



Testimony

Before the Subcommittee on Federal Financial Management, Government Information and International Security, Committee on Homeland Security and Governmental Affairs, U.S. Senate

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INFORMATION TECHNOLOGY

Improvements Needed to More Accurately Identify and Better Oversee Risky Projects Totaling Billions of Dollars

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Abbreviations

CIO	chief information officer
IT	information technology
OMB	Office of Management and Budget

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Highlights of [GAO-06-1099T](#), a testimony before the Subcommittee on Federal Financial Management, Government Information and International Security, Committee on Homeland Security and Governmental Affairs, U.S. Senate

Why GAO Did This Study

The Office of Management and Budget (OMB) plays a key role in overseeing federal IT investments. The Clinger-Cohen Act, among other things, requires OMB to establish processes to analyze, track, and evaluate the risks and results of major capital investments in information systems made by agencies and to report to Congress on the net program performance benefits achieved as a result of these investments.

OMB has developed several processes to help carry out its role. For example, OMB began using a Management Watch List several years ago as a means of identifying poorly planned projects based on its evaluation of agencies' funding justifications for major projects, known as exhibit 300s. In addition, in August 2005, OMB established a process for agencies to identify high risk projects, i.e., projects requiring special attention because of one or more reasons specified by OMB, and to report on those that are poorly performing or not meeting performance criteria.

GAO recently issued reports on the Management Watch List, high risk projects, and agencies' exhibit 300s. GAO was asked to summarize (1) the number of projects and the fiscal year 2007 dollar value of Management Watch List and high risk projects, (2) previously reported results on how these projects are identified and provided oversight, and (3) recommendations it made to improve these processes.

www.gao.gov/cgi-bin/getrpt?GAO-06-1099T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact David A. Powner at (202) 512-9286 or pownerd@gao.gov.

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What GAO Found

As a result of the Management Watch List and high risk projects processes, about 300 projects totaling about \$12 billion in estimated IT expenditures for fiscal year 2007 have been identified as being either poorly planned or poorly performing. Specifically, of the 857 major IT projects in the President's budget for fiscal year 2007, OMB placed 263 projects, representing about \$10 billion on its Management Watch List. In addition, in response to OMB's memorandum, agencies reported that 79 of 226 high risk projects, collectively totaling about \$2.2 billion, had a performance shortfall.

While this information helps to focus both agency and OMB management attention on these poorly planned and poorly performing projects, GAO identified opportunities to strengthen how these projects are identified and provided oversight.

- The Management Watch List may be undermined by inaccurate and unreliable data. OMB uses scoring criteria to evaluate agencies' exhibit 300s to derive the projects on its Management Watch List. GAO's detailed evaluation of exhibit 300s showed that the information reported in them is not always accurate or supported by documentation.
- The criteria for identifying high risk projects were not always consistently applied and projects that appeared to meet the criteria were not identified as high risk. Without consistent application of the high risk criteria, OMB and agency executives cannot have the assurance that all projects that require special attention have been identified.
- For both sets of projects, OMB did not develop a central list of projects and deficiencies that could facilitate tracking progress and reporting to Congress. Without such lists, OMB is not fully exploiting the opportunity to analyze and track these projects on a governmentwide basis and not involving Congress in the oversight of these projects with risks.

To improve the way the Management Watch List and high risk projects are identified and provided oversight, GAO has made a number of recommendations to the Director of OMB. These recommendations include directing agency chief information officers to improve the accuracy and reliability of exhibit 300 information and to consistently apply the high risk criteria defined by OMB. In addition, GAO recommended that the Director develop a single, aggregate list for both the Management Watch List and high risk projects to facilitate tracking progress, performing governmentwide analysis, and reporting the results to Congress. OMB generally disagreed with these recommendations. However, GAO believes that they are needed to provide greater assurance that poorly planned and poorly performing projects are more accurately identified and provided oversight, and ultimately ensure that potentially billions of taxpayer dollars are not wasted.

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss the federal government's processes for improving the management of IT investments that total \$64 billion for fiscal year 2007. Effective management of these investments is essential to the health, economy, and security of the nation. The Office of Management and Budget (OMB) plays a key role in overseeing federal IT investments. The Clinger-Cohen Act, among other things, requires OMB to establish processes to analyze, track, and evaluate the risks and results of major capital investments in information systems made by executive agencies and to report to Congress on the net program performance benefits achieved as a result of these investments.

To help carry out its role, OMB has developed several processes to improve the management of federal IT projects, including the e-Gov scorecard,¹ Management Watch List, and high risk projects. The Management Watch List identifies projects with weaknesses in their funding justifications (or exhibit 300s) based on an evaluation of these documents. High risk projects are projects requiring special attention from oversight authorities and the highest level of agency management because of one or more of the following four reasons² (1) the agency failed to demonstrate the ability to manage complex projects; (2) the projects has exceptionally high development, operating, or maintenance costs; (3) the projects are addressing deficiencies in the agencies' ability to perform mission critical business functions; or (4) the projects' delay or failure would impact the agencies' essential business functions. Agencies are also

¹ The quarterly e-Gov Scorecards are reports that use a red/yellow/green scoring system to illustrate the results of OMB's evaluation of agencies' implementation of e-government criteria in the President's Management Agenda. The scores are determined in quarterly reviews, where OMB evaluates agency progress toward agreed-upon goals along several dimensions, and provides input to the quarterly reporting on the President's Management Agenda. Key criteria used to score agencies e-government process include acceptable business cases, cost and schedule performance; and security accreditation. As of June 30, 2006, 21 of the 26 departments/major agencies were identified as having a yellow (mixed results) or red (unsatisfactory) score.

² These reasons are specified in OMB, *Memorandum to Chief Information Officers: Improving Information Technology (IT) Project Planning and Execution*, M-05-23 (Washington, D.C., Aug. 4, 2005),

required to provide quarterly reports to OMB on identified high risk projects that have performance shortfalls, meaning that they do not meet one or more of four performance evaluation criteria. The performance criteria are (1) establishing baselines with clear cost, schedule, and performance goals;(2) maintaining the project's cost and schedule variances within 10 percent; (3) assigning a qualified project manager; or (4) avoiding duplication by leveraging interagency and governmentwide investments.

These processes, among other things, are instrumental in helping to identify and improve oversight of poorly planned and poorly performing projects. Given the importance of these processes, you asked us to summarize (1) the number of projects and fiscal year 2007 dollar value of Management Watch List and high risk projects, (2) previously reported results on how these projects are identified and provided oversight, and (3) recommendations made to improve these processes. In preparing this testimony, we summarized our previous reports on initiatives for improving the management of federal IT investments.³ The work in these reports was performed in accordance with generally accepted government auditing standards.

Results in Brief

As a result of the Management Watch List and high risk projects processes, about 300 projects totaling about \$12 billion in estimated IT expenditures for fiscal year 2007 have been identified as being either poorly planned or poorly performing. Of the more than 857 major IT projects in the President's budget for fiscal year 2007, OMB placed 263 projects, representing about \$10 billion on its Management Watch List. In addition, in response to OMB's memorandum, agencies reported that 79 of 226 high-risk projects, collectively totaling about \$2.2 billion, had a performance shortfall

³ GAO, *Information Technology: OMB Can Make More Effective Use of Its Investment Reviews*, GAO-05-276 (Washington, D.C.: April 15, 2005); *Information Technology: Agencies Need to Improve the Accuracy and Reliability of Investment Information*, GAO-06-250 (Washington, D.C.: Jan.12, 2006); GAO, *Information Technology: Agencies and OMB Should Strengthen Processes for Identifying and Overseeing High Risk Projects*, GAO-06-647 (Washington, DC, June 15, 2006)

primarily associated with cost and schedule variances that exceeded 10 percent.

While this information helps to focus both agency and OMB management attention on these poorly planned and poorly performing projects, our reviews identified opportunities to strengthen how these projects are identified and provided oversight.

- The Management Watch List may be undermined by inaccurate and unreliable data. OMB uses scoring criteria to evaluate each major projects' justification for funding (known as exhibit 300s) to derive the projects on its Management Watch List. Our detailed evaluation of exhibit 300s showed that the information reported in them is not always accurate or supported by documentation.
- For the high risk projects, the criteria for identifying projects were not always consistently applied and we found examples of projects that appeared to meet the criteria but were not identified as high risk. Without consistent application of the high risk criteria, OMB and agency executives cannot have the assurance that all projects that require special attention have been identified.
- For both sets of projects, OMB did not develop a central list of projects and deficiencies that could facilitate the tracking of progress and reporting to Congress. By not having such lists, OMB is not fully exploiting the opportunity to analyze and track these projects on a governmentwide basis and to involve Congress in the oversight of these projects with risks.

To improve the way the Management Watch List and high risk projects are identified and provided oversight, we have made a number of recommendations to the Director of OMB. These recommendations include directing agency chief information officers to improve the accuracy and reliability of exhibit 300 information and to consistently applying the high risk criteria defined by OMB. In addition, we recommended that the Director provide for training of agency personnel responsible for completing exhibit 300s and to develop a single, aggregate list for both the Management Watch List projects and for high risk projects to facilitate tracking progress, performing governmentwide analysis, and reporting the results to Congress. OMB generally disagreed

with our recommendations. However, we continue to believe that they are needed to help accurately identify poorly planned and performing projects and more effectively oversee these projects.

Background

Each year, OMB and federal agencies work together to determine how much the government plans to spend for IT and how these funds are to be allocated. Federal IT spending has risen to an estimated \$64 billion in fiscal year 2007.

OMB plays a key role in overseeing federal IT investments and how they are managed. To drive improvement in the implementation and management of IT projects, Congress enacted the Clinger-Cohen Act in 1996 to further expand the responsibilities of OMB and the agencies under the Paperwork Reduction Act.⁴ In particular, the act requires agency heads, acting through agency chief information officers (CIOs), to, among other things, better link their IT planning and investment decisions to program missions and goals and to implement and enforce IT management policies, procedures, standards, and guidelines. The Clinger-Cohen Act requires that agencies engage in capital planning and performance and results-based management.⁵ The act also requires OMB to establish processes to analyze, track, and evaluate the risks and results of major capital investments in information systems made by executive agencies. OMB is also required to report to Congress on the net program performance benefits achieved as a result of major capital investments in information systems that are made by executive agencies.⁶

In response to the Clinger-Cohen Act and other statutes, OMB developed policy for planning, budgeting, acquisition, and

⁴ 44 U.S.C. § 3504(a)(1)(B)(vi)(OMB); 44 U.S.C. § 3506(h)(5) (agencies).

⁵ 40 U.S.C. § 11312; 40 U.S.C. § 11313.

⁶ These requirements are specifically described in the Clinger-Cohen Act, 40 U.S.C. § 11302 (c).

management of federal capital assets. This policy is set forth in OMB Circular A-11 (section 300) and in OMB's Capital Programming Guide (supplement to Part 7 of Circular A-11), which directs agencies to develop, implement, and use a capital programming process to build their capital asset portfolios. Among other things, OMB's Capital Programming Guide directs agencies to

- evaluate and select capital asset investments that will support core mission functions that must be performed by the federal government and demonstrate projected returns on investment that are clearly equal to or better than alternative uses of available public resources;
- institute performance measures and management processes that monitor actual performance and compare to planned results; and
- establish oversight mechanisms that require periodic review of operational capital assets to determine how mission requirements might have changed and whether the asset continues to fulfill mission requirements and deliver intended benefits to the agency and customers.

To further support the implementation of IT capital planning practices, we have developed an IT investment management framework⁷ that agencies can use in developing a stable and effective capital planning process, as required by statute and directed in OMB's Capital Programming Guide. Consistent with the statutory focus on selecting,⁸ controlling,⁹ and evaluating¹⁰

⁷ GAO, *Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity*, GAO-04-394G (Washington, D.C.: March 2004).

⁸ During the selection phase, the organization (1) identifies and analyzes each project's risks and returns before committing significant funds to any project and (2) selects those IT projects that will best support its mission needs.

⁹ During the control phase, the organization ensures that, as projects develop and investment expenditures continue, the project is continuing to meet mission needs at the expected levels of cost and risk. If the project is not meeting expectations or if problems have arisen, steps are quickly taken to address the deficiencies.

¹⁰ During the evaluation phase, actual versus expected results are compared once projects have been fully implemented. This is done to (1) assess the project's impact on mission performance, (2) identify any changes or modifications to the project that may be needed, and (3) revise the investment management process based on lessons learned.

investments, this framework focuses on these processes in relation to IT investments specifically. It is a tool that can be used to determine both the status of an agency's current IT investment management capabilities and the additional steps that are needed to establish more effective processes. Mature and effective management of IT investments can vastly improve government performance and accountability. Without good management, such investments can result in wasteful spending and lost opportunities for improving delivery of services to the public.

Prior Reviews on Federal IT Investment Management Have Identified Weaknesses

Only by effectively and efficiently managing their IT resources through a robust investment management process can agencies gain opportunities to make better allocation decisions among many investment alternatives and further leverage their investments. However, the federal government faces enduring IT challenges in this area. For example, in January 2004 we reported on mixed results of federal agencies' use of IT investment management practices.¹¹ Specifically, we reported that although most of the agencies had IT investment boards responsible for defining and implementing the agencies' IT investment management processes, agencies did not always have important mechanisms in place for these boards to effectively control investments, including decision-making rules for project oversight, early warning mechanisms, and/or requirements that corrective actions for underperforming projects be agreed upon and tracked. Executive-level oversight of project-level management activities provides organizations with increased assurance that each investment will achieve the desired cost, benefit, and schedule results. Accordingly, we made several recommendations to agencies to improve their practices.

In previous work using our investment management framework, we reported that the use of IT investment management practices by

¹¹ GAO, *Information Technology Management: Governmentwide Strategic Planning, Performance Measurement, and Investment Management Can Be Further Improved*, GAO-04-49 (Washington, D.C.: Jan. 12, 2004).

agencies was mixed. For example, a few agencies that have followed the framework in implementing capital planning processes have made significant improvements.¹² In contrast, however, we and others have continued to identify weaknesses at agencies in many areas, including immature management processes to support both the selection and oversight of major IT investments and the measurement of actual versus expected performance in meeting established performance measures.¹³

OMB's Management Watch List Intended to Correct Project Weaknesses and Business Case Deficiencies

In helping to ensure that investments of public resources are justified and that public resources are wisely invested, OMB began using the Management Watch List, in the President's fiscal year 2004 budget request, as a means to oversee the justification for and planning of agencies' IT investments. This list was derived based on a detailed review of the investments' Capital Asset Plan and Business Case, also known as the exhibit 300.

The exhibit 300 is a reporting mechanism intended to enable an agency to demonstrate to its own management, as well as OMB, that a major project is well planned in that it has employed the disciplines of good project management; developed a strong business case for the investment; and met other Administration priorities in defining the cost, schedule, and performance goals proposed for the investment.

¹² These agencies include the Departments of Agriculture, Commerce, and the Interior.

¹³ For example, GAO, *Information Technology: Centers for Medicare & Medicaid Services Needs to Establish Critical Investment Management Capabilities*, GAO-06-12 (Washington, D.C.: Oct. 28, 2005); *Information Technology: Departmental Leadership Crucial to Success of Investment Reforms at Interior*, GAO-03-1028 (Washington, D.C.: Sept. 12, 2003); and *United States Postal Service: Opportunities to Strengthen IT Investment Management Capabilities*, GAO-03-3 (Washington, D.C.: Oct. 15, 2002).

We reported in 2005 that OMB analysts evaluate agency exhibit 300s by assigning scores to each exhibit 300 based on guidance presented in OMB Circular A-11.¹⁴ As described in this circular, the scoring of a business case consists of individual scoring for 10 categories, as well as a total composite score of all the categories. The 10 categories are

- acquisition strategy,
- project (investment) management,
- enterprise architecture,
- alternatives analysis,
- risk management,
- performance goals,
- security and privacy,
- performance-based management system (including the earned value management system¹⁵),
- life-cycle costs formulation, and
- support of the President's Management Agenda.

Using these scores, projects were placed on the Management Watch List if their exhibit 300 business case received a total composite score of 3 or less, or if it received a score of 3 or less in the areas of performance goals, performance-based management systems, or security and privacy, even if its overall score was a 4 or 5. To derive the total number of projects on the list that were reported for fiscal year 2005, OMB polled the individual analysts and compiled the numbers.

According to OMB, agencies with weaknesses in these three areas were to submit remediation plans addressing the weaknesses. OMB officials also stated that decisions on follow-up and monitoring the

¹⁴ GAO-05-276.

¹⁵ Earned value management is a project management tool that integrates the investment scope of work with schedule and cost elements for investment planning and control. This method compares the value of work accomplished during a given period with that of the work expected in the period. Differences in expectations are measured in both cost and schedule variances.

progress were typically made by staff with responsibility for reviewing individual agency budget submissions, depending on the staff's insights into agency operations and objectives. According to OMB officials, those Management Watch List projects that did receive specific follow-up attention received feedback, among other means, through the passback process, through targeted evaluation of remediation plans designed to address weaknesses, and through the apportioning of funds so that the use of budgeted dollars was conditional on appropriate remediation plans being in place, and through the quarterly e-Gov Scorecards.

OMB Issued August 2005 Memorandum on Improving Performance of High Risk IT Projects

To improve IT project execution, OMB issued a memorandum in August 2005 to all federal CIOs, directing them to begin taking steps to identify IT projects that are high risk and to report quarterly on their performance.¹⁶ As originally defined in OMB Circular A-11 and subsequently reiterated in the August 2005 memorandum, high risk projects are those that require special attention from oversight authorities and the highest levels of agency management because of one or more of the following four reasons:

- The agency has not consistently demonstrated the ability to manage complex projects.
- The project has exceptionally high development, operating, or maintenance costs, either in absolute terms or as a percentage of the agency's total IT portfolio.
- The project is being undertaken to correct recognized deficiencies in the adequate performance of an essential mission program or function of the agency, a component of the agency, or another organization.
- Delay or failure of the project would introduce for the first time unacceptable or inadequate performance or failure of an essential mission function of the agency, a component of the agency, or another organization.

¹⁶ OMB Memorandum, M-05-23 (Aug. 4, 2005).

As directed in the memorandum, agencies are to work with OMB to identify their high risk IT projects using these criteria. 2006. Most agencies reported that, to identify high risk projects, CIO office staff compared the criteria against their current portfolio to determine which projects met OMB's definition. They then submitted the list to OMB for review. According to OMB and agency officials, after the submission of the initial list, examiners at OMB worked with individual agencies to identify or remove projects as appropriate. According to most agencies, the final list was then approved by their CIO.

For the identified high risk projects, beginning September 15, 2005, and quarterly thereafter, CIOs were to assess, confirm, and document projects' performance. Specifically, agencies were required to determine, for each of their high risk projects, whether the project was meeting one or more of four performance evaluation criteria: (1) establishing baselines with clear cost, schedule, and performance goals; (2) maintaining the project's cost and schedule variances within 10 percent; (3) assigning a qualified project manager; and (4) avoiding duplication by leveraging inter-agency and governmentwide investments. If a high risk project met any of these four performance evaluation criteria, agencies were instructed to document this using a standard template provided by OMB and provide this template to oversight authorities (e.g., OMB, agency inspectors general, agency management, and GAO) on request. Upon submission, according to OMB staff, individual analysts review the quarterly performance reports of projects with shortfalls to determine how well the projects are progressing and whether the actions described in the planned improvement efforts are adequate using other performance data already received on IT projects such as the e-Gov Scorecards, earned value management data, and the exhibit 300.

Poorly Planned and Performing Projects Identified, Totaling About \$12 Billion in Estimated Expenditures for Fiscal Year 2007

About 300 projects totaling about \$12 billion in estimated IT expenditures for fiscal year 2007 have been placed on OMB’s Management Watch List or as a high risk project with performance shortfalls. Specifically, the President’s budget for fiscal year 2007 included 857 major IT projects, totaling approximately \$64 billion. Of this, OMB reported that there were 263 proposed major projects that were poorly planned, totaling \$10 billion. In addition, agencies reported that 79 of the 226 high-risk projects identified as of March 2006, collectively totaling about \$2.2 billion had a performance shortfall primarily associated with cost and schedule variances that exceeded 10 percent.

OMB has reported on the Management Watch List in the President’s budget request for 2004. While the number of projects and their associated budget have decreased since then, they still represent a significant percentage of the total IT budget. Table 1 shows the budget information for projects on the Management Watch List for fiscal years 2004, 2005, 2006, and 2007.

Table 1: Management Watch List Budget for Fiscal Years 2004, 2005, 2006, and 2007			
Fiscal Years	Total IT budget (in billions)	IT budget for Management Watch List projects (in billions)	Percentage of budget for Management Watch List projects
2004	\$59.0	\$20.9	35%
2005	\$60.0	\$22.0	37%
2006	\$65.0	\$15.0	23%
2007	\$64.0	\$9.9	15%

Source: GAO analysis of OMB data.

Table 2 provides the number of projects on the Management Watch List for fiscal years 2004, 2005, 2006, and 2007.

Table 2: Number of Projects on Management Watch List for Fiscal Years 2004, 2005, 2006, and 2007

Fiscal Years	Total IT projects	Management Watch List projects	Percentage of projects on Management Watch List
2004	1400	771	55%
2005	1200	621	52%
2006	1087	342	31%
2007	857	263	31%

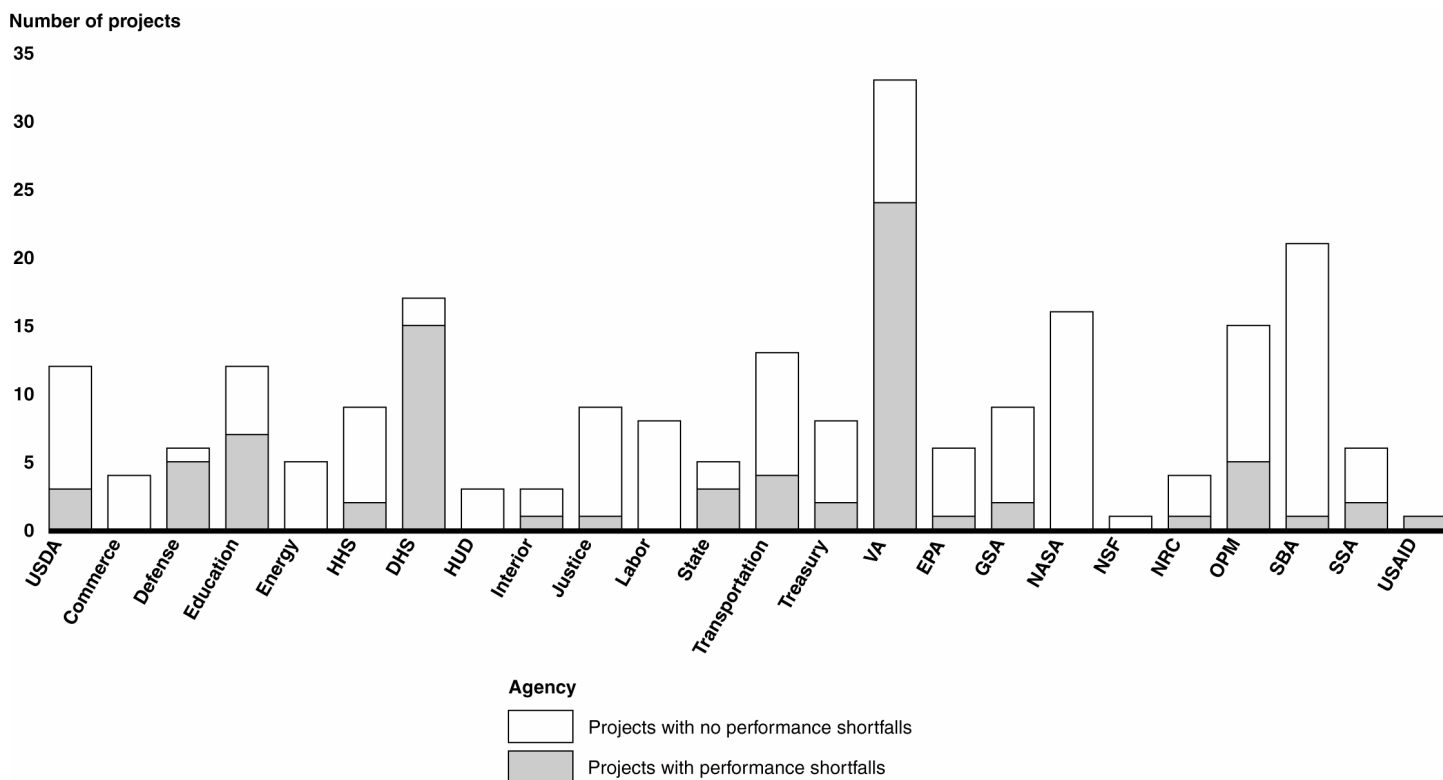
Source: GAO analysis of OMB data.

In addition, in response to OMB’s August 2005 memorandum, the 24 major agencies identified 226 IT projects as high risk, totaling about \$6.4 billion in funding requested for fiscal year 2007¹⁷. Agencies identified most projects as high risk because their delay or failure would impact the essential business functions of the agency. In addition, agencies reported that about 35 percent of the high risk projects—or 79 investments, collectively totaling about \$2.2 billion in fiscal year 2007—had a performance shortfall, primarily associated with cost and schedule variances that exceeded 10 percent.

Figure 1 illustrates the number of agency high risk projects as of March 2006 with and without shortfalls. The majority of the agencies reported that their high risk projects did not have performance shortfalls in any of the four areas identified by OMB. In addition, six agencies—the departments of Commerce, Energy, Housing and Urban Development, and Labor, and the National Aeronautics and Space Administration and the National Science Foundation—reported that none of their high risk projects experienced any performance shortfalls.

¹⁷ GAO-06-647.

Figure 1: Number of Agencies High Risk Projects with and without Performance Shortfalls (as of March 2006)



Source: GAO analysis of 24 CFO agencies' March 2006 high risk reports.

Note: Department of Agriculture (USDA); Department of Health and Human Services (HHS); Department of Homeland Security (DHS); Department of Housing and Urban Development (HUD); Department of Veterans Affairs (VA); Environmental Protection Agency (EPA); General Services Administration (GSA); National Aeronautics and Space Administration (NASA); National Science Foundation (NSF); Nuclear Regulatory Commission (NRC); Office of Personnel Management (OPM); Small Business Administration (SBA); Social Security Administration (SSA); Agency for International Development (USAID)

Improvements Needed to Identify and Oversee Management Watch List and High Risk Projects

While the Management Watch List and high risk processes serve to highlight poorly planned and performing projects and focus attention on them, our reviews identified opportunities to strengthen the identification and oversight of projects for each.

Management Watch List May Be Based on Unreliable Data and High Risk Project Criteria Are Not Always Consistently Applied

OMB's Management Watch List may be undermined by inaccurate and unreliable data. While OMB uses the exhibit 300s as the basis for designating projects as poorly planned, we have recently reported¹⁸ that the underlying support was often inadequate for information provided in the exhibit 300s GAO reviewed. Three general types of weaknesses were evident:

- All exhibit 300s had documentation weaknesses. Documentation either did not exist or did not fully agree with specific areas of the exhibit 300.
- Agencies did not always demonstrate that they complied with federal or departmental requirements or policies with regard to management and reporting processes. Also, none had cost analyses that fully complied with OMB requirements for cost-benefit and cost-effectiveness analyses. In contrast, most investments did demonstrate compliance with information security planning and training requirements.
- In sections that required actual cost data, these data were unreliable because they were not derived from cost-accounting systems with

¹⁸ GAO-06-250.

adequate controls. In the absence of such systems, agencies generally derived cost information from ad hoc processes.

Moreover, although agencies, with OMB's assistance, generally identified their high risk projects using criteria specified by OMB, these criteria were not always consistently applied.

- In several cases, agencies did not use OMB's criteria to identify high risk projects. Some agencies reported using other reasons to identify a total of 31 high risk projects. For example, the Department of Homeland Security reported investments that were high risk because they had weaknesses associated with their business cases based on the evaluation by OMB. The Department of Transportation reported projects as high risk because two did not have approved baselines, and four had incomplete or poor earned value management assessments.
- Regarding the criterion for high risk designation that the agency has not demonstrated the ability to manage complex projects, only three agencies reported having projects meeting this criterion. This appears to be somewhat low, considering that we and others have previously reported on weaknesses in numerous agencies' ability to manage complex projects. For example, we have reported in our high risk series on major programs and operations that need urgent attention and transformation in order to ensure that our national government functions in the most economical, efficient, and effective manner possible.¹⁹ Specifically, the Department of Defense's efforts to modernize its business systems have been hampered because of weaknesses in practices for (1) developing and using an enterprise architecture, (2) instituting effective investment management processes, and (3) establishing and implementing effective systems acquisition processes. We concluded that the Department of Defense, as a whole, remains far from where it needs to be to effectively and efficiently manage an undertaking with the size, complexity, and significance of its

¹⁹ GAO, *High-Risk Series: An Update*, GAO-05-207 (Washington, D.C., January 2005).

departmentwide business systems modernization. We also reported that, after almost 25 years and \$41 billion, efforts to modernize the air traffic control program of the Federal Aviation Administration, the Department of Transportation's largest component, are far from complete and that projects continue to face challenges in meeting cost, schedule, and performance expectations.²⁰ However, neither the Department of Defense nor the Department of Transportation cited the "inability to manage complex projects" criteria for any projects as being high risk.

- Finally, while agencies have reported a significant number of IT projects as high risk, we identified other projects on which we have reported and testified that appear to meet one or more of OMB's criteria for high risk designation including high development or operating costs and recognized deficiencies in the adequate performance but were not identified as high risk. Examples we have recently reported include the following projects:
 - The Decennial Response Integration System of the Census Bureau, is intended to integrate paper, Internet, and telephone responses. Its high development and operating costs are expected to make up a large portion of the \$1.8 billion program to develop, test, and implement decennial census systems. In March 2006,²¹ we testified that the component agency has established baseline requirements for the acquisition, but the bureau has not yet validated them or implemented a process for managing the requirements. We concluded that, until these and other basic contract management activities are fully implemented, this project faced increased risks that the system would experience cost overruns, schedule delays, and performance shortfalls.
 - The National Polar-Orbiting Operational Environmental Satellite System—an initiative managed by the Department of Commerce,

²⁰ GAO-05-207.

²¹ GAO, *Census Bureau: Important Activities for Improving Management of Key 2010 Decennial Acquisitions Remain to be Done*, GAO-06-444T (Washington, D.C.: Mar. 1, 2006).

the Department of Defense, and the National Aeronautics and Space Administration—is to converge two satellite programs into a single satellite program capable of satisfying both civilian and military requirements. In November 2005,²² we reported that the system was a troubled program because of technical problems on critical sensors, escalating costs, poor management at multiple levels, and the lack of a decision on how to proceed with the program. Over the last several years, this system has experienced continual cost increases to about \$10 billion and schedule delays, requiring difficult decisions about the program’s direction and capabilities. More recently, we testified²³ that the program is still in trouble and that its future direction is not yet known. While the program office has corrective actions under way, we concluded that, as the project continues, it will be critical to ensure that the management issues of the past are not repeated.

- Rescue 21, is a planned coastal communications system of the Department of Homeland Security. We recently reported²⁴ that inadequacies in several areas contributed to Rescue 21 cost overruns and schedule delays. These inadequacies occurred in requirements management, project monitoring, risk management, contractor cost and schedule estimation and delivery, and executive level oversight. Accordingly, the estimated total acquisition cost has increased from \$250 million in 1999 to \$710.5 million in 2005, and the timeline for achieving full operating capability has been extended from 2006 to 2011.

For the projects we identified as appearing to meet OMB’s criteria for high risk, the responsible agencies reported that they did not consider these investments to be high risk projects for such reasons

²² GAO, *Polar-Orbiting Operational Environmental Satellites: Technical Problems, Cost Increases, and Schedule Delays Trigger Need for Difficult Trade-Off Decisions*, GAO-06-249T (Washington, D.C.: Nov. 16, 2005).

²³ GAO, *Polar-Orbiting Operational Environmental Satellites: Cost Increases Trigger Review and Place Program’s Direction on Hold*, GAO-06-573T (Washington, D.C.: Mar. 30, 2006).

²⁴ GAO, *United States Coast Guard: Improvements Needed in Management and Oversight of Rescue System Acquisition*, GAO-06-632 (Washington, D.C.: May 31, 2006).

as (1) the project was not a major investment; (2) agency management is experienced in overseeing projects; or (3) the project did not have weaknesses in its business case. In particular, one agency stated that their list does not include all high risk projects, only those that are the highest priority of the high risk investments. However, none of the reasons provided are associated with OMB's high risk definition. Without consistent application of the criteria, OMB and executives cannot have the assurance that all projects that require special attention have been identified.

OMB Does Not Use an Aggregate List to Perform Its Oversight of the Management Watch List or High Risk Projects

While OMB's Management Watch List identified opportunities to strengthen investments and promote improvements in IT management, OMB did not develop a single, aggregate list identifying the projects and their weaknesses. According to OMB officials, they did not construct a single list of projects meeting their watch list criteria because they did not see such an activity as necessary in performing OMB's predominant mission: to assist in overseeing the preparation of the federal budget and to supervise agency budget administration. Thus, OMB did not exploit the opportunity to use the list as a tool for analyzing IT investments on a governmentwide basis, limiting its ability to identify and report on the full set of IT investments requiring corrective actions.

In addition, while OMB asked agencies to take corrective actions to address weaknesses associated with projects on the Management Watch List, it did not develop a structured, consistent process or criteria for deciding how to follow up on these actions. We also reported that because it did not consistently monitor the follow-up performed, OMB could not tell us which of the 621 projects identified on the fiscal year 2005 list received follow-up attention, and it did not know whether the specific project risks that it identified through its Management Watch List were being managed effectively. This approach could leave resources at risk of being committed to poorly planned and managed projects. Thus, OMB was

not using its Management Watch List as a tool for improving IT investments on a governmentwide basis and focusing attention where it was most needed.

Similar to the Management Watch List, we reported in June 2006 that while OMB analysts review the quarterly performance reports on high risk projects, they did not compile a single aggregate list of high risk projects. According to OMB staff they did not see such an activity as necessary in achieving the intent of the guidance—to improve project planning and execution. Consistent with our Management Watch list observations and recommendations, we believe that by not having a single list, OMB is limiting its ability to identify and report on the full set of IT investments across the federal government that require special oversight and greater agency management attention.

Implementation of Recommendations Can Lead to Improved Processes to Identify and Oversee Management Watch List and High Risk Projects

To address our key findings, we made several recommendations to the Director of OMB. For example, to improve how the Management Watch List projects are identified, we have made several recommendations to improve the accuracy and validity of exhibit 300s for major IT investments, including that the Director require agencies to determine the extent to which the information contained in each exhibit 300 is accurate and reliable, and, where weaknesses in accuracy and reliability are identified, disclose them and explain the agency's approach to mitigating them. We also recommended that the Director provide for training of agency personnel responsible for completing exhibit 300s, and specified that, in developing the training, OMB consult with agencies to identify deficiencies that the training should address. Likewise, to improve how high risk projects are identified, we recommended that the Director direct federal agency CIOs to ensure that they are consistently applying the high risk criteria defined by OMB.

To improve how the Management Watch List is provided oversight, in our April 2005 report, we recommended that the Director of OMB develop a central list of projects and their deficiencies and report to Congress on progress made in addressing risks of major IT investments and management areas needing attention. In addition, to fully realize the potential benefits of using the Management Watch List, we recommended that OMB use the list as the basis for selecting projects for follow-up, tracking follow-up activities and analyze the prioritized list to develop governmentwide and agency assessments of the progress and risks of IT investments, identifying opportunities for continued improvement. We also made similar recommendations to the regarding high risk projects. Specifically, we recommended that OMB develop a single aggregate list of high risk projects and their deficiencies and use that list to report to Congress progress made in correcting high risk problems, actions under way, and further actions that may be needed.

OMB generally disagreed with our recommendations for strengthening the Management Watch List and high risk projects processes. Specifically, OMB's Administrator of the Office of E-Government and Information Technology stated that the ultimate responsibility to improve the accuracy and reliability of the exhibit 300s lies with the agencies. While this is true, OMB also has statutory responsibility for providing IT guidance governmentwide, especially when it involves an OMB-required budget document. Regarding the consistent application of the high risk criteria, the Administrator stated that some flexibility in the application of the criteria is essential. While some flexibility may be appropriate, we believe that these criteria should be more consistently applied so that projects that clearly meet them are identified and provided oversight. The Administrator also disagreed with our recommendations that an aggregated governmentwide Management Watch List and high risk project list is necessary to perform adequate oversight. However, we continue to believe that these lists are needed to facilitate OMB's ability to track progress. Addressing these recommendations would provide increased assurance that poorly planned and performing projects are accurately identified and more effectively provided oversight.

In summary, the Management Watch List and High Risk processes play important roles in improving the management of federal IT investments by helping to identifying poorly planned and performing projects totaling at least \$12 billion that require management attention. However, the number of projects identified on both lists is likely understated because the Management Watch List is derived from budgetary documents that are not always accurate and reliable and the high risk projects are not always identified consistently using OMB criteria. In addition, we noted areas where oversight of both sets of projects could be strengthened primarily by reporting the results in the aggregate so that governmentwide analyses can be performed, progress can be tracked, and Congress can be informed. The recommendations we made to agencies and OMB to address these issues are aimed at providing greater assurance that poorly planned and performing projects are more accurately identified and receiving adequate oversight, and ultimately ensuring that potentially billions of taxpayers dollars are not wasted.

Contacts and Acknowledgements

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