



FINANCIAL AUDIT DIVISION REPORT

**Oversight of Information
Technology Projects**
Information Technology Audit

May 29, 2009

Report 09-19

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OFFICE OF THE LEGISLATIVE AUDITOR

State of Minnesota • James Nobles, Legislative Auditor

May 29, 2009

Senator Ann H. Rest, Chair
Legislative Audit Commission

Members of the Legislative Audit Commission

Mr. Gopal Khanna, State Chief Information Officer
Office of Enterprise Technology

We audited the state's oversight of information technology projects. The scope of our audit focused on controls at the Office of Enterprise Technology (OET) and a sample of state agencies. This report contains four findings presented in the accompanying section of this report titled, *Findings and Recommendations*.

We discussed the results of the audit with OET's staff on May 13, 2009. Management's response to our findings and recommendations is presented in the accompanying section of this report titled, *Agency Response*.

The audit was conducted by Eric Wion (Audit Manager) and Carolyn Engstrom (Auditor-in-Charge), assisted by Aimee Martin.

/s/ James R. Nobles

James R. Nobles
Legislative Auditor

/s/ Cecile M. Ferkul

Cecile M. Ferkul, CPA, CISA
Deputy Legislative Auditor

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Report Summary

Conclusion

The Office of Enterprise Technology (OET) did not maintain a complete, consistent, and accurate inventory of information technology projects or develop a method to prioritize and approve projects across state agencies. State agencies did not have effective processes to inventory, analyze, prioritize, and authorize information technology projects.

In addition, the Office of Enterprise Technology provided inconsistent oversight of project management controls and did not gather and report information on project performance. State agencies did not effectively monitor information technology projects to ensure that projects achieved their objectives and were completed on time and on budget. The state did not have an effective post-project evaluation process.

In some cases, the Office of Enterprise Technology and state agencies did not comply with statutory and policy requirements related to project portfolio management and project management objectives.

The report contains four findings related to internal control deficiencies and noncompliance with statutory and state policy requirements.

Findings

- The Office of Enterprise Technology's policies and practices did not conform to statutory requirements and did not clearly designate the responsibility for project approval. ([Finding 1, page 9](#))
 - The Office of Enterprise Technology's project portfolio was incomplete and inaccurate. ([Finding 2, page 10](#))
 - The Office of Enterprise Technology did not provide sufficient standards to guide agencies in the development of acceptable project management methodologies. In addition, it did not review agencies' compliance with its policy. ([Finding 3, page 12](#))
 - The Office of Enterprise Technology and the agencies did not use methodology sufficient to determine reasonable project cost estimates and did not adequately track the total actual project costs. ([Finding 4, page 13](#))
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Audit Objective

Our audit objective was to answer the following questions:

- Did the state have adequate project portfolio management controls to ensure that benefits of information technology investments were maximized?
- Did the state have adequate project management controls to promote the successful completion of projects by implementing controls that helped ensure projects were properly planned, executed, monitored, and closed?

Audit Scope

The audit scope included projects completed between July 1, 2006, and June 30, 2008, and projects in progress as of July 1, 2008.

Background

Minnesota government relies heavily on its use of information technology to collect, process, store, and report information related to the programs and services it provides and the management of its operations. Each year, state agencies undertake projects to develop new computer systems or update existing computer systems. These projects range from small and low cost to very large, complex, and expensive.

OET's Planning and Portfolio Management Division has responsibility for conducting state level project portfolio management practices and establishing project portfolio and project management standards for the state.

Oversight of Information Technology Projects

Overview

Minnesota state government relies heavily on information technology systems to collect, store, and report data, process transactions, and manage its internal operations. Each year, state agencies pursue projects to develop new computer systems or update existing computer systems. These projects range from small and low cost to very large, complex, and expensive.

In 2005, the Legislature created the Office of Enterprise Technology (OET) to provide state agencies with oversight, leadership, and direction for information technology policy and management. A part of OET's statutory directive was to better prioritize and manage the state's information technology projects.¹

To help fulfill its responsibilities, OET established an enterprise project management office with five staff to create and maintain a documented project portfolio and project management methodology. To date, the enterprise project management office has:

- Developed a project portfolio management policy and a project management policy.
- Prepared, compiled, and submitted *The Enterprise IT Portfolio* to the Legislature in January 2007 and January 2009. The reports contained information related to agencies' strategic initiatives, technology expenditures, applications portfolio, project portfolio, and budgetary initiatives.
- Established project management templates, tools, and training resources.
- Implemented and provided technical support for the state's project portfolio tool.

Project portfolio management establishes a process to analyze and collectively manage proposed or current projects based on key characteristics. Those key characteristics could include each project's total expected cost, use of scarce resources (human or otherwise), expected timeline and schedule of investment, expected nature, magnitude, and timing of benefits to be realized, and relationship or inter-dependencies with other projects in the portfolio. The purpose of portfolio management is to prioritize and approve projects that provide the best

¹ [Minnesota Statutes](#) 2008, 16E.01.

strategic and operational return on investment. At the state, project portfolio management is a cooperative effort among state agencies, OET, and the Legislature.

Project management involves planning, organizing, and managing resources for a specific project to lead to its successful completion by meeting its goals and objectives while balancing the constraints of time, quality, resources, and cost.

Project portfolio management and project management are interrelated. The project portfolio management process uses information reported as part of project management as a foundation for its decision-making. Project management relies on the portfolio management process to ensure that there is proper executive support and approval of the project, or to make an informed decision to terminate or place the project on hold if it no longer provides the most value to the organization.

Objective, Scope, and Methodology

The objective of our audit of the state's oversight of information technology projects was to answer the following questions:

- Did the state, through the Office of Enterprise Technology and state agencies, have adequate project portfolio management controls to ensure that it prioritized, authorized, and monitored the state's information technology projects in a way that maximized the benefits of information technology investments?
- Did the state, through the Office of Enterprise Technology and state agencies, have adequate project management controls to ensure that the state properly planned, executed, monitored, completed, and closed its information technology projects?

To answer these questions, we interviewed selected employees of the Office of Enterprise Technology and state agencies. We reviewed *Minnesota Statutes 2008* and state policies and procedures, including the Office of Enterprise Technology's *Project Management Policy 2006-001 and Project Portfolio Management Policy 2006-002*. We surveyed 18 state agencies to independently determine the population of information technology projects and compared this inventory to the project data maintained by the Office of Enterprise Technology. We reviewed other documentation related to a sample of information technology projects.

We conducted the audit in accordance with *Government Auditing Standards*, issued by the Comptroller General of the United States. We used various criteria to evaluate the state's project portfolio management and project management controls, including the guidance contained in *Project Management Body of Knowledge* and *The Standard for Portfolio Management*, published by the Project Management Institute, and *Control Objectives for Information Technology*, published by the Information Systems and Controls Association.

In response to our September 2008 survey, 18 state agencies identified 137 projects² with a collective budget of over \$270 million, as shown in Table 1.

Table 1
Summary of Agency Responses to the OLA Survey
Projects and Total Project Budgets Reported by Selected Agencies
Projects Completed between July 1, 2006, and June 30, 2008, or
Open as of July 1, 2008

Agency	Number of Projects	Total Project Budgets
Employment and Economic Development	4	\$55,847,303
Revenue	11	\$54,853,676
Human Services	5	\$50,703,254
Office of Enterprise Technology	20	\$38,059,191
Public Safety	14	\$14,417,640
Natural Resources	8	\$10,740,748
Health	11	\$9,893,503
Management and Budget ³	5	\$8,554,582
Transportation	15	\$6,315,524
Pollution Control	17	\$5,153,141
Military Affairs	1	\$3,500,000
Administration	1	\$2,903,238
Agriculture	2	\$2,195,126
Labor and Industry	15	\$2,056,840
Human Rights	1	\$1,458,000
Commerce	3	\$1,391,000
Corrections	2	\$1,370,000
Education	2	\$1,000,000
Total	137	\$270,412,766

Note: Agencies underestimated the total project budgets for 74 of these projects, because they did not include internal staff costs. See Finding 4.

Source: Office of Legislative Auditor's analysis of agency responses to the September 2008 survey.

We selected and examined project management controls for eight projects, as identified in Table 2. Our selection accounted for 48 percent of the project budgets agencies reported in response to our survey. For each project, we interviewed agency staff and reviewed policies, procedures, and other relevant documentation.

² Projects are defined by criteria in OET's *Project Management Policy 2006-001*.

³ The Department of Management and Budget consists of the former departments of Finance and Employee Relations.

Table 2
Information Technology Projects Selected for Audit

Agency <i>Project Name: Project Description</i>	Project Stage ¹	Date Started	Actual or Estimated End Date ¹	Approved Budget ¹
Employment and Economic Development <i>Unemployment Insurance: To provide a web-based application for employers and applicants to manage unemployment taxes, benefits, appeals, and overpayment activity.</i>	Closed	6/3/2003	8/1/2008	\$53,123,336
Revenue <i>Integrated Tax System: To consolidate the tax processing, enforcement, and reporting functions.</i>	Active	1/2/2006	Estimated - 12/31/2012	\$41,400,924
Office of Enterprise Technology <i>Enterprise Messaging: To establish a single email system for executive branch agencies.</i>	Active	1/18/2007	Estimated - 12/31/2010	\$18,500,000
Human Services <i>Shared Master Index: To provide web-based access to a shared index of benefit recipients across programs.</i>	Closed	7/1/2003	1/31/2008	\$11,200,000
Transportation <i>Right of Way Electronic Acquisition and Land Management System (REALMS): To develop and implement a new system to support all right of way acquisition and land management functions.</i>	Closed	12/1/2003	6/30/2007	\$2,000,000
Minnesota Pollution Control Agency <i>Internet Phone Telephony: To convert existing phone systems to Voice-Over Internet Protocol (VOIP) technology.</i>	Active	4/15/2007	Estimated - 4/1/2009	\$1,688,225
Public Safety <i>Identity & Access Management: To control access to Bureau of Criminal Apprehension systems by users from local, state, and federal agencies.</i>	Closed	6/1/2007	6/30/2008	\$1,343,000
Agriculture <i>Compliance Information System: To provide workflow and documentation for the inspection, investigation, and enforcement of agricultural chemicals usage.</i>	Closed	2/4/2005	6/30/2007	\$1,135,538
Total Reported Budgets of Selected Projects				\$130,391,023

¹The Project Stage, Estimated End Date, and Approved Budget information is as of September 2008.

Source: Office of the Legislative Auditor's analysis of agency survey responses.

Conclusions

The Office of Enterprise Technology did not maintain a complete, consistent, and accurate inventory of information technology projects or develop a method to prioritize and approve projects across state agencies. State agencies did not have effective processes to inventory, analyze, prioritize, and authorize information technology projects.

In addition, the Office of Enterprise Technology provided inconsistent oversight of project management controls and did not gather and report information on project performance. State agencies did not effectively monitor information

technology projects to ensure that projects achieved their objectives and were completed on time and on budget. The state did not have an effective post-project evaluation process.

In some cases, the Office of Enterprise Technology and state agencies did not comply with statutory and policy requirements related to project portfolio management and project management objectives.

The report contains four findings related to internal control deficiencies and noncompliance with statutory and state policy requirements. The following *Findings and Recommendations* section further explains the conclusions noted above.

Findings and Recommendations

Finding 1

The Office of Enterprise Technology’s policies and practices did not conform to statutory requirements and did not clearly designate the responsibility for project approval.

The Office of Enterprise Technology’s (OET) project portfolio management policy did not establish a project approval process, require agencies to have a portfolio management process, or indicate how OET will use the portfolio to prioritize, authorize, or monitor the state’s information technology projects.

Minnesota Statutes provide that the state’s chief information officer (OET’s commissioner) shall coordinate, review, and approve, in writing, all information technology projects and oversee the state’s information technology systems and services.⁴ Statutes require the state’s chief information officer to establish procedures to evaluate projects proposed by state agencies.⁵ State policy indicates that the state’s chief information officer and agency management will oversee and manage the state’s investments in technology using project portfolio information provided by state agencies.⁶

Contrary to statute, OET did not formally review or approve projects funded solely through normal agency appropriations, dedicated receipts, or federal funds. OET evaluated a project only if an agency requested specific project funding as part of the state’s biennial budget process, or if an agency requested that OET perform such a review.

Each agency also established its own process for project approval and monitoring. Two agencies we reviewed, the departments of Transportation and Revenue, had effective agency project portfolio management processes. These agencies documented project criteria, maintained an inventory of current and proposed projects, and actively involved senior management in the initial approval and ongoing monitoring of all projects. These agencies had their project portfolio management processes in place for at least a year and implemented throughout the agencies. Four other agencies (the Pollution Control Agency and the departments of Employment and Economic Development, Human Services, and Public Safety) had some process, but the process did not meet all the above criteria. Two agencies, the Office of Enterprise Technology and the Department of Agriculture, did not have a formal process.

⁴ *Minnesota Statutes* 2008, 16E.03, subd. 2(2) and subd. 3.

⁵ *Minnesota Statutes* 2008, 16E.03, subd 4.

⁶ Project Portfolio Policy Directive 2006-002.

Because of different portfolio approaches, seven of eight projects we reviewed lacked cost estimates and related quantitative analysis, such as return on investment calculations, to justify a project's initiation. Potential funding sources and anticipated distribution by project phases and fiscal years were not completed. Quantitative data facilitates a comparative analysis of the strengths and risks of competing projects allowing a prioritization of projects. Both quantitative and qualitative data elements are fundamental inputs to a portfolio management process.

Since the purpose of portfolio management is to approve projects that provide the best strategic and operational return on investment, it is impossible to have an effective program without an approval process that balances the needs and requirements of all parties. While an agency's approval process should focus on balancing the competing requirements of its projects, OET must balance the competing requirements of all agencies.

Recommendations

- *OET should update its policies and recommend changes to state statutes, as needed, to implement a project portfolio management process that allows it to inventory, analyze, review, approve, and oversee the state's information and telecommunications technology projects.*
- *Agencies should implement portfolio management processes for all their information and telecommunications projects.*

Finding 2

The Office of Enterprise Technology's project portfolio was incomplete and inaccurate.

The state's portfolio management policy requires agencies to report project-related data periodically to the Office of Enterprise Technology.⁷ However, because the policy did not define how OET and state agencies would identify, categorize, evaluate, select, prioritize, and authorize projects, OET's project-related data was incomplete and inaccurate.

OET's portfolio management methodology had not been integrated with software's data elements and documented in a user manual for agencies to use. Software data element and selection options had not been sufficiently defined to ensure consistent application by the agencies. Although OET conducted formal training during the software's initial implementation, not having significant turnover in responsibilities resulted in many current users not having received formal training. The project portfolio policy was unclear as to when agencies must report project related information in the software. They could register a project prior to its approval or subsequent to its approval by agency management.

⁷ Project Portfolio Policy Directive 2006-002.

Agencies reported project-related data to OET through project portfolio management software.⁸ OET's project portfolio management data was missing some key elements and was inconsistent with information agencies provided to us in response to our survey. The exceptions included the following:

- Agencies reported 32 projects to us that they had not reported to OET, even though those projects met OET's reporting criteria.
- Agencies reported eight projects that did not have a required project manager or project sponsor identified.
- Agencies reported two projects that had no budget identified.
- Many projects included on OET's portfolio management tool had data fields that were blank or contained default data.
- One of eight projects selected for testing did not provide OET with monthly status updates.⁹
- Three agencies did not use any agency-level project portfolio management software;¹⁰ four agencies had an internally developed or purchased a different project portfolio management software.¹¹ The Department of Employment and Economic Development, actively used OET's project portfolio management software to manage its information technology projects.

Without complete and accurate project-related data, OET was unable to effectively use its project management portfolio software to identify the state's information technology projects or monitor whether the projects are being completed on time, within budget, achieving their objectives, or complying with OET policies.

Recommendation

- *OET should establish a standard to support agencies in implementing and complying with its project portfolio management policy. The standard should include clear definitions of the policy's data elements and responses to ensure that they are consistently applied by all agencies and will facilitate statewide comparison and analysis. The standard should require agencies to submit the project to the portfolio at the point it is proposed.*

⁸ OET uses *Enterprise Project Management* as the software package to manage the state's information technology project portfolio.

⁹ Pollution Control Agency's Internet Phone Telephony project.

¹⁰ The Office of Enterprise Technology, the Pollution Control Agency, and the Department of Agriculture.

¹¹ The departments of Public Safety, Revenue, Transportation, and Human Services.

Finding 3

The Office of Enterprise Technology did not provide sufficient standards to guide agencies in the development of acceptable project management methodologies. In addition, it did not review agencies' compliance with its policy.

OET's project management policy did not provide standards to define what agencies needed to do to meet the minimum core project management requirements. As a result, agencies' approaches to project management were inconsistent and did not always follow best practices for project management.¹²

Although the policy outlined 13 broad core requirements, it did not define what OET expected. For example, the policy required that the agency develop a risk management plan for the project; however, there was no definition of the aspects of an acceptable risk management plan. In most instances, OET developed detailed and comprehensive templates as a resource for agencies, but did not require their use. Many agencies did not use the templates as a basis for their project management plans.

The departments of Public Safety and Transportation developed formal project management methodologies, including policies, procedures, and supporting templates. The remaining agencies were either in the process of developing a project management methodology or revising current practices. These agencies lacked many of the following project management components:

- Scope statements to document project deliverables, scope assumptions, and items explicitly excluded from the project's scope.
- Project baselines, such as cost and deadlines.
- Formal stakeholder analysis to identify stakeholders and their desired project outcome.
- Communication plans to document stakeholders' information needs.
- Risk management procedures to identify and mitigate project risks.
- Quality management plans to ensure project deliverables meet expectations.
- Vendor management plans to monitor vendor performance in a timely manner.
- Change management processes to review and approve changes to all project baselines.
- Periodic status reports to measure estimated versus actual costs, schedules, scope, and resources.

¹² The project management profession considers the *Project Management Body of Knowledge*, published by the Project Management Institute, to be "best practices" for project management.

- Project closure reports to assess the project's ability to meet its objectives.
- Project managers whose primary job responsibility was project management.

Without defined standards, it is difficult to determine if the project implemented the appropriate level of governance to best balance resources, quality, budget, and schedule constraints, whether it complied with OET policy, or if the project met statutory obligations.

In addition, OET did not have a formal process for evaluating agency compliance with the policy, such as reporting project data to OET, submitting project planning documentation to OET for review, submitting monthly status updates to OET, and executing their project management controls as intended.

Recommendations

- *OET should define standards for the 13 core project management components required by the project management policy.*
- *The OET policy should require agencies to have a project management methodology and each project to have a project management plan.*
- *OET should develop procedures to assess agency compliance with the project management policy and report the results in the Enterprise Portfolio Management Report.*

The Office of Enterprise Technology and the agencies did not use methodology sufficient to determine reasonable project cost estimates and did not adequately track the total actual project costs.

Finding 4

Although OET policy required that agencies estimate a proposed project's costs and track actual costs, many projects we examined did not use a methodology that reasonably estimated the project's costs or adequately identified or tracked actual project costs.

Agencies had the following weaknesses in their project cost management practices:

- For seven of the eight projects we tested, agencies had not completed the budget section in its project initiation documents.¹³

¹³ All agencies, except for the Office of Enterprise Technology.

- None of the projects had a cost management plan.
- 74 of the 137 projects reported by agencies in response to our survey did not include internal staff payroll costs in the estimated project, which resulted in underestimating the total estimated project cost in Table 1.
- For four projects, the agencies did not identify and monitor actual project costs either in the state's accounting system or in a subsidiary system.¹⁴
- Six of the projects did not compare actual project costs to the initial budget as part of periodic status reports. Two projects at the departments of Transportation and Employment and Economic Development did include actual and estimated project costs in their status reports.

Agencies can use various project documents to estimate costs, such as the business case, project charter, scope statement, project management plan, or budget estimator; however, none of OET's templates for these documents had sufficient guidance to determine the methodology, assumptions, and constraints used to create a reasonable budget estimate as a basis for the project's approved budget.

When an agency does not sufficiently anticipate and analyze a project's scope and its costs during the planning and approval process, the project's budget becomes a moving target throughout the project rather than a controlled baseline. Failure to establish a baseline scope, schedule, and cost during planning makes it impossible for the project's manager, agency management, OET, and other interested parties to assess the project's outcome in these areas and determine whether the project met its objectives.

Recommendations

- *OET should develop a standard methodology for agencies to use to estimate costs during the project approval process and project execution. The methodology should address establishing an initial budget as a cost baseline, tracking actual costs compared to the budget, managing changes to cost baselines, and evaluating the project's cost control performance during project closure.*
- *Project methodologies should indicate which documents contain project estimates and which document forms the initial project baseline budget.*

¹⁴ The departments of Public Safety and Revenue, the Pollution Control Agency, and the Office of Enterprise Technology.



May 26, 2009

Mr. James Nobles, Legislative Auditor
Office of the Legislative Auditor
658 Cedar Street
Saint Paul, MN 55155

Dear Mr. Nobles:

Thank you for the opportunity to respond to your report on the oversight of information technology projects.

We are in substantial agreement with most of the findings and recommendations of the audit report and, as you know from our staff input during the audit, share many of your concerns. We have described the same shortcomings to the Legislature in detail on many occasions.

We share the audit's concern that there is inadequate resourcing for this activity. The report correctly notes that OET had, during the period of the audit, a staff of only five individuals for project oversight of hundreds of statewide projects. To provide additional context, it should be noted that in addition to the responsibilities outlined in the report, the same staff was also responsible for enterprise and agency technology planning, organizational development, project management standards and training, budget reviews, business architecture, special projects and legislative reports, and support for the project and enterprise information management portfolios.

OET has repeatedly and unsuccessfully requested from the legislature additional resources for more active compliance and oversight. Unfortunately, after the start of FY 2010, the general fund dollars for all of these functions will be reduced by half, making it even less likely that we will be able to address on a timely basis the concerns we share with the Legislative Auditor as outlined in this report.

As to our responses to the findings and recommendations in the audit:

Finding 1: The Office of Enterprise Technology's policies and practices do not conform to statutory requirements and did not clearly designate the responsibility for project approval.

Response: We generally agree with this finding, but would point out that since OET and the portfolio management program began functioning by 2006, progress has been made on many

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fronts. Today agencies have access to a library of best practices, tools and policies that have added much-needed procedural detail. This work is incomplete, but continual improvement is under way.

As noted, portfolio management is a cooperative effort, and agencies are accountable for their own development projects. We acknowledge that our statutory oversight responsibility is limited by resources, and believe that our priority focus on technology and project management standards is appropriate. We also believe that final approval of projects is an executive business decision under the current budget process, with approval coming from executive and legislative leadership responding to the recommendations of agency commissioner/director and Minnesota Management & Budget.

- **Recommendation 1:** *OET should update its policies and recommend changes to state statutes, as needed, to implement a project portfolio management process that allows it to inventory, analyze, review, approve and oversee the state's information and telecommunications technology projects.*

Response: We agree that language clarification is necessary, and that it is essential for requirements to be matched to resource levels.

- **Recommendation 2:** *Agencies should implement portfolio management processes for all their information and telecommunications projects.*

Response: We agree, and will continue to encourage agencies and support their efforts in this area. There are successful agency-level models for others to emulate.

Finding 2: The Office of Enterprise Technology's portfolio was incomplete and inaccurate.

Response: We agree with this finding. To be respectful of agency workloads and our own limitations, we have asked only for essential data in standardized formats. Although we continue to rely on voluntary compliance, we expect that with legislative support, improved clarity and renewed education, there will be continued improvements in completeness, timeliness and accuracy.

- **Recommendation 1:** *OET should establish a standard to support agencies in implementing and complying with its project portfolio management policy. The standard should include clear definition of the policy's data elements and responses to ensure that they are consistently applied by all agencies and will facilitate statewide comparison and analysis. The standard should require agencies to submit the project to the portfolio at the point it is proposed.*

Response: We agree the policy needs updating and expansion for greater clarity. It should be noted that data element definitions in our policy and process documentation are widely used and consistent with PMBOK and other standard sources.

Finding 3: The Office of Enterprise Technology did not provide sufficient standards to guide agencies in the development of acceptable project management methodologies. In addition, it did not review agencies' compliance with its policy.

Response: We disagree with the first portion of this finding. There is more than sufficient information on our website to provide sound guidance and direction to agencies. The second portion of the finding is consistent with our own observations, and again reflects the practical consequences of inadequate resources. We are already working to strengthen our partnership with agencies and leverage our resources through the involvement of agency IT leaders.

- ***Recommendation 1: OET should define standards for the 13 core project management components required by the project management policy.***

Response: We agree and will expand and refine this information as resources permit.

- ***Recommendation 2: The OET policy should require agencies to have a project management methodology and each project should have a project management plan.***

Response: These existing requirements will be reinforced and clarified as noted above.

- ***Recommendation 3: OET should develop procedures to assess agency compliance with the project management policy and report the results in the Enterprise Portfolio Management Report.***

Response: We agree this is an important enterprise need. We are currently examining alternative approaches to this end in cooperation with agencies.

Finding 4: The Office of Enterprise Technology and the agencies did not use methodology sufficient to determine reasonable project cost estimates and did not adequately track the total actual project costs.

Response: We agree. The nature of the budget process often precludes accurate early estimates, but once approved, such estimates are both possible and necessary. Cost estimation methodologies are complex, heavily dependent upon complete information, and not widely understood. In many cases project managers are not experienced in their use. This should be a priority for training. Insofar as project cost tracking is concerned, many agencies lack the knowledge, tools and data resources to accurately track and classify all project costs at an appropriate level of granularity.

- ***Recommendation 1: OET should develop a standard methodology for agencies to use to estimate costs during the project approval process and project execution. The methodology should address establishing an initial budget as a cost baseline, tracking actual costs compared to budget, managing changes to cost baselines, and evaluating the project's cost control performance during project closure.***

Response: We agree. The existing templates require refinement and improvement, and will need to be better supported with training and reference materials. This will be a priority as funds are available. We also need to work with Minnesota Management & Budget to ensure that readily available reports from accounting and budget data are developed out of the new MAPS system.

- ***Recommendation 2: Project methodologies should indicate which documents contain project estimates and which document forms the initial project baseline budget.***

Response: We agree. Additional detail and clarification will be added to best practices and policy documents as time permits.

Because of reorganization, budget reductions and managerial transitions, names of the specific individuals who will be responsible for the actions above cannot be determined at this time. In the meantime, our Chief Technology Officer, Ed Valencia, is responsible for the new Project Management Office and will serve as the primary contact person about the issues addressed in the audit report.

We appreciate the thoroughness, subject matter knowledge and professionalism your staff brought to the audit process, and want to acknowledge their willingness to listen and consider all perspectives on this topic. Once again, thank you for providing us with the opportunity to respond to your report..

Sincerely,

A handwritten signature in black ink, appearing to read 'Gopal Khanna', with a stylized flourish at the end.

Gopal Khanna
State Chief Information Officer