated that DoD Components may spend \$70 million for additional contractor support for SPS implementation.

**Implementation of Future Versions.** By deploying SPS without the needed functionality to meet the sites' missions, the DoD Components may have made users reluctant to implement future versions of SPS. The JITC Operational Assessments indicated that based on problems encountered with versions 3.1 and 3.5, users were reluctant to implement version 4.1. By deploying version 4.1 to sites even though SPS did not have the functionality needed for the sites' missions, the DoD Components increased the risk that problems encountered with version 4.1 will negatively impact user acceptance of future versions of SPS.

## Conclusion

The audit determined that up to \$2.1 million was spent on unnecessary license costs. Although the PMO has been addressing user needs through the Joint Requirements Board and making improved versions available, it is up to the DoD Components to ensure that the needed functionality exists before deploying SPS. DoD Components should carefully consider decisions to deploy SPS to the remaining activities. Before deploying SPS to a site, the DoD Components need to first determine whether SPS has the functionality to meet that site's mission. Once DoD Components determine that SPS has the functionality for a site's mission, the DoD Components then need to determine whether individual employees require SPS to perform their jobs. Only after these two determinations are made can the DoD Components accurately determine the number of required licenses. The DoD Components should:

- document their decision that SPS has the necessary functionality to meet the mission needs of the site,
- document the number of licenses required, and
- maintain a record of the licenses and make adjustments if the site's license requirements change.

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## **Recommendations, Management Comments, and Audit Response**

**Deleted, Renumbered, Revised, and Redirected Recommendations.** As a result of management comments, we revised draft Recommendations B.1.a. and B.1.c., deleted draft report Recommendation B.2.b., renumbered Recommendation B.2.a. to B.2., and revised and redirected Recommendation B.2. to the DDP. In addition, we deleted Recommendation B.3.b., which resulted in renumbering Recommendation B.3.a. to B.3.

### **B. We recommend that the Director, Defense Procurement:**

**1. Require DoD Components, prior to any future deployment of either a new version or maintenance release, to:**

**a. Provide assurance showing that it has determined that the Standard Procurement System has the functionality to meet each requesting site's mission.**

**b. Determine the number of employees at each site who require the Standard Procurement System to perform their jobs.**

**c. Provide assurance that the number of licenses requested by site is appropriate.**

**d. Correct existing records of Standard Procurement System licenses or establish such records, and redistribute licenses when employees no longer require the Standard Procurement System to perform their jobs.**

**DDP Comments.** The DDP partially concurred with draft Recommendation B.1. The DDP stated that Recommendations B.1.a. through B.1.c. need to be tailored for individual DoD Component organizational and mission-related requirements, and therefore, are handled by DoD Components. Further, the DDP contends that to require DoD Components to submit documentation to the DDP, as specified in draft Recommendations B.1.a. and B.1.c., would add to SPS deployment costs, delay deployment of new or improved functionality, and be inconsistent with organizational accountability and responsibility concepts. For Recommendation B.1.d., the DDP stated that SPS licenses are not user specific. Therefore, there is no need to redistribute licenses within a site. In addition, the transfer of licenses among sites can be accomplished within the license agreement or through negotiations.

**DCMA Comments.** DCMA partially concurred with Recommendation B.1. DCMA stated that once the PMO accepts the software, it is up to the DoD Components to validate that interfaces are operational, that the software works in the component architecture and environment, and that SPS meets their users' needs. Once validation has been performed, it is up to the DoD Components to request installation and training from the PMO including specifying the sites, identifying intended users, and maintaining license distribution. The PMO

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purchases licenses based on the number of users at each site and redistribution is limited by the contractual terms and existing license agreements. Based upon this information, DCMA considered the action to be complete.

**Audit Response.** We consider the DDP and DCMA comments to be partially responsive. We agree that the DoD Components should be responsible for determining the necessary functionality of a version and the number of licenses needed. However, based upon audit results, more than 26.5 percent of individuals identified by DoD Components as licensed to use SPS version 4.1 have not used it because it lacks the necessary functionality for their missions or because SPS is not needed to perform their jobs. The DoD Components have not been accurately assessing SPS needs prior to requesting that the PMO purchase licenses. For example:

- SPS was installed for 6 months at two sites but had no users because of functionality shortcomings.
- SPS was deployed to employees such as engineers, engineering technicians, and attorneys although they did not require SPS to perform their jobs.
- SPS was deployed to contract administrators who do not require SPS to perform their jobs because SPS will not have the needed functionality for contract administration until version 4.2 is deployed.

In addition to audit results, the JITC Operation Assessments identified three sites that did not use SPS because of functionality shortfalls, including sites that had SPS installed since 1997. We estimate that \$2.1 million has been wasted.

If the deployments were properly planned, users would transition to SPS shortly after SPS was installed, not years after SPS was installed. Therefore, DoD Components need additional guidance or procedures to determine whether SPS has the functionality to meet each site's mission needs to avoid unnecessary purchases of licenses.

The DCMA stated that DoD Components submit planning information for SPS deployments as a part of the yearly cycle, while delivery orders for licenses are not issued until 2 to 4 weeks before installation. As such, it should be reasonable for DoD Components to provide the DDP or PMO with information on licensing needs as part of the yearly requirement and make adjustments prior to the delivery order. In view of DDP concerns about the administrative burden of potentially voluminous documentation, we revised Recommendations B.1.a. and B.1.c. to provide reasonable flexibility. We request that the DDP provide additional comments to the final report on Recommendations B.1.a. and B.1.c.

**2. Obtain assurance from the DoD Components, that they have, prior to any future deployment of either a new version or maintenance release, accurately determined that the Standard Procurement System will meet each site's mission and that deployment to the site is appropriate.**

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**DDP Comments.** The DDP nonconcurred with Recommendation B.2. The DDP stated that DoD Components are responsible for determining whether SPS meets their mission needs. The PMO is not in the position to validate a DoD Component's decision that SPS meets a site's mission needs.

**DCMA Comments.** DCMA nonconcurred with Recommendation B.2. DCMA stated that the PMO should not be responsible for validating the actual number of employees to receive SPS and determining whether each DoD Component site should receive new versions or maintenance releases for the SPS. Rather, the PMO believes it is the responsibility of each site command to perform these functions. The DCMA considered the action to be complete.

**Audit Response.** We consider the DDP and DCMA comments to be partially responsive. We agree that responsibility for determining whether a version of SPS meets each site's mission should be the responsibility of the DoD Components. However, the PMO and DDP need to be proactive and question how the sites are validating their license requirements. Therefore, we maintain that the DDP, as the DoD organization responsible for SPS, should seek credible assurance from the DoD Components that requirements have been verified before expending funds to obtain additional licenses. We request that the DDP provide additional comments to the final report.

**3. Direct the Program Manager to purchase licenses for all future deployments only after the DDP validates that the Standard Procurement System meets the mission requirement of the site.**

**DDP Comments.** The DDP partially concurred and stated that licenses are required only in the quantities requested by the DoD Components to support the sites designated to receive a particular software release.

**DCMA Comments.** DCMA nonconcurred and stated that the PMO should not validate that an SPS version will meet a site's mission needs because this is a DoD Component responsibility. DCMA considers the action to be complete.

**Audit Response.** The comments provided by the DDP and the DCMA were not responsive. Although the DoD Components are responsible for identifying quantities of licenses required, the audit clearly indicated that additional actions are required because the DoD Components requested that the PMO purchase unnecessary licenses. Therefore, the PMO should not purchase new licenses until the DDP has assurance that licenses to be purchased are needed. This can be accomplished by DDP implementing review procedures for Recommendation B.2. and then validating the requirements. The minimal costs for review and validation will outweigh future costs from acquiring unneeded licenses. We request the DDP provide additional comments to the final report to address how the DDP will provide the PMO with more accurate information on licensing needs of DoD Components.

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# Appendix A. Audit Process

## Scope

We developed a web-based survey instrument to assess user satisfaction with SPS. We then selected a statistical sample of sites from a list of sites provided by the PMO and then did a statistical sample of users at those sites. We reviewed JITC Operational Assessments conducted between March and July 2000. We met with personnel from the office of the DDP, the DCMA, the PMO, and the SPS Component Management Offices. We also attended SPS program management reviews.

**Limitation to Scope.** We did not review the management control program related to the overall audit objective because the audit was in response to a congressional request.

**DoD-Wide Corporate Level Government Performance and Results Act Coverage.** In response to the Government Performance Results Act, the DoD annually establishes DoD corporate level goals, subordinate performance goals, and performance measures. This report pertains to achievement of the following corporate-level goals and subordinate performance goals:

**FY 2001 DoD Corporate Level Goal 2:** Prepare now for an uncertain future by pursuing a focused modernization effort that maintains U.S. qualitative superiority in key warfighting capabilities. Transform the force by exploiting the Revolution in Military Affairs, and reengineer the Department to achieve a 21st century infrastructure. **(01-DoD-2)** **FY 2001 Subordinate Performance Goal 2.3:** Streamline the DoD infrastructure by redesigning the Department's support structure and pursuing business practice reforms. **(01-DoD-2.3)** **Subordinate Performance Goal 2.4:** Meet combat forces' needs smarter and faster, with products and services that work better and cost less, by improving the efficiency of DoD acquisition processes. **(01-DoD-2.4)** **Subordinate Performance Goal 2.5:** Improve DoD financial and information management. **(01-DoD-2.5).**

**DoD Functional Area Reform Goals.** Most major DoD functional areas have also established performance improvement reform objectives and goals. This report pertains to achievement of the following functional area objectives and goals.

- **Acquisition Functional Area. Objective:** Foster Partnerships. **Goal:** Decrease paper transactions by 50 percent through electronic commerce and electronic data interchange. **(ACQ-2.3)**
- **Information Management Technology. Objective:** Reform information technology management processes to increase efficiency and mission contribution. **Goal:** Institute fundamental information technology management reform efforts. **(ITM-3.2)**

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**General Accounting Office High-Risk Area.** The General Accounting Office has identified several high-risk areas in the DoD. This report provides coverage of the Information Management and Technology high-risk area.

## Methodology

**Use of Computer-Processed Data.** We relied on internally computer-processed data to collect and analyze responses to a web-based user satisfaction survey. The web-based survey was developed and administered in-house. Therefore, we considered the data to be reliable.

**Statistical Sampling Methodology.** The Quantitative Methods Division, Office of the Assistant Inspector General for Auditing, DoD, developed a statistical sampling plan to obtain information about the perceptions of and experience with the SPS through a survey of its users. Quantitative Methods Division analysts designed a multistage stratified sample to provide this information.

**Target Population.** The target population for the survey comprises DoD users of SPS version 4.1. SPS sites control access to SPS and maintain registries of their site's users. The DoD Components do not maintain central registries of users. In the absence of such a central source, we collected lists of users from selected sites within DoD. To facilitate this collection and the associated analysis, we grouped sites into five strata: Army sites, Navy sites, Air Force sites, Defense Logistics Agency sites, and other Defense agencies sites. The number of sites per stratum varied, as shown in Table A-1.

<u>Stratum</u>	<u>Total Sites</u>	<u>Sample Sites</u>
Army	290	30
Navy	182	28
Air Force	19	All
Defense Logistics Agency	9	All
Other Defense Agencies	<u>34</u>	All
<b>Total</b>	<b>534</b>	

**Sample Design.** The survey required the use of two different approaches for sampling users within the overall sampling design. Because the Army and Navy had large numbers of sites, we statistically selected 30 Army and 28 Navy sites and obtained lists of users from each of the sites. We then surveyed all the users for those sites with 20 or fewer reported SPS users, and statistically sampled 20 users from those sites with 21 or more users. Because there were relatively few sites in the Defense Logistics Agency and other Defense agencies, and relatively few operational Air Force sites, we obtained lists of users from each site within each of the three strata. We then drew

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separate simple random samples directly from the combined Air Force list of users, the combined Defense Logistics Agency list of users, and the combined other Defense agencies list of users.

We designed the sample plan for statistical selection of the SPS users across DoD, and through e-mail requested that the selected users complete the web-based survey questionnaire to collect their perceptions of SPS functionality and user satisfaction with SPS version 4.1. We used two-stage sample plans for both the Army and Navy, and simple random sample plans for Air Force, Defense Logistics Agency, and other Defense agencies.

**Army.** We used a two-stage sample plan for the Army by treating the sites as clusters. In the first stage, we randomly selected a sample of 30 sites from the population of 290 Army sites. In the second stage, we randomly selected a sample of 278 users from the population of 378 users at 30 selected sites. We received 205 responses out of 278 users surveyed. We used the 205 responses from the 30 selected sites to represent those Army SPS users who would have responded to a survey of all SPS users.

**Navy.** We also used a two-stage sampling plan for the Navy. In the first stage, we randomly selected a sample of 28 sites from the population of 182 Navy sites. In the second stage, we randomly selected a sample of 331 users from the population of 578 users at the selected sites. We received 217 responses out of 331 users surveyed. We used the 217 responses as the overall sample size distributed from the 28 selected sites with users to represent those Navy SPS users who would have responded to a survey of all SPS users.

**Air Force.** We used a simple random sample plan for the Air Force. We randomly selected a sample of 101 users from the population of 748 users and received 68 responses. We used the responses in this stratum to project the stratum's contribution to the overall DoD responding user perceptions of and experiences with SPS.

**Defense Logistics Agency.** We used a simple random sample plan for the Defense Logistics Agency. We randomly selected a sample of 102 users from the population of 364 users and received 70 responses. We used the responses in this stratum to project the stratum's contribution to the overall DoD responding user perceptions of and experiences with SPS.

**Other Defense Agencies.** We used a simple random sample plan for other Defense agencies. We randomly selected a sample of 101 users from the population of 527 users and received 81 responses. We used the responses in the stratum to project that stratum's contribution to the overall DoD responding user perceptions of and experiences with SPS.

**Population Used for Analyses.** Out of the 913 sample surveys solicited, we received 641 responses, including 439 responses from users of SPS version 4.1. These responses represented about 6,385 SPS version 4.1 users and comprised the framework within which the analyses in Appendix B are computed. The methodology used to construct this estimated number of users who would have responded to the survey has been described in detail in Appendix C.

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**Use of Technical Assistance.** We used technical assistance during the audit. The Quantitative Methods Division, Office of the Assistant Inspector General for Auditing, DoD, provided a statistical sampling plan and analysis of the data gathered via the web-based survey. We met with technical experts at the Defense Information Systems Agency; Defense Manpower Data Center; and Information Systems Directorate, Office of the Director, Administration and Information Management, Office of the Inspector General, DoD, to discuss the development, administration, and analysis of a web-based survey.

**Audit Type, Dates and Standards.** We performed this program audit from January through November 2000, in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD.

**Contacts During the Audit.** We visited or contacted individuals and organizations within DoD. Further details are available on request.

## **Prior Coverage**

### **General Accounting Office**

General Accounting Office Report No. GAO/AIMD 98-40 (OSD Case No. 1509), "Financial Management, Seven DoD Initiatives That Affect the Contract Payment Process," January 30, 1998

### **Inspector General, DoD**

Inspector General, DoD, Report No. 99-166, "Initial Implementation of the Standard Procurement System," May 26, 1999

Inspector General, DoD, Report No. 96-219, "Allegations to the Defense Hotline Concerning the Standard Procurement System," September 5, 1996

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## Appendix B. Statistical Projections

We computed statistical projections of SPS version 4.1 users in percentages for 30 selected responses to the 11 questions for each DoD group and aggregated the results throughout DoD. The individual projections for 30 responses were computed by using a 99.65 percent confidence level to have a 95 percent effective confidence level for the 30 projections when viewed simultaneously. We used the *Bonferroni*<sup>1</sup> approach to compensate for the reduced level of significance for individual tests when conducting multiple tests. Nonrespondents at both the survey and the individual item level were treated as missing-at-random; that is, as though their answers were in the same proportions as those of the respondents. The survey responses for two of the sampled Navy sites were commingled. To complete the statistical calculations, we divided these responses equally between the two Navy sites.

Two types of approximations were used nonstatistically in the confidence interval calculations. Because complete lists of users were not obtained for either Army or Navy, we approximated the numbers of users for these Military Departments. Also, because not everyone included on the user lists was a user of SPS version 4.1, we approximated the numbers of SPS version 4.1 users in the DoD Components (see Appendix C). Both of these approximations introduced additional uncertainty to the confidence interval calculations in ways that cannot be quantified. Therefore, the presented confidence intervals for the estimated response percentages are themselves approximate and understate the total uncertainty of the estimates. The estimated percentages should be used for decision making only if the presented confidence intervals are well within the uncertainty acceptable to the decision maker. The projected results for the estimated number of respondents are shown in Table B-1.

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<sup>1</sup>The Bonferroni procedure or correction is used when there are multiple statistical tests. When there are multiple independent tests—different survey response categories in this instance—the error risks accumulate.

**Table B-1. Statistical Projections**

	<u>Point Estimate</u>	<u>Lower Bound</u>	<u>Upper Bound</u>
<b>Use of SPS:</b>			
Do not use SPS*	26.5	6.1	46.9
<b>SPS Functionality:</b>			
All functions needed	12.6	8.1	17.1
Most of the functions needed	49.0	40.5	57.5
Some/none of the functions needed	38.4	31.4	45.3
<b>SPS Workarounds:</b>			
More or a lot more	45.8	36.3	55.2
About the same	16.3	11.1	21.4
Less or lot less	15.0	10.0	20.1
<b>Amount Paperless:</b>			
Completely/to some extent	36.5	27.1	45.9
To a small extent	35.8	26.7	44.8
Not at all	27.7	19.6	35.8
<b>Installation Problems:</b>			
No/few problems	30.1	19.4	40.8
Many problems	69.9	59.2	80.6
<b>Training Adequacy:</b>			
Completely/to a large extent	35.4	25.6	45.2
To a small extent	54.9	45.8	64.0
Not at all	9.7	5.0	14.4
<b>Helpfulness of Guidance:</b>			
Helpful/very helpful	40.6	35.1	46.0
Little/not helpful	43.3	35.4	51.1
No guidance	16.2	8.7	23.7
<b>System Choice:</b>			
SPS	39.2	27.9	50.6
Legacy system	31.5	23.3	39.7
Other system	29.3	15.6	43.0
<b>Productivity:</b>			
Increased	12.7	7.5	17.9
About the same	35.9	25.6	46.2
Decreased	51.4	41.5	61.3
<b>Adequacy of Help Resources:</b>			
Completely or to a large extent adequate	45.3	34.7	55.8
To a small extent adequate	46.3	37.3	55.3
Not adequate	8.4	4.5	12.3
<b>Functional and Availability:</b>			
Always	12.7	6.4	19.0
Most of the time	73.2	64.1	82.3
Down more than up/never available	14.1	7.0	21.1

\*The projections for non-SPS users are based on the estimated number of listed users (8,867 DoD-wide) against the projections for other questions based on SPS version 4.1 users, as explained in Appendix C.

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The projected results can be interpreted in statistical terms and illustrated by taking any projection from above. For example, to interpret the non-SPS users, we are 95 percent confident that within the 30 listed projections, between 6.1 percent and 46.9 percent of the respondents are non-SPS users. The unbiased point estimate of 26.5 percent of non-SPS users is the midpoint of the statistically estimated range of stated values.

The results for non-SPS users show a large confidence interval for DoD-wide estimates - 6.1 percent to 46.9 percent. This wide confidence interval mathematically reflects the wide differences across the DoD Components, which it summarizes. The lower bounds range from 2.5 percent to 72.6 percent. The upper bounds range from 28.3 percent to 96.6 percent. In addition, the Navy has a wide range of uncertainty - 5.6 percent to 60.9 percent. This also contributes to the large DoD-wide confidence interval. By way of contrast, the DoD Component intervals for functionality are much closer, with the lower bounds from 18.8 percent to 33.1 percent and the upper bounds from 45.7 percent to 94.8 percent; therefore, the DoD-wide interval is much narrower from 31.4 percent to 45.3 percent.

# Appendix C. Estimating the Number of Standard Procurement System Version 4.1 Users

The goal of the SPS user survey was to collect information on user experience with, and perceptions of, SPS. We focused our analysis on current users of SPS version 4.1, including maintenance releases 4.1a, 4.1b, and 4.1c, referred to collectively as SPS version 4.1 users. To make such an estimate was a challenge. Because there was no central source for identifying SPS users, the population was operationally undefined. The PMO had a central list of sites with SPS version 4.1. However, neither the PMO nor DoD Components had lists or access to lists of users at the sites with SPS version 4.1. Because there were no available lists of SPS version 4.1 users, there was no direct way of sampling those users. The absence of the baseline information on our target population substantially influenced the sample design used in the survey, as well as our analysis and projections.

**Sample Design.** The sample design involved two basic steps. The first was to identify sites for statistical sampling. We organized sites into five groups, or strata. The strata were Army sites, Navy sites, Air Force sites, Defense Logistics Agency sites, and collectively all other Defense agency sites.

To collect user surveys from a representative number of sites per stratum, we used two different sampling methods. For the 3 strata with 40 sites or fewer (Air Force, Defense Logistics Agency and other Defense agencies), we requested lists of users from all sites in a stratum. For the strata with lists for all sites, we drew a simple random sample of users from the combined lists for each stratum. For the 2 strata with more than 40 sites, we drew samples of 28 Navy and 30 Army sites, respectively. We used a two-stage methodology for them, sampling sites within each stratum and then statistically sampling users within the selected sites. Table C-1 summarizes the situation for each stratum.

Stratum (Component)	Total Sites	Sample Sites	User Census	Sampling Method
Army	290	30	No	Two Stage
Navy	182	28	No	Two Stage
Air Force	19	All	Yes	Simple Random
Defense Logistics Agency	9	All	Yes	Simple Random
Other Defense Agencies	34	All	Yes	Simple Random

**Measurement Issues.** There were two main measurement issues in determining the number of SPS version 4.1 users throughout DoD: nonresponse to the survey by those sampled and the presence of nonuser names on the user lists.

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There were two general types of nonusers. Persons selected from the lists for our sample could no longer be current license holders (because they were deceased, or no longer worked at the site from which the sample was drawn), or could be entered on the list more than once. As such, nonusers and duplicate entries were considered outside the scope of the survey. Across the 30 Army sample sites and 278 sample users, 2 persons were named twice on the Army list and 3 were identified as nonusers.<sup>1</sup> Among the 331 Navy users sampled, there were 7 nonusers. Of the 101 Air Force listed users, 1 was a nonuser, as were 2 of the 102 sampled from Defense Logistics Agency, and 1 of the 101 from other Defense agencies. With these few exceptions, the remaining persons in the sample were considered to be current licensed users of some version of SPS. These were the basis of the Listed User population we projected.

The nonresponse issue had two aspects that influenced determining the number of SPS version 4.1 users. First, some of the sampled users who were sent a survey did not respond to the survey, despite followup requests. The marginal response rate was nevertheless fairly high—205 of 278 for the Army, 217 of 331 for the Navy, 68 of 101 for the Air Force, 70 of 102 for Defense Logistics Agency, and 81 of 101 for the other Defense agencies.<sup>2</sup> The proportion of nonrespondents varied somewhat from stratum to stratum from a low of about one-fifth to a high of about one-third. To calculate the number of Responding Users among all Listed Users, we have used the numbers of those who responded to the survey. Second, among those who did respond there are a number of persons who were using earlier versions of SPS. Since our aim was to survey users of SPS version 4.1, we projected both the number of Responding Users and the number of Responding Users who were SPS version 4.1 users.<sup>3</sup> At each of these points, because they were estimates, we have calculated not only the point estimate, but also the confidence interval, or uncertainty, of the estimate.

**Calculating the Number of SPS 4.1 Version Users.** In calculating the number of SPS version 4.1 users, we have made the assumption that those not responding did so in a missing-at-random fashion and would have the same

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<sup>1</sup>Among Army and Navy sites, if a list of users totaled 20 or fewer, we surveyed all 20, and any duplicates or out-of-scope persons counted directly against that total. Some persons were from sites with more than 20 users, in which case we added the next user on that site's list in random selection sequence. For Air Force, Defense Logistics Agency, and the other Defense agencies pool of users, when one of the first 100 was out of scope, we took the next available user in random number sequence. The objective in each instance was to survey 20, or 100 users, respectively.

<sup>2</sup>These are marginal totals and part of a weighted sample design. They are reported for information only and cannot be directly projected to the sample as a whole without proper statistical weights attached. The sample sizes reported include out-of-scope persons. They, therefore, reflect all the listed names obtained and statistically represent the exhaustive lists for Air Force, Defense Logistics Agency, and other Defense agencies, as well as the sites statistically selected for Army and Navy. The total samples are the common baseline for all three population projections.

<sup>3</sup>We identified respondents as SPS 4.1 users if they answered "Yes" to Question 5, "I am currently using the 4.1 series of the SPS" or responded to Question 7, "Which maintenance release of SPS are you currently using?" with a particular release (4.1.a, 4.1.b, or 4.1.c).

proportion of SPS version 4.1 users as those who did respond.<sup>4</sup> We then used the ratio of “Listed Users” to “Responding Users” within each stratum to inflate the number of SPS version 4.1 users to its extrapolated proportion of all “Listed Users.” At the first stage, the DoD-wide projections were based on a stratified sample design and have been calculated using a 99.65 percent confidence level, as explained in Appendix A. Table C-2 presents the DoD-level projections.

	<u>Lower Bound</u>	<u>Point Estimate</u>	<u>Upper Bound</u>
Listed Users	8,679	8,867	9,054
Responding Users	5,371	6,046	6,721
SPS Version 4.1 Users Responding	3,828	4,362	4,897

As Table C-2 above shows, the confidence interval associated with the estimated number of SPS version 4.1 users who responded was much greater than for the number of “Listed Users.” Furthermore, these confidence intervals were probably understated because they did not include the variance associated with using population estimates for the Army and Navy computations. The extrapolations reported below do not reflect the uncertainty in our direct estimate, nor do they include the underlying statistical uncertainty associated with using estimates of the population totals for the Army and Navy strata and other variable factors.

Based on the statistical projections above, we have calculated an approximate number of SPS version 4.1 users out of all the “Listed Users.” In doing so, we have calculated stratum by stratum the ratio of “Listed Users” to “Responding Users” and applied that ratio to the projected number of SPS version 4.1 users. For example, the point estimate of the number of “Army Listed Users” was 3,599; the point estimate of the number of “Army Responding Users” was 2,558. This gave an Army adjustment ratio of 3,599/2,558, which we used to extrapolate from the Army SPS version 4.1 user point estimate of 2,037. Using the Listed/Responding ratio, we extrapolated from the 2,037 that there are 2,866 SPS version 4.1 users among the 3,599 “Army Listed Users.” Table C-3 sets out the intermediate, stratum level results, and the corresponding piece of our calculated extrapolation of the number of SPS 4.1 users throughout DoD.

<sup>4</sup>The concept of ‘missing-at-random’ assumption for missing data is further discussed in Appendix B.

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**Table C-3. SPS Version 4.1 Users**

<u>Stratum</u>	<u>Listed Users</u>	<u>Responding Users</u>	<u>SPS 4.1 Version Users Responding</u>	<u>SPS 4.1 Version Users DoD-Wide</u>
Army	3,599	2,558	2,037	2,866
Navy	3,649	2,312	1,585	2,502
Air Force	741	504	385	566
Defense Logistics Agency	357	250	68	97
Other Defense Agencies	522	423	287	354

Using the extrapolations reported in Table C-3, the total number of SPS version 4.1 DoD-wide users was 6,385.<sup>5</sup> We have not computed a confidence interval for this total because the absence of a well-defined user population has required a number of assumptions and approximations in calculating the 6,385. When reading the answer percents in Appendix B, the reader should keep in mind that the population figure of 6,385 is an approximation with a substantial unquantified uncertainty associated with it.

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<sup>5</sup>The total number of SPS 4.1 users throughout DoD is based on the sum of the stratum totals and is not based on the ratio of the total Listed Users to the total Responding Users. The design is stratified and its totals must be calculated by summing the strata to take into account the different proportions of SPS 4.1 users among those responding in each sample.

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## **Appendix D. Report Distribution**

### **Office of the Secretary of Defense**

Under Secretary of Defense (Comptroller)  
Deputy Chief Financial Officer  
Under Secretary of Defense (Acquisition, Technology and Logistics)  
Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)  
Deputy Assistant Secretary of Defense (Deputy Chief Information Officer)  
Director, Defense Procurement

### **Department of the Army**

Assistant Secretary of the Army (Acquisition, Logistics, and Technology)  
Auditor General, Department of the Army

### **Department of the Navy**

Assistant Secretary of the Navy (Research, Development, and Acquisition)  
Naval Inspector General  
Auditor General, Department of the Navy

### **Department of the Air Force**

Assistant Secretary of the Air Force (Financial Management and Comptroller)  
Auditor General, Department of the Air Force  
Deputy Assistant Secretary of the Air Force (Contracting)

### **Other Defense Organizations**

Defense Contract Management Agency  
Defense Finance and Accounting Service  
Defense Information Systems Agency  
Defense Logistics Agency

### **Non-Defense Federal Organization**

Office of Management and Budget

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## **Congressional Committees and Subcommittees, Chairman and Ranking Minority Member**

Senate Committee on Appropriations  
Senate Subcommittee on Defense, Committee on Appropriations  
Senate Committee on Armed Services  
Senate Committee on Governmental Affairs  
House Committee on Appropriations  
House Subcommittee on Defense, Committee on Appropriations  
House Committee on Armed Services  
House Committee on Budget  
House Committee on Government Reform  
House Subcommittee on Government Efficiency, Financial Management, and Intergovernmental Relations, Committee on Government Reform  
House Subcommittee on National Security, Veterans Affairs, and International Relations, Committee on Government Reform  
House Subcommittee on Technology and Procurement Policy, Committee on Government Reform



# Director, Defense Procurement Comments



## OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON  
WASHINGTON DC 20301-3000

FEBRUARY 6, 2001

DP/MPI

MEMORANDUM FOR THE INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

THROUGH: Director, Acquisition Resources and Analysis *MS 2/16/01*

Subject: Draft Audit Report entitled "Standard Procurement System Use and User Satisfaction" Project No. D2000FG-0091, dated December 20, 2000.

Generally, I concur with the report's recommendations and have attached specific responses to each. The SPS Program Manager, the Military Departments, and the Defense Agencies have already implemented or ordered business process and software changes that respond to most of the report's findings.

There are some questions regarding the interpretation of the survey results that should be addressed before a final report is issued. For example, although the report states that more than 60% of SPS users preferred a different procurement system, the data in Tables 7 and C-1 show that substantially more respondents favored SPS than their existing legacy systems and more respondents favored SPS than other systems. Another example is the statement that SPS has not contributed substantially to paperless contracting. More than 72% of the respondents reported that SPS had contributed to paperless contracting objectives.

I appreciate the opportunity to comment on the draft report and ask that you provide site data to the SPS Program Manager. The site data will provide the Program Manager, the Military Departments, and the Defense Agencies a better understanding of the Audit findings and permit focused management attention.

Deidre A. Lee  
Director, Defense Procurement

Attachment:  
As stated



**Director, Defense Procurement comments**

**DoDIG Draft Audit Report dated December 20, 2000  
Project No. D2000FG-0091  
Standard Procurement System Use and User Satisfaction**

General Comment

The draft report does not provide sufficient information to determine whether the dissatisfaction expressed by some users stems from: (i) the functions the software performs or does not perform; (ii) training and operational guidance that do not match product capabilities; (iii) user reluctance to adapt to the new business processes and procedures implemented by the software; or (iv) some other cause. DoD's ability to implement corrective actions will be improved if the final report identifies or provides further insight into the causes of any user dissatisfaction.

Specific Comments on DoDIG Recommendations

**A.1. We recommend that the Director, Defense Procurement, direct the Standard Procurement System Program Manager:**

**a. Perform adequate testing to ensure that each future version has the functionality required to meet the needs of intended users prior to the release of each new version of the Standard Procurement System.**

Comment: Concur.

A formal, multi-step, testing process is an integral part of the SPS acquisition strategy and has been in place since contract award to assure that the software meets contractual requirements and user needs. The contractor tests each software release to assure that the software is ready for tender to the Government. Following tender, each release undergoes Government acceptance testing to verify that the software satisfies contract requirements. The independent operational test community and the user community evaluate each major software release in the field to determine whether the software satisfies user needs. The user community also evaluates each minor software release to determine if the software meets validated joint user needs. The contractor is responsible for correcting all failures to meet contractual requirements. Potential enhancements suggested by the user test processes are referred to a structured

requirements process that assures user recommendations are considered-

- At the Department/Agency level for applicability throughout the Department/Agency involved;
- By an inter-agency requirements board for applicability DoD-wide;
- By an SPS Council (SES, 0-6, and GS-15 level) that reviews each recommendation for compliance with law, FAR and DFARS requirements, and emerging DoD and Federal business processes; and,
- By an SPS Senior Steering Group (the Director, Defense Procurement, the Military Department Senior Procurement Executives, and representatives of the DoD Chief Information Officer) to resolve any differences of opinion regarding a recommendation's applicability across DoD and approve any business process or DFARS changes that might be required to implement a recommendation.

**b. Develop quantifiable performance measures that gauge whether the Standard Procurement System;**

- 1. Meets the mission objectives.**
- 2. Increases productivity of contracting personnel.**
- 3. Achieves the goals of paperless contracting as envisioned.**

Comment: Partially concur.

The SPS software is a commercial product that is being modularly enhanced to satisfy DoD requirements. Consistent with Public Law and DoD and Federal guidelines for the acquisition of commercial items, the SPS acquisition strategy explicitly accepted commercial product performance for the initial software release and subsequent requirements identify the functions DoD wants the software to perform without specifying how the software must perform those functions.

1. The SPS Operational Requirements Document (ORD) establishes the target and objective requirements for satisfying mission needs.

2. A general productivity performance measure is not practicable because the software is deployed to contracting activities that have different supporting infrastructures that affect software performance. The lack of a common baseline would not permit establishing meaningful, DoD wide, productivity measures for the SPS software. SPS's real contribution to the acquisition system lies in its ability to exchange information, using standard data, with financial, logistics, and requirements generation systems. Performance measures for that criticality capability could be developed when the automated financial and logistics systems come on line.

3. SPS paperless performance measures can be developed subsequent to development of firm information exchange requirements for the DoD "End-to-End process" (DRID 47) and implementation of those requirements at the contracting sites.

**c. Evaluate each new version of the Standard Procurement System against performance measures before deploying a new version or maintenance release.**

Comment: Concur.

The SPS evaluation process is described in the response to paragraph A.1.a.

**d. Determine corrective actions, when the performance measures indicate the Standard Procurement System is not meeting mission requirements, user requirements, and delivering intended benefits.**

Comment: Concur.

The SPS corrective action process is described in the response to paragraph A.1.a

**A.2. We recommend that the Director, Defense Procurement, direct the DoD Components to:**

**a. Coordinate with the Program Manager, training and the transition to the Standard Procurement System Program so that the Standard Procurement System is available for use when personnel receive training classes.**

Comment: Partially concur.

The SPS Program Manager conducts weekly reviews with the Military Departments and Defense Agencies to assure that

training needs are identified in advance of site installation and training courses scheduled as close to the site installation date as possible. The Departments/Agencies are responsible for identifying their respective site training needs.

**b. Provide refresher courses for individuals receiving training too far in advance of the transition to the Standard Procurement System Program.**

Comment: Partially concur.

The Military Departments and Defense Agencies are responsible for assuring that their personnel are adequately trained to perform assigned missions. However, the Director, Defense Procurement at the next SPS Steering Group meeting will remind the Departments/Agencies to determine whether any employees at their contracting sites require additional SPS training and to coordinate any training requirements and schedules with the SPS Program Manager.

**B. We recommend that the Director, Defense Procurement:**

**1. Require DoD Components, prior to any future deployment of either a new version or maintenance release, to:**

**a. Provide documentation showing that it has determined that the Standard Procurement System has the functionality to meet each requesting site's mission.**

Revised

**b. Determine the number of employees at each site who require the Standard Procurement System to perform their jobs.**

**c. Provide support for the number of licenses requested by site.**

Revised

Comment: Partially concur with recommendations B.1.a. through B.1.c.

Recommendations B.1.a. through B.1.c. describe management actions that the Military Departments and Defense Agencies perform today. Those actions are tailored for individual Department/Agency organizational and mission related requirements. Requiring the Departments/Agencies to submit documentation to the Director, Defense Procurement adds administrative costs to the deployment process, delays the deployment of new or improved functionality needed to satisfy user needs, and is not consistent with organizational accountability and responsibility concepts.

**d. Correct existing records of Standard Procurement System licenses or establish such records, and redistribute licenses when employees no longer require the Standard Procurement System to perform their jobs.**

Comment: Partially concur.

SPS site licenses are not user specific. Therefore, there is no need to redistribute licenses within a site. The transfer of licenses among sites can be accomplished within the license agreement or through negotiations.

**2. Direct the Standard Procurement System Program Manager to establish review procedures prior to any future deployment of either a new version or maintenance release to:**

**a. Validate that documentation provided by the DoD Components, determined that the Standard Procurement System will meet each site's mission, and that deployment to the site is appropriate.**

Comment: Do not concur

The Military Departments and Defense Agencies are responsible for meeting their respective missions and determining whether SPS meets their respective missions. The SPS Program Manager is not in a position to validate a Department/Agency determination that a particular SPS software release meets a site's needs or validate a Department/Agency decision to deploy SPS at a site.

**b. Validate based on functionality of the approved Standard Procurement System that the DoD Components determined the actual number of employees at each site who require the Standard Procurement System to perform their jobs.**

Comment: Do not concur.

Site personnel requirements are a fundamental Department/Agency management responsibility as is the determination of which employees should use SPS. The SPS Program Manager does not have the responsibility, authority, or accountability for those fundamental Department/Agency management decisions.

**3. Direct the Program Manager to purchase licenses for all future deployments only after validation:**

Renumbered as  
Recommendation  
B.2.

Deleted

a. That the Standard Procurement System meets the mission requirement of the site.

b. Of the actual number of employees who require the Standard Procurement System to perform their job at that site.

Comment: Partially concur with recommendations 3.a. and 3.b.

Licenses are acquired only in the quantities requested by the Military Departments and Defense Agencies to support the sites the Departments/Agencies designate to receive a particular software release.

# Defense Contract Management Agency Comments



REPLY  
REFER TO DCMA-SO

## DEFENSE CONTRACT MANAGEMENT AGENCY

6350 WALKER LANE, SUITE 300  
ALEXANDRIA, VA 22310-3241

FEB 7 2001

MEMORANDUM FOR THE ASSISTANT INSPECTOR GENERAL FOR AUDITING, DoD  
THE DIRECTOR OF DEFENSE PROCUREMENT

SUBJECT: DoD IG Draft Report, Standard Procurement System Use and User Satisfaction,  
December 20, 2000, Project No. D2000FG-0091

Thank you for the opportunity to provide written comments to the Standard Procurement System (SPS) draft report. This report addresses SPS operational use from a procurement user's perspective - the efficiency for the user. There is also another measurement to consider - the effectiveness of the system.

The Department of Defense is working to resolve material weaknesses regarding accurate financial records for contract payments, that have been addressed in DoD IG and General Accounting Office findings. The procurement and finance communities are establishing standard systems and shared data to achieve accurate records and accurate contract payments as well as accurate reporting. As a critical feeder system to the Department's accounting and finance systems, SPS is an essential element for achieving improved integrity of Financial Management Processes and Systems within the Defense Department - an effective solution.

SPS is being implemented through an incremental development and deployment strategy and therefore not all functionality is available until full operational capability is achieved. Over the past five years, SPS has stayed the course. We fundamentally agree that there are various aspects of the overall SPS program that require vigilance, close coordination between the program and component management offices, the software vendor, and the user community. This reason is why we concur with the intent of the majority of the recommendations. However, I must caution that some of the recommended solutions by the draft report are not consistent with DODD 5000.1 requirements for ACAT programs. We have learned many lessons from the initial deployment of SPS and have, as a result, changed our processes for requirements, testing, field validation, and deployment.

If you have any questions regarding the attached comments highlighting our current processes in regards to your recommendations, please contact the SPS Program Manager, Mr. Gary Thurston at (703) 227-4525 or by Internet: [gthurston@hq.dcma.mil](mailto:gthurston@hq.dcma.mil).

A handwritten signature in black ink, appearing to read "Timothy P. Malishenko".

TIMOTHY P. MALISHENKO  
Major General, USAF  
Director

Attachment

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**SUBJECT: DoD IG Draft Report, Standard Procurement System Use and User Satisfaction, 20 Dec 2000, Project No. D2000FG-0091**

**Finding A: Standard Procurement System User Satisfaction.**

Despite the problems identified with SPS version 4.1, respondents stated that SPS has the potential of being a very effective and useful tool for handling DoD procurement functions. However, for SPS to achieve its potential, the PMO needs to ensure that:

- future versions of SPS are adequately tested; and
- performance measures that track whether SPS meets the mission objectives, delivers the intended benefits, and provides measurable improvements to mission performance are developed.

**DCMA Comments:**

Concur that SPS version must be adequately tested. Our current testing process begins at the SPS Joint Requirements Board (JRB). A Military Department or Defense Agency headquarters and field representative comprise the membership, and they approve all requirements in a joint deliberation process that conducts various levels of coordination with their user community. These approved requirements are placed on contract with the vendor. During development, there is interaction with the vendor and the JRB about design and implementation to meet the stated need. This two-way, iterative and participative process also includes close review of technical design consideration by the Technical Working Group, composed of Component members. We are utilizing a Joint testing process in that we bring in field users to participate in testing the product during the development phase prior to vendor delivery to the government for acceptance. During this phase we work out problems in the product and problems in design or possibly the requirement. We believe this to be an effective test process.

During the acceptance test, we use field personnel to assemble the government acceptance team who will conduct scenario/script testing for acceptance. Once a product meets acceptance criteria, we move into a field validation phase, to confirm that the product operates in the representative operational infrastructure, for final check. We have continued to use this process to provide the Military Departments/Defense Agencies full participation to determine if the version meets the mission for the intended procurement community.

Performance measures are defined in the SPS Operational Requirements Document (ORD). The Key Performance Parameters (KPPs) describe the measures of effectiveness to meet the mission objective (fix the material weakness), deliver the intended benefit (eliminate legacy procurement systems), and to provide measurable improvement to mission performance (resolve unmatched disbursements). The Program Manager continues to test and report on meeting the KPPs as well as the independent test agent - the Joint Interoperability Test Command (JITC). During 2000, JITC conducted an Operational Assessment (OA) at 24 procurement offices using SPS Version 4.1. In a September 2000 report on the results of the OA, the JITC concluded the following:

- Many procurement specialists have not yet accommodated to the changes in the way procurement actions will be done in SPS in comparison to previous legacy processes and methodologies.

**SUBJECT:** DoD IG Draft Report, Standard Procurement System Use and User Satisfaction, 20 Dec 2000, Project No. D2000FG-0091

- Services/Agencies that have standardized implementation guidance and standard operating procedures (including workarounds and changes to procedures/ processes) have experienced a more effective and less traumatic transition to SPS.

JITC recommendations are to improve program support to include providing more user feedback concerning evolving functionality, dissemination of lessons learned and workarounds, fielding complete functionality, and improving vendor Help Desk support. The Program Management Office (PMO) and contractor continue to participate in Component user conferences to provide more user feedback about current and future functionality as well as improvements to the Help Desk support.

**Recommendation A.1:** We recommend that the Director, Defense Procurement direct the Standard Procurement System Program Manager to:

- a. Perform adequate testing to ensure that each future version has the functionality required to meet the needs of intended users prior to the release of each new version of the Standard Procurement System.
- b. Develop quantifiable performance measures that gauge whether the Standard Procurement System:
  1. Meets the mission objectives.
  2. Increases productivity of contracting personnel.
  3. Achieves the goals of paperless contracting as envisioned.
- c. Evaluate each new version of the Standard Procurement System against performance measures before deploying a new version or maintenance release.
- d. Determine corrective actions, when the performance measures indicate the Standard Procurement System is not meeting mission requirements, user requirements, and delivering intended benefits.

**DCMA Comments:**

DCMA concurs with the intent of this recommendation. Since SPS is a major acquisition program, the responsibility for these recommendations resides with the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) as the Milestone Decision Authority (MDA). The MDA is assigned the acquisition management responsibilities to oversee the program cost, schedule, and performance. The needs are defined in the Mission Needs Statement (MNS) with performance parameters documented in the ORD. A September 2000 memorandum from the Deputy Secretary of Defense requires systems, interfaces, and processes to eliminate problem disbursements that continue to plague DoD business execution. This memo initiates implementation of the Procurement-Finance To-Be Model and reinforces that SPS is an effective solution to a documented Defense material weakness.

Adequate testing of the software capability is a critical and integral part of the PMO and Component Management Office (CMO) efforts to ensure the adequacy of each SPS version.

**SUBJECT:** DoD IG Draft Report, Standard Procurement System Use and User Satisfaction, 20 Dec 2000, Project No. D2000FG-0091

The program office government test lab performs the function of acceptance testing for each software version, maintenance and service release against contract requirements. This function is accomplished with the support of the component organizations, that provide individual testers to perform the test scenarios and scripts. However, the test lab evaluates the delivered software version, maintenance, and service releases to ensure they are compliant with the contractual requirements as approved by the SPS JRB.

The contract for a given SPS version does not specify performance measures. This is the result of the acquisition strategy to acquire commercial-off-the-shelf-based capability with incremental enhancements. The audit report accurately captures the fact that the ORD provides parameters for system performance and capabilities through thresholds for data accuracy, data relevancy, data currency, edit checks, data integrity, and operational availability. The government testers evaluate data accuracy, data currency, edit checks, data integrity, etc. as stated in the ORD. However, the SPS program and requirements baseline were not established to achieve productivity enhancements with respect to the missions of the individual components, services, and agencies, but for the DoD as a whole.

The SPS version 4.1 has the capability to perform paperless contracting. Procurement communities can generate electronic images of the contract and pass them electronically to a web server for search and retrieval by the finance communities or others who have been provided access. The full implementation of a paperless contracting environment is dependent upon the data exchange between procurement and logistics/finance systems. Programs and efforts are underway to achieve the capability as envisioned in the Procurement-Finance To-Be Model.

Should SPS not meet mission requirements nor deliver intended benefits, the MDA, as the oversight acquisition manager, is responsible for directing program changes. DoD Directive 5000.1 and DoD Instruction 5000.2 contain language for conducting family-of-system reviews and mission area reviews. These reviews will perform compliance reviews for all systems and processes within the finance, accounting, and feeder system portfolio.

**Disposition:** Action is considered completed.

**Recommendation A.2:** We recommend that the Director, Defense Procurement, direct the DoD Components to:

- a. Coordinate with the Program Manager, training and the transition to the Standard Procurement System Program so that the Standard Procurement System is available for use when personnel receive training classes.
- b. Provide refresher courses for individuals receiving training too far in advance of the transition to the Standard Procurement System Program.

**DCMA Comments:**

DCMA defers to the Director, Defense procurement for responding to this

**SUBJECT:** DoD IG Draft Report, Standard Procurement System Use and User Satisfaction, 20 Dec 2000, Project No. D2000FG-0091

recommendation.

**FINDING B: Use of the Standard Procurement System**

DoD Components should carefully consider decisions to deploy SPS to the remaining activities. ...The DoD Components should then provide justifications to the PMO that:

- SPS has the necessary functionality to meet the mission needs of the site, and
- Provide support for the number of licenses required.

**DCMA Comments:**

The SPS program is structured to meet the mission needs of DoD and not a site. Those needs are documented in the MNS - retire legacy systems and resolve unmatched disbursements. Through incremental development and deployment, SPS is delivering increased functionality with each software version. An Overarching Integrated Product Team (OIPT) meeting, chaired by the MDA, was held in October 1998 that resulted in an Acquisition Decision Memorandum (ADM) being issued on October 29, 1998. This memo directed that Components must determine if the version functionality meets the intended procurement community needs and then request that the deployments be initiated. See DCMA comment to Finding A for the process utilized for such a determination.

The PMO requests deployment planning information from the Components on a yearly basis. The Components submit these plans that define the site location and number of users to be installed and trained. The PMO Deployment Team conducts weekly meetings to review upcoming deployment plans and make revisions due to infrastructure survey results, operational site considerations, and product functionality capabilities. The delivery order for the installation and licenses are ordered by the contracting officer, usually two to four weeks out from the actual installation.

**Recommendation B.1:** We recommend that the Director, Defense Procurement:

1. Require DoD Components, prior to any future deployment of either a new version or maintenance release, to:
  - a. Provide documentation showing that it has determined that the Standard Procurement System has the functionality to meet each requesting site's mission.
  - b. Determine the number of employees at each site who require Standard Procurement System to perform their jobs.
  - c. Provide support for the number of licenses requested by site.
  - d. Correct existing records of Standard Procurement System licenses or establish such records, and redistribute licenses when employees no longer require the Standard Procurement System to perform their jobs.

**DCMA Comments:**

Revised

Revised

**SUBJECT:** DoD IG Draft Report, Standard Procurement System Use and User Satisfaction, 20 Dec 2000, Project No. D2000FG-0091

DCMA partially concurs with this recommendation. Each Component performs validation after the PMO accepts the software to validate that interfaces are operational, software works in the Component architecture and environment, and meet their business needs. Upon doing such, the Component confirms their written requests to the PMO for a new installation and training. The Component specifies the site location and intended users. It is also a responsibility of the Component and site to maintain the distribution of licenses in accordance with the contract and license agreement. The partial concurrence is that one must also keep in mind that licenses are purchased on a site user size basis and redistribution is limited by the contractual terms and conditions and the existing license agreements.

**Disposition:** Action is considered complete.

**Recommendation B.2:** We recommend that the Director, Defense Procurement:

2. Direct the Standard Procurement System Program Manager to establish review procedures prior to any future deployment of either a new version or maintenance release to:
  - a. Validate that documentation provided by the DoD Components, determined that the Standard Procurement System will meet each site's mission, and that deployment to the site is appropriate.
  - b. Validate based on functionality of the approved Standard Procurement System that the DoD Components determined the actual number of employees at each site who require the Standard Procurement System to perform their jobs.

**DCMA Comments:**

DCMA does not concur with this recommendation. The PMO should not validate that the deployment of a SPS version will meet a site's mission. And the PMO has no business in validating the actual number of employees to receive SPS. These are Component responsibilities. The PMO does have a history of projected users at each procurement site and confirms if the Component request for site user licenses is reasonable.

**Disposition:** Action is considered complete.

**Recommendation B.3:** Direct the Program Manager to purchase licenses for all future deployments only after validation:

- a. That the Standard Procurement System meets the mission requirement of the site.
- b. Of the actual number of employees who require the Standard Procurement System to perform their job at that site.

**DCMA Comments:**

DCMA does not concur with this recommendation. Again, the PMO should not validate that the deployment of a SPS version will meet a site's mission. And the PMO has no business in validating the actual number of employees to receive SPS. This is a Component responsibility.

Additionally, The PMO does have a data base history of projected users at each

Renumbered  
as Recommendation  
B.2.

Deleted

Renumbered  
as Recommendation  
B.3.

Deleted

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**SUBJECT: DoD IG Draft Report, Standard Procurement System Use and User Satisfaction, 20 Dec 2000, Project No. D2000FG-0091**

procurement site and performs yearly data calls to update the data base and project program costs. The PMO does cross check the data base to verify if the Component request for site user licenses is reasonable. Licenses for sites are ordered in accordance with the contract line item structure. Costs for licenses are stair stepped depending upon the number of users: 1, 2-10, 11-24, 25-50, 51-100, 101-250, 251-500, and 501-1000. A 10% to 40% change in the number of actual users does not change the cost for the site license. Written guidance from the PMO to Components requires that Component requests site licensing based upon the number of users performing contract writing, i.e., civilian 1102 job series or equivalent military positions.

**Disposition:** Action is considered complete.

## **Audit Team Members**

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