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July 24, 2020

The Honorable Ronald D. Kouchi,
President, and
Members of The Senate
Thirtieth State Legislature
Hawaii State Capitol, Room 409
Honolulu, Hawaii 96813

The Honorable Scott K. Saiki,
Speaker, and
Members of The House of Representatives
Thirtieth State Legislature
Hawaii State Capitol, Room 431
Honolulu, Hawaii 96813

Dear President Kouchi, Speaker Saiki, and Members of the Legislature:

Pursuant to HRS section 27-43.6, which requires the Chief Information Officer to submit applicable independent verification and validation reports to the Legislature within ten days of receiving the report, please find attached the report the Office of Enterprise Technology Services received for the State of Hawaii Department of Education's FMS Modernization Project.

In accordance with HRS section 93-16, this report may be viewed electronically at http://ets.hawaii.gov (see "Reports").

Sincerely,

Douglas Murdock (Jul 29, 2020 15:02 HST)

Douglas Murdock
Chief Information Officer
State of Hawai'i

Attachment (2)

FMS Modernization Project

Department of Education (DOE)

IV&V Monthly Status Report – **Final**

For Reporting Period: **May 1 – June 15, 2020**

Draft Submitted: June 30, 2020

Final Submitted: July 8, 2020

PUBLIC CONSULTING GROUP

Solutions that Matter

Overview

- Executive Summary
- IV&V Findings and Recommendations
- IV&V Status
- Appendices
  - A – IV&V Findings Log & Priority Ratings
  - B – Standard IV&V Inputs
  - C – IV&V Details

Executive Summary

In October of 2018, the aging Department of Education (DOE) Financial Management System (FMS) failed, was offline for several weeks, and led to significant disruption of critical operations. As a result, the DOE quickly procured and launched this project with the goal of replacing their FMS as quickly as possible to avoid a similar event. The project is currently executing an aggressive, accelerated timeline with a planned January 2021 go-live date. DOE has acknowledged that this aggressive schedule may result in an increased risk profile, which DOE has indicated they may be willing to accept given the potential larger risks associated with a similar, or more catastrophic, legacy FMS failure.

In order to speed implementation, the project has elected to implement a cloud-based Oracle Software-as-a-Service platform based on a pre-configured template, leverage Agile development methods, limit the amount of new or improved functionality, and has scaled back early analysis efforts. There are multiple risks associated with an accelerated schedule which are detailed in Finding #3 below. The DOE has stated they will only go-live if the system sufficiently supports DOE operations and users are able to do their jobs.

The DOE appears to have assembled an exceptional core team of highly committed and talented DOE resources which could improve mitigation of some risks. However, it appears early project activities have not always proved productive due to challenges with both the System Integrator (SI) and DOE PM roles as well as other SI staffing challenges. Further, the project appears to be over reliant on 3-4 key DOE resources who, thus far, have largely continued their operational workload while maintaining a high level of project participation. This may not be sustainable and the project risks significant disruption in the event of their departure. IV&V is also tracking risks with Oracle cloud environment limitations and the ongoing impacts of COVID-19 including potential 1-2 day/week furloughs.

IV&V began oversight of the DOE FMS project May 1, 2020 and completed initial assessment interviews on June 12, 2020. Despite some productivity challenges, the project has completed the fit/gap analysis and has recently pivoted to a hybrid-agile approach that includes collaborative sessions with DOE Subject Matter Experts (SMEs) with the hope of addressing some of these challenges.

Executive Summary (cont'd)

	Category	IV&V Observations
M	Cost & Schedule Management	The project is executing an aggressive, accelerated project schedule to mitigate the risk of potential catastrophic failure of their aging legacy FMS. In order to speed implementation, the project has elected to implement a cloud-based Oracle Software-as-a-Service platform based on a pre-configured template, leverage Agile development methods, limit the amount of new or improved functionality, and scaled back some analysis efforts and project documentation. Potential impacts of an accelerated schedule have been noted in Finding #3 below. IV&V is primarily concerned with potentially overwhelming project SMEs as the accelerated project activities drive them to commit more and more time to meet project milestones, as well as the impact to users as they will be forced to adapt to new processes and multiple work arounds in a short period of time. The projects accelerated schedule leaves little room for any impact to project productivity. The project is currently operating under a draft Project Management Plan (PMP) and project schedule. The PMP was due 3/12/20 but, as of this reporting period, both have not been finalized. The lack of a finalized PMP could lead to uncertainty around project scope and how the project will be executed or managed, which can reduce overall project cadence and productivity. Delays in establishing a clear, detailed baselined schedule could lead to project delays and leave the project unable to effectively monitor project progress. Further, the lack of a clear critical path could leave the project with little time to respond to critical path activities that may have already impacted the project go-live date. The project appears to be effectively managing cost but could face challenges funding budget increases going forward given legislative efforts to cut budgets due to recent COVID-19 related State revenue shortfalls. The DOE recently executed a Change Order (CO) to increase the SI scope of work in assisting with data conversion. They are also considering purchase of additional Oracle environments to increase the quality of testing.

Executive Summary (cont'd)

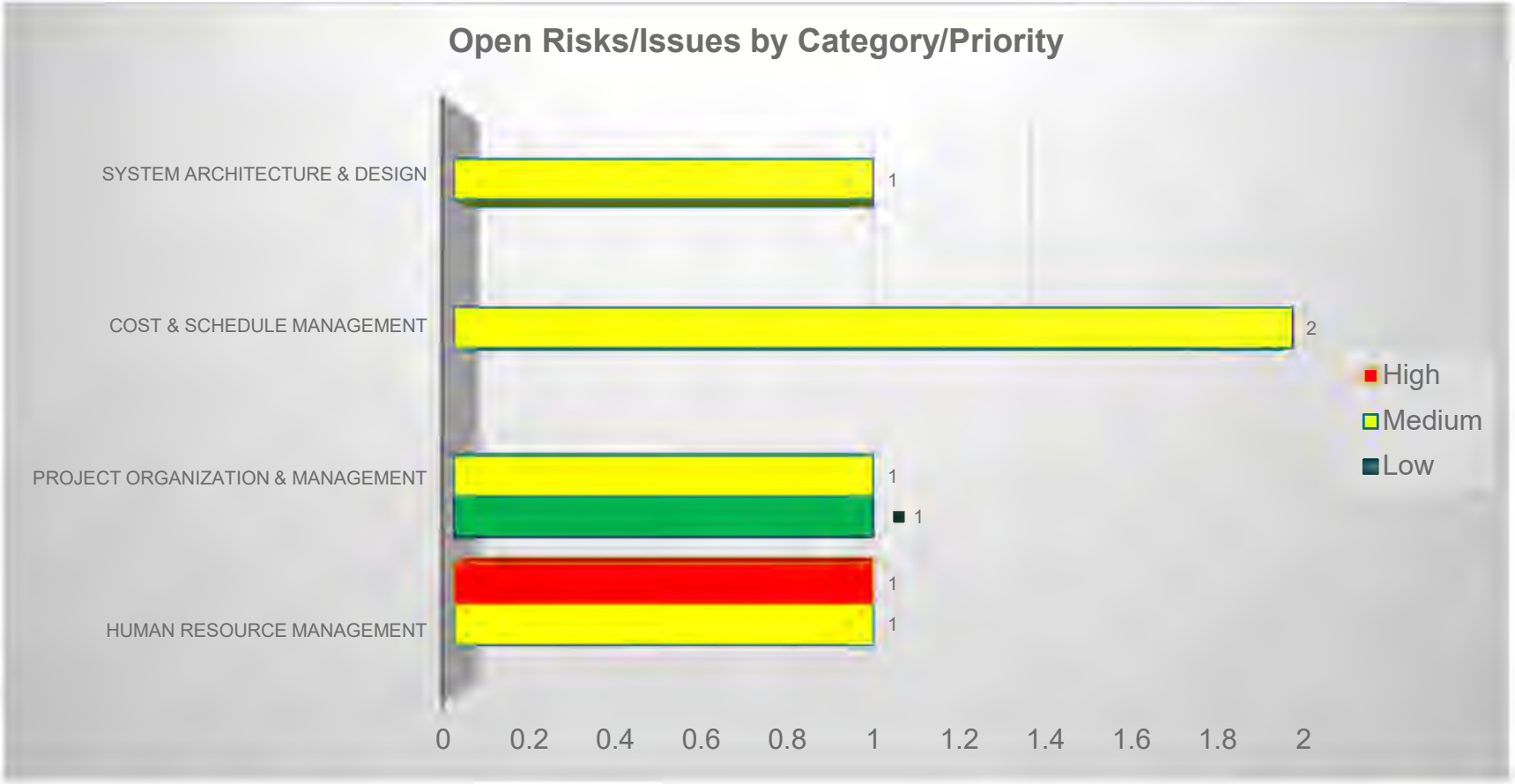
	Category	IV&V Observations
M	Human Resources Management	The DOE appears to have assembled a core team of highly committed, motivated, skilled, and productive DOE resources. The SI has noted that the DOE team, as compared to other customers, have proven to be exceptional in their commitment to the project, productivity, and knowledge of their subject matter areas. Project progress thus far may largely be attributed to DOE SMEs and the DOE project management team. The SI has recently made significant adjustments to their team, including replacement of their PM, added a project coordinator, and appear to be making efforts to augment their team to address other staffing concerns that could hinder project productivity. SI staffing challenges could weight heavily on DOE resources who are already at capacity. In fact, the project appears to be over reliant on 3-4 key DOE resources. Each continue their operational workload while maintaining a high level of participation on the project, and each are slated to participate in other significant projects and operational events between now project go-live. The project risks significant disruption in the event they are stretched beyond their capacity or ultimately decide to leave the project. DOE leadership is making efforts to control the workload of these key resources.
M	Project Management & Organization	Early DOE and SI PM challenges may have contributed to the projects early lack of productivity. The DOE has recently secured Gartner PM resources who appear to be improving PM processes and overall project quality. The SI has recently removed their PM; the SI Engagement Manager and new project coordinator have taken over PM responsibilities which appears to have had a positive impact on the project. However, the current SI PM could be quickly stretched beyond capacity as they attempt to fulfill both the PM and engagement manager roles, in addition to other responsibilities in their role as the CherryRoad Vice President of Operations and senior executive. Though IV&V identified multiple poor management practices, the project has worked quickly to improve most practices that were slowing project progress. Still, the SI has yet to finalize the Project Management Plan (PMP) and project schedule which could hinder productivity and the effective management of the project. Due to the accelerated project timeline, the project can ill-afford to tolerate any lack of productivity. Further, while the project appears to be managing the current impacts of COVID-19, potential 1-2 day/week furloughs could leave the project facing a decision on whether to extend the project go-live date. The project has recently begun OCM, testing, and training planning which will likely be complicated by COVID-19.

Executive Summary (cont'd)

	Category	IV&V Observations
L	System Architecture & Design	The project has planned for a total of 4 environments, currently slated for development, testing, training, and production. It's been reported that Oracle Financial cloud support will take 3 weeks to perform each environment refresh. The SI has indicated they are working on a strategy for accomplishing project objectives with the limited environments and refresh constraints. The DOE has reported efforts to increase the number of environments. Typically, projects of this size, complexity, and pace rely on timely environment refreshes in order to effectively meet development, testing, and training objectives and deadlines. Often projects plan for additional environments to avoid the need to repurpose environments, avoid project delays, and provide flexibility to "freeze" environments to improve testing and training quality. Limited environments and refresh constraints could lead to project delays and/or reduce the quality of development, testing, and training.

IV&V Findings and Recommendations

IV&V identified 8 findings (6 risks, 1 issue, and 1 positive finding) for this reporting period. The following chart breaks down the risks by category/priority.



IV&V Findings and Recommendations (cont'd)

Summary of IV&V Open Risks/Issues Criticality

Category	Type	#	Finding Title	Criticality
Cost & Schedule Management	Risk	3	**Adoption of an aggressive schedule could lead to poor system quality, user frustration, stretch DOE resources beyond their capacity, and bad press.**	Medium
	Risk	4	**Delayed finalization of the Project Management Plan (PMP) and schedule could lead to stakeholder confusion and less than informed planning and ultimately lead to reduced productivity and project delays.**	Medium
Human Resource Management	Positive	1	**High performing DOE project team members have had a positive impact on the project and will likely be a significant factor for project success.**	n/a
	Risk	2	**Over reliance on a few skilled and overtaxed DOE project resources could lead to significant project disruption.**	High
	Risk	5	**SI staffing challenges could reduce project productivity and system design quality, and lead to schedule delays.**	Medium
Project Organization & Management	Risk	6	**COVID-19 State-wide shutdown could hinder project activities and negatively impact the project schedule and budget.**	Medium
	Risk	8	**Inefficient project management practices could lead to overall lack of productive project activities and ultimately schedule delays.**	Low
System Architecture & Design	Risk	7	**Oracle Financials environment constraints could lead to schedule delays and leave the project unable to meet development, testing, and training objectives.**	Medium

IV&V Findings and Recommendations (cont'd)

M

Cost & Schedule Management

#	Key Findings	Criticality Rating
3	Risk - **Adoption of an aggressive schedule could lead to poor system quality, user frustration, stretch DOE resources beyond their capacity, and bad press:** In October of 2018, the aging DOE FMS failed, was offline for several weeks, and led to significant disruption of critical operations. As a result, the DOE quickly procured and launched this project with the goal of replacing their FMS as quickly as possible to avoid a similar event. The project is currently executing an aggressive, accelerated timeline with a January 2021 go-live date. This accelerated schedule incurs risks that the DOE has deemed acceptable given the potential larger risks associated with another legacy FMS failure. In order to speed implementation, the project has elected to implement a cloud-based Oracle Software-as-a-Service platform based on a pre-configured template, leverage Agile SDLC methods, limit the amount of new or improved functionality, and scaled back some project documentation and early analysis. The accelerated schedule could lead to: • Lack of thorough consideration of required business process changes resulting from the new system • User confusion and frustration due to the added burden of learning a new system with new processes, unmet expectations for improvements, and significant disruption to their daily duties • Over allocation of project resources and users • Significant OCM and Training efforts with limited time to plan and execute • Project decisions to cut corners to meet milestones and DOE expectation • Unproductive working sessions due to insufficient analysis efforts • Limited time to react to or resolve issues that may arise • Poor system design • A flurry of chaotic stakeholder activity as the project progresses closer to go-live. If this risk is realized, negative user feedback could lead to inflammatory media coverage which could negatively impact legislative, board of education, and public support. The project has stated they will only go live if the system sufficiently supports DOE operations and users are able to do their jobs.	Medium

IV&V Findings and Recommendations (cont'd)

M

Cost & Schedule Management (cont'd)

#	Key Findings	Criticality Rating
4	Risk - **Delayed finalization of the Project Management Plan (PMP) and schedule could lead to stakeholder confusion and less than informed planning and ultimately lead to reduced productivity and project delays.:** The project is currently operating under a draft Project Management Plan (PMP) and project schedule. The PMP was due 3/12/20 but, as of this reporting period, both have not been finalized. DOE project leadership has indicated that existing drafts appear to lack sufficient details. The projects accelerated schedule leaves little room for any impact to project productivity. Lack of a finalized PMP could lead to uncertainty around project scope and uncertainty around how the project will be executed or managed, which can reduce overall project cadence and productivity. Delays in establishing a clear, detailed baselined schedule could lead to project delays and leave the project unable to effectively monitor project progress. Further, the lack of a clear critical path could leave the project with little time to respond to critical path activities that may have already impacted the project go-live date.	Medium

IV&V Findings and Recommendations (cont'd)

M Cost & Schedule Management (cont'd)

Recommendations	Progress
• Take steps to assure sufficient OCM planning and activities are performed to prepare users for the significant change taking place at an accelerated rate.	In progress
• Project leadership closely monitor project productivity and meet regularly to perform continuous process improvement (continuously reach out for feedback and move quickly to improve unproductive project elements and processes).	In progress
• Leadership take steps to closely monitor project team capacity and assure resources are not overallocated.	Not started
• Implement a plan for broad validation of system functionality with clear channels of communication for user feedback to assure all users are able to perform their duties prior to the project go/no-go decision.	Not started
• Project make early efforts to plan for and prepare contingency plans in the event it becomes clear the accelerated schedule is unsustainable or critical project objectives will not be met by the planned go-live date.	Not started
• Prepare and implement a public relations plan to avoid inflammatory media coverage which could negatively impact legislative, board of education, and public support.	Not started
• Request the SI accelerate efforts to finalize the PMP and provide a detailed baselined project schedule.	In progress

IV&V Findings and Recommendations (cont'd)

M

Human Resource Management

#	Key Findings	Criticality Rating
1	Positive **- High performing DOE project team members have had a positive impact on the project and will likely be a significant factor for project success.:** The DOE appears to have assembled an exceptional team of highly committed, motivated, skilled, and productive DOE team members. SI team members have noted that the DOE team, as compared to other customers, have proven to be exceptional in their commitment to the project, productivity, and knowledge of their subject matter areas. The SI team has also noted that the DOE team is responsive to SI requests for information and thus far have been a quick study of the new Oracle Financials platform. DOE team leadership (technical/financial sponsors and PMO) has demonstrated an intuitive understanding of project needs, SI and DOE team strengths/weaknesses, key success factors, and risks. A high-performing DOE project team will likely be a significant factor for project success as they execute an accelerated project schedule. High-performing teams can help mitigate many risks as they are able to intuitively identify points of failure and act quickly to compensate for project weaknesses as they are realized.	n/a

IV&V Findings and Recommendations (cont'd)

M Human Resource Management (cont'd)

#	Key Findings	Criticality Rating
2	Risk - **Over reliance on a few skilled and overtaxed DOE project resources could lead to significant project disruption:** There are currently 3-4 DOE team members who are relied on to a greater extent than others. Each of these individuals have significant standing critical operational responsibilities and most have managerial responsibilities as well. While each of these team members have indicated a strong commitment to project success, each has multiple competing priorities, and most will be constrained with operational tasks between now and go-live. Many DOE team members will likely participate in the FMS Mainframe-as-a-Service project currently planned for August 2020, though, the required level of effort remains unclear. It remains unclear if DOE staffing levels committed to in the original Statement of Work (SOW) have been met. Over reliance on key resources can not only overtax and thereby reduce the effectiveness of these key individuals, but also presents a risk of significant project disruption in the event of their departure. While most projects have this risk, the risk impact for this project, from IV&V's perspective, is higher than most, and while the project could be impacted by the loss of any DOE team members, there are 3-4 individuals who are relied on to a greater extent than others. Loss of these individuals could lead to significant project disruption. Failure to transfer standing daily operational and managerial responsibilities from these individuals to other DOE resources could stretch them beyond their capacity and lead to a lack of job satisfaction, decreased productivity, decrease in quality, and increases the probably they could make critical mistakes that could negatively impact the project. Several of these key resources have indicated they have significant operational responsibilities and projects between now and go-live (e.g. year-end close, audit, the Time & Leave project, preparations for the new school year, etc.) and may simply lack the capacity to meet all current expectations. Further, if the SI is not able to resolve some staffing challenges (see *Risk #5*), the project may increase their reliance on these individuals and may have to work harder to ensure system designs are accurate, project milestones are met, and overall project activities remain productive.	High

IV&V Findings and Recommendations (cont'd)

M Human Resource Management (cont'd)

#	Key Findings	Criticality Rating
5	Risk - **SI staffing challenges could reduce project productivity and system design quality, and lead to schedule delays:** Since soon after project launch, the DOE project leadership has raised several concerns with regards to the SI project team. DOE stakeholders have reported that working session productivity has, at times, been hindered by the apparent lack of sufficient knowledge, capabilities, and expertise of some SI team members. While some appear to have some strong capabilities and financial system knowledge, others appear to lack the capability to drive productive discussions, quickly solution implementation issues, and accelerate the Software Development Lifecyle (SDLC). The SI has recently responded to DOE leadership concerns that the SI PM lacked sufficient capabilities, experience, and the temperament to perform effectively as the project PM. The SI has responded to these concerns and the engagement manager has temporarily taken over PM responsibilities and augmented their team with a project coordinator resource. DOE leadership has raised concerns with other SI leads as well and the SI appears to be making efforts to augment their staffing model to address each concern. Due to the accelerated project schedule, the project can ill afford to tolerate a lack of productivity given go-live is in 6 months. One of the primary factors of project success is establishing a skilled, experienced, productive, highly available and high-functioning team. If the SI is not able to quickly implement a staffing model that can establish this kind of team, the project schedule could be at risk. Further, the lack of sufficiently capable SI resources could weigh heavily on already constrained DOE SMEs as they attempt to compensate and extend additional efforts to ensure project milestones are met. The addition of highly capable and experienced SI resources could reduce the burden on DOE SMEs. This risk is likely to be exacerbated by the significant time zone difference between the project team (HST and PST) and the SI technical team who reside in India.	Medium

IV&V Findings and Recommendations (cont'd)

M Human Resource Management (cont'd)

Recommendations	Progress
• Executive leadership regularly monitor the workload and job satisfaction of these key individuals and assist with workload management and clarification of priorities as needed.	In progress
• Temporarily re-allocate operational/managerial responsibilities from key resources until project completion.	In progress
• Consider temporary staff augmentation options to both augment the existing project team and augment the operations staff to offload operational responsibilities from key resources.	Not started
• Prepare contingency plans in the event that the DOE project team can no longer sustain project and operational activities at the expected pace.	Not started
• Prepare a resource management plan that addresses current and projected project resource constraints and clearly identifies additional resource needs. Recommend this plan include a detailed analysis of these individual's workload over the next 6 months to determine if expectations on their time are realistic.	Not started
• Assess project team members level of participation in the FMS Mainframe-as-a-Service Migration Project currently scheduled for August 2020 and manage their capacity accordingly.	Not started
• Work closely with the SI in their staffing efforts and quickly, but thoroughly, vet additions to the SI project team.	In progress
• Request the SI explore augmenting their team with highly capable and experienced resources that could potentially accelerate the project and reduce the burden on constrained DOE SMEs.	In progress

IV&V Findings and Recommendations (cont'd)

M Project Management & Organization

#	Key Findings	Criticality Rating
6	Risk - **COVID-19 State-wide shutdown could hinder project activities and negatively impact the project schedule and budget**: On 3/23/2020, the Governor issued a "stay at home, work from home order" that appears to have reduced the ability of the DOE to be fully functional, as the large majority of their workers have been required to work from home/remotely. Though the governor has allowed state workers to return to the workplace, many continue to work remotely. The state legislature is currently contemplating implementing 1-2 day/week furloughs as well as salary cuts for state workers to make up for budget shortfalls due to COVID-19. While the extent to which remote work requirements will impact the project are not fully known, it will likely complicate planning and execution of training, testing, and OCM. Many users have a strong preference for in-person training, however, due to social distancing policies, existing classroom capacity has been significantly reduced. Limited in-person training could lead to unmet user expectations and frustration as well as reduce the effectiveness of training. In the event in-person training is limited, project training planning and preparation will likely increase. If furloughs are mandated, the project may not be able to meet project milestone deadlines which could also negatively impact the project budget. IV&V will continue to monitor for other COVID-19 related impacts. The project is currently faced with productivity and communication challenges because, due to COVID, the SI off-shore senior technical resources reside in India. Time zone (India team) challenges appear to have limited communications with the project team, and SMEs have often had to wait until the following day to get answers to some questions. Further, SMEs have indicated that the lack of in-person project work sessions has likely hindered their productivity.	Medium

IV&V Findings and Recommendations (cont'd)

M Project Management & Organization (cont'd)

#	Key Findings	Criticality Rating
8	Risk - **Inefficient project management practices could lead to overall lack of productive project activities and ultimately schedule delays**: This project is scoped to be staffed by both a DOE PM and an SI PM with the SI PM managing the bulk of SDLC activities with the DOE PM assisting in managing DOE assigned project activities. The DOE struggled to adequately staff the DOE PM position during the initial months of the project, until they were able to acquire a capable consultant to fill the role, April 2020. The project reported some early insufficient and inefficient project management processes, including: • Insufficient action item tracking and follow-up • Insufficient attention to risk management • Unclear project scope definition • Lack of clear meeting objectives and late delivery of meeting agenda's • Lack of preparation and planning for meetings and work sessions • Insufficient guidance on attendee management and vetting of attendees • Previous SI project manager (PM) had not met project expectations for project leadership, strategic direction, communication, and organization. The SI has recently responded to DOE leadership concerns by removing the SI PM and adding a project coordinator to their team, and the SI engagement manager has taken over as the PM and is now making some progress in addressing the above concerns. Lack of good project management processes can lead to an overall lack of project productivity, and ultimately lead to schedule delays and stakeholder frustration and reduced user buy-in. The SI appears to be making good progress in addressing DOE project management concerns. However, the impacts of operating the project under poor project management processes for the initial 5 months of the project remain unclear. Further, the current SI PM could be quickly overwhelmed as they attempt to fulfill both the PM and engagement manager roles, in addition to other responsibilities in their role as Vice President of Operations and senior CherryRoad executive (principle/partner). The recently added SI project coordinator appears to have had a positive impact on PM processes.	Medium

IV&V Findings and Recommendations (cont'd)

M Project Management & Organization (cont'd)

Recommendations	Progress
• Begin early contingency planning to address further impacts of COVID-19, such as potential furloughs as well as fully remote UAT and Training.	In progress
• Perform an assessment of DOE remote capabilities prior to UAT and Training to determine stakeholder's ability and effectiveness in relying on remote access for project participation.	In progress
• Continue to monitor project stakeholders and system users are sufficiently competent with remote meeting technology including ensuring they are highly functional with remote access technology (e.g. WebEx), as UAT and Training will likely require some level of (if not full) remote participation.	In progress
• Send broad communications to assure stakeholders the project has a clear understanding of COVID-19 impacts to the project and provide regular updates, as appropriate, as new plans and tactics develop.	Not started
• Detail relevant OCM strategies and plans for addressing the impacts of COVID-19 in the project OCM Plan.	In progress
• Request the SI make efforts to address time zone challenges with the off-shore technical team.	In progress
• Initiate efforts to request furlough exemptions for the DOE project team.	Not started
• Request the SI work quickly to acquire a dedicated and highly-capable project manager that has proven experience successfully driving an Oracle cloud-based K-12 project in an accelerated timeframe.	In progress
• Monitor and provide regular feedback on PM processes and implement continuous process improvement processes to assure consistent and effective project management.	In progress

IV&V Findings and Recommendations (cont'd)

L System Architecture & Design

#	Key Findings	Criticality Rating
7	Risk – **Oracle Financials environment constraints could lead to schedule delays and leave the project unable to meet development, testing, and training objectives:** The project has planned for a total of 4 environments, currently slated for development, testing, training, and production. Oracle Financials cloud service level agreements for environment refresh is reportedly 3 weeks. The SI has indicated they are working on a strategy for accomplishing project objectives with the limited environments and the DOE is reportedly making efforts to increase the number of environments. Typically, projects of this size, complexity, and pace rely on quick environment refreshes in order to effectively meet development, testing, and training objectives. Most will plan for an abundance of environments in order to avoid the need to repurpose environments, avoid project delays, and provide flexibility to "freeze" environments to improve testing and training quality. If the project is unable to quickly refresh environments and is has only a limited number of environments.	Low

Recommendations	Progress
• Request the SI develop an environment management plan.	In progress
• DOE work to procure additional environments as necessary based on SI recommendations that would assure accelerated development cycles.	In progress

IV&V Status

- **IV&V activities performed during the reporting period:**
  - Prepared IV&V Plan and Work Plan
  - Prepared and reviewed IV&V Kickoff presentation
  - Attended interview of potential SI staffing additions
  - Attended Project Management meetings
  - Attended Weekly Managers & Leads meetings
  - Attended various Fit/Gap sessions, Working Group sessions & Design Workshops
  - Initial review of project documentation
  - Led IV&V Risk Review sessions with DOE leadership and the SI
  - Interviewed DOE and SI project team members
  - Produced initial assessment IV&V Monthly Status Report
- **IV&V next steps in the coming reporting period:**
  - Attend key project meetings
  - Interview additional key project stakeholders
  - Deliver next IV&V Monthly Status Report

Appendix A – IV&V Criticality Ratings

This appendix provides the details of each finding and recommendation identified by IV&V. Project stakeholders are encouraged to review the findings and recommendations log details as needed.

See definitions of Criticality Ratings below:

Criticality Rating	Definition
H	A high rating is assigned if there is a possibility of substantial impact to product quality, scope, cost, or schedule. A major disruption is likely, and the consequences would be unacceptable. A different approach is required. Mitigation strategies should be evaluated and acted upon immediately.
M	A medium rating is assigned if there is a possibility of moderate impact to product quality, scope, cost, or schedule. Some disruption is likely, and a different approach may be required. Mitigation strategies should be implemented as soon as feasible.
L	A low rating is assigned if there is a possibility of slight impact to product quality, scope, cost, or schedule. Minimal disruption is likely, and some oversight is most likely needed to ensure that the risk remains low. Mitigation strategies should be considered for implementation when possible.

Appendix B – IV&V Standard Inputs

To keep abreast of status throughout the Time & Leave project, IV&V regularly:

- **Attends the project meetings**
- **Reviews the project documentation**
- **Utilizes Eclipse IV&V® Base Standards and Checklists**

Appendix C – IV&V Details

- What is Independent Verification and Validation (IV&V)?
  - Oversight by an independent third party that assesses the project against industry standards to provide an unbiased view to stakeholders
  - The goal of IV&V is to help the State get the solution they want based on requirements and have it built according to best practices
  - IV&V helps improve design visibility and traceability and identifies (potential) problems early
  - IV&V objectively identifies risks and communicates to project leadership for risk management
- PCG IV&V Methodology
  - Consists of a 4-part process made up of the following areas:
    1. **Discovery** – Discovery consists of reviewing documentation, work products and deliverables, interviewing project team members, and determining applicable standards, best practices and tools
    2. **Research and Analysis** – Research and analysis is conducted in order to form an objective opinion.
    3. **Clarification** – Clarification from project team members is sought to ensure agreement and concurrence of facts between the State, the Vendor, and PCG.
    4. **Delivery of Findings** – Findings, observations, and risk assessments are documented in this monthly report and the accompanying Findings and Recommendations log. These documents are then shared with project leadership on both the State and Vendor side for them to consider and take appropriate action on.

Note: This report is a point-in-time document with findings accurate as of the last day in the reporting period.

Solutions that Matter

Id	Short Desc	Title / Summary	Finding Description	Analysis and Significance	Recommendation	Category	Type	Priority	Status	Identified Date
1	Positive-DOE team	**High performing DOE project team members have had a positive impact on the project and will likely be a significant factor for project success.**	The DOE appears to have assembled an exceptional team of highly committed, motivated, skilled, and productive DOE resources. SI team members have noted that the DOE team, as compared to other customers, have proven to be exceptional in their commitment to the project, productivity, and knowledge of their subject matter areas. The SI team has also noted that the DOE team is responsive to SI requests for information and thus far have been a quick study of the new Oracle Financials platform. DOE team leadership (technical/financial sponsors and PMO) has demonstrated an intuitive understanding of project needs, SI and DOE team strengths/weaknesses, key success factors, and risks.	A high-performing DOE project team will likely be a significant factor for project success as they execute an accelerated project schedule. High-performing teams can help mitigate many risks as they are able to intuitively identify points of failure and act quickly to compensate for project weaknesses as they are realized.	n/a	Human Resource Management	Positive	n/a	n/a	6/30/2020
2	DOE capacity - overreliance	**Over reliance on a few skilled and overtaxed DOE project resources could lead to significant project disruption.**	There are currently 3-4 DOE team members who are relied on to a greater extent than others. Each of these individuals have significant standing critical operational responsibilities and most have managerial responsibilities as well. While each of these team members have indicated a strong commitment to project success, each has multiple competing priorities, and most will be constrained with operational tasks between now and go-live. Many DOE team members will likely participate in the FMS Mainframe-as-a-Service project currently planned for August 2020, though, the required level of effort remains unclear. It remains unclear if DOE staffing levels committed to in the original Statement of Work (SOW) have been met (see SOW, page 3).	Over reliance on key resources can not only overtax and thereby reduce the effectiveness of these key individuals, but also presents a risk of significant project disruption in the event of their departure. While most projects have this risk, the risk impact for this project, from IV&V's perspective, is higher than most, and while the project could be impacted by the loss of any DOE team members, there are 3-4 individuals who are relied on to a greater extent than others. Loss of these individuals could lead to significant project disruption. Failure to transfer standing daily operational and managerial responsibilities from these individuals to other DOE resources could stretch them beyond their capacity and lead to a lack of job satisfaction, decreased productivity, decrease in quality, and increases the probably they could make critical mistakes that could negatively impact the project. Several of these key resources have indicated they have significant operational responsibilities and projects between now and go-live (e.g. year-end close, audit, the Time & Leave project, preparations for the new school year, etc.) and may simply lack the capacity to meet all current expectations. Further, if the SI is not able to resolve some staffing challenges (see related risk), the project may increase their reliance on these individuals and may have to work harder to ensure system designs are accurate, project milestones are met, and overall project activities remain productive.	• Executive leadership regularly monitor the workload and job satisfaction of these key individuals and assist with workload management and clarification of priorities as needed. • Temporarily re-allocate operational/managerial responsibilities from key resources until project completion. • Consider temporary staff augmentation options to both augment the existing project team and augment the operations staff to offload operational responsibilities from key resources. • Prepare contingency plans in the event that the DOE project team can no longer sustain project and operational activities at the expected pace. • Prepare a resource management plan that addresses current and projected project resource constraints and clearly identifies additional resource needs. Recommend this plan include a detailed analysis of these individual's workload over the next 6 months to determine if expectations on their time are realistic. • Assess project team members level of participation in the FMS Mainframe-as-a-Service Migration Project currently schedule for August 2020 and manage their capacity accordingly.	Human Resource Management	Risk	High	Open	6/30/2020
3	Accelerated Schedule	**Adoption of an aggressive schedule could lead to poor system quality, user frustration, stretch DOE resources beyond their capacity, and bad press.**	In October of 2018, the aging DOE FMS failed, was offline for several weeks, and led to significant disruption of critical operations. As a result, the DOE quickly procured and launched this project with the goal of replacing their FMS as quickly as possible to avoid a similar event. The project is currently executing an aggressive, accelerated timeline with a January 2021 go-live date. This accelerated schedule incurs risks that the DOE has deemed acceptable given the potential larger risks associated with another legacy FMS failure. In order to speed implementation, the project has elected to implement a cloud-based Oracle Software-as-a-Service platform based on a pre-configured template, leverage Agile SDLC methods, limit the amount of new or improved functionality, and scaled back some project documentation. The SI has stated that they had scaled back early analysis efforts in order to meet DOE expectations for an accelerated schedule. The SI also stated that initial analysis would not be needed because the project will be adopting a preconfigured Oracle SAAS template for system implementation and that DOE users will be required to change their existing processes and adopt processes supported by the platform template. Some SMEs have reported early work session have been unproductive due to the lack of sufficient early analysis efforts.	The accelerated schedule could lead to: •Lack of thorough consideration of required business process changes resulting from the new system •User confusion and frustration due to the added burden of learning a new system with new processes, unmet expectations for improvements, and significant disruption to their daily duties •Over allocation of project resources and users •Significant OCM and Training efforts with limited time to plan and execute •Project decisions to cut corners to meet milestones and DOE expectation •Unproductive working sessions due to insufficient analysis efforts •Limited time to react to or resolve issues that may arise •Poor system design •A flurry of chaotic stakeholder activity as the project progresses closer to go-live. This risk could be exacerbated by other IV&V identified risks which could lead to a need to extend the project schedule. If these potential risks are realized, negative user feedback could lead to inflammatory media coverage which could negatively impact legislative, board of education, and public support. Some SMEs have reported early work sessions have been unproductive due to the lack of sufficient early analysis efforts. This risk could be exacerbated by other IV&V identified risk which could lead to a need to extend the project schedule. Still, the project has stated they will only go-live if the system sufficiently supports DOE operations and users are able to do their jobs.	• Take steps to assure sufficient OCM planning and activities are performed to prepare users for the significant change taking place at an accelerated rate. • Project leadership closely monitor project productivity and meet regularly to perform continuous process improvement (continuously reach out for feedback and move quickly to improve unproductive project elements and processes). • Leadership take steps to closely monitor project team capacity and assure resources are not overallocated. • Implement a plan for broad validation of system functionality with clear channels of communication for user feedback to assure all users are able to perform their duties prior to the project go/no-go decision. • Project make early efforts to plan for and prepare contingency plans in the event it becomes clear the accelerated schedule is unsustainable or critical project objective will not be met by the planned go-live date. • Prepare and implement a public relations plan to avoid inflammatory media coverage which could negatively impact legislative, board of education, and public support. • Consider employing the role of a Scrum Master whose prime directive is to remove roadblocks to productivity.	Cost & Schedule Management	Risk	Medium	Open	6/30/2020
4	Delayed PMP & schedule	**Delayed finalization of the Project Management Plan (PMP) and schedule could lead to stakeholder confusion and less than informed planning and ultimately lead to reduced productivity and project delays.**	The project is currently operating under a draft Project Management Plan (PMP) and project schedule. The PMP deliverable was due 3/12/20 but, as of this reporting period, both have not been finalized. DOE project leadership has indicated that existing drafts appear to lack sufficient details.	The projects accelerated schedule leaves little room for any impact to project productivity. Lack of a finalized PMP could lead to uncertainty around project scope and uncertainty around how the project will be executed or managed, which can reduce overall project cadence and productivity. Delays in establishing a clear, detailed baselined schedule could lead to project delays and leave the project unable to effectively monitor project progress. Further, the lack of a clear critical path could leave the project with little time to respond to critical path activities that may have already impacted the project go-live date.	• Request the SI accelerate efforts to finalize the PMP and provide a detailed baselined project schedule.	Cost & Schedule Management	Risk	Medium	Open	6/30/2020
5	SI Staffing Challenges	**SI staffing challenges could reduce project productivity and system design quality, and lead to schedule delays.**	Since soon after project launch, the DOE project leadership has raised several concerns with regards to the SI project team. DOE stakeholders have reported that working session productivity has, at times, been hindered by the apparent lack of sufficient knowledge, capabilities, and expertise of some SI team members. While some appear to have some strong capabilities and financial system knowledge, others appear to lack the capability to drive productive discussions, quickly solution implementation issues, and accelerate the Software Development Lifecyle (SDLC). The SI has recently responded to DOE leadership concerns that the SI PM lacked sufficient capabilities, experience, and the temperament to perform effectively as the project PM. The SI has responded to these concerns and the engagement manager has temporarily taken over PM responsibilities and augmented their team with a project coordinator resource. DOE leadership has raised concerns with other SI leads as well and the SI appears to be making efforts to augment their staffing model to address each concern.	Due to the accelerated project schedule, the project can ill afford to tolerate a lack of productivity given go-live is in 6 months. One of the primary factors of project success is establishing a skilled, experienced, productive, highly available and high-functioning team. If the SI is not able to quickly implement a staffing model that can establish this kind of team, the project schedule could be at risk. Further, the lack of sufficiently capable SI resources could weigh heavily on already constrained DOE SMEs as they attempt to compensate and extend additional efforts to ensure project milestones are met. The addition of highly capable and experienced SI resources could reduce the burden on DOE SMEs. This risk is likely to be exacerbated by the significant time zone difference between the project team (HST and PST) and the SI technical team who reside in India.	• Work closely with the SI in their staffing efforts and quickly, but thoroughly, vet additions to the SI project team. • Request the SI explore augmenting their team with highly capable and experienced resources that could potentially accelerate the project and reduce the burden on constrained DOE SMEs.	Human Resource Management	Risk	Medium	Open	6/30/2020

Id	Short Desc	Title / Summary	Finding Description	Analysis and Significance	Recommendation	Category	Type	Priority	Status	Identified Date
6	COVID	**COVID-19 State-wide shutdown could hinder project activities and negatively impact the project schedule and budget.**	On 3/23/2020, the Governor issued a "stay at home, work from home order" that appears to have reduced the ability of the DOE to be fully functional, as the large majority of their workers have been required to work from home/remotely. Though the governor has allowed state workers to return to the workplace, many continue to work remotely. The state legislature is currently contemplating implementing 1-2 day/week furloughs as well as salary cuts for state workers to make up for budget shortfalls due to COVID-19.	While the extent to which remote work requirements will impact the project, it has already complicated planning for training and OCM. Many users have a strong preference for in-person training, however, due to social distancing policies, existing classroom capacity has been significantly reduced. Limited in-person training could lead to unmet user expectations and frustration as well as a less than optimal training effectiveness. In the event in-person training is limited, project training planning and preparation will likely increase. If furloughs are mandated, the project may not be able to meet project milestone deadlines which could also negatively impact the project budget. IV&V will continue to monitor for other COVID-19 related impacts. The project is currently faced with productivity and communication challenges because, due to COVID, the SI off-shore senior technical resources reside in India. Time zone (India team) challenges appear to have limited communications with the project team and SMEs have often had to wait until the following day to get answers to some questions. Further, SMEs have indicated that the lack of in-person project work sessions has hindered their productivity.	• Begin early contingency planning to address further impacts of COVID-19, such as potential furloughs as well as fully remote UAT and Training. • Perform an assessment of DOE remote capabilities prior to UAT and Training to determine stakeholder's ability and effectiveness in relying on remote access for project participation. • Continue to monitor project stakeholders are sufficiently competent with remote meeting technology including planned to become highly functional with remote access technology (e.g. WebEx), as UAT and Training will likely require some level of (if not full) remote participation. • Send broad communications to assure stakeholders the project has a clear understanding of COVID-19 impacts to the project and provide regular updates, as appropriate, as new plans and tactics develop. • Detail relevant OCM strategies and plans for addressing the impacts of COVID-19 in the project OCM Plan. • Request the SI make efforts to address time zone challenges with the off-shore technical team. • Initiate efforts to request furlough exemptions for the DOE project team.	Project Organization & Management	Risk	Medium	Open	6/30/2020
7	Environments	**Oracle Financials environment constraints could lead to schedule delays and leave the project unable to meet development, testing, and training objectives.**	The project has planned for a total of 4 environments, currently slated for development, testing, training, and production. Oracle Financial cloud service level agreements for environment refresh is reportedly 3 weeks. The SI has indicated they are working on a strategy for accomplishing project objectives with the limited environments and the DOE is reportedly making efforts to increase the number of environments.	Typically, projects of this size, complexity, and pace rely on quick environment refreshes in order to effectively meet development, testing, and training objectives. Most will plan for an abundance of environments in order to avoid the need to repurpose environments, avoid project delays, and provide flexibility to "freeze" environments to improve testing and training quality. If the project is unable to quickly refresh environments and is has only a limited number of environments.	• Request the SI develop an environment management plan. • DOE work to procure additional environments as necessary based on SI recommendations that would assure accelerated development cycles.	System Architecture & Design	Risk	Medium	Open	6/30/2020
8	PM processes	**Inefficient project management practices could lead to overall lack of productive project activities and ultimately schedule delays.**	This project is scoped to be staffed by both a DOE PM and an SI PM with the SI PM managing the bulk of SDLC activities with the DOE PM assisting in managing DOE assigned project activities. The DOE struggled to adequately staff the DOE PM position during the initial months of the project, until they were able to acquire a capable consultant to fill the role, April 2020. The project reported some early insufficient and inefficient project management processes, including: ▪ Insufficient action item tracking and follow-up ▪ Insufficient attention to risk management ▪ Unclear project scope definition ▪ Lack of clear meeting objectives and late delivery of meeting agenda's ▪ Lack of preparation and planning for meetings and work sessions ▪ Insufficient guidance on attendee management and vetting of attendees ▪ Previous SI project manager (PM) had not met project expectations for project leadership, strategic direction, communication, and organization. The SI has recently responded to DOE leadership concerns by removing the SI PM and adding a project coordinator to their team, and the SI engagement manager has taken over as the PM and is now making some progress in addressing the above concerns. The project is currently operating under a draft Project Management Plan (PMP) and project schedule. These deliverables were due 3/12/20 but, as of this reporting period, have not been finalized (see Risk #4).	Due to the accelerated project schedule, the project can ill afford to tolerate a lack of productivity. Lack of good project management processes can lead to an overall lack of project productivity, and ultimately lead to schedule delays and stakeholder frustration and reduced buy-in. The SI appears to be making good progress in addressing DOE project management concerns. However, the impacts of operating the project under poor project management processes for the initial 5 months of the project remain unclear. The project could realize the reduced productivity during the planning and analysis phase has led to project delays. Further, the current SI PM could be quickly overwhelmed as they attempt to fulfill both the PM and engagement manager roles, in addition to other responsibilities in their role as Vice President of Operations and senior CherryRoad executive (principle/partner). The recently added SI project coordinator appears to have had a positive impact on PM processes.	• Request the SI work quickly to acquire a dedicated and highly-capable project manager that has proven experience successfully driving an Oracle cloud-based R-12 project in an accelerated timeframe. • Monitor and provide regular feedback on PM processes and implement continuous process improvement processes to assure consistent and effective project management.	Project Organization & Management	Risk	Low	Open	6/30/2020

COLUMN	DESCRIPTION
Id	Unique risk number.
Short Desc	Short description/label of the risk.
Title/Summary	Finding summary
Finding Description	A description of IV&V's observation.
Significance	High level description of the significance or impact of the finding to the project.
Recommendation	Includes the IV&V recommendation to mitigate identified risk or issue.
Updates	Contains dated updates that relate to the finding.
Category	Include: • Communication Management • Contract Management • Cost and Schedule Management • Human Resources Management • Knowledge Transfer Management • Operational Preparedness • Organizational Change Management • Project Organization and Management • Quality Management • Requirements Management • Risk Management • Systems Architecture and Design
Type	Indicates if finding entry is a positive, preliminary concern (observation), risk or issue (see IVVP deliverable for detailed descriptions of types).
Priority	IV&V will identify the risk or issue priority as High, Medium, or Low. If there is not a risk or issue identified, the text "n/a" will be entered.
Status	IV&V will identify the status as open, in-progress, or closed: • Open - risk has been identified • In-progress - risk is actively being addressed • Closed - risk has been effectively mitigated
Closure Reason	Reason the finding was closed. Possible reasons may include: • Accepted - customer realizes there is a risk but has accepted responsibility for the risk being realized • Resolved - mitigation strategy/activities have been employed and risk has been sufficiently mitigated
Closed Date	Date the finding was closed.
Identification Date	Date risk was identified (may not be exact).