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AUDIT REPORT 08-05

PLANNING FOR GPO'S SECURE PRODUCTION FACILITY

March 28, 2008

OFFICE OF INSPECTOR GENERAL

U.S. GOVERNMENT
PRINTING OFFICE
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WASHINGTON, DC 20401

Memorandum

OFFICE OF THE INSPECTOR GENERAL

DATE: March 28, 2008

REPLY TO
ATTN OF: Assistant Inspector General for Audits and Inspections

SUBJECT: Final Report on Audit of Planning for GPO's Secure Production Facility (SPF)
Report Number 08-05

TO: Public Printer
Team Leader, SPF Executive Steering Committee

Enclosed please find the subject final report. Please refer to the Results in Brief for the overall audit results. Our evaluation of your response has been incorporated into the body of the report and is included in its entirety as Appendix D. We consider management's actions responsive to each of the report recommendations and the recommendations are closed. The final report distribution is in Appendix F.

We appreciate the courtesies extended to the audit staff. If you have any questions concerning the report, please contact Mr. Karl Allen, Supervisory Auditor at (202) 512-0277, or me at (202) 512-2009.

Kevin J. Carson

Kevin J. Carson
Assistant Inspector General for Audits and Inspections

cc:
Chief of Staff
Chief Management Officer
Acting Managing Director, Plant Operations
Managing Director, Security and Intelligent Documents

Office of Inspector General

Report Number 08-05 **March 28, 2008**

Planning for the Government Printing Office's Secure Production Facility

Introduction

The Government Printing Office (GPO) is the sole source for producing, storing, and delivering U.S. passports for the U.S Department of State. GPO currently produces passports at a facility in Washington, D.C. An alternate production facility is, however, needed to supplement current operations and also to ensure continued passport production in the event of a disruption. GPO is in the process of establishing such a facility in Mississippi. That facility, which GPO calls the Secure Production Facility (SPF), is planned to be operational in April 2008, at an estimated cost of $41.4 million. The Office of Inspector General (OIG) performed an audit to evaluate planning for the SPF. The audit objectives were to determine if planning sufficiently ensured that the SPF will be delivered on schedule, meet GPO requirements and needs, and meet requirements for applicable Federal facilities.

Results in Brief

The GPO SPF Team has done a commendable job in a relatively short time period of organizing the SPF project, identifying and documenting project requirements, and developing implementation plans and acquisition strategies to ensure the project meets its objectives. The OIG has been on the record since 2005[1] supporting the need for an alternate facility for passport production and believes that the site selected in Mississippi more than meets the requirements for the SPF. As of the date of this report, nothing has come to our attention to indicate that the SPF will not operate as planned and provide the Agency a second source for producing U.S. passports. In evaluating the planning for this project however, we found that because of time constraints and other factors (some of which according to GPO management were beyond their control), GPO did not implement several of the formal, standard project management tasks that are recommended by the Government Accountability Office (GAO), the Office of Management and Budget (OMB), and various Executive-Branch project management guidelines. Specifically, we found that prior to project commencement:

[1] OIG Inspection Report AI0502, "Blank Passport Product Integrity and Security," March 31, 2005, recommended that GPO Management evaluate the need for an alternate secure printing facility.

- Although GPO did evaluate alternative sites for the SPF, GPO did not perform a comprehensive alternatives analysis to render support for its selection of the SPF location;

- GPO did not prepare a formal project charter; and

- GPO did not develop a project plan, risk management plan, or acquisition plan.

Except for acquisition planning, GPO was not required by any Federal law or regulation to follow these recommended tasks. However, they are considered to be best practices for use by Federal agencies in conducting a facility acquisition project. Therefore, we would urge GPO to incorporate these tasks to the extent possible for the remainder of the SPF implementation project to help ensure that the project is delivered on schedule and within budget. Moreover, the Agency should incorporate these tasks and the recommendations herein for any future facility acquisition projects undertaken at GPO.

We made two recommendations to GPO management, regarding the development of formal project documentation which, if implemented, should ensure that the remainder of this project, and any future facility acquisition project, is delivered on schedule and under budget. In response to our recommendations, management developed an SPF Master Project Plan that contains the formal project documents that were addressed in our recommendations. GPO management stated that it will use the SPF Master Project Plan along with lessons learned from the SPF as a basis for managing future projects. We consider management's action responsive to both recommendations and consider the recommendations closed with the issuance of this report.

Background

GPO has a Memorandum of Understanding with the Department of State for producing, storing, and delivering U.S. passports. Because U.S. border security requirements have increased the demand for passports in recent years, GPO and the Department of State established a minimum passport production goal of 500,000 each week, or 26 million passports annually. GPO produces passports at a single facility in Washington, D.C. The GPO Assistant Public Printer for Security and Intelligent Documents stated that he and other GPO senior managers, including the Public Printer, initiated discussions about relocating this primary passport production facility to a more secure location elsewhere in the Washington, D.C., area. The Department of State has invested millions of dollars in backup capabilities to support all aspects of producing passports. As a result, GPO and the Department of State deemed it necessary to establish an additional facility outside of Washington, D.C., to meet the increased demand and to guarantee continued passport production in the event of a disruption.

In December 2004, GPO included establishing an alternate passport production facility in its document entitled, *A Strategic Vision for the 21st Century*. The Department of State supported the plan in an August 2005 letter to GPO from the Deputy Assistant Secretary

for Passport Services. In June 2006, GPO presented a preliminary plan for an alternate passport production facility to the Joint Committee on Printing (JCP).

According to GPO officials, the JCP notified GPO on June 23, 2006, that a facility at the National Aeronautics and Space Administration's (NASA) Stennis Space Center in Mississippi was available. A team from GPO evaluated the facility and in July 2006, GPO reported that the facility met or exceeded its criteria for functionality, schedule, and cost. On July 10, 2007, the Acting Public Printer requested approval from the JCP for proceeding with renovating and equipping the Stennis Space Center facility for $41.4 million and staffing the facility by April 2008. The JCP approved GPO's request on August 2, 2007.

Although owned and operated by NASA, the Stennis Space Center houses facilities for other U.S. Government entities including several military and civilian agencies. The SPF will be located in a building that previously housed an ammunition plant for the Army. GPO will operate the facility pursuant to a renewable, 5-year use agreement[2] and plans to renovate the building, staff it with approximately 51 employees, and equip it with one complete passport production line to operate on one shift, five days a week. Production at this facility will be less than the main GPO passport production facility that runs two production lines, for two shifts.

GPO awarded a sole-source contract to an architectural and engineering (A&E) firm to develop a plan for renovating the facility. GPO estimated that total development costs for the SPF would be $41.4 million. The $41.4 million would be used to pay for building renovation ($10.2 million) and new equipment ($17.5 million), with an additional $13.7 million for information technology (IT), equipment installation, security, and other related expenses. GPO plans to finance the cost of the new facility through its revolving fund, paid for directly through reimbursements from the Department of State for passport production. Capital costs are included in the price that GPO charges for each passport produced.

Findings and Recommendations

Project Management Actions Not Taken

Although not specifically required by any Federal criteria (with the exception of acquisition planning), GPO could have benefited from performing several standard project management tasks that are specified by Federal facility acquisition and project management guidelines as best practices for successful project management when planning for the SPF. Specifically, we found that prior to project commencement:

[2] In the 2005 round of the Base Realignment and Closure, the Army designated this facility for closure requiring that the Army close the facility and retransfer the property to NASA in 2011.

- although GPO did evaluate alternative sites for the SPF, GPO did not perform a comprehensive alternatives analysis to render support for its selection of the SPF location;

- GPO did not prepare a formal project charter; and

- GPO did not develop a project plan, risk management plan, or acquisition plan.

Management did not complete these typical project management tasks because tight timeframes existed between appointment of the GPO Project Manager and the planned SPF completion date. Management did advise that there were several factors, some of which were beyond the control of GPO management that prevented them from accomplishing certain tasks. While we recognize that GPO has begun to implement some tasks, we recommend that GPO management continue to implement additional tasks to the extent possible for the remainder of the SPF implementation project to help ensure that the project remains on schedule and within budget. In addition, we believe that GPO will realize the benefits associated with the planning, processes, and recommendations herein, and urge management, to the extent possible, to incorporate these tasks into any future facility acquisition projects.

Federal Guidance for Facility Acquisition Project Management

Because large sums of taxpayer funds are spent on capital assets and performance of those capital assets affect how well agencies achieve their missions, effective planning for capital investments has received the attention of Congress, OMB, and the GAO. Those organizations as well as the President have each identified the need for effective capital project planning and management.

Although not specifically required by law or regulation, the Federal Government provides much guidance on capital project planning and management. For example, the OMB Capital Programming Guide, updated in June 2006, is intended to assist Federal departments and agencies in effectively planning, procuring, and using capital assets[3] for achieving maximum return on investment. In addition, Federal agencies with extensive experience in implementing complex Federal projects (for example, the Department of Energy and NASA), have guidelines for successfully implementing facility projects.

Federal guidelines generally stress the importance of careful, early planning and managing facility acquisition and implementation projects with the following processes: identifying requirements, evaluating alternatives in meeting those requirements, selecting

[3] The OMB Capital Programming Guide defines capital assets as land, structures, equipment, and intellectual property that the Federal Government uses and have an estimated useful life of 2 years or more. Capital assets may be acquired in different ways: through purchase, construction, or manufacture; through a lease-purchase or other capital lease, regardless of whether title has passed to the Federal Government through an operating lease for an asset with an estimated useful life of 2 years or more; or through exchange.

an alternative, and developing detailed project implementation, acquisition, and risk management plans. Concurrent with those processes, Federal guidelines also recommend formally appointing a project manager and integrated project team who will manage the project as well as a formal oversight process that can help management review and approve project documents and key project milestones. Figure 1 below depicts the overall process.

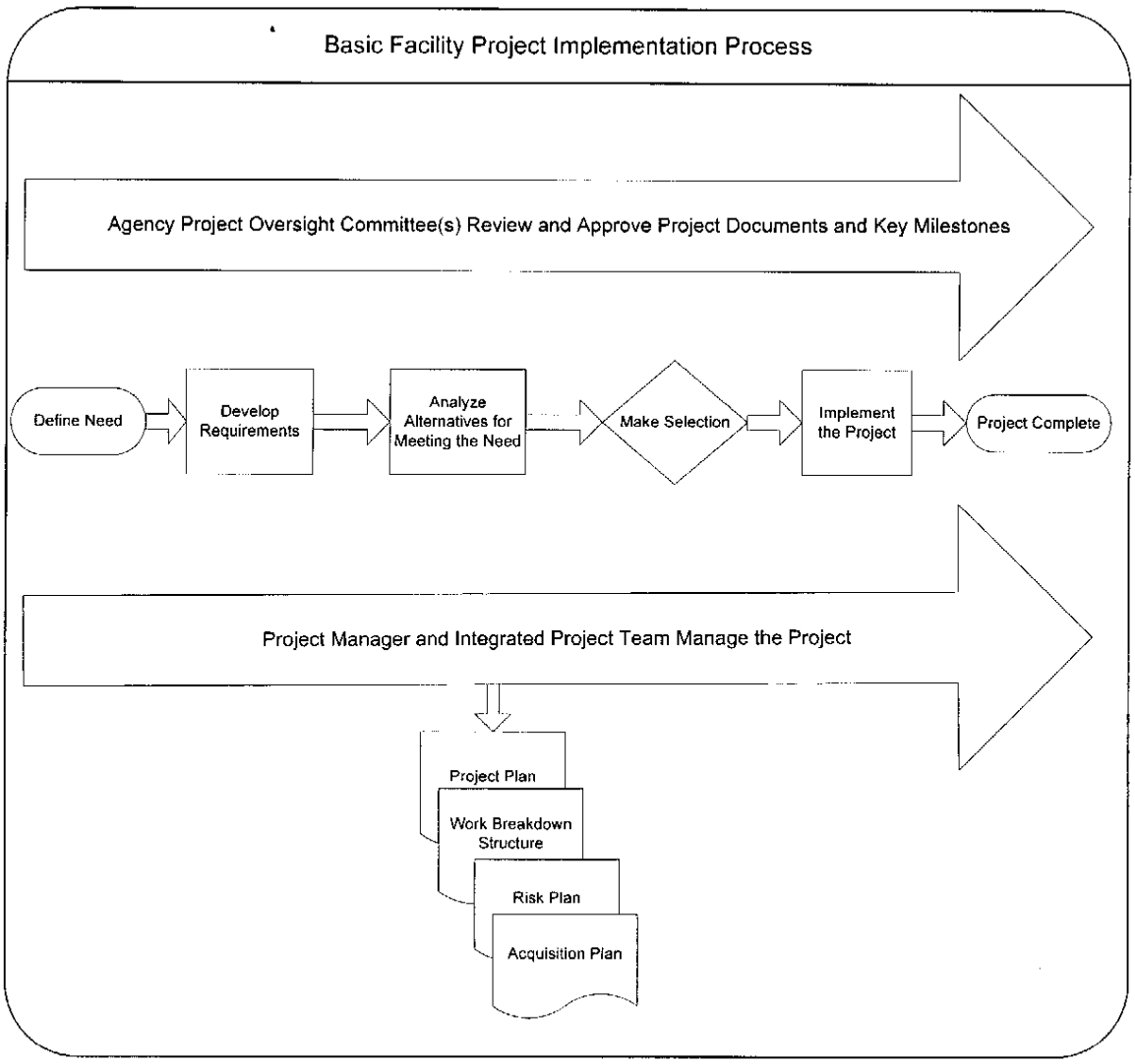

Figure 1. Recommended implementation process for facility acquisition. The middle flow shows the general steps that agencies follow when implementing a project. That process is managed by a project manager and integrated project team (bottom arrow) with oversight by an Agency project committee (upper arrow).

Appendix C contains more specifics on guidelines related to implementing a Federal facility project.

Significant Progress Made on SPF

Since beginning the project, the Project Manager and support staff have made significant progress on the SPF in a relatively short time period. The Project Manager immediately engaged the various GPO disciplines (human capital, training, IT, environmental, security, and plant equipment) to finalize requirements; identify all project acquisition needs; award key contracts for the facility lease and construction oversight; and develop implementation plans for each respective discipline. In addition, GPO management developed a project governance structure that included an Executive and Project Steering Committee of GPO officials and a regular project status meeting and reporting process. However, as we have noted, GPO would have benefited from performing several standard project management tasks that are specified by Federal facility acquisition and project management guidelines as best practices for successful project management. A discussion of these tasks follows.

Alternatives Analysis. GPO did not conduct an alternatives analysis supporting its selection of the SPF location in Mississippi. Each of the Federal guidelines on capital investment decisions stress the importance of an alternatives analysis to ensure a solution is selected that best meets an agency's need in the most economical manner. For example, the OMB Capital Programming Guide states, "Once the decision to acquire a capital asset is made, comparison of the various available asset options is needed to ensure the acquisition of the best product for the job." GPO did provide documentation to support its evaluation of potential SPF locations in Nevada and South Carolina.

However, GPO could not provide cost data for either site and did not fully define its baseline requirements for an SPF until well after its decision to select the Mississippi location. The SPF Project manager stated that given the existing constraints on GPO's legal authority with respect to the acquisition of the SPF, as well as GPO's need for the SPF, the Mississippi location was the only alternative that was available to fill GPO's need. In addition, the GPO Director of Quality Assurance stated that it would have taken GPO at least four months to complete an alternatives analysis and the Agency did not have that much time.

Although GPO officials have stated that the Mississippi site at the Stennis Space Center more than meets the SPF requirements, without documented cost data and baseline requirements to make comparisons between the various alternatives, we cannot attest that the selected SPF location was the most efficient or cost-effective site. OMB warns planners and management in its Capital Programming Guide that, "Selecting an alternative without adequate analysis has resulted too often in large dollar acquisitions that have significantly overrun both cost and schedule, while falling short of expected performance."

Project Charter. GPO did not issue a formal SPF project charter. The OMB Capital Programming Guide states that the program manager should be given a charter defining the scope of authority, responsibility, and accountability for providing quality analysis that supports senior management decision-making during all phases of capital

programming. GPO had a charter for the operational SPF, but not for the SPF implementation project.

Project Plan. GPO did not develop and implement a comprehensive project plan to guide it in managing implementation of the SPF. The GAO guide, "Government Accountability Office Executive Guide: Leading Practices in Capital Decision-Making," dated December 1998 (GAO Executive Guide), states:

> Typically, a project plan is used to manage and control project implementation and includes performance measurement baselines for schedule and cost, major milestones, and target dates and risks associated with the project.

In addition, Department of Energy Manual M 413.3-1 states:

> The Project Execution Plan summarizes critical information necessary to manage a project. The plan uses the outcome from all project-planning processes and integrates them into a formally approved document used to manage and control project execution. Because of the importance of this particular document to the success of a project, considerable effort needs to be made to ensure that the Project Execution Plan is thorough and comprehensive.

GPO did not have any such plan but instead relied on a work-breakdown-structure and various lists of planned acquisitions as its project planning documents.

Risk Management Plan. GPO has not yet completed a risk management plan for the project. Federal guidelines for project management specify that a risk management plan established early in a project's life cycle is essential for success. For example, OMB Capital Programming Guide, Supplement to OMB Circular No. A-11, Part 7, dated June 2006, states:

> The aim of risk management is to ensure that risks are identified at project inception, and their potential impacts allowed for and accepted, where possible, so that the risks or their impacts are minimized. Risk management is an integral part of project management on the project.

Identifying potential risks and their likelihood of occurrence allows management to take steps early on to appropriately manage and mitigate any risks. A risk management plan also allows the Agency to keep Congress more fully informed about project risks and the efforts to mitigate them. In November 2007, GPO started the process of developing a risk management plan and process; however, it has not been completed.

Acquisition Plan. GPO did not develop an acquisition plan for the SPF. Paragraph 7.102(a)-(b) of GPO Publication 805.33, "GPO Materials Management Acquisition Regulation," May 15, 2003, states that the agency "shall perform acquisition planning and market research for all acquisitions" to ensure that the Government meets its needs in the most effective, economical, and timely manner. Project management teams use acquisition planning as an opportunity to review and evaluate the entire

procurement process so that sound judgments and decision making facilitate the success of the overall project. NASA, in its project management requirements (NASA Procedural Requirements 7120.5C, "NASA Program and Project Management Processes and Requirements," March 22, 2005), states that the project manager should closely monitor contractor performance and develop an acquisition plan that identifies the major proposed acquisitions in relation to the project; the project's approach to creating contractor incentives that strengthen safety and mission assurance; significant equipment requirements; and quality assurance surveillance plans.

Because of the numerous acquisitions related to SPF, a formal acquisition plan would have assisted GPO. For the project, GPO has several critical contracts for services and equipment purchases, including a fixed-price contract with an A&E firm for planning the build-out, or the actual renovation work to make the facility operational; a Memorandum of Agreement with the Army Corps of Engineers for award and administration of a contract to construct the build-out; a fixed-price contract to a single contractor (administered by the Army Corps of Engineers) for the actual facility build-out construction; and acquisition of several large, expensive pieces of equipment critical to passport production. In reviewing the contracting actions, we observed the following:

- GPO did not plan to conduct any formal oversight or on-site surveillance procedures for either the A&E contract, the Army Corps of Engineers agreement, or the planned construction contracts, stating that such oversight is not needed for fixed-price contracts. GPO plans to rely on the Army Corps of Engineers to oversee construction contractors.

- GPO officials expressed concern about whether the Army Corps of Engineers would receive adequate quality bids for the construction work because the project involved a significant amount of work in a short time, all for a fixed price.

- GPO did not perform an independent cost estimate for either the A&E contract or the planned construction work. GPO relied on an estimate provided by the A&E contractor for the cost of the construction work. GPO officials expressed concern about whether the planned construction contract would fall within the SPF budget limits.

- Some critical pieces of equipment will be shipped to GPO from overseas locations (Germany and Japan) with planned delivery dates close to April 1, 2008, leaving little time to install or test the equipment as well as train staff to operate. Later in the SPF project process, after the equipment was already ordered, SPF team members not involved in the equipment acquisitions expressed concern over the tight schedule and had questions about the contracted delivery times and whether GPO should incur additional costs for accelerated delivery schedules.

These observations should help GPO management understand how a formal acquisition plan would have helped GPO ensure that the entire SPF team considered these questions much earlier in the process. Moreover, a well-developed acquisition plan would provide documentation of GPO's consideration and evaluation of items such as contractor surveillance and oversight techniques, independent cost estimating, and equipment delivery plans.

SPF Project Timing

The tight implementation timeframe has been a significant limiting factor in GPO's ability to achieve key project management activities noted above.

The key milestones for the project are shown below in Figure 2. Nearly two-thirds of the project life cycle elapsed before management appointed a project manager for the SPF, leaving limited time for any adaptation of the key project management practices previously described. Additionally, there was a substantial time lapse between identifying the need for an alternate production facility, and fully identifying its requirements.

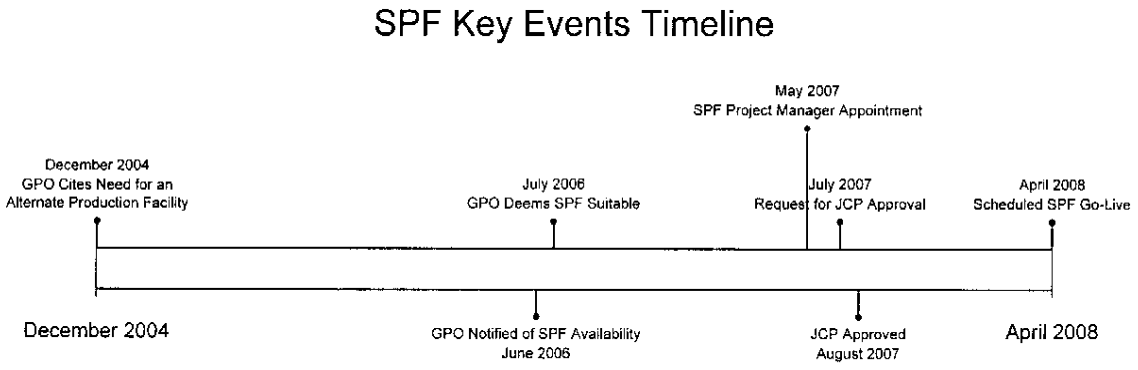

Figure 2. Timeline of key management events.

Federal project management guidelines generally recommend that agencies begin identifying and developing requirements immediately after identifying the need. GPO submitted its request for JCP approval of the Stennis site for the SPF one-year after deeming the site suitable. As a result, GPO could not begin its contracting effort until it received JCP approval, which occurred two weeks later. The SPF Project Manager stated that although the Public Printer cited the need for an alternate production facility in December 2004, his priority at that time was in relocating the GPO Central Office in Washington, D.C. In addition, because of questions about the availability of funding, GPO did not begin working on SPF in earnest until late 2006. GPO officials stated that time was then spent working out lease and facilities management agreements with NASA, the Army, and the building management contractor; and developing the SPF budget, all of which was necessary before the formal request to the JCP.

GPO personnel stated that the April 1, 2008 completion date for the SPF was established based on discussions between GPO senior management and officials from the Department of State. Sound business practices dictate that to effectively monitor a

project's schedule, the schedule should be realistic and based on an analysis of the project's requirements. In its document, "Project Management for the Acquisition of Capital Assets," the Department of Energy states that schedules are best developed using a disciplined approach that is properly integrated with other appropriate elements. The schedules should reflect realistic, risk-adjusted durations and milestones. GPO officials stated that the April 1, 2008, date was optimistic but necessary as an incentive to ensure that the staff worked together.

Formal Project Planning Documents Aid Project Management

Without the aid of formal project planning documents such as a project charter, project plan, risk management process, and acquisition plan, GPO lacks a clearly defined process for managing the project, overseeing contracts, identifying and managing risks, and measuring and approving the SPF progress against defined metrics and milestones. In its Capital Programming Guide, OMB states that "program managers need visibility early on into a contract's progress to identify any problems. Early visibility allows time for contractors and the Government to implement corrective actions before significant deviation from goals results."

Recommendations

1. Considering the time and work remaining before completion, the Team Leader, SPF Executive Steering Committee should:

    a. Develop a project plan that helps manage and control implementation of the SPF. The plan should include: approval by senior management; a clear statement of project's goal and success criteria; a list of the project team members and their responsibilities; and performance measurement baselines for schedule, cost, major milestones, target dates, and risks associated with the project.

    b. Develop, approve, and execute a risk management plan for the SPF.

    c. Develop, approve, and execute an acquisition plan that addresses GPO's consideration of contractor oversight procedures for the architectural and engineering contract, the Army Corps of Engineers agreement, and the construction contract or contracts.

2. For any future facility projects undertaken at GPO, the Public Printer should:

    a. Formally appoint a project manager, develop a charter, and identify, develop, and document project requirements as soon as the Agency formally approves the project.

    b. Incorporate the project plan, risk management plan, acquisition plan, and a formal review and approval process tailored to meet GPO's needs.

c. Ensure that key project management personnel have been adequately trained on project management, including a better understanding of GPO Directive 810.11B, "Property Management Program," June 6, 2003, and GPO Publication 805.33, "Material Management Acquisition Regulation," May 15, 2003.

Management's Response. Management acknowledged the value of formal documentation and on March 7, 2008, completed the formalization of its working documentation in the SPF Master Project Plan. Management stated that it will use the SPF Master Project Plan as a basis for managing similar future endeavors. The complete text of management's response is in Appendix D.

Evaluation of Management's Response. Management's actions are responsive to both recommendations and the recommendations are closed.

Appendix A. Objectives, Scope, and Methodology

Objectives

The audit objective was to evaluate GPO planning for its alternate passport processing facility. The audit determined whether GPO planning was sufficient and ensured that the alternate passport processing facility was delivered on schedule, met GPO requirements, and met applicable Federal facility requirements.

Scope and Methodology

To accomplish our audit objectives, we reviewed a number of GPO and Federal Government guidelines related to facility acquisitions and project management, and compared those guidelines with the processes GPO used. We used the guidelines as a benchmark to evaluate planning and processing for implementing the SPF and as a basis for our recommendations.

Specific GPO Directives we reviewed included:

- GPO Directive 810.11B, "Property Management Program," June 6, 2003
- GPO Publication 805.33, "Materials Management Acquisition Regulation," May 15, 2003

Specific Federal guidelines we reviewed included:

- OMB Capital Programming Guide, Supplement to OMB Circular No. A-11, Part 7, June 2006
- GAO Executive Guide – Leading Practices in Capital Decision Making, December 1998
- Presidential Executive Order 13327, Federal Real Property Asset Management, February 4, 2004
- Department of Energy Manual M 413.3-1, "Project Management for the Acquisition of Capital Assets," March 28, 2003
- NASA Procedural Requirements 7120.5C, "NASA Program and Project Management Processes and Requirements," March 22, 2005.

To identify GPO plans and procedures for selecting and implementing the SPF, we:

- discussed with the GPO Deputy Chief of Staff, SPF Project Manager, and senior management officials associated with the SPF project topics concerning plant operations, IT, procurement, security, secure and intelligent documents, and human capital.
- attended weekly project status meetings.
- reviewed available project documentation management provided and posted on the project's collaboration Web site.
- toured the proposed SPF facility and interviewed building management staff.

We did not obtain or rely on any computer-generated data in conducting this audit.

Management Controls Reviewed

We reviewed management controls related to the internal control structure of the SPF project, specifically the monitoring and approval process as well as the formal appointment of and directions provided to the SPF project team members. In conducting our review of management controls, we followed GAO Internal Control Standards and GPO Instruction 825.18A, "Internal Control Program," May 28, 1997, paragraph 7(a), which states, "The Public Printer has the overall responsibility to ensure that an effective internal control structure is established and maintained by GPO's managers for all programs, functions, and activities."

The audit identified management control weaknesses, which are described in detail in this report. In addition, neither the Project Manager nor the SPF project team members were formally appointed in writing by GPO. GAO internal control standards require that an organization clearly defines key areas of authority and responsibility and establish appropriate lines of reporting. Team members interviewed acknowledged that they did not receive a formal notice appointing them to their positions instructing them to report to the SPF Project Manager. We discussed this issue with GPO senior management who stated that for any future projects, all team members will be formally appointed in writing.

Audit Field Work

We performed field work from July 2007 through February 2008 at the GPO Central Office in Washington, D.C., and the SPF site at Stennis Space Center, Mississippi. We performed the audit in accordance with generally accepted government auditing standards.

Appendix B. Acronyms Used in the Report

A&E	Architectural and Engineering
CIO	Chief Information Officer
GAO	Government Accountability Office
GPO	Government Printing Office
IT	Information Technology
JCP	Joint Committee on Printing
NASA	National Aeronautics and Space Administration
OIG	Office of Inspector General
OMB	Office of Management and Budget
SPF	Secure Production Facility

Appendix C. Audit Criteria

The following is a more detailed listing of the primary Federal guidelines we used as benchmarks to evaluate planning for implementation of the SPF and as a basis for our recommendations.

GPO Requirements

Requirements Definition	GPO Property Management Program 810.11B, June 6, 2003, paragraph 1(a): *Requirements Determination.* The first phase of the cycle should identify a need or establish a requirement for property. A Determination of Need is a clearly defined statement, description, or specification of an item of property required. The requirement analysis to establish the need could be simple to very complex depending on the nature of the property. A determination of need for property should be supported by a reasonable and appropriate justification.
Acquisition Planning	GPO Materials Management Acquisition Regulation, GPO Publication 805.33, May 15, 2003, paragraph 7.102. Agencies must perform acquisition planning and conduct market research for all acquisitions to promote and provide for—(1) acquisition of commercial items or, to the extent that commercial items suitable to meet the agency's needs are not available, non-developmental items, to the maximum extent practicable; and (2) full and open competition (Part 6) or, when full and open competition is not required in accordance with Part 6, to obtain competition to the maximum extent practicable, with due regard to the nature of the supplies or services to be acquired. This planning must integrate the efforts of personnel responsible for significant aspects of acquisition. The purpose of the planning is to ensure that the Government meets its needs in the most effective, economical, and timely manner.

Office of Management and Budget (OMB) Capital Programming Guide, Supplement to A-11, Part 7, June 2006

Requirements Definition	If current assets cannot bridge the gap between planned and actual performance, the IPT [Integrated Project Team] should define the gap in terms of performance requirements to be achieved. Depending on the depth of the analysis of program requirements during the first round of strategic planning, the IPT may wish to define more detailed requirements against which they can evaluate options for reducing the performance gap. Functional requirements should not be defined in equipment or software terms, but in terms of the mission, purpose, capability, agency components involved, schedule and cost objectives, and operating constraints. Mission needs are independent of a particular capital asset or technological solution. A needs-based approach allows the agency the flexibility to evaluate a variety of solutions with an open mind. The key is not to limit potential solutions by too narrowly defining requirements. Internal agency users and external customers should participate in the requirements definition process. Balancing the internal user and operator needs with the requirements of the external customers is important. Other agencies that may have acquired assets to

	accomplish similar goals or objectives should be identified. Where feasible, large complex acquisitions that are very difficult to manage, should not be pursued on an individual agency basis. Instead, management should look for cross-agency or Government-wide economies to avoid duplication of effort. As part of the requirements definition process, agencies must look at Government-wide programs and systems to see if they will meet most or all agency requirements. To the degree a program or system does not meet agency requirements, agencies should consult with the program management office of the program or system involved to see if and how any unmet needs can be met. One acute danger during this phase is "specification creep," where requirements grow uncontrolled to meet future potential needs or to incorporate emerging technology that would be "nice" to have. Emphasis should be placed on core requirements needed to meet the mission needs. Once a solution meets the core requirements, additional functionality can be added in a later stage of the project, if cost-beneficial. These functional requirements should be documented in the strategic plan.
Alternatives Analysis	Once the decision to acquire a capital asset is made, comparison of the various available asset options is needed to ensure the acquisition of the best product for the job. With the decision to evaluate the feasibility of acquiring a capital asset, management should provide the IPT with an estimate of the range of budget resources that may be available for an asset. The IPT should conduct market research to determine the feasibility of various capital asset alternatives that are available in the market to satisfy the requirements. Emphasis should be placed on generating innovation and competition from private industry and on the use of commercial items and non-developmental items to meet the mission needs. The IPT should determine: • Availability. Can the market provide capital assets that partially or fully meet program requirements? How much of the need can be fulfilled without the need for developing new technologies or incurring other significant risk? • Affordability. Are the assets affordable within budget limits? If the full requirement is not affordable, can it be divided into separate modules that are affordable? • Costs and Benefits. For those alternatives affordable within budget limits, which are the most cost-beneficial, and should be among the portfolio of proposed assets that the agency head, the President, and Congress consider for funding? • Sustainable Design Principles. How much have the sustainable design principles been incorporated into the requirements identified for the asset? Has sustainability been considered in all aspects of the asset's life cycle? • Risk. In addition to applying risk management to the development of a Risk-Adjusted Program Budget and Risk-Adjusted schedule, the agency must assess overall risk of an investment as it chooses the best capital assets to meet the agency's mission and strategic objectives. The process of choosing the best capital asset starts with development of a strategy to review the market and ends with development of an acquisition plan that outlines the best approach to acquire the recommended asset. Once a clear agency need has been identified, the IPT should begin with a plan to conduct both market surveillance and market research to ensure that as many alternative solutions as

	possible are identified for consideration. Once the IPT determines that it has sufficient market information on alternative solutions, it should compare the initial acquisition cost and the other life cycle cost elements of the various alternatives.
Risk Management	Planning for risk management for the life cycle is a critical component of program/investment management and begins at project conception. Risk analysis is an integral part of the planning process. An approach for managing risk on the investment should be established early in the Planning Phase. An effective Risk Management Plan addresses the following risk areas: schedule risk; cost risk; technical feasibility; risk of technical obsolescence; dependencies between a new project and other projects or systems; procurement and contract risk, and resources risks. Risk management is continual throughout the life cycle of an investment. Planning for risk and incorporating risk analysis into planning decisions is included in this section of the Guide. Managing risk in the Acquisition Phase and the Management-in-Use Phase is discussed in those sections of the Guide.
Project Plan	The program manager should be given a charter, whether the work is to be performed by contract or by in-house resources, defining the scope of authority, responsibility, and accountability for providing quality analysis to support senior management decision making during all phases of capital programming.
Acquisition Plan	The IPT should begin to tailor an acquisition strategy for the program as soon as the best alternative is selected. The acquisition strategy and risk analysis should be part of the information provided to the Executive Review Committee when seeking approval of the project.
Review and Approval Structure	Sound acquisition management requires holding managers accountable. By making the decision makers responsible for their decisions, there will be a greater emphasis in the long run on setting realistic goals and on seeing that they are met. Agencies should establish for the IPT, and others as appropriate, a system of incentives that encourage achievement of the project's baseline goals. Incentives should include rewards (including bonuses), recognition, and consideration in both personnel evaluations and promotion decisions, when performances of IPT personnel contribute to achieving or exceeding the cost, schedule, and performance goals of the acquisition. Incentives are not appropriate if acquisition does not achieve its baseline goals.

Government Accountability Office (GAO) Executive Guide – Leading Practices in Capital Decision Making, December 1998

Requirements Definition	Conducting a comprehensive needs assessment or analysis of program requirements is an important first step in an organization's capital decision-making process. A comprehensive needs assessment considers an organization's overall mission and identifies the resources needed to fulfill both immediate requirements and anticipated future needs based on the results-oriented goals and objectives that flow from the organization's mission. Many leading organizations we studied conduct a comprehensive needs assessment to identify and document needed resources. This process is variously referred to as needs determination, needs study, or mission analysis and is often the first step in an organization's capital planning and budgeting process.
Alternatives Analysis	Leading organizations consider a wide range of alternatives to satisfy their needs, including non-capital alternatives, before choosing to purchase or construct a capital asset or facility. Managers carefully consider options such as contracting out or divesting the activity the asset would support. When it is determined that capital is needed, managers also consider repair and renovation of existing assets. When evaluating alternatives, prudent decision makers also consider the various funding options available to them. Leading organizations also have defined processes for ranking and selecting projects. The selection of projects is based on pre-established criteria and a relative ranking of investment proposals. Leading organizations determine the right mix of projects by viewing all proposed investments and existing capital assets as a portfolio. Organizations generally find ranking projects beneficial because the number of requested projects exceeds available funding.
Project Plan	Typically, a project plan is used to manage and control project implementation and includes performance measurement baselines for schedule and cost, major milestones, and target dates and risks associated with the project. By tracking cost, schedule, and technical performance, a project team is aware of potential problem areas and is able to determine any impact of the deviation and decide if corrective action is needed. Regular review of the status of cost, schedule, and technical performance goals by individuals outside the project team allows for an independent assessment of the project and verification that the project is meeting stated goals. Leading organizations also establish incentives that encourage teams to meet project goals
Review and Approval Process	We found that establishing a decision-making framework that encourages the appropriate levels of management review and approval, supported by the proper financial, technical, and risk analyses, is a critical factor in making sound capital investment decisions. A well-thought-out review and approval framework can mean capital investment decisions are made more efficiently and are supported by better information. Some leading organizations have review processes in place that determine the level of analysis and review that will be conducted based on the size, complexity, and cost of the project. Projects that are expensive, span a number of years, or are crucial to the organization's strategy or structure usually require more analysis, support, and review than projects that cost less, have shorter time frames, or have less organization-wide impact.

Department of Energy Manual M 413.3-1, "Project Management for the Acquisition of Capital Assets," March 28, 2003

Requirements Definition	The requirements identification process begins in the project Initiation Phase with development of the mission need. The mission need statement documents the requirement for a specific capability, defined in terms of its required performance. Upon approval, the project team begins concept development, conducting research and development, prototyping, technology demonstrations, and other activities necessary to analyze alternatives and select the appropriate alternatives. During these activities, analysis and documentation of the requirements are accomplished. The requirements analysis process develops the programmatic, system, functional, or technical requirements for hardware, software, facilities, personnel, procedures, technical data, personnel training, and initial spares needed to acquire, test, deploy, operate, and maintain a capital asset. Requirements analysis provides underpinning of the conceptual design process and connects the solution to the need. The requirements further define what an asset must achieve. Functional requirements are developed, describing the functionality of the asset and how the identified functions relate to each other. In many cases, functional requirements may be augmented with specific standards, design requirements, safety, quality, and other parameters that have some legal basis for their inclusion. Requirements define and describe the extent to which a function is to be executed and are generally measured in terms of quantity, quality, coverage, timelines, safety, and products. The requirements documentation provides the traceability throughout the entire acquisition process and connects the performance and operational testing to mission need to provide verification of having met the need. It is the critical element in maintaining the connection between the mission need and the conceptual design and alternatives. The earlier project requirements can be identified and defined, the more effectively and efficiently a project will progress through the various phases, and meet project baselines, agreements, and commitments. As a project progresses from mission need through concept exploration, development, and design, the process of identifying, analyzing, and refining requirements is continual and is always traceable to specifications and designs. Because the requirements are the foundation for the entire acquisition process, they are part of the baseline and placed under an established change control system.
Alternatives Analysis	While the requirements define what the asset must achieve and how it must perform, the process of analyzing alternatives leads to identification of the solution that will best meet those requirements. Often, a solution is obvious and other times it may only seem obvious. The analysis is necessary to determine if a potential solution is available, affordable, and where the benefits outweigh the cost. Consideration of the life cycle costs, including operations, maintenance, and disposal, are part of the alternative analysis. The life cycle costs incurred by a chosen alternative may not be affordable to the program and may constrain the ability of the program in meeting its overall strategic objectives. For assets that are intended to provide production capability, analysis must be conducted to ensure that production or manufacturing rates can be achieved with a specific alternative. Demonstrations and prototyping, which provide proof of principle, are sometimes necessary to determine if the technology used by an alternative is realistic and reliable. The selection of a recommended alternative must be based on a systematic analysis of the benefits and costs.
Risk Management	Effective risk management is an essential element of every project. The DOE [Department of Energy] risk management concept is based on the principles that risk management must be analytical, forward-looking, structured, informative, and continuous. Risk assessments should be performed as early as possible in the project life cycle and should identify critical

	technical, performance, schedule, and cost risks. Once risks are identified, sound risk mitigation strategies and actions should be developed and documented. As a project progresses, new information improves additional insight into risk areas and allows the continuous refinement of the risk mitigation strategies. In addition, the risk management process must address every element of the project throughout all phases of the project. It is important that all stakeholders participate in the assessment process so that an acceptable balance between cost, schedule, performance, and risk can be reached. A close relationship between the Federal project management staff and the contractor promotes a better understanding of program risks and assists in developing and executing the management efforts.
Project Plan	All project teams prepare plans for managing their projects. The IPT, with the leadership of the Federal Project Director, should develop the Project Execution Plan. The Project Execution Plan summarizes critical information necessary to manage a project. The plan uses the outcome from all project-planning processes and integrates them into a formally approved document used to manage and control project execution. Because of the importance of this particular document to the success of a project, considerable effort needs to be made to ensure that the Project Execution Plan is thorough and comprehensive. Specific project activities and actions to be considered in developing and preparing a Project Execution Plan include: • identifying project participants' responsibilities, authorities, and accountabilities; • organizing and preparing a project Work Breakdown Structure and dictionary; • identifying the time-phased budget or resource loaded schedule; • performing critical path calculations and establishing project activity durations; • developing resource loaded project activities; • conducting risk assessment and mitigation planning; • developing a preliminary order of range project cost estimate; • establishing or identifying a progress (performance) measuring and reporting system; and • developing a method of communicating results, reviews, and revisions of project documentation to project participants and stakeholders. The plan may be tailored to meet the needs of a project, based on size, scope, complexity, cost, and schedule.
Acquisition Plan	Acquisition planning focuses on the business and technical management approaches designed to achieve project objectives within specified resource constraints and the contracting strategies necessary for implementation. When the prime contractor is responsible for executing sub-contract acquisition planning, the Integrated Project Team should review the plans for significant procurements in collaboration with the prime contractor. On some contracts, the acquisition plans for significant procurements are required to be submitted to the government for review prior to announcement or award. An acquisition strategy is a high-level business and technical management approach designed to achieve project objectives within specified resource constraints. The acquisition strategy conveys the IPT team approach for the successful acquisition of the project, its intended outcomes, and rationale for that approach. The approach should address the market conditions, effective use of competition, and performance based contracting opportunities. Projects may require multiple contracts. The strategy should address the management strategy that the program intends to use in order to integrate multiple contractor efforts. Approvals of mission needs and acquisition strategies do not constitute approvals required by the Office of Procurement and Assistance Management for

	specific contract clearance purposes, including contract acquisition plans. Federal officials develop the acquisition strategy. The IPT should review previous strategies for similar projects and discuss them with the key personnel involved to take advantage of lessons learned. Industry and laboratories may be consulted during the development of the acquisition strategy. However, care must be taken to avoid release or pre-procurement sensitive information that could be construed as giving existing contractors a competitive advantage.
Review and Approval Process	Critical decisions identify the exit points from one phase of the project and entry to the succeeding phase. As previously stated, each decision marks an increase in commitment of resources and is based on a successful and complete preceding phase. At the most fundamental level, the decisions confirm the following. • There is a need which cannot be met through nonmaterial means. • The selected alternative and approach is the right solution. • A definitive cost, scope, and schedule baseline has been developed. • The project is ready for implementation. • The project is ready for turnover or transition to operations. There is no defined or directed period of time between decisions. Many projects are able to quickly proceed through the early decision points because of the lack of complexity or the presence of constraints that reduce available alternatives, or the absence of significant technology and developmental requirements. In these cases, decisions may be made simultaneously. All projects with a total project cost greater than $5 million must use the defined Critical Decisions. • Critical Decision-0, Approve Mission Need • Critical Decision-1, Approve Alternative Selection and Cost Range • Critical Decision-2, Approve Performance Baseline • Critical Decision-3, Approve Start of Construction • Critical Decision-4, Approve Start of Operations or Project Closeout

NASA Procedural Requirements 7120.5C, "NASA Program and Project Management Processes and Requirements," March 22, 2005

Risk Management	The Program Manager develops and implements a continuous risk management process (that includes integrated risk management planning for all risks associated with program safety, cost, schedule, and technical performance) and document it in a program Risk Management Plan. The Program Manager must begin the process with risk identification and an assessment of program constraints, which defines the acceptable risks. Areas of potential program risks include but are not limited to—mission success criteria; development schedule; budget limits; launch window and vehicle availability; international partner participation; critical single source suppliers; security; environmental concerns; human space flight safety issues; fail operations/fail safe requirements; safe and reliable operations; and the amount and type of testing.
Project Plan	During program formulation, the Program Manager, once selected, prepares a Program Plan. In the Program Plan, the Program Manager defines and documents an affordable program architecture along with the success criteria and performance metrics. Specifically, the Program Manager: • Ensures that top-level requirements, including success criteria, for each constituent project are defined in coordination with the Mission Directorate (or Mission Support Office) and documented in the Program Plan. • Ensures the validated high-level requirements and program success criteria flow down to projects or portfolios. Program Managers must demonstrate linkage (traceability) while formulating and implementing a program, and the linkage is closely monitored when the program plan is reviewed. • Prepares estimates of yearly new obligation authority consistent with top-level program requirements, and identifies the civil service workforce so as to enable full cost estimates. • Prepares an overall program timeline with key milestones related to accomplishing program goals and objectives. When applicable, the timeline should provide guidance and a schedule for the announcement of new project (or research) opportunities. • Documents synergistic activities with other NASA, industry, academia, and international programs. • Prepares and implements a comprehensive Safety and Mission Assurance Plan early in program formulation to ensure program compliance with all regulatory safety requirements from the Occupational and Safety Health Administration and NASA Safety and Mission Assurance requirements such as mishap reporting and investigation, range safety, software safety and assurance, and human rating requirements. The importance of up-front safety, reliability, maintainability, and quality assurance requirements should be emphasized in all program activities
Acquisition Plan	The Project Manager develops an integrated acquisition strategy that enables the project to meet its mission objectives, provides best value to NASA, and complies with the FAR [Federal Acquisition Regulation] and the NASA FAR Supplement. The Project Manager ensures that applicable laws, regulations, requirements, and standards are flowed down from NASA to the prime and subcontractors. This strategy shall be documented in the Project

	Plan. • The Acquisition Plan identifies all major proposed acquisitions in relation to the project Work Breakdown Structure. • The Acquisition Plan considers use of NASA in-house capabilities and the maintenance of NASA's core competencies when making "make-or-buy" decisions. • The Acquisition Plan identifies the project's approach to creating contractor incentives that strengthen safety and mission assurance. • The Acquisition Plan identifies significant ($1 million or more) equipment requirements expected to be acquired or fabricated by contractors in support of the project objectives. • The Acquisition is reviewed and approved by the Program Manager before initiating any major procurement actions.
Review and Approval Procedures	The program approval process is an ongoing effort by senior management to determine the program's readiness (at key milestones) to continue with formulation or proceed to or continue with implementation. To secure program approval, the Program Manager must prepare (or revise) key program management and submit them at a decision review meeting. The objectives and salient features of the major independent review types are provided to guide program/project managers in the formulation and implementation of programs and projects. Reviews provide the opportunity to confirm the approach or offer options, if needed, and communicate progress and risks toward meeting the success criteria. Reviews also evaluate and communicate the level of safety and likelihood of mission success. Reviews also serve the needs of the various levels of the management hierarchy from an individual product lead on a project to the NASA Administrator. The output of these reviews (that is, assessments, options, findings, recommendations, and decisions) flows as inputs into subsequent reviews as appropriate to ensure alignment between providers, customers, and stakeholders, and ensure proper disposition of issues. It is the responsibility of the Program or Project Manager to propose options to combine reviews to providers, customers, and stakeholders, provided that the objectives of each are met. The goal is to maximize the probability of mission success through added value and efficiencies. Independent reviews are conducted by independent panels composed of management, technical, and budget experts from organizations outside of the advocacy chain of the program/project being reviewed.

Appendix D. Management's Response

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TO: THE OFFICE OF THE INSPECTOR GENERAL (OIG).

FROM: THE OFFICE OF THE PUBLIC PRINTER.

RE: RESPONSE TO OIG'S DRAFT AUDIT REPORT DATED FEBRUARY 20, 2008.

At the outset, senior management would like to thank OIG for its strong support for the Secure Production Facility (SPF or Project). Senior management also appreciates the courtesy and professionalism with which OIG has performed its audit of the planning for the SPF and its efforts to work with senior management in identifying potential planning issues as well as "lessons learned" on the Project.

The audit concludes that the site selected for the SPF more than meets its requirements and that nothing has come to OIG's attention to indicate that the SPF will not operate as planned. As further support for this assessment, we're pleased to report that, as of March 1, 2008, the Project is over 60% complete (including over 70% of the items on the critical path), is on schedule, and is significantly under budget. Based on these factors, the SPF currently displays all of the indications of a highly successful project.

The audit recommends that GPO follow Federal project management guidelines and formalize various project management documents which, due to time restraints and other factors (some of which were beyond GPO's control) were not formalized prior to the commencement of the SPF. The audit acknowledges that GPO is not required by Federal criteria to comply with these requirements; they are, however, considered by OIG to be "best practices" that Federal agencies should follow in capital projects. The requirements specified by OIG are preparing a formal project charter and developing a project plan, risk management plan, and acquisition plan. Additionally, the audit recommends that GPO incorporate these tasks to the extent possible for the remainder of the SPF's duration.

While GPO did not develop formalized versions of the specified documents prior to the Project's commencement, it did create and utilize working versions of these documents which have been the cornerstone of the positive success the Project has achieved to date. However, GPO acknowledges the value of formal documentation and, to that end, had completed the formalization of its working documents by March 7, 2008. GPO will continue to use them for the remainder of the Project and, as applicable, in future endeavors of this nature.

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Appendix D

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OIG states that, while alternative SPF sites were evaluated and the SPF site at Mississippi more than meets the facility's requirements, a comprehensive analysis of alternative sites was not fully documented. As explained to OIG, the alternative analysis was not fully documented due to the short timeframe needed in order to meet the Department of State's request for the purchase and delivery of the SPF's equipment by April, 2008, and the ramping up of the facility's production by July, 2008. In its future projects, GPO will give careful consideration to the need for full documentation of the alternatives considered as a "lesson learned" on the SPF.

Additionally, while GPO recognizes that the formalization of project documentation is an important matter to be considered in connection with the planning for, and the implementation of, every capital asset, GPO also wants to emphasize the critical role that flexibility plays in undertaking capital projects, particularly for an agency like GPO that is a legislative agency with extremely limited powers when it comes to capital undertakings. Thus, for example, under Title 44, GPO's enabling legislation, GPO has no authority to undertake any capital project except to lease space as a tenant. And, even here, GPO must obtain the prior approval of its oversight committee in order to enter into such a tenant lease. The constraints on GPO's ability to pursue capital projects necessarily require GPO to follow a different planning and implementation process than is applicable to executive agencies that are not subject to such constraints (and this is one of the major reasons why the planning requirements of those agencies are not applicable to GPO).

In the future, therefore, GPO will carefully tailor the best practices advocated by OIG both to the specific constraints under which GPO must operate as well as to the unique requirements of each future capital project undertaken by GPO.

In conclusion, senior management would like to express, once again, its deep appreciation of the OIG's support for the SPF.

Dated: March 6, 2008.

William Turri
Deputy Public Printer
For the Office of the Public Printer

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Appendix E. Status of Recommendations

Recommendation No.	Resolved	Unresolved	Open/ECD*	Closed
1	X			X
2	X			X

*Estimated Completion Date.

Appendix F. Report Distribution

Government Printing Office

Public Printer
Deputy Public Printer
Chief of Staff
Chief Management Officer
Acting General Counsel
Chief Financial Officer
Chief Human Capital Officer
Chief Information Officer
Chief Technology Officer
Director, Congressional Relations
Director, Security Services
Acting Managing Director, Plant Operations
Managing Director, Security and Intelligent Documents

Major Contributors to the Report

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