



United States Department of Agriculture
Office of Inspector General





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AUDIT
NUMBER: 08501-0001-Te

TO: Thomas Tidwell
Chief
Forest Service

ATTN: Thelma Strong
Acting Chief Financial Officer

FROM: Gil H. Harden
Assistant Inspector General
for Audit

SUBJECT: Forest Service Acquisition of Information Technology Software/Hardware

This report presents the results of the subject audit. Your written response to the official draft, dated, January 18, 2012, is included in its entirety at the end of the report. Excerpts from your response and the Office of Inspector General's position are incorporated into the relevant Findings and Recommendations sections of the report. Based on your response, we were able to accept management decision on all recommendations in the report, and no further response to us is necessary.

Please follow your internal agency procedures in forwarding final action correspondence to the Office of the Chief Financial Officer, Director, Planning and Accountability Division. In accordance with Departmental Regulation 1720-1, final action is required to be taken within 1 year of each management decision to prevent being listed in the Department's annual Performance and Accountability Report.

We appreciate the courtesies and cooperation extended to us by members of your staff during our audit fieldwork and subsequent discussions.

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Forest Service Acquisition of Information Technology Software/Hardware

Executive Summary

The Department of Agriculture's (USDA) Forest Service (FS) invests in information technology (IT) to support the agency's mission of sustaining the Nation's forests and grasslands. With thousands of locations to interconnect (e.g., regional offices, national forests, and ranger stations) and extensive data elements collected and processed for reporting and decision-making, (e.g., land management, recreation, research, and operational analysis), FS reported it spent \$670 million¹ for IT projects during fiscal years (FY) 2007-2009. In light of the mission-critical role and the funding involved, we evaluated how FS acquires and reports on these IT projects, which FS refers to as "investments." Generally, we found that FS needs to ensure that these acquisitions are compatible and aligned with broader Departmental and Federal requirements and priorities.

Specifically, FS can improve how it (1) selects IT projects for acquisition, (2) complies with the Department's acquisition approval requirements, (3) enhances the integrity of cost and performance data submitted for oversight review, and (4) ensures that it accurately reports the performance of its IT acquisitions.

Internal Selection Criteria

From FYs 2007 to 2009, FS reported it spent \$670 million on its IT investments,² but it did so without using written criteria to guide its IT investment decisions.³ This problem occurred because the two groups within FS that recommend and select IT investments rely largely on their members' collective expertise. The final selecting authority does not maintain meeting minutes supporting its reasoning or documenting how it arrived at its decisions. FS' controls over IT investment decision-making do not ensure its process will maximize value and minimize risk. Without developing and implementing minimum written criteria, FS cannot ensure resources are acquired in the most cost efficient and effective manner, or that the acquisition and development of major IT systems will timely meet the needs of FS.

¹ For FYs 2010 and 2011, FS reported spending \$472 million and \$442 million, respectively, on IT investments. However, for FY 2011, we did not conduct an audit of the IT investments' amount.

² An IT investment is the acquisition and management of an IT asset through its life-cycle.

³ Required by the Clinger-Cohen Act of 1996 and USDA's *Information Technology Capital Planning and Investment Control Guide*.

Departmental Acquisition Approval

USDA agencies must receive approval from the Department's Office of the Chief Information Officer (OCIO) before obligating money for IT acquisitions that cost over \$25,000.⁴ FS' senior managers felt that the detail and cost breakdowns required for approval were too burdensome. Instead, between FYs 2007-2009, FS submitted requests for acquisitions which lacked such required information as what the acquisitions were; how much they individually cost; which, if any, external entities were involved; what access they needed to USDA's IT infrastructure; which security configurations they used; and why they were necessary to FS' mission. OCIO rejected these requests and requested they be resubmitted with the necessary information. FS did not comply and instead reported it spent \$670 million for IT acquisitions. Almost all of these acquisitions (\$667 million) were made without OCIO's approval.

In FY 2010, FS did not submit a request for approval of annual IT acquisitions at all—except a request for a small purchase of rugged laptops—and reported it spent \$472 million. Almost all of these acquisitions (\$471 million) were made without OCIO's approval. OCIO asserts it does not have statutory authority to enforce compliance and has voiced its dissatisfaction at FS' unauthorized acquisitions. While FS and OCIO have discussed this issue, they have not reached a resolution. FS continues to make IT purchases without OCIO's approval. As a result, there is no assurance that resources purchased were acquired in the most cost efficient and effective manner. (See exhibit A.⁵)

Federal Investment Oversight

Each year, FS is required to submit business cases (i.e., exhibit 300s) to OCIO, who reviews and submits them to the Office of Management and Budget (OMB) for major IT investment funding. OMB uses the submissions as part of its process to ensure that planned acquisitions mesh with broader concerns, such as the agency's long-term objectives and the Administration's budget priorities.⁶ USDA officials use FS' submissions to ensure that all IT investments align with USDA's mission and support business needs while minimizing risks and maximizing returns throughout the investment's lifecycle.

FS, though, has not established guidance defining how to compile, support, and maintain the information included in its business cases. An FS official told us that FS has not had the resources to write guidance. However, without guidance, including precise definitions,

⁴ Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2006, Public Law 109-97, §716, 119 Stat. 2120, 2151 (2005). The requirement to receive written approval from OCIO before obligating money for IT acquisitions is repeated in each of the following fiscal years' appropriation acts reviewed during the scope of our audit. OCIO approval is also required by Agriculture Acquisition Regulation Advisory Number 53 and Forest Service Manual 6615.21.

⁵ Exhibit A reports questioned costs with no recovery. Questioned costs are costs questioned by the Office of Inspector General (OIG) due to an alleged violation of a provision of a law, regulation, contract, grant, cooperative agreement, or other agreement or document governing the expenditure of funds. Recovery of the funds is not feasible because the costs were for in-house expenses.

⁶ OMB Circular A-11, pt. 7, §300.8, "How will OMB use the exhibit 300s?" (July 2007 and June 2008).

different people interpreted what was to be provided in different ways. As a result, we found that IT cost and performance data were missing, unsupported, or inconsistent in the two submissions we examined for the Natural Resource Manager (NRM), a major IT investment, in FYs 2009 and 2010. For example, the submission for 2010 was missing a \$10.7 million IT system. Further, one of FS' 2009 investment submissions listed the cost for one IT system as \$8.2 million in one place and \$6.4 million in another and could not provide supporting documentation for either amount. As a result, OCIO could not adequately evaluate and rate NRM's performance and determine if this major investment met OMB's cost and performance targets.

Monitoring Investment Performance

Performance measures are the way that organizations assess the quality and effectiveness of their activities and services. We determined that 15 of 18 FS IT performance measures did not meet requirements for measuring outcomes and establishing baselines. As a result, there was no assurance that FS' and USDA's needs were timely met. For example, FS measured the success of one database by the number of contracts processed, instead of measuring how the database helped, for example, close the gap between the current condition of the forests and their desired condition, an outcome. The Government Performance and Results Act of 1993 (GPRA) requires that performance measures report outcomes such as how the system helped achieve agency goals and objectives (e.g., the number of lives saved and property damage averted) and not just outputs such as count totals (e.g., percent of warnings issued more than 20 minutes before tornados form).⁷ These deficiencies resulted because officials responsible for developing performance measures had not received training on how to tie performance measures to USDA's mission or strategic goals. In response to questions we raised during fieldwork, FS officials revised their performance measures. In May 2010, FS further responded to our concerns by sending an additional employee and a contractor to training on performance measures. However, not all of the employees who develop and monitor performance measures have been to training, and this training is not part of FS' regular training schedule.

Together, addressing the issues above will strengthen how FS acquires and manages its IT investments by helping ensure that they are in line with the Department's broader budgets, infrastructures, and strategic goals.

Recommendation Summary

We recommend that FS document the use of required criteria for selecting IT investments; coordinate with USDA OCIO to comply with the Department's acquisition approval request requirements; and develop and implement written guidance defining how and when to compile, support, and maintain IT investment cost and performance information for the OMB business

⁷ GPRA, Public Law 103-62, §4(b), 107 Stat. 287 (1993), codified at 31 U.S.C. §§1115(a)(4) and (5) (2006). GPRA was amended by the GPRA Modernization Act, Public Law 111-352, 124 Stat. 3866 (2011), on January 4, 2011.

However, these amendments have no retroactive effect and did not govern the transactions that are the subject of this audit report.

case package. We also recommend that the agency institute regular training in performance measure development beyond the training it has already provided.

Agency Response

In its written response to the official draft, dated, January 18, 2012, FS generally concurred with all the audit findings and recommendations. Excerpts from the response and OIG's position have been incorporated in the relevant Findings and Recommendations sections. The written response is included in its entirety at the end of the report.

OIG Position

Based on FS' written response, OIG accepts management decision on all six recommendations.

Background and Objectives

Background

FS is a USDA agency that is the steward of about 192 million acres of the Nation's public land, including forests and grasslands. As such, the agency's responsibilities include, but are not limited to, firefighting, timber management, and renewable energy. To accomplish its mission, FS requires an IT infrastructure that interconnects agency offices and thousands of site locations (e.g., regional offices, national forests, and ranger stations). FS also collects and processes data for reporting and decision-making — about land management, recreation, research, operational analysis, etc.— that must be compiled, stored, and shared. From FYs 2007-2009, FS reported it spent approximately \$670 million for IT, including hardware (e.g., laptops), software (e.g., new applications), and services (e.g., maintenance and contractor support).

USDA's OCIO maintains overall responsibility for approval of the Department's and agencies' IT infrastructure and acquisitions that exceed \$25,000.

One of FS' major IT investments is NRM, which is a system of database tools. NRM includes the FS Activity Tracking System (FACTS), which gathers data about such things as environmental compliance and trust funds;⁸ Infrastructure (Infra), which collects information about such things as roads, bridges, and property; the Natural Resource Information System (NRIS), which provides data storage and analytic tools for natural resource management; and the Timber Information Manager (TIM), which supports activities such as timber sales and land management. Together, these IT systems constitute an IT investment used by FS to collect, store, manage, analyze, and share natural resource information.

Objectives

Our objectives were to determine if FS controls over the acquisition and development of computer software/hardware and contracted services are sufficient to ensure (1) the development and acquisition of major systems will timely meet the needs of FS and (2) resources (software/hardware and contracted services) are acquired in the most cost efficient and effective manner.

⁸ Brush Disposal Fund and Knutson-Vandenberg Fund (improvement of renewable resources, watersheds, wildlife habitats, community protection, and forest roads, as well as control of insects, disease, and noxious weeds).

Section 1: IT Investment

Finding 1: FS Needs Written Criteria To Guide IT Investment Decisions

From FYs 2007 to 2009, FS reported it spent \$670 million on its IT investments, but it did so without using written criteria to guide its IT investment decisions. This problem occurred because the two groups within FS that recommend and select IT investments rely largely on their members' collective expertise. The final selecting authority did not maintain meeting minutes supporting its reasoning or documenting how it arrived at its decisions. Without developing and implementing minimum written criteria for its investment decisions, FS cannot ensure that resources are acquired in the most cost efficient and effective manner. Additionally, there is no assurance that development and acquisition of IT systems will timely meet the needs of FS.

USDA's *Information Technology Capital Planning and Investment Control Guide* states that USDA agencies are to follow the Clinger-Cohen Act. The Clinger-Cohen Act directs agency heads to implement a process which details the minimum criteria to be applied in considering whether to undertake a particular investment in information systems.⁹ This includes criteria related to the risk-adjusted¹⁰ return on investment (ROI)¹¹ and specific quantitative (e.g., staff-hours saved, dollars saved, reduction in errors, etc.) and qualitative (e.g., quality of life, customer satisfaction, etc.) criteria for comparing and prioritizing alternative information systems investment projects.¹² In short, USDA is clear—its agencies must have criteria to ensure IT investment decisions maximize value and manage risk.

We found that, although FS did have a process for choosing its IT investments, that process did not involve written criteria for determining the net benefits and risks or the minimum criteria to be applied in considering whether to undertake a particular investment, in accordance with the Clinger-Cohen Act. Two FS groups are involved in the agency's internal IT funding process—the Information Resources Board (IRB) and the Executive Leadership Team (ELT). The IRB includes the Associate Deputy Chiefs, FS' Chief Information Officer, a Regional Forester, and a Station Director. The ELT includes the FS' Chief, Associate Chief, and Deputy Chiefs. For IT projects costing more than \$250,000 per year, the IRB makes recommendations to the ELT on whether to fund the IT investment. The ELT then makes the final funding decisions.

While we found that the IRB kept minutes of its deliberations, the minutes did not show that it used quantitative criteria (such as the required ROI, as well as the quantifiable risk of the investment) to make IT investment recommendations that would comply with the Clinger-Cohen Act. FS officials stated that they had not developed the quantitative criteria required by the Clinger-Cohen Act and USDA's *Information Technology Capital Planning and Investment*

⁹ Clinger-Cohen Act of 1996, Public Law 104-106, §5122(a), 110 Stat. 186, 683 (1996), codified as amended at 40 U.S.C. §11312(a) (2006).

¹⁰ Risk Assessment - this process is concerned with identifying, measuring, controlling, and minimizing risk; it requires a description of potential cost, performance risks, and impact of the proposed system to the infrastructure. It also includes an analysis to explain the effect that different outcomes might have on diminishing or increasing risk.

¹¹ ROI is used when comparing proposed investments. Using ROI analysis helps demonstrate that an investment is a better use of funds than other proposed investments.

¹² Clinger-Cohen Act of 1996, Public Law 104-106, §§5122(b)(3) and (b)(5), 110 Stat. 683 (1996), codified as amended at 40 U.S.C. §§1312(b)(3) and (b)(5) (2006).

Control Guide because, for many IT investments, it is difficult to quantify the benefits. They told us that, since there is limited quantitative benefit information available, it is not possible to perform any meaningful cost-benefit, ROI, or payback analysis consistently across the IT investment portfolio. Quantitative tools, such as ROI, help demonstrate an investment is a better use of funds than other proposed investments. Analyzing an investment's risk allows management to measure, control, and minimize the probability that a threat will occur, the probability that a threat occurrence will result in an adverse impact, and the severity of the resulting impact.

Additionally, the FS ELT had not developed written criteria to be applied in considering whether to undertake a particular IT investment. When we spoke to FS officials about why they did not document how important investment decisions were made, including meeting minutes, they stated that they believed it was unnecessary. Currently, the decision-making process is not documented except for a spreadsheet of the final approved funding amounts for all IT investments. The ELT determination on whether to fund an IT investment is based primarily on the recommendations of the IRB. However, neither the IRB's nor the ELT's decision-making process is sufficiently transparent to determine what criteria FS' IT investment decisions are based on, as required by the Clinger-Cohen Act.

FS, like other USDA agencies, must meet the standards of the Clinger-Cohen Act and USDA's own requirements. Given the large amount of money FS is currently spending on IT, the agency needs to take adequate steps to comply with these rules and make its process transparent.

Recommendation 1

Implement controls to ensure documented criteria, in accordance with USDA guidance, are used to guide the decision-making process of the IRB's recommendations and the ELT's selections of IT investments, and ensure minutes of meetings by the ELT are maintained.

Agency Response

FS has implemented written criteria for selecting the investments that will comprise its IT investment portfolio. FS currently documents the criteria used and the discussion/considerations during the decision-making process. The current criteria do not measure performance such as ROI or apply quantifiable risk criteria. During FY 2012, performance criteria will be developed and integrated into the annual investment process. We will begin using the performance criteria during the investment management process for the FY 2014 portfolio. ELT's selection of IT investments, based on the recommendations put forth by the Information Resources Direction Board (IRDB) will be communicated through the IRDB members. The ELT decisions will be documented as part of the IRDB process as a means of closing the loop on the status of recommendations.

Additionally, steps to increase transparency of the information resources decisions, including the investment management process, were implemented in March 2011. A workspace has been developed which serves as the repository for information resources decision materials. Access to

information is managed through group lists, and information is made available within 24 hours of approval by the IRDB.

OIG Position

We accept FS' management decision on this recommendation.

Finding 2: FS Needs To Obtain USDA Approval For IT Purchases Over \$25,000

Except for small purchases of software and rugged laptops in FYs 2009 and 2010, FS did not obtain the required OCIO approval for the agency's IT acquisitions for FYs 2007 through 2010. This occurred because FS' senior managers considered the detail and cost breakdown called for by OCIO's approval process too burdensome; they decided not to comply with OCIO's request for information, and went ahead with the purchases. OCIO officials expressed dissatisfaction and frustration with the lack of FS' compliance and cooperation. OCIO management stated they did not have the authority to impose any specific consequences (disciplinary or corrective) if IT acquisitions were made without OCIO approval. Though OCIO and FS have met to address this issue, no resolution has been made. As a result, FS reported it spent \$670 million on IT acquisitions between FYs 2007-2009 and \$472 million for IT acquisitions in FY 2010.¹³ Almost all of these acquisitions, \$667 million in FYs 2007-2009 and \$471 million in FY 2010, were made without OCIO approval.

USDA agencies must receive written approval from OCIO before obligating money for IT acquisitions (i.e., equipment, software, and contracted services) that cost over \$25,000. To receive consent, agencies must submit acquisition approval requests.¹⁴ The information provided in these requests allows OCIO to increase efficiency and cost effectiveness Departmentwide (e.g., by identifying redundancies) and to ensure compliance with various requirements (e.g., safeguarding security and protecting personal identifying information).

FS submitted two separate acquisition approval requests to OCIO for FYs 2007, 2008, and 2009. These requests were denied because they did not contain all of the information required by the *Acquisition Approval Request Guidance*.

For example, in October 2006, FS requested OCIO to approve nearly \$73 million in proposed FY 2007 investments to upgrade the agency's IT. In the request, FS officials asserted that the agency's own information resources staff had already evaluated and approved the proposed acquisitions relative to USDA's IT guidance and other requirements.

¹³ FS did not identify any acquisitions of less than \$25,000 in the reported totals.

¹⁴ *Acquisition Approval Request Guidance*, March 2009; USDA OCIO's *Acquisition Approval Request*, June 2008/October 2006.

In December 2006, OCIO rejected FS' request because it did not include:

- financial detail on specific IT investments (e.g., hardware, software, and contractual services);
- links between the proposed acquisition and general strategies and investment plans;
- proof that the acquisitions would meet USDA and Federal security requirements; and
- indication of how the agency would plan, direct, monitor, and report on IT project performance.

In addition, FS' request did not include acquisitions for steady-state investments (e.g., ongoing operations and maintenance services for current systems), which OCIO must also approve if they cost more than \$25,000.¹⁵ Without such details, OCIO could not meet its own obligations to evaluate the proposed investments relative to USDA's IT infrastructure, strategy, security, etc. OCIO requested that FS resubmit its request to meet the acquisition approval request requirements. FS' senior officials ultimately concluded that the budget and cost requirements were too burdensome and decided not to resubmit the FY 2007 request.

Also, in August 2008, FS submitted another request for IT upgrades covering both FY 2008 (nearly \$64 million) and FY 2009 (about \$51 million). As before, FS did not include steady-state acquisitions, evidence that security requirements were met, performance monitoring plans, or financial detail. For example, FS requested OCIO to approve almost \$10 million in FY 2008 for "eGovernment—multiple FS eGov projects," but did not specify:

- what those projects were;
- how much they cost individually;
- which, if any, external entities were involved;
- what access it needed to USDA's IT infrastructure;
- which security configurations it used; and
- why they were necessary to FS' mission, etc.

OCIO did not approve the request and returned it to FS for additional information and documentation. However, FS did not make modifications and resubmit the acquisition approval request. FS reported it spent a total of \$670 million for IT acquisitions during FYs 2007, 2008, and 2009 but received approval for only \$3 million to purchase software and rugged laptops. FS did not receive approval from OCIO for \$667 million of those purchases.

While aware of FS' violation of acquisition approval request requirements, OCIO management at the time sent FS detailed letters specifying the corrective actions needed for each rejected request. They also met with FS Chief Information Officer (CIO) officials to discuss compliance issues. However, OCIO management took no further action in the above instances because they had no authority to withhold funds for noncompliance.

For FY 2010, FS reported it spent over \$472 million to acquire IT upgrades and equipment. OCIO informed us that FS did not submit an acquisition approval request for FY 2010, with the

¹⁵ *Acquisition Approval Request Guidance*, version 2.0, March 2009.

small exception of \$1 million for rugged laptops, which was approved. However, no approval was given for the remaining \$471 million it reported spending in FY 2010. In a 2011 followup interview, OCIO management said they would consider issuing additional policies to prevent agencies from making IT acquisitions over \$25,000 without OCIO approval.

FS stated that it could not comply with acquisition approval request requirements because the agency's accounting systems were unable to break down costs to the level of specificity required for the acquisition approval request. However, OCIO officials noted that other agencies do complete the acquisition approval request. FS must, as a USDA agency, comply with USDA's requirements. If FS and OCIO cannot cooperate to resolve this problem, we recommend that the matter be elevated.

Recommendation 2

Coordinate with USDA OCIO to comply with the Department's acquisition approval request requirements. If OCIO and FS are unable to reach a resolution, elevate the issue.

Agency Response

FS will comply with USDA policy. In November 2011, the FS CIO Governance Staff began coordinating with the Acquisition Management Staff to determine the scope of IT acquisitions that must be brought into compliance with USDA IT acquisition approval requirements. The Governance Staff has coordinated with USDA and plans to meet on January 17, 2012, to discuss the new USDA Acquisition Approval Process. During this meeting, FS plans to present details on the scope of IT acquisitions that currently require USDA approval and negotiate an approach (approve all pending or phase-in based on a dollar volume) that will not stretch the resources of USDA or FS who support this process. By January 2013, FS will fully comply with the USDA requirement to obtain acquisition approval for IT purchases that exceeds \$25,000 unless a different threshold is determined during joint negotiations.

OIG Position

We accept FS' management decision on this recommendation.

Finding 3: FS Needs To Ensure IT Investment Business Case Data Are Accurate And Supported

The business case FS made for funding the Natural Resource Manager (NRM), a major IT investment, for FYs 2009 and 2010 included cost and performance data that were incomplete, unsupported, and inconsistent.¹⁶ FS provided these questionable data because it had no guidance defining how to compile, support, and maintain the underlying data. An FS official told us that

¹⁶ NRM provides integrated corporate databases and IT systems to support FS natural resource and infrastructure management. NRM consists of four IT systems: Infrastructure (Infra), Natural Resource Information System (NRIS), Timber Information Manager (TIM), and Forest Service Activity Tracking System (FACTS).

FS has not had the resources to write guidance. As a result, OCIO could not adequately evaluate and rate NRM's performance and determine if this major investment met OMB's cost and performance targets.

Each year, OMB requires Departments, including USDA, to submit an exhibit 300, "Capital Asset Plan and Business Case Summary" (business case) for each major IT investment.¹⁷ As part of OMB's capital planning process, the exhibit 300 demonstrates management of the IT investment and is a component of the Department's budget justification. OMB requires that major IT investments should be managed within 10 percent of cost and performance targets.

We determined that FS submitted missing, unsupported, and inconsistent information in the agency's business cases and operational analyses for NRM in FYs 2009 and 2010.

Missing Data

The operational analysis supporting NRM's business case for FY 2010 investments included 11 months of costs totaling \$9.1 million for Infra, but left out the \$1.5 million incurred during the last month of the fiscal year.¹⁸ This occurred because FS relied on an automated calculation that could not handle the change in hourly pay rates in September and, therefore, omitted all of that month from the total. Additionally, we found that the business case for 2010 did not include costs totaling \$10.7 million for NRIS, due to a transition of staff. With stronger internal controls, we believe FS can better manage its information and track whether all information is entered into the system.

Unsupported Data

FS did not retain adequate supporting documents for 5 of 8 judgmentally sampled costs, and 15 of 18 judgmentally sampled performance results. OMB requires that documentation should be maintained and readily available and that major IT investments should be managed within 10 percent of cost and performance targets. Without adequate documentation, there is no assurance that those targets were met. The table below shows examples of costs and performance results listed in FS' business cases that the agency could not support.

¹⁷ OMB Circular A-11, pt. 1, §10.5, "What happens during the Federal budget process and when?"; pt. 7, §300, Table of Contents; §300.2, "Does this section apply to me?"; and §300.7, "What must I report on the exhibit 300 and when?" (July 2007 and June 2008).

¹⁸ Operational analysis is the comparison of the performance of an IT asset or system to an established baseline. The results of this analysis are recommendations to agency managers as to the asset's continued use, modification, or termination.

Business Case Package	Unsupported Data Reported in Exhibit 300	Documented Amount
FY 2009 submission	\$11 million (NRIS operations and maintenance)	No Documentation
	\$8.2 million (Infra operations and maintenance)	No Documentation
	100,000 forest product permits provided (TIM)	161,693 forest product permits provided (TIM)
	75,000 special use permits (Infra)	No Documentation
FY 2010 submission	\$7.4 million (TIM-FACTS operations and maintenance)	No Documentation
	6,823 range permits (Infra)	986 range permits

Table 1: Unsupported Data in FS' Business Cases to OMB

We attributed these discrepancies to a lack of written guidance. FS had no written guidance describing a formal method of retaining and retrieving supporting documentation for NRM's exhibit 300s and operational analyses. Additionally, FS staff stated that weak software access controls may have led to contradictions between reported amounts and documented amounts. Instead of restricting access to the software to one or two individuals, several individuals at OCIO and FS were allowed to make changes. There was no audit trail to show who had changed data, the date on which the change was made, and the change made. Instead, the software showed only the name of the last person to gain access to the software, the access date, and the most recent data value.

Inconsistent Data

Cost and performance information also varied between the two reports required by OMB (business cases and their supplementing operational analyses), as shown in the table of examples below. These numbers should be consistent with one another.

Business Case Package	Exhibit 300	Operational Analysis
FY 2009 submission	\$8.2 million (Infra operations and maintenance)	\$6.4 million (Infra)
	683 mineral permits (Infra)	254 mineral permits (Infra)
FY 2010 submission	\$7.3 million (Infra operations and maintenance)	\$9.1 million (Infra)
	6,823 range permits (Infra)	956 range permits (Infra)

Table 2: Inconsistent Data in FS' Business Case Package to OMB

The FS official responsible for collecting the information explained that different people interpreted what was to be accounted for in different ways. As a result, they used different computation methods and different sources to provide data, thus leading to inconsistent amounts in different reports covering the same fiscal year.

Due to a lack of written guidance, the FYs 2009 and 2010 submissions that FS provided to OCIO and OMB in order to make the business case for funding NRM, a major IT investment, contained missing, unsupported, or inconsistent data.

Recommendation 3

Develop and implement internal controls and written guidance defining how and when to compile, support, and maintain IT investment cost and performance information for the OMB business case package.

Agency Response

FS leadership recognizes that inconsistent guidance has been provided to investment managers regarding how to prepare business cases for major investments and will move forward with

delivering training to program managers and select agency leaders to improve understanding of requirements, use of data, required artifacts, and responsibilities for reporting prior to June 2012.

OIG Position

We accept FS' management decision on this recommendation.

Recommendation 4

Restrict the number of FS staff with access to cost and performance data reported in the OMB business case package.

Agency Response

The agency has identified Integrated Project Teams for managing investments and, with the training planned in response to Recommendation 3 of this report, will move forward with identifying two FS individuals per major investment with responsibility for updating investment information outside of the FS CIO Governance Staff. Training on the development and management of business cases will help teams to understand their roles. FS will also implement the use of templates to be used for submitting information to the individual with data entry responsibility.

The implementation of controls around accessing the business case is expected to be implemented by June 2012. This timing will allow all Integrated Project Team members to understand and transition into their defined role.

OIG Position

We accept FS' management decision on this recommendation.

Section 2: Monitoring Investment Performance

Finding 4: FS Needs To Improve IT Performance Measures

We examined performance measures for Timber Information Manager (TIM), Infrastructure (Infra), and Natural Resource Information System (NRIS), which are three IT systems used to manage FS' natural resource data, and determined that 15 of 18 measures reviewed were inadequate. The six performance measures for TIM and Infra were inadequate because they did not measure outcomes as required by GPRA. The other nine measures were associated with NRIS. These measures were inadequate because the reported baselines did not occur or could not be reliably established.¹⁹ However, FS officials responsible for writing the IT performance measures had not received training on how to adapt GPRA requirements to USDA's mission area. Without outcome-based performance measures and useful baselines, FS cannot meaningfully state how its IT systems are contributing to USDA's mission or strategic goals.

According to GPRA, adequate performance measures must be quantifiable, measurable, held to clear baselines, and linked to strategic goals.²⁰ Further, the act requires that measures report not just outputs (e.g., percent of warnings issued more than 20 minutes before tornados form) but outcomes (e.g., the number of lives saved and property damage averted). Additionally, USDA's guide for IT planning and investing emphasizes that performance measures should focus on outcomes, and goes on to specify that performance measures should assess the investment's contribution to meeting strategic goals.²¹

We found that two of the systems—TIM and Infra—used input and output performance measures that did not gauge the systems' effectiveness in terms of USDA's strategic goals. For example, during our audit period, FS used an output—the number of timber contracts processed—as a measure of TIM's success. However, a count of contracts does not evaluate how TIM contributes to outcomes within USDA's strategic goal of enhancing natural resources. As an example, an outcome-oriented performance measure could focus on how FS' implementation of TIM has helped to close the gap between the current condition of forests and their desired condition. TIM could track timber removed as a percent of the total timber that needs to be removed to bring the forests into a healthy condition. The measure of timber removal in relation to the desired outcome of forest health would provide information FS management could use to bring FS nearer to USDA's goal of enhancing natural resources.

We also found that FS' NRIS did not have baselines or benchmarks against which performance was measured, that were useful for assessing system performance. For example, FS developed a performance measure for moving electronic information held in disparate NRIS databases to a

¹⁹ An effective baseline is a "snapshot" of the current state or quantifiable point from which to begin an effort and from which change can be measured and documented.

²⁰ GPRA, Public Law 103-62, §3, 107 Stat. 286 (1993), codified at 5 U.S.C. §306(a)(4), §306(c) (2006); see id. §4(b), 107 Stat. 287 (1993), codified at 31 U.S.C. §1115(a)(2)-(5) (2006). GPRA was amended by the GPRA Modernization Act, Public Law 111-352, 124 Stat. 3866 (2011), on January 4, 2011. However, these amendments have no retroactive effect, and did not govern the transactions that are the subject of this audit report.

²¹ USDA's *Information Technology Capital Planning and Investment Control Guide for Fiscal Year 2010 Budget*. (April 2008).

central database. The agency planned to gauge success according to the performance measure's baseline: the number of times people accessed NRIS at the central database. However, because the data were not moved to a central database in FYs 2006 and 2007, people could not access the information there. There was, therefore, no baseline against which to measure performance. An FS official agreed that NRIS' performance measures and baselines needed improvement. He added that the performance measures submitted for FY 2010 have been adjusted.

In September 2009, the program manager responded to our concerns by revising the performance measures for the three IT systems. FS drew the new measures and baselines from the agency's strategic plan.

During our audit, FS officials were unsure whether any training had been offered. We determined that between FYs 2007-2009, there were only two training classes for FS staff that included material about performance measures, but both focused on other issues (budget and management)—and only two employees attended one of the classes in 2007. FS has since sent an additional employee and a contractor to one training seminar. However, not all of the employees who develop and monitor performance measures have been to training, and this training is not part of FS' regular training schedule.

Recommendation 5

Review the performance measures in the OMB business case package and determine that all measures meet GPRA requirements of being quantifiable, measurable, held to clear baselines, and linked to strategic goals.

Agency Response

All OMB business case performance measures will be reviewed to determine their compliance with GPRA requirements, as part of the agency training on business cases. Within 30 days of completion of the training, performance measures will be updated, as appropriate. Baselines will be validated, and documentation of results will be required for all business cases by June 30, 2012.

OIG Position

We accept FS' management decision on this recommendation.

Recommendation 6

Institute regular training for officials responsible for developing IT performance measures.

Agency Response

All officials responsible for developing business cases will receive annual training, which will include focus on developing and measuring investment performance in compliance with GPRA requirements by June 30, 2012. This recommendation is further addressed in the agency response to Recommendations 3, 4, and 5 of this report.

OIG Position

We accept FS' management decision on this recommendation.

Scope and Methodology

We conducted this audit to evaluate FS' management controls over acquiring and monitoring IT investments. To make our determinations, we performed fieldwork between June 2008 and June 2011, as shown below. Additionally, in 2011, we corresponded with OMB officials to determine their perspective on FS' FYs 2009 and 2010 exhibit 300s.

In developing our findings, we:

- Reviewed applicable laws and regulations, in addition to Federal and FS policies and procedures applicable to managing IT.
- Reviewed historical information about FS' IT management.
- Made site visits to the FS national office in Washington, D.C., and to FS offices in Arlington, Virginia; Albuquerque, New Mexico; and Fort Collins, Colorado, between June 2008 and September 2009.
- Interviewed and corresponded with FS senior officials and staff with IT responsibilities through June 2011.
- Interviewed and corresponded with OCIO senior officials and staff through August 2011.
- Reviewed two of FS' eight major IT investments in FYs 2007 through 2009 for compliance with laws, regulations, policies, and procedures.²² During this period, FS reported that it spent a total of \$670 million for all IT projects.
- Reviewed the exhibit 53s for budget years 2007-2011, which form an overall "Federal IT Investment Portfolio." These reports provide an overall summary of IT spending, by Department, agency, and IT investment, for the prior year, current year, and budget year.
- Reviewed 8 of 22 historical costs for FYs 2006 and 2007 for documentation and consistency with the related operational analysis reports. The costs were the most recent historical costs available at the time of our audit.²³ They were reported in the exhibit 300s for the FYs 2009 and 2010 business case package submissions to OCIO and OMB, as well as in operational analysis reports. The 8 sampled costs accounted for \$55.8 million of the \$59.5 million for the 22 costs. As a result, the sample included 94 percent of the costs reported. We selected the eight costs judgmentally based on materiality.
- Interviewed and corresponded with OCIO management through February 2011, regarding FS' acquisition approval request process, OCIO's responsibilities in this process, and FS' acquisition history.
- Corresponded with OMB regarding missing, unsupported, and inconsistent data in the exhibit 300s between March 2011 and May 2011.

²² OMB Circular A-11 guided our definition of FS' major investments, which must have significant importance to the mission or function of the agency; be a component of the agency or another organization; be for financial management and obligate more than \$500,000 annually; have significant program or policy implications; have high executive visibility; have high development, operating, or maintenance costs; be funded through other than direct appropriations; or be defined as major by the agency's capital planning and investment control process (2007).

²³ FS' Natural Resource Manager (NRM) reported historical data only through the most recent completed year for the budget submission. The most recent completed year was the third year before the year of the proposed budget. For example, the historical data for FY 2006 were the most recent completed data in the FY 2009 exhibit 300 for the FY 2009 budget submission.

- Reviewed 18 of 21 performance measures for FYs 2006 and 2007 for compliance with GPRA and USDA IT capital planning and investment control guides. The measures were the most recent historical measures available at the time of our audit. They were reported in the exhibit 300s for the FYs 2009 and 2010 business case package submissions for OCIO and OMB. The measures were for Infrastructure (Infra), Timber Information Manager (TIM), and Natural Resource Information System (NRIS). We selected the 18 measures judgmentally, based on relevance to USDA's strategic goals.
- Reviewed 18 of 24 performance results for FYs 2006 and 2007 for documentation and consistency with the related operational analysis reports. The performance results were the most recent historical performance results available at the time of our audit. They were reported in the exhibit 300s for the FYs 2009 and 2010 business case package submissions for OCIO and OMB, as well as in an operational analysis report. The performance results were for Infra and TIM. We did not review the performance results for NRIS due to their lack of useful baselines. We selected the 18 performance results judgmentally based on relevance to USDA's strategic goals.

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

Abbreviations

CIO.....	Chief Information Officer (for Forest Service)
ELT	Executive Leadership Team
FACTS	Forest Service Activity Tracking System
FS	Forest Service
FY	Fiscal Year
GPRA.....	Government Performance and Results Act of 1993
Infra.....	Infrastructure (an IT system)
IRB.....	Information Resources Board
IRDB.....	Information Resources Direction Board
IT.....	Information Technology
NRIS	Natural Resource Information System
NRM	Natural Resource Manager
OCIO.....	Office of the Chief Information Officer
OIG	Office of Inspector General
OMB	Office of Management and Budget
ROI.....	Return on Investment
TIM	Timber Information Manager
TIM-FACTS	Timber Information Manager - Forest Service Activity Tracking System
USDA.....	Department of Agriculture

Exhibit A: Summary of Monetary Results

The table below presents a summary of monetary results for our audit report.²⁴

Finding Number	Recommendation	Description	Amount	Monetary Category
2	2	Information Technology acquisitions reported as purchased from FYs 2007 through 2009 by Forest Service (without the required approval from the Office of the Chief Information Officer)	\$667 million	Questioned Costs/ No Recovery
2	2	Information Technology acquisitions reported as purchased from FY 2010 by Forest Service (without the required approval from the Office of the Chief Information Officer)	\$471 million	Questioned Costs/ No Recovery
Total Dollar Amount For Fiscal Years 2007-2010			\$1.138 billion	

²⁴ Questioned costs are costs questioned by OIG due to an alleged violation of a provision of a law, regulation, contract, grant, cooperative agreement, or other agreement or document governing the expenditure of funds. Recovery of the funds is not feasible because the costs were for in-house expenses.

**USDA'S
FOREST SERVICE
RESPONSE TO AUDIT REPORT**



Forest
Service

Washington
Office

1400 Independence Avenue, SW
Washington, DC 20250

File Code: 1430

Date: January 18, 2012

Route To:

Subject: Response to Office of Inspector General Official (OIG) Draft Report Number 08501-1-Te, "Forest Service Acquisition of Information Technology Software/Hardware"

To: Gil H. Harden, Assistant Inspector General for Audit, Office of Inspector General

The Forest Service has reviewed the Office of the Inspector General (OIG) draft Audit Report No. 08501-1-Te, Forest Service Acquisition of Information Technology Software/Hardware. The agency appreciates the OIG's review of its Information Technology (IT) Acquisition processes. The Forest Service generally agrees with the findings and recommendations and the need to address these issues.

The agency has initiated actions to address the findings in the report but recognizes that there is more work to be done. We will move swiftly with implementation of corrective actions and anticipate completion by January 2013.

The enclosed report outlines our proposed actions for each of the audit recommendations. Please contact Donna Carmical, Chief Financial Officer, at (202) 205-1321 or dcarmical@fs.fed.us with any questions.

/s/ Thomas L. Tidwell
THOMAS L. TIDWELL
Chief

Enclosure



USDA Forest Service (FS)

**Office of Inspector General (OIG) Official Draft Audit Report No. 08501-1-Te
FS Acquisition of Information Technology Software/Hardware
Management Decision**

OIG Recommendation No. 1. Implement controls to ensure documented criteria, in accordance with USDA guidance, are used to guide the decision-making process of the IRB's recommendations and the ELT's selections of IT investments, and ensure minutes of meetings by the ELT are maintained.

FS Response. The agency has implemented written criteria for selecting the investments that will comprise its IT investment portfolio. The agency currently documents the criteria used and the discussion/considerations during the decision-making process. The current criteria do not measure performance such as return on investment or apply quantifiable risk criteria. During FY 2012, performance criteria will be developed and integrated into the annual investment process. We will begin using the performance criteria during the investment management process for the FY 2014 portfolio. ELT selection of IT investments based on the recommendations put forth by the IRDB will be communicated through the IRDB members. The ELT decisions will be documented as part of the IRDB process as a means of closing the loop on the status of recommendations.

Additionally, steps to increase transparency of the information resources decisions including the investment management process were implemented in March 2011. A workspace has been developed which serves as the repository for IR decision materials. Access to information is managed through group lists and information is made available within 24-hours of approval by the IRDB.

Estimated Completion Date: January 15, 2013.

OIG Recommendation No. 2. Coordinate with USDA OCIO to comply with the Department's acquisition approval request requirements. If OCIO and FS are unable to reach a resolution, elevate the issue.

FS Response. The FS will comply with USDA policy. In November 2011, the CIO Governance Staff began coordinating with the Acquisition Management Staff to determine the scope of IT acquisitions that must be brought into compliance with the USDA IT acquisition approval requirement. The Governance Staff has coordinated with USDA and plans to meet on January 17, 2012 to discuss the new USDA Acquisition Approval Process. During this meeting the FS plans to present details on the scope of IT acquisitions that currently require USDA approval and negotiate an approach (approve all pending or phase in based on a dollar volume) that will not stretch the resources of USDA or FS who support this process. By January, 2013, the FS will fully comply with the USDA requirement to obtain acquisition approval for IT purchases that exceed \$25K, unless a different threshold is determined during joint negotiations.

Estimated Completion Date: January 15, 2013.

OIG Recommendation No. 3. Develop and implement internal controls and written guidance defining how and when to compile, support, and maintain IT investment cost and performance information for the OMB business case package.

FS Response. The agency has improved its business case documentation and all FS major investments maintained a rating of “Green” on the Federal IT dashboard for most of FY 2011. However, the agency recognizes that improvement is still needed. FS leadership recognizes that inconsistent guidance has been provided to investment managers regarding how to prepare business cases for major investments and will move forward with delivering training to program managers and select agency leaders to improve understanding of requirements, use of data, required artifacts, and responsibilities for reporting prior to June 2012.

Estimated Completion Date: June 30, 2012.

OIG Recommendation No. 4. Restrict the number of FS staff with access to cost and performance data reported in the OMB business case package.

FS Response. The agency has identified Integrated Project Teams (IPT) for managing investments and with the training planned in response to Recommendation 3 of this report, will move forward with identifying two FS individuals per major investment with responsibility for updating investment information outside of the CIO Governance Staff. The training on the development and management of business cases will help teams to understand their roles. We will also implement the use of templates to be used for submitting information to the individual with data entry responsibility.

The implementation of controls around accessing the business case is expected to be implemented by June 2012. This timing will allow all IPT members to understand and transition into their defined role.

Estimated Completion Date: June 30, 2012.

OIG Recommendation No. 5. Review the performance measures in the OMB business case package and determine that all measures meet GPRA requirements of being quantifiable, measurable, held to clear baselines, and linked to strategic goals.

FS Response. All OMB business case performance measures will be reviewed to determine their compliance with GPRA requirements as part of the agency training on business cases. Within 30-days of completion of the training, performance measures will be updated as appropriate. Baselines will be validated and documentation of results will be required for all business cases.

Estimated Completion Date: June 30, 2012.

OIG Recommendation No. 6. Institute regular training for officials responsible for developing IT performance measures.

FS Response. All officials responsible for developing business cases will receive annual training which will include focus on developing and measuring investment performance in

compliance with GPRA requirements. This recommendation is further addressed in the agency response to recommendations 3, 4, and 5 of this report.

Estimated Completion Date: June 30, 2012.

Informational copies of this report have been distributed to:

Forest Service	
Agency Liaison, FS	(1)
Office of the Chief Financial Officer	
Director, Planning and Accountability Division	(1)
Office of the Chief Information Officer	
OCIO Audit Liaison Office	(1)
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