

LEGISLATIVE AUDIT DIVISION

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MEMORANDUM

TO: Legislative Audit Committee Members

FROM: Miki Cestnik, Information Systems Audit Manager

CC: John Lewis, Department of Administration, Director
Tim Bottenfield, State Information Technology Services Division, Chief Information Officer
April Grady, State Information Technology Services Division, Chief Financial Officer

DATE: November 2020

RE: Information Systems Audit Follow-Up (19SP-13): *Governance Practices for Information Technology Investments* (orig. 17DP-02)

ATTACHMENTS: Original Information Systems Audit Summary

Introduction

The *Governance Practices for Information Technology Investments* (17DP-02) report was issued to the Legislative Audit Committee in January 2018. The audit included nine recommendations to the Department of Administration. We conducted follow-up work to assess implementation of the report recommendations. This memorandum summarizes the results of our follow-up work.

Overview

The Montana Information Technology Act (MITA) establishes the responsibilities of the state Chief Information Officer (CIO) to govern and oversee information technology (IT) spending. The audit reviewed the maturity of practices in place to oversee investments and determine how effective they are at promoting accountability, transparency, and cost-effective investments. Audit work identified that multiple, independent procedures were in place to manage IT investments; however, a common framework to align the procedures, an oversight board, and certain best practices were not established to manage investments effectively. The audit contained nine recommendations. Two of the recommendations have been implemented. Seven of the recommendations are in the process of being implemented.

Background

Montana state government information technology (IT) expenditures total over \$200 million each year. Examples of these investments include IT development projects, IT licensing, contracted services, and hardware and software purchases. The state Chief Information Officer (CIO), located within the State Information Technology Services Division (SITSD) of the Department of Administration (DOA), is responsible for developing the policies and procedures for IT investments, overseeing selection and funding, and approving all IT investments. Once IT investments are funded and approved, SITSD facilitates monitoring and reporting practices.

STISD has developed independent procedures of varying maturity in the following areas of an investment lifecycle:

- **Selection and funding:** This includes planning, requesting funding, and communicating investment needs and priorities.
- **Approval:** This includes the review of IT investments and final approval of all IT contracts.
- **Monitoring, reporting, and evaluating:** This includes monitoring expenditures, reporting status updates, and evaluating performance of investments.

When we compared these procedures to an investment management framework during the audit, the maturity overall was low. This meant that most of the procedures were established but needed improvement. Procedures towards the end of the investment, included in monitoring, reporting, and evaluating, needed significant improvement and formal establishment.

Audit Follow-up Results

Follow-up work included discussion with SITSD staff, walking through the new portfolio management system, reviewing various committee and advisory board meeting minutes, and identifying policy and procedure changes over the last two years.

Overall, DOA is still in the early stages of implementing recommendations. Investment management is a complex process that takes time to implement and has to be done step-by-step to make sure foundational concepts are in place before more advanced ones can be adopted by other agencies.

While implementing recommendations from the audit were assigned to the new CFO under different management personnel than during the audit, our follow-up work identified that new management personnel are still committed to improving investment management. The 2020-22 State Information Technology Strategic Plan indicates this with the first goal addressing fiscal responsibilities. The objectives of that goal relate directly to key concepts recommended in the audit including improving budgeting processes and transparency, accurate IT investment data, engaging agencies, contract monitoring and management, mitigating underperforming investments, and implementing an IT investment management framework.

The following sections summarize the progress toward implementation of the report recommendations.

RECOMMENDATION #1

We recommend the Department of Administration establish and define an overall IT Investment Framework.

Implementation Status – Being Implemented

Our initial audit work identified that a high-level direction and set of overarching principles needed to be established to guide the investments in IT for state agencies. Overseeing investments managed by 20 different agencies faces inherent challenges. Without strong guidance and structure for those investment practices, the ability to repeat successful investments and avoid expanding budgets and time frames is limited. A framework, or set of guiding principles and procedures, needed to be established to coordinate the independent practices that SITSD had established. As part of follow-up audit work, SITSD indicated that the new Project and Portfolio Management Tool will track investments and provide the ability to maintain an investment framework. The tool went live in December 2019 and SITSD is establishing their own procedures to use the tool. There are currently limited features available for

agencies to use as well. Full functionality of the tool is expected by 2021 with these features being available for agencies shortly after that. SITSD also intends to update a formal enterprise project management policy and procedure for agencies after the tool has been adopted by more agencies and specifics of how the tool can be used are known.

RECOMMENDATION #2

We recommend the Department of Administration work with the Information Technology Board to:

- A. Define and document the responsibilities of the Information Technology Board relating to overseeing the IT investment management process.**
- B. Include responsibilities within the selection and reporting of IT investments in accordance with statute.**

Implementation Status – Being Implemented

During our initial audit, we identified that there was no entity outside of the state CIO to assist in managing IT investments. Any investment framework requires a board to share selection responsibility with a chief officer so the decisions being made are not biased and align with the overall goals of IT investment management. The board also reviews verified performance data to ensure that appropriate actions are taken to correct underperforming projects. The Montana Information Technology Act (MITA) establishes the Information Technology Board (ITB) with similar duties. The board has the responsibility of reviewing and advising on major IT budget requests and requires the board to review and advise on the implementation of major IT projects and on any concerns related to that project. As part of follow-up work, we followed board meetings as well as met with the state CIO and other board members to discuss implementation. In recent ITB meetings, workgroups have discussed addressing these responsibilities and other recommendations. However, clear operating procedures for the board in this capacity have not been defined. The board reviews operating procedures in the meeting after January of every odd year, when new members are established. However, the board did not meet in the first quarter of 2019 and has not discussed operating procedures or clearly defined their role in selection or monitoring of IT investments since then. SITSD identifies a larger role for the board is needed in managing investments and is developing an item for discussion with new board members in January of 2021 that addresses this audit recommendation.

RECOMMENDATION #3

We recommend the Department of Administration:

- A. Include all required IT investments and investment information within the Governor’s Budget and requests for long-range funding.**
- B. Define the procedures, templates, and responsibilities for approving allocation of long-range funds to ensure the State CIO signs required documents.**
- C. Coordinate with the Information Technology Board and Office of Budget and Program Planning to define and document criteria for a “major” project to be used throughout the IT investment life cycle.**

Implementation Status – Being Implemented

Initial audit work identified a large IT project that was not published as part of the Governor’s budget for legislators. MITA requires transparency of IT projects and budgets in the Governor’s budget for legislators to use during session. This includes specific project information including what the project will

accomplish, existing applications across all agencies that may be impacted, and costs associated with the project. In the 2015 Legislative Session, this was achieved through the IT Summary of the Governor's budget. In the 2017 Legislative Session, IT spending by each agency was reported in a more aggregate way. While this change provided a more complete picture of spending, it lost the details of major project requests from the previous IT Summary. Long Range IT Funding (LRIT) requests in Section F: Long Range Planning of the Governor's budget direct legislators to Volume 10 for more information on each project requesting a total \$46 million. Volume 10 did not contain details of each major project. This information was provided separately as requested during the budget hearing. In the future SITSD indicated this information should be readily available and that they would work more closely with the Office of Budget and Program Planning to finalize the final Governor's budget.

During audit work, we were unable to identify official documents that were needed prior to LRIT fund allocation as well. Follow-up discussions with the CFO in charge of this process indicated that allocation of long-range funds is also in the process of changing to provide more structure and oversight. Right now, SITSD is creating review points with agencies depending on the time frame, project style, and needs for funds. SITSD indicated the plan is to update LRIT policy after a few examples of the new process have been completed. The policy change would require some formal agreement of review points based on project specifics but would overall meet the intention of monitoring and approving funds after milestones/deliverables have been reviewed. For example, LRIT funding for the 2021-2022 biennium allocated to the Montana Department of Transportation (MDT) is transferred from SITSD to MDT after quarterly meetings.

Lastly, our audit identified inconsistencies in how large projects were defined between funding and reporting. Major project criteria were formalized for the reporting portion of the IT investment lifecycle by a project managers workgroup in 2018. SITSD plans on using this criteria and project data in the new portfolio management tool to maintain consistency throughout the entire lifecycle.

RECOMMENDATION #4

We recommend the Department of Administration improve information technology investment selection and funding processes by:

- A. Ensuring agency IT plans align with overall agency objectives.**
- B. Establishing a process that includes business benefits of and risks to an investment throughout the IT investment management process.**
- C. Establishing a comprehensive set of investment data to be used throughout all selection and funding processes.**

Implementation Status – *Being Implemented*

Key selection and funding procedures were reviewed for best practices during the original audit. The IT planning process was built for agency IT plans to align with SITSD state plans but left out an important link to the agencies business needs for IT to fulfill. SITSD indicated they are meeting quarterly with agency business and IT staff to understand the needs of each agency more thoroughly. These needs will be taken into account in the overall State IT Plan and will help IT plans better align with agency objectives. The 2020 IT Plans have a reference to the agencies' goals and objectives. Time is needed to see how this improves the entire investment process, so SITSD needs to continue developing this coordination. This is a basic practice that will assist in transitioning from spending on IT to investing in technology value.

Part B of this recommendation suggests a practice that is a further stretch in maturity than recommended changes and improvements. Due to this, it is something that must happen after initial procedures are established and followed by all agencies. SITSD plans to include a consideration of benefits and risks into the investment lifecycle process, but first wants to establish the overall procedures from start to finish. Recent newsletters from the CIO have started to discuss the importance of defining IT value and are a start in the right direction.

When initially reviewing all of the processes within the early stages of the IT investment lifecycle, we identified varying data being required. Part C of this recommendation addresses creating a consistent set of metrics early on in the lifecycle. During follow-up work, SITSD demonstrated how the portfolio management tool will standardize investment information and keep consistency throughout the lifecycle and various processes within it. The tool will be available for this type of functionality in 2021.

RECOMMENDATION #5

We recommend the Department of Administration develop internal procedures to define their own procurement request process, responsibilities for managing agency procurement requests, and ensure potential conflicts of interest are mitigated.

Implementation Status – Implemented

During the audit, DOA had a high rate of issues within the Information Technology Procurement Requests (ITPRs) that we reviewed. Prior to the audit, they were following a different procedure for procurement requests than agencies. During the audit they started following the same procedure, but still lacked procedures for managing the process. Document retention and progress monitoring were not defined. Due to the structure of SITSD within DOA, the appearance of conflict of interest also needed to be addressed to ensure SITSD was not approving their own requests without formal review. Follow-up work identified that DOA and SITSD are using the ITPR management tool quite frequently and the tool ensures the process is conducted the same as other agencies. The tool is set up to include extra approvals for SITSD requests. To identify if DOA was using the same process and review how many issues were occurring with their own ITPRs, we reviewed ITPR data gathered by the tool since 2017. The data shows that DOA has submitted four to ten times more ITPRs than other agencies and has about a 1 percent denial rate. Other agencies have a higher denial rate; however, this may not be a reliable comparison due to the large difference in submitted ITPRs.

RECOMMENDATION #6

We recommend the Department of Administration improve the Information Technology Procurement Request process by:

- A. Establishing a documented scoring process that requires review from Technical Review Board members.**
- B. Defining and documenting the process through obtaining, reviewing, and approving risk assessments and final procurement document.**
- C. Establishing a procurement review by the Information Technology Board.**

Implementation Status – Implemented

Our audit identified inconsistent procedures and documentation within the ITPR review and risk assessment procedures. This led to IT contracts being established without verified approval from SITSD. Since the audit, SITSD has further developed the ITPR workflow tool to define and manage the entire process and require review from Technical Review Board (TRB) members. This includes more

information to facilitate the risk assessment decision, TRB review and decision, and integration with the final approval of the procurement. The tool also facilitates the initial approval process by documenting each TRB members approval, denial, and comments for the ITPR. Through coordination with the state procurement bureau, SITSD has also created a process that increases the assurance an IT investment has been reviewed by the state CIO, in accordance with statute. They also discuss ITPRs with the Information Technology Board (ITB) and other councils to increase awareness of the process. These changes appear to have improved the usage of the ITPR process: prior to 2017, almost 60 percent of contracts within the state contract system did not have an ITPR number, and that number has dropped to 16 percent since 2017. Thus, showing an improvement in contracts being approved by SITSD through the ITPR process.

RECOMMENDATION #7

We recommend the Department of Administration:

- A. Define procedures, responsibilities, and accountability actions for procurement and inventory log processes.**
- B. Include periodic updates to the procurement and inventory log process in the procurement update presented to the Information Technology Board.**
- C. Use log information to establish duplication reviews.**

Implementation Status – Being Implemented

Part of the purpose for reviewing IT procurements was to reduce duplication. Different logs were available to coordinate and review duplication, however, they were not complete or consistent and required a lot of manual work to review. With the new portfolio tool, SITSD plans to have all of the information that was previously in these logs centralized in one location so reporting can easily identify duplication of IT resources. This type of reporting won't be available until agencies are using the portfolio tool though, which will be available in 2021. In the meantime, more discussion at board and committee meetings by SITSD has aimed to increase awareness of the process. In 2018 and 2019, agency participation appeared to have slightly increased, but was still inconsistent. In one quarter, ten agencies responded, but in other quarters only five or six responded. This manual process is still not a complete picture for SITSD to thoroughly review duplications. So, while part A and part C of this recommendation are waiting for the new portfolio tool take the place of these spreadsheets, the agency has developed discussion points to improve awareness and importance of the process.

RECOMMENDATION #8

We recommend the Department of Administration establish a reporting framework that:

- A. Defines criteria, metrics, and procedures for all IT investment-related reporting, based on investment characteristics.**
- B. Coordinates timing and uses consistent metrics.**
- C. Provides agencies guidelines and support for reporting.**

Implementation Status – Being Implemented

During the audit, reporting needed for IT investments was done ad hoc without consistent data and procedures. There were efforts to standardize reporting, but getting consistent, meaningful information from agencies was still a challenge due to varying monitoring practices and differences in agency resources and project characteristics. SITSD indicated that the portfolio management tool will use consistent metrics and is expected to be updated instantly as those metrics change. This will allow for any reporting to be pulled from one source at any time. The tool is now available for agencies to purchase

licenses to and SITSD plans on providing support and guidelines for data entry so reporting can be consistent and meaningful. The tool is currently being using for major projects and will expand to other projects and investments in the next year, according to SITSD.

SITSD also indicated they are working with the Legislative Finance Committee to define reporting requirements of major projects and they are developing other review points to be integrated in the current reporting processes. The State of Montana Project Management Advisory Workgroup (SMPMAW) has opted to meet monthly to assist in reporting projects to ITB and LFC as well.

RECOMMENDATION #9

We recommend the Department of Administration improve IT investment reporting processes by:

- A. Defining and documenting periodic reviews after investment approval.**
- B. Defining and documenting final evaluation based on characteristics that align with overall reporting framework.**
- C. Expanding periodic review of investments to more than development projects through implementation.**
- D. Defining and documenting the criteria and corrective action processes for underperforming investments.**

Implementation Status – *Being Implemented*

When reviewing the procedures in the investment lifecycle during the original audit, reporting lacked the most structure and maturity. Due to this, the practices recommended here must be implemented after more basic practices. This creates consistent, timely, and useful data that can be used for the basis of reporting. While this recommendation is in the process of being implemented, SITSD indicated they will continue to look at current processes of reviewing amendments to formalize procedures for this recommendation. SITSD requested an investment monitoring subgroup from the ITB and the project managers workgroup to address pieces of this recommendation in 2019. Further discussion and requests were made in 2020. The new members of the ITB will be requested to set the operating procedures, including how this is done, in the first quarter meeting of 2021. In the meantime, the SMPMAW has developed a proposal for agencies to submit projects for their review every month. They would then be able to assist, guide, and recommend changes to the agency project team and provide information to help ITB advise projects in a meaningful way.