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January 4, 2022

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

The Honorable Scott K. Saiki,  
Speaker, and  
Members of The House of Representatives  
Thirty-First 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 (Jan 4, 2022 13:20 PST)

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: **June 16 – July 19, 2021**

*Draft Submitted: August 5, 2021*

*Final Submitted: December 9, 2021*

# Overview

- Executive Summary
- IV&V Findings and Recommendations
- IV&V Status
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  - A – IV&V Findings Log & Priority Ratings
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# Executive Summary




*On July 19, DOE successfully launched their new Aukahi Financial Management System (FMS) and moved off their failing legacy FMS system. Despite facing multiple challenges, the project team came together to achieve the planned go-live date. Trouble tickets logged at go-live do not appear to be excessive (~80), the bulk of which were for 2-3 more impactful bugs that the project is working to resolve. The project's risk profile has been reduced as a result and IV&V has closed 3 findings and lowered the risk rating for 6 risks/issues.*

*While go-live is no longer at risk, IV&V remains concerned that the project may still face challenges meeting their post go-live support and system operation objectives. Many tasks such as system maintenance training and development of some functionality have been pushed out in order to prioritize go-live activities, and SME capacity to support ticket resolution could be constrained as they work to resolve system and new procedural issues. Further, there appears to be some confusion over post go-live support processes and IV&V has concerns over the effectiveness of the current support model. If user support needs are not effectively met in a timely manner, users could struggle to perform their job, lose confidence in the project's ability to support them, and could face challenges making timely vendor payments and purchasing teacher supplies. The support team's capacity could be further constrained by the flood of back-to-school activities that have in the past triggered up to 1000 help desk tickets per day during this same time period. There are early indications that the single DOE purchasing SME could quickly become overwhelmed with trouble tickets, and it appears there is no plan in place to manage SME workload. If ticket resolution is delayed, users who will be using the system for the first time, in addition to completing their other standard back to school activities, could struggle with timely completion of their tasks.*

*IV&V has opened a new issue regarding training challenges that have led to some user confusion and reportedly has inundated support personnel with system usage questions. IV&V remains concerned with the quality of system configurations as a high priority procurement-related bug was discovered at go-live that has resulted in approximately 20 of the 80 go-live trouble tickets and led to delays in user task completion.*

*IV&V also remains concerned with the lack of clarity around who will lead and be responsible for the quality of user support, the effectiveness of help desk reporting, DOE's ability to manage Oracle quarterly releases, and whether the current security configurations mitigate fraud and fully support separation of duties and the principle of least permissions (PoLP).*




# Executive Summary (cont'd)

May	Jun	Jul	Category	IV&V Observations
			Cost & Schedule Management	<p>The project was able to achieve their planned July 19 go-live date and has moved off their failing legacy FMS system. While go-live is no longer at risk, IV&amp;V remains concerned that the project may still face challenges meeting their post go-live support and system operation objectives. Many tasks have been pushed out in order to prioritize go-live activities, and SME capacity to support ticket resolution could be constrained as they work to resolve system and new procedural issues.</p> <p>Because go-live was successful, despite some challenges with the project schedule, IV&amp;V has closed issue #4 (lack of a detailed, fully resourced project plan) and lowered this category risk priority to Low.</p> <p>IV&amp;V continues to recommend the project develop a fully resourced project plan for post go-live activities so they can effectively determine and communicate to users when delayed functionality will be delivered, and when workarounds can be replaced with system features.</p>




# Executive Summary (cont'd)

May	Jun	Jul	Category	IV&V Observations
M	M	M	Human Resources Management	<p>The project team came together in the remaining weeks prior to go-live and key DOE SMEs demonstrated the ability to mitigate many risks of the SIs lack of skilled expert-level resources. IV&amp;V observed DOE SMEs stepping in to catch important tasks or problematic issues that could have been missed and led to delays in go-live. Without expert-level resources, it remains unclear if the existing SI resources will be able to quickly solution system issues post go-live which could result in end user loss of productivity as they wait for the SI to solution and implement important system fixes. These delays could lead to reduced user buy-in and/or negative press.</p> <p>DOE has indicated their intention to extend the contract for the Gartner PM project resources beyond the original 7/23/2021 completion date to sometime in October 2021. While this should help with management of the significant number of post go-live tasks and planning activities, the division of responsibilities between the SI PM and the DOE (Gartner) PM remains unclear. Effective management of remaining tasks could be critical to ensure DOE SME capacity is managed well and preventing them from becoming overwhelmed with support and other tasks. There are early indications that the single DOE purchasing SME could quickly become overwhelmed with trouble tickets, and it appears there is no plan in place to manage SME workload. Without a plan to mitigate this risk, it is likely that tickets assigned to this resource could go unanswered for extended periods of time and lead to significant user frustration and the longer users wait for assistance with submitted tickets, the more teachers could be hindered from preparing for the new school year and could also lead to delays in paying DOE vendors.</p>

# Executive Summary (cont'd)

May	Jun	Jul	Category	IV&V Observations
			Project Management & Organization	<p>On July 19, DOE successfully launched their new Aukahi Financial Management System (FMS) and moved off their failing legacy FMS system. Despite facing multiple challenges, the project team came together to achieve the planned go-live date. Therefore, IV&amp;V has lowered this category risk to Medium.</p> <p>DOE leadership has raised concerns (and IV&amp;V agrees) that the backlog of post go-live tasks are not being efficiently and/or effectively planned. It remains unclear whether the SI will fully track project tasks in a fully resourced, dependency-based project plan and track the critical path. Given that some SMEs continue to be preoccupied with support tickets and resolving system issues, it remains unclear when they will have time to complete planned post go-live tasks. Resource management and understanding critical paths should be a critical component to mitigating against delays in post go-live task completion and meeting user needs and expectations. Further, it appears the SI PM activities have been scaled back, likely leaving the burden of project management to fall on DOE SMEs and their PMO. DOE has indicated they intend to extend the Gartner PMO contract out to October 2021 which should help to mitigate some of this category's risks. However, there remains some ambiguity around the division of project PM responsibilities between the DOE PMO and the SI PM team.</p> <p>There are early indications that insufficient post go-live support planning and unclear division of support leadership responsibilities has diminished the quality of user support. DOE has reported that support resources (USTs) have been brought on late which has limited the support planning efforts as well as support personnel (UST) training. At go-live, there was some confusion over support processes and some DOE SMEs were overwhelmed with support requests. The support team's capacity could be further constrained by the flood of back-to-school activities that have in the past triggered up to 1000 help desk tickets per day during this same time period. There are early indications that the single DOE purchasing SME could quickly become overwhelmed with trouble tickets, and it appears there is currently no plan in place to manage SME workload. If ticket resolution is delayed, users who will be using the system for the first time, in addition to completing their other standard back to school activities, could struggle with timely completion of their tasks. If user support needs are not effectively met in a timely manner, users could struggle to perform their job, lose confidence in the project's ability to support them, and could face challenges making timely vendor payments and purchasing teacher supplies.</p>

# Executive Summary (cont'd)

May	Jun	Jul	Category	IV&V Observations
			Project Management & Organization (cont'd)	<p>There also appears to be some confusion over who would be responsible for solutioning overall support issues and current help desk reporting may be insufficient to determine the effectiveness of user support and provide leadership with data they can act on. IV&amp;V recommends DOE optimize their help desk reporting in order to provide greater visibility for DOE executive leadership and better track and optimize help desk performance to ensure customer needs are effectively being met.</p> <p>Risk #14 (regarding training material development challenges) has been overcome by events and is closed, though a new issue regarding training challenges that have led to some user confusion, frustration, and overwhelmed support personnel has been opened. Many stakeholders have reported that training has not met DOE expectations. Users complained that training should have included mappings between legacy FMS and Aukahi. This has led to an elevated number of support tickets for basic system tasks, the bulk of which were related to purchasing which, for the most part, are being managed by a single DOE SME. Additionally, the project has also identified a significant purchase order related bug that this single resource will be responsible for resolving.</p> <p>IV&amp;V has lowered this category risk priority to Medium, given the successful go-live.</p>





# Executive Summary (cont'd)

May	Jun	Jul	Category	IV&V Observations
M	M	M	Quality Management	<p>The project team was able to overcome risks associated with introducing functionality late into the production build. SI resources appear to have implemented more disciplined release management procedures prior to go-live such that go-live was not impacted by violations of this process. DOE has stated their intention to hire a release manager to manage and support Oracle quarterly releases which could help to mitigate this risk for post go-live Oracle quarterly releases that will now need to be supported by DOE personnel. The next quarterly release is slated for 8/6/2021. This release presents an opportunity for DOE to assess their ability to manage these releases with existing DOE resources given that SI resources have managed these releases in the past. The SI has reported existing SI project team resources will be available to assist as needed until they are rolled off the project between now and October 2021. IV&amp;V remains concerned with the quality of system configurations as a significant procurement related bug was discovered at go-live. It remains unclear how this bug was not identified through the various testing phases or through SI experience with this Oracle platform for their other education customers.</p>

# Executive Summary (cont'd)

May	Jun	Jul	Category	IV&V Observations
M	M	M	System Architecture & Design	<p>DOE FMS support staff have reported the previously reported time zone bug has mostly gone unnoticed by most users; however, it remains unclear whether users are unknowingly utilizing inaccurate data for reports and other queries. The project is still contending with required workarounds due to Oracle limitations that may have created confusion for some users and reduced user buy-in. DOE leadership has indicated their frustration with unresponsive Oracle leadership with regard to obvious platform bugs that have been characterized by Oracle as enhancement requests that have no clear implementation date.</p> <p>Knowledge Transfer (KT) activities continue to be delayed due to prioritization of go-live and current user support activities. The bulk of go-live tickets related to security were special user requests that give users additional permissions beyond their existing auto-provisioned roles. It remains unclear whether the current security configurations mitigate fraud and fully support separation of duties and the principle of least permissions (PoLP).</p> <p>Despite some challenges, project efforts to address risks associated with interfaces to antiquated systems appear to have been mostly successful, however, some interfaces have been delayed until post go-live because of unexpected complexity and other potential external stakeholder challenges. Though the remaining interfaces were not critical for go-live, the level of effort for one interface has the potential to be significant.</p>

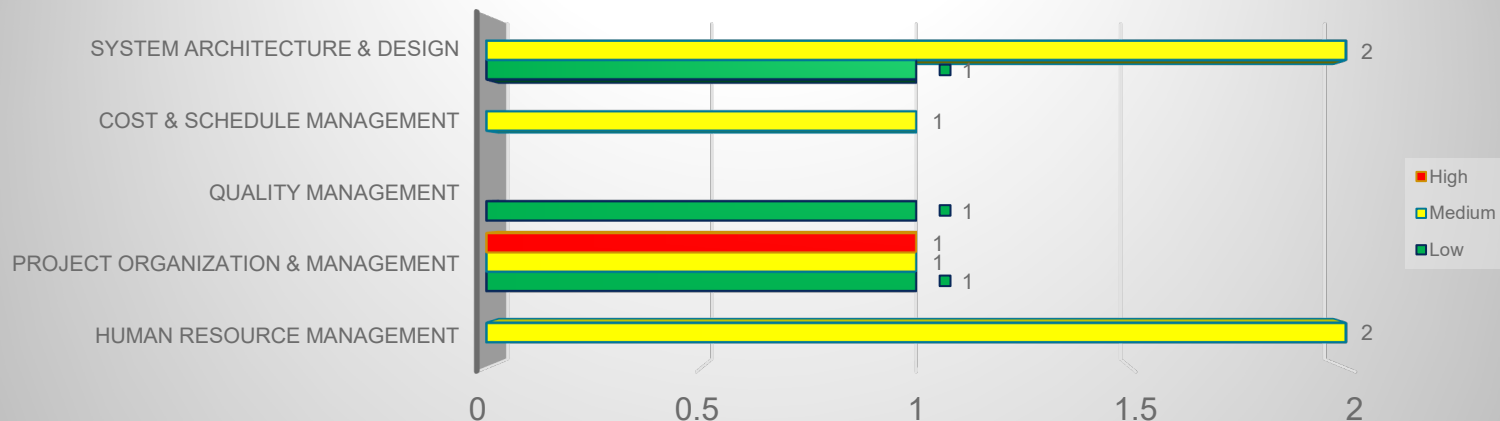
# IV&V Findings and Recommendations

IV&V identified 10 findings (9 issues and 1 risks) for this reporting period, close 3 findings, and open one new issue. The following chart breaks down the findings by type/category/priority.

Findings by Type



Open Risks/Issues 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	Issue	3	<b>Adoption of an aggressive schedule could lead to poor system quality, user frustration, stretch DOE resources beyond their capacity, and bad press.</b>	Medium
	Issue ↓	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.	Closed
Human Resource Management	Issue	2	<b>Over reliance on a few skilled and overtaxed DOE project resources could lead to significant project disruption.</b>	Medium
	Issue	5	<b>SI staffing challenges could reduce project productivity and system design quality, and lead to schedule delays.</b>	Medium
Project Organization & Management	Risk	8	<b>Inefficient project management practices could lead to overall lack of productive project activities and ultimately schedule delays.</b>	Low
	Issue ↑	11	<b>Insufficient knowledge transfer (KT) and M&amp;O planning prior to go-live could lead to project delays and diminished quality of post go-live support.</b>	High
	Risk ↓	14	Training material development may be extensive and could lead to project delays or reduce the effectiveness of training	Closed
	Issue	15	<b>&lt;NEW&gt; Training challenges have led to some confusion, user frustration, and overwhelmed support personnel.</b>	Medium
Quality Management	Issue ↓	10	<b>Inadequate release management processes could lead to significant rework and schedule delays.</b>	Low
	Risk	12	Insufficient testing strategy and planning could lead to poor test quality, including incomplete and invalid test results.	Closed
System Architecture & Design	Issue	7	<b>Oracle Financials environment constraints could lead to schedule delays and leave the project unable to meet development, testing, and training objectives.</b>	Medium
	Issue ↓	9	<b>User provisioning and security model complexities could lead to unmet user expectations, unfulfilled business objectives, and schedule delays.</b>	Medium
	Issue ↓	13	<b>Integration with older (antiquated technology) systems could be unexpectedly complicated and lead to schedule delays.</b>	Low

# IV&V Findings and Recommendations (cont'd)

## Cost & Schedule Management

#	Key Findings	Criticality Rating
3	<p><b>Issue - Adoption of an aggressive schedule could lead to poor system quality, user frustration, stretch DOE resources beyond their capacity, and bad press:</b> 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.</p> <p>The accelerated schedule could lead to:</p> <ul style="list-style-type: none"><li>• Lack of thorough consideration of required business process changes resulting from the new system</li><li>• 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</li><li>• Over allocation of project resources and users</li><li>• Significant OCM and Training efforts with limited time to plan and execute</li><li>• Project decisions to cut corners to meet milestones and DOE expectation</li><li>• Unproductive working sessions due to insufficient analysis efforts</li><li>• Limited time to react to or resolve issues that may arise</li><li>• Poor system design</li><li>• A flurry of chaotic stakeholder activity as the project progresses closer to go-live.</li></ul> <p>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.</p>	Medium

# IV&V Findings and Recommendations (cont'd)

## Cost & Schedule Management (cont'd)

#	Key Findings	Criticality Rating
4	<p><b>Issue - 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.:</b> 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.</p>	<b>Closed</b>

# IV&V Findings and Recommendations (cont'd)

## Cost & Schedule Management (cont'd)

Recommendations	Progress
<ul style="list-style-type: none"><li>• 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).</li></ul>	In progress
<ul style="list-style-type: none"><li>• Leadership take steps to closely monitor project team capacity and assure resources are not overallocated.</li></ul>	In progress
<ul style="list-style-type: none"><li>• Request that the SI address issues with their project team that place an unnecessary burden on overtaxed DOE SMEs.</li></ul>	In progress
<ul style="list-style-type: none"><li>• DOE make extensive efforts to manage user expectations with regard to system limitations and work arounds.</li></ul>	In progress
<ul style="list-style-type: none"><li>• DOE executive leadership clearly communicate to project stakeholders how they should prioritize project activities appropriately.</li></ul>	In progress

# IV&V Findings and Recommendations (cont'd)

M

## Human Resource Management

#	Key Findings	Criticality Rating
2	<p><b>Issue - Over reliance on a few skilled and overtaxed DOE project resources could lead to significant project disruption:</b> 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. It remains unclear if DOE staffing levels committed to in the original Statement of Work (SOW) have been met.</p> <p>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&amp;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 &amp; 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 <i>Risk #5</i>), 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.</p>	Medium



# IV&V Findings and Recommendations (cont'd)

M

## Human Resource Management (cont'd)

#	Key Findings	Criticality Rating
5	<p><b>Issue - SI staffing challenges could reduce project productivity and system design quality, and lead to schedule delays:</b> 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 Lifecycle (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.</p> <p>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.</p> <p>The SI teams' apparent lack of deep, expert-level Oracle Financials (OF) cloud expertise could continue to reduce the productivity of work sessions and/or lead to poor design decisions that could require significant rework once a better design or solution is discovered.</p>	Medium

# IV&V Findings and Recommendations (cont'd)

M

## Human Resource Management (cont'd)

Recommendations	Progress
<ul style="list-style-type: none"><li>Executive leadership regularly monitor the workload and job satisfaction of key individuals as well as assist with workload management, clarification of priorities, and establishment of a sustainable pace.</li></ul>	In progress
<ul style="list-style-type: none"><li>Temporarily re-allocate operational/managerial responsibilities from key overtaxed resources.</li></ul>	In progress
<ul style="list-style-type: none"><li>Consider temporary staff augmentation options (e.g., temps or 89-day hires) to both augment the existing project team and augment the operations staff to offload operational responsibilities from key resources.</li></ul>	In progress
<ul style="list-style-type: none"><li>Request the SI explore augmenting their team with highly capable, expert-level resources that can provide technical leadership that could potentially accelerate the project and reduce the burden on constrained DOE SMEs.</li></ul>	In progress
<ul style="list-style-type: none"><li>Request the SI make efforts to ensure solutions they have provided, and key decision documents are properly vetted by industry experts to ensure the best options are being presented to DOE SMEs.</li></ul>	Not started

# IV&V Findings and Recommendations (cont'd)

M

## Project Management & Organization

#	Key Findings	Criticality Rating
15	<p><b>&lt;NEW&gt; Issue - Training challenges have led to some confusion, user frustration, and overwhelmed support personnel:</b> DOE leadership, including the Superintendent, has indicated that the quality, effectiveness, and comprehensiveness of training is a top priority. However, SI implementation of training have not met DOE expectations as most SI trainers were brought in late into the project and did not have comprehensive knowledge of the system and refused to crosswalk existing legacy FMS functionality to new Aukahi functionality. Further, some SI instructors simply read through the slides without offering much context. Attendees questioned the value of these sessions over simply reading slides on their own. Post go-live, users complained that training should have included mappings between legacy FMS and Aukahi. Post go-live feedback has indicated that some users, despite attending training, remain unable to do their work without assistance. This has led to an elevated number of support tickets for basic system tasks. The bulk of support tickets appear to be related to purchasing. For the most part, DOE only has a single DOE SME responsible for responding to tickets related to purchasing. The project has also identified a significant purchase order related bug. Purchase order (PO) functionality is the most used feature in Aukahi FMS, therefore, any problems with PO's or user confusion over PO functionality will affect the largest number of users.</p> <p>Training challenges appear to have led to user frustration, users unable to do their job, an elevated number of user support tickets, and reduced user buy in. Because DOE currently has a single DOE SME responsible for responding to tickets related to purchasing, ticket response and resolution times will likely be delayed.</p>	Medium

# IV&V Findings and Recommendations (cont'd)

M

## Project Management & Organization (cont'd)

#	Key Findings	Criticality Rating
8	<p><b>Risk - Inefficient project management practices could lead to overall lack of productive project activities and ultimately schedule delays:</b> 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.</p> <p>The project reported some early insufficient and inefficient project management processes, including:</p> <ul style="list-style-type: none"> <li>• Insufficient action item tracking and follow-up</li> <li>• Insufficient attention to risk management</li> <li>• Inefficient meetings</li> <li>• Lack of clear meeting objectives and late delivery of meeting agenda's</li> <li>• Lack of preparation and planning for meetings and work sessions</li> <li>• Insufficient guidance on attendee management and vetting of attendees</li> <li>• Previous SI project manager (PM) had not met project expectations for project leadership, strategic direction, communication, and organization.</li> </ul> <p>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.</p>	Low

# IV&V Findings and Recommendations (cont'd)

M

## Project Management & Organization (cont'd)

#	Key Findings	Criticality Rating
11	<p><b>Issue - Insufficient knowledge transfer and M&amp;O planning prior to go-live could lead to project delays and diminished quality of post go-live support.:</b> There appears to be a lack of clarity around post go-live support responsibilities and the level of SI support. Apparently, some contractual post go-live support requirements have yet to be clarified and agreed to between the SI and DOE. Further, DOE expectations for the SI to train their IT staff have not been met. The DOE IT group currently has some interface development project responsibilities and DOE's expectation was that the SI would provide sufficient knowledge transfer (KT) on Oracle Financials (OF) and Oracle Integration Cloud (OIC) in order to perform these tasks in a timely manner as well as meet expectations for DOE post go-live support responsibilities. DOE has stated their expectation that DOE IT staff would work alongside the SI technical team for KT throughout project implementation, however, the level of KT has not met DOE expectations thus far.</p> <p>If the DOE IT staff are not sufficiently trained to effectively implement their project tasks this could lead to a reduction of efficient execution and quality of the technical components they have been assigned and, ultimately, to schedule slippage. Lack of clarity or sufficient planning around post go-live support could lead to diminished quality of post go-live support. Failure to adequately augment the existing DOE IT group with OF skillsets could leave DOE unable to adequately support the new OF system post go-live and lead to an over-reliance on costly vendor resources and impact the project budget.</p>	High

# IV&V Findings and Recommendations (cont'd)

M

## Project Management & Organization (cont'd)

#	Key Findings	Criticality Rating
14	<p><b>Risk - Training material development may be extensive and could lead to project delays or reduce the effectiveness of training.</b> DOE leadership, including the Superintendent, has indicated that the quality, effectiveness, and comprehensiveness of training is a top priority. Early indications are that both the number and degree of changes may be significant. The project is currently tracking, via the projects Change Impact Analysis (CIA) spreadsheet, impactful changes to users and daily operations with the implementation of the new system. Training material will need to effectively address these changes and prepare users for work arounds, process changes, and new system concepts.</p> <p>The SI has indicated that much of the system has maintained out of the box Oracle Financials functionality which should accelerate training material development. However, integrating CIA items into the training material could require a significant level of effort for both the SI and DOE. Because of the high priority given to the effectiveness of training, DOE review cycles may be unexpectedly extended in order to ensure quality. Given tight timelines and an aggressive go-live date, the project may elect to accept training material that does not fully meet their expectations, or they may elect to extend the schedule in order to resolve training material issues. The SI is in the process assessing whether increased resources or additional time needs to be allotted to this effort to ensure timely delivery of training materials.</p>	Closed

# IV&V Findings and Recommendations (cont'd)

M

## Project Management & Organization (cont'd)

Recommendations	Progress
<ul style="list-style-type: none"><li>DOE clarify the plan for training for newly onboarded system users.</li></ul>	In progress
<ul style="list-style-type: none"><li>Consider establishing a policy that requires new users complete a training regime prior to gaining access to the system in order to assure system data integrity.</li></ul>	Not started
<ul style="list-style-type: none"><li>DOE work quickly to allocate additional resources to support the single DOE resource responsible for responding to tickets related to purchasing.</li></ul>	In progress
<ul style="list-style-type: none"><li>Train Tier 2 help desk staff to increase their ticket resolution rate and lessen the burden on overtaxed Tier 3 and 4 resources. For example, Tier 2 could be better trained to understand available training resources, guides, and other self service support resources so they can effectively direct users to find the training/information they need.</li></ul>	In progress
<ul style="list-style-type: none"><li>DOE revise their support plan to effectively address instances where SMEs are overwhelmed with tickets.</li></ul>	Not started
<ul style="list-style-type: none"><li>Monitor and provide regular feedback on PM processes and implement continuous process improvement processes to assure consistent and effective project management.</li></ul>	In progress
<ul style="list-style-type: none"><li>Document and execute detailed risk mitigation steps for tasks that appear to be slipping that include offering additional resources to support project team members who are falling behind on critical path tasks.</li></ul>	In progress

# IV&V Findings and Recommendations (cont'd)

M

## Quality Management

#	Key Findings	Criticality Rating
10	<p><b>Issue – Inadequate release management processes could lead to significant rework and schedule delays:</b> Due to existing Oracle Financials cloud limitations, upload of data is often difficult to back out. Errors made during data uploads can either require manual data entry corrections or an environment refresh that will likely take 3 weeks. During initial uploads to the development environment, the wrong version of a file use mistakenly uploaded which created some disruption of development activities.</p> <p>Due to limitations of the OF cloud limitations, back out of bad data or configurations is not always automated and therefore can require manual correction of data. Alternatively, if the data corruption is significant, the project may elect to refresh the environment to a previous state, however, an OF refresh will likely take 3 weeks, which may not be feasible given the tight deadlines.</p> <p>If comprehensive quality controls are not implemented as an integral part of release management processes, mistakes that are made by both DOE and the SI can be difficult to back out. Lack of clear upload file versioning and other controls could lead to wrong files being uploaded which could lead to disruption of development efforts and, if not caught, could lead to disruption of testing phases and ultimately, schedule slippage.</p> <p>If release management procedures are unclear or if the execution of release procedures lack sufficient rigor, the likelihood of missteps may increase. Missteps during testing or go-live could lead to user confusion, reduced user buy-in, costly schedule delays, reduced executive stakeholder project support, and a negative public perception that could be picked up by the local media (aka "bad press").</p>	Low



# IV&V Findings and Recommendations (cont'd)

M

## Quality Management (cont'd)

#	Key Findings	Criticality Rating
12	<p><b>Risk – Insufficient testing strategy and planning could lead to poor test quality, including incomplete and invalid test results:</b> IV&amp;V has observed some unproductive test preparation work sessions and some confusion among the project team members as some elements of the test strategy and plan are unclear or not well defined. At times, it appears the SI is asking DOE test leads to perform activities they lack expertise to perform.</p> <p>DOE test leads have also stated that SI led testing preparation efforts have not always been productive and have not met their expectations that the SI would provide sufficient testing preparation guidance.</p> <p>The SI appears to have responded by replacing the SI Test Lead, and the SI PM has taken over as the SI Test Lead, despite concerns that the SI PM may be overallocated.</p> <p>It is unclear whether the SI PM has capacity to effectively lead the testing effort and provide DOE test leads with sufficient guidance for them to adequately prepare for testing. The SI reports that they are making efforts to find a permanent replacement.</p> <p>Additionally, IV&amp;V has concerns with the proposed testing strategy. The SI has stated they intend to begin System Integration Testing (SIT) without some system components being fully operational which could, A) result in incomplete testing and, B) invalidate test results for functionality that has been previously tested.</p>	Closed

# IV&V Findings and Recommendations (cont'd)

M

## Quality Management (cont'd)

Recommendations	Progress
<ul style="list-style-type: none"><li>Implement comprehensive and rigorous release management processes and quality controls (checks and double-checks).</li></ul>	In progress
<ul style="list-style-type: none"><li>Institute rigorous checklists and code freeze communications to assure quality release management processes.</li></ul>	In progress

# IV&V Findings and Recommendations (cont'd)

## **M** System Architecture & Design

#	Key Findings	Criticality Rating
7	<b>Issue – Oracle Financials environment constraints could lead to schedule delays and leave the project unable to meet development, testing, and training objectives:</b> 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.	Medium

# IV&V Findings and Recommendations (cont'd)

## M System Architecture & Design (cont'd)

#	Key Findings	Criticality Rating
9	<p><b>Issue – User provisioning and security model complexities could lead to unmet user expectations, unfulfilled business objectives, and schedule delays:</b> Initial security discussions have revealed some complexities and challenges with implementing a security model that fully meets DOE business objectives including segregation of duties, principle of least privilege. The project has elected to implement a single Business Unit (BU) for all of DOE, which could create system implementation challenges given Oracle Financials security is optimally implemented for multiple BU's. The SI is making efforts to ensure DOE business objectives are met and can be implemented so as not to put an undue burden on user provisioning staff. Implementation of a security model that does not meet user expectations and fully support end user provisioning and segregation of duties controls can lead to user frustration that:</p> <ul style="list-style-type: none"><li>• Security is too restrictive and hinders their ability to be productive and do their job</li><li>• Security is overly permissive and privileged information is visible to other groups that do not have a business need for the data</li><li>• User provisioning maintenance is overly complex and/or labor intensive</li><li>• The security model has made testing overly complex due to tester user provisioning challenges</li></ul> <p>The security model is currently being developed by a single SI resource. Failure to fully vet the proposed security model with multiple Oracle Financials cloud security experts and fully address DOE business objectives, could lead to project disruption in the event that a significant change to the model is needed as go-live approaches and as a result of mounting user complaints.</p>	Medium

# IV&V Findings and Recommendations (cont'd)

## M System Architecture & Design (cont'd)

#	Key Findings	Criticality Rating
13	<p><b>Issue – Integration with older (antiquated technology) systems could be unexpectedly complicated and lead to schedule delays:</b> The project currently has requirements to integrate with older systems that often lack sufficient documentation and/or system expertise. A number of systems that the new FMS must interface with are based on older technology that may be incompatible with new technology and can be difficult to integrate with. Many systems have accumulated a significant amount (decades in some instances) of technical debt, reportedly due to lack of funding and technical team capacity. For example, it has been reported that patching for many systems are severely out of date and may run on Operating Systems or other software technology/tools that are no longer supported by the vendor. Many of these systems no longer have system experts because support staff have moved on or retired, and documentation and/or knowledge transfer upon their departure may not have been sufficient. Documentation for many older systems is reportedly missing or incomplete.</p> <p>Unexpected complications that arise in attempts to integrate with antiquated systems can lead to project delays or unexpected costs for tools to compensate for limitations of antiquated systems. Interface development efforts can also be delayed when expected system documentation, expertise, or vendor support is no longer available. Given the amount of technical debt these systems have accumulated over the years and the lack of system patching, the system could open the FMS replacement system, other connected systems, and the DOE to undue system failure risks. If any of these antiquated DOE systems fail during project execution, project resources (who are already at capacity) will likely have to be reallocated towards repair and recovery of these systems and lead to schedule delays.</p>	Low

# IV&V Findings and Recommendations (cont'd)

## **M** System Architecture & Design (cont'd)

Recommendations	Progress
<ul style="list-style-type: none"><li>Establish clear controls with regard to fraud, segregation of duties, and least privilege permissions.</li></ul>	In progress
<ul style="list-style-type: none"><li>DOE leadership escalate to Oracle executive leadership and insist efforts be made to comprehensively repair an obvious bug that likely affects a broad customer base, not just DOE.</li></ul>	In progress




# IV&V Status

- **IV&V activities performed during the reporting period:**
  - Attended Project Management meetings
  - Attended Weekly Managers & Leads meetings
  - Attended various Working Group sessions
  - Review relevant project documentation
  - Led IV&V Risk Review sessions with project leadership and the SI
  - Interviewed DOE and SI project team members
  - Produced 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
	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.
	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.
	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 project, IV&V regularly:**

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



PCG Eclipse IVV  
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	Updates	Category	Type	Priority	Status	Closure Reason	Closed Date	Identified Date
2	DOE capacity overreliance	<b>Over reliance on a few skilled and overtaxed DOE project resources has led to significant project disruption.</b>	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. 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.	<ul style="list-style-type: none"> <li>Executive leadership regularly monitor the workload and job satisfaction of these key individuals as well as assist with workload management, clarification of priorities, and establishment of a sustainable pace.</li> <li>Temporarily re-allocate operational/managerial responsibilities from key resources until project responsibilities are reduced.</li> <li>Consider temporary staff augmentation options to both augment the existing project team and augment the operations staff to offload operational responsibilities from key resources.</li> <li>Prepare contingency plans in the event that the DOE project team can no longer sustain project and operational activities at the expected pace or key resources are lost.</li> <li>Prepare a resource management plan that addresses current and projected project resource constraints and clearly identifies additional resource needs, including post go-live needs.</li> <li>Request that the SI address issues with their project team that place an unnecessary burden on overtaxed DOE SMEs.</li> </ul>	<p>07/15/21 - DOE has indicated their intention to extend the contract for the Gartner PM resources beyond the original 7/23/2021 completion date to sometime in October 2021. While this should help with management of the significant number of post go-live tasks and planning activities, the division of responsibilities between the SI PM and the DOE (Gartner) PM remains unclear. Effective management of remaining tasks could be critical to ensure DOE SME capacity is managed well and preventing them from becoming overwhelmed with support and other tasks. There are early indications that the single DOE purchasing SME could quickly become overwhelmed with trouble tickets and it appears there is no plan in place to manage the potential workload. It appears the project is accepting the risk that tickets assigned to this resource could go unanswered for extended periods of time and lead to significant user frustration. The longer users wait for assistance with submitted tickets, the more teachers could be hindered from preparing for the new school year and lead to further delays in paying DOE vendors. Failure to address resource constraints could lead to further post go-live project disruption.</p> <p>06/15/21 - IV&amp;V remains concerned that key DOE project participants continue to operate at their maximum capacity and that the flurry of activities, many of which have been pushed out closer to go-live, could result in further sacrifice of quality or schedule slippage. There is currently no objective way to determine SMEs remaining workload and whether they will be able to complete assigned tasks prior to go-live. The DOE PM will likely be out indefinitely starting sometime close to 7/11/2021, therefore Gartner has added an additional PM resource to the project team to compensate. However, the Gartner contract for PM resources ends 7/23/2021 and it remains unclear who will assist DOE with managing the growing backlog of post go-live support activities or whether these duties will fall to DOE SMEs. Many SMEs continue to work at a high level of intensity on project tasks, logging 10-12 hour work days. As more details of the post go-live support plan are becoming available, the potential for DOE SMEs becoming overwhelmed with user support requests is increasing. IV&amp;V recommends the DOE support infrastructure team address this concern in their plans and work to minimize the impact to key DOE SMEs.</p> <p>05/15/2021 - The replacement DOE PM appears to be making progress towards matching the same support levels provided by the recently departed PM. Key DOE project</p>	Human Resource Management	Issue	Medium	Open			6/30/2020
3	Accelerated Schedule	<b>Adoption of an aggressive schedule has led to poor system quality, user frustration, stretch DOE resources beyond their capacity, and bad press.</b>	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.	<p>The accelerated schedule could lead to:</p> <ul style="list-style-type: none"> <li>Back of thorough consideration of required business process changes resulting from the new system</li> <li>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</li> <li>Over allocation of project resources and users</li> <li>Significant OCM and Training efforts with limited time to plan and execute</li> <li>Project decisions to cut corners to meet milestones and DOE expectation</li> <li>Unproductive working sessions due to insufficient analysis efforts</li> <li>Limited time to react to or resolve issues that may arise</li> <li>Rush system design</li> <li>A flurry of chaotic stakeholder activities as the project progresses closer to go-live.</li> </ul> <p>This risk could be exacerbated by other IV&amp;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&amp;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.</p>	<ul style="list-style-type: none"> <li>Take steps to assure sufficient OCM planning and activities are performed to inform users of work arounds, know bugs, and process changes as a result of their aggressive schedule.</li> <li>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).</li> <li>Leadership take steps to closely monitor project team capacity and assure resources are not overallocated.</li> <li>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.</li> <li>Prepare and implement a public relations plan to avoid inflammatory media coverage which could negatively impact legislative, board of education, and public support.</li> <li>Consider employing the role of a Scrum Master whose prime directive is to remove roadblocks to productivity.</li> <li>SI clearly and often communicate specific DOE activity prioritization and dependencies and perform risk mitigation planning to avoid schedule slippage.</li> <li>Clarify DOE PM vs. SI PM roles on the project with regard to monitoring critical path activities that appear to be falling behind as well as other risk mitigation activities.</li> <li>DOE explore providing the project with a dedicated report writer that could be trained on the new reporting tools and offer long-term (post go-live) report writing support to system stakeholders.</li> <li>DOE make extensive efforts to manage user expectations with regard to system limitations and work arounds.</li> </ul>	<p>07/15/21 - The project was able to achieve their July 19 go-live date. While go-live is no longer at risk, the project may still face challenges meeting their post go-live support and system operation objectives. Many tasks have been pushed out in order to prioritize go-live activities. Also, some SME's capacity to support ticket resolution could be constrained as they work to resolve system and new procedural issues. Further, delays in planning and implementing their post go-live support infrastructure could still lead to user frustration and bad press. This issue could be compounded by the flood of back to school activities (that often trigger up to 1000 tickets per day during this time) that will likely tax support personnel and test the patience of users when they attempt to use the system for the first time to perform back to school transactions.</p> <p>06/15/21 - The project continues to accept risks associated with the aggressive schedule, including multiple readiness risks, in order to quickly move off their failing legacy FMS system. IV&amp;V, DOE PMO, and DOE support personnel remain concerned that few details have been provided as to how user support will be provided post go-live and whether project efforts to develop and implement a comprehensive support plan can be effectively completed prior to go-live. Though the technical go-live production build appears to be progressing well, IV&amp;V is concerned that a comprehensive operational readiness checklist has yet to be developed, managed, and tracked. This checklist can help bring order to the flurry of activities as go-live approaches and can help to assure important tasks are not overlooked. IV&amp;V and DOE leadership have some uncertainty around the effectiveness of system testing as test script development may have been rushed, which could elevate the number of help desk tickets in the weeks following go-live.</p> <p>05/15/2021 - The project continues to accept risks associated with the aggressive schedule including multiple readiness risks including:</p> <ol style="list-style-type: none"> <li>1) Not all planned system features will be available at go-live.</li> <li>2) Some functionality has yet to be fully vetted, implemented, and fully tested.</li> <li>3) Users will be required to perform multiple live system workarounds until functionality can be implemented that would eliminate workarounds.</li> <li>4) DOE support personnel may not be fully able to support the system at go-live as they may not have sufficient time to effectively prepare for their new support duties.</li> <li>5) User training may have been rushed which may lead to training that does not fully</li> </ol>	Cost & Schedule Management	Issue	Medium	Open			6/30/2020
4	Delayed PMP & schedule	<b>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.</b>	The project is currently operating under a draft Project Management Plan (PMP) and project schedule. The PMP deliverable was due 3/2/20 but, as of this reporting period, both have not been finalized. DOE project leadership has indicated that existing drafts appear to lack sufficient details.	<p>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.</p> <p>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.</p>	<ul style="list-style-type: none"> <li>Request the SI clearly define the project schedule critical path, monitor and clearly communicate critical path activities that are approaching slippage, and formulate risk mitigation strategies to address critical path activities that are falling behind.</li> <li>Request the SI take steps to increase engagement with key DOE SMEs to increase communication of priorities and clarify communications.</li> </ul>	<p>07/15/21 - The project was able to successfully meet their go-live date despite some challenges with the project plan/schedule. Therefore, IV&amp;V is closing this issue and will track remaining risks related to the lack of a thorough plan to manage the remaining work to be done as part of O&amp;M in finding #11.</p> <p>06/15/21 - DOE has accepted the risk that the SI will not provide a fully resourced project plan for pre-go-live activities. IV&amp;V recommends DOE request the SI provide a fully resourced project plan for post go-live activities so they can effectively determine and communicate to users when functionality that has been delayed until post go-live will be delivered and when workarounds can be replaced with system features. The SI has stated they will meet all contractual requirements at no additional cost to DOE (without drawing on O&amp;M funds), despite whether they can complete them within the 90-day warranty period or not. However, it appears the SI has yet to complete the Requirements Traceability Matrix (RTM) that would ensure and/or provide evidence that each requirement has been met and validated through testing. Therefore, it remains unclear whether the SI will deliver the full contractually required scope of work. Previously executed change requests may have left some ambiguity with regard to the agreed to contract scope. IV&amp;V recommends DOE make efforts to reach a common understanding of the project scope of work, validate whether all contractually required requirements are included in the RTM, and then validate that each RTM requirement has been sufficiently met by the SI. For contractual requirements that are no longer needed, IV&amp;V recommends DOE utilize "swaps" of deprecated requirements for new important requirements that were not part of the scope of the current contract. IV&amp;V remains concerned that the SI has elected to delay updating the RTM until some time after go-live.</p> <p>05/15/2021 - The project continues to make efforts to refine go-live checklists and is making efforts to estimate the level of effort for the development of reports that will be critical for go-live. However, IV&amp;V remains concerned that the project plan is not fully resourced and therefore there is no objective way to determine which remaining tasks and system features will be completed prior to go-live. This could complicate training and increase user frustration as they may not know, at the time of training, exactly which features (or required work arounds) will be available at go-live. IV&amp;V recommends DOE make extensive efforts to manage user expectations by communicating what functionality</p>	Cost & Schedule Management	Issue	Medium	Closing	The project was able to successfully meet their go-live date despite some challenges with the project plan/schedule.	7/15/2021	6/30/2020

Id	Short Desc	Title / Summary	Finding Description	Analysis and Significance	Recommendation	Updates	Category	Type	Priority	Status	Closure Reason	Closed Date	Identified Date
5	SI Staffing Challenges	<b>SI staffing challenges have reduced project productivity and system design quality, and led to schedule delays.</b>	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 Lifecycle (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. The SI team's apparent lack of deep, expert-level Oracle Financials (OF) cloud expertise could continue to reduce the productivity of work sessions and/or lead to poor design decisions that could require rework once a better design or solution is discovered.	<ul style="list-style-type: none"> <li>Work closely with the SI in their staffing efforts and quickly, but thoroughly, vet additions to the SI project team.</li> <li>Request the SI make efforts to address time zone challenges with the off-shore technical team.</li> <li>Request the SI explore augmenting their team with highly capable, expert-level resources that can provide technical leadership that could potentially accelerate the project and reduce the burden on constrained DOE SMEs.</li> <li>Request the SI make efforts to ensure solutions they have provided, and key decision documents are properly vetted by industry experts to ensure the best options are being presented to DOE SME's.</li> </ul>	<p>07/15/21 - The team came together in the remaining weeks prior to go live and key DOE SME's demonstrated the ability to mitigate many risks of the SI's lack of skilled expert development and PM resources. IV&amp;V observed DOE SME's stepping in to catch important tasks or problematic issues that could have been missed. It remains unclear if the existing SI resources will be able to quickly solution system issues post go-live and users loss of productivity as they wait for the SI to solution and implement important system fixes. These delays could lead to reduced user buy-in and/or negative press.</p> <p>06/15/21 - DOE leadership and IV&amp;V remain concerned that the SI has been unable to replace unproductive SI resources which have put an additional burden on key overstayed DOE SMEs as they, at times, need to compensate for some lack of productivity or lack of task management skills. However, DOE SME have reported that the quality of SI work is improving incrementally, for example, the quality of SI security configurations has improved. Still, IV&amp;V and DOE SMEs remain concerned that the lack of quality controls around SI configurations could still lead to an increase in the number of bugs post go-live.</p> <p>05/15/2021 - IV&amp;V and DOE leadership remain concerned that the SI does not have a comprehensive or rigorous methodology that could mitigate quality control risks and concerns. DOE SME's continue to make extensive independent efforts to review SI work products and continue to find errors the SI had overlooked. The lack of rigor in software development practices and in go-live planning could lead to rework, schedule delays, and user frustration if important steps or configuration elements are overlooked. SI efforts to improve work quality have not always proved successful. The SI has been unable to replace resources that present the most challenges and as go-live draws near resource replacement will likely not be feasible because of the time it would take to onboard and bring new resources up to speed. The SI has made efforts to address risks associated with delays and ineffective communication due to time zone difference with the SI global (off-shore) team. However, it appears Global team tasks continue to experience delays and slow the project overall cadence. The SI has stated some delays and inefficiencies are due to DOE SME's lack of capacity.</p> <p>04/15/2021 - As DOE SME's become more familiar with and explore system configuration options, they have found solutions that even the SI may not have been aware of. IV&amp;V and</p>	Human Resource Management	Issue	Medium	Open			6/30/2020
7	Oracle Platform limitations	<b>Oracle Financials environment constraints has lead to schedule delays and left the project unable to meet some development, testing, and training objectives.</b>	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.	<ul style="list-style-type: none"> <li>Plan ahead to procure or provision additional environments as necessary that would assure accelerated development cycles as well as standby environments that will speed development in the event a critical environment has become corrupt (e.g., mistakes are made to irreversible fields).</li> <li>Strategically plan to procure or provision additional environments as necessary to assure accelerated development cycles as well as provision standby environments that will speed development in the event a critical environment has become corrupt (e.g., mistakes are made to irreversible fields).</li> <li>DOE leadership escalate to Oracle executive leadership and insist efforts be made to comprehensively repair an obvious bug that likely affects a broad customer base, not just DOE.</li> </ul>	<p>07/15/21 - DOE FMS support staff have reported the previously reported time zone bug has mostly gone unnoticed by most users, however, it remains unclear whether users are unknowingly utilizing inaccurate data for reports and other queries. The project is still contending with required work arounds due to Oracle limitations that may have created confusion for some users and reduced user buy-in. DOE leadership has indicated their frustration with unresponsive Oracle leadership with regard to obvious platform bugs that have been characterized by Oracle as enhancement requests that have no clear implementation date.</p> <p>06/15/21 - Oracle has stated that the previously reported time zone bug will be treated as an enhancement and not a bug. Oracle has agreed to, at no cost, repair only one instance of the time zone bug (Order Date for Purchase Orders) in their November 2021 quarterly release. Until then, users will continue to contend with these UTC dates (displayed in UTC time instead of HST) in these impactful areas. For example, purchase orders that are submitted after 11 AM HST will show as the next day instead of the current date. Also, user queries will at times return inaccurate results because queries are based on UTC time which will often be the following day instead of the date they are querying. Even after the one time zone bug instance is repaired in November, users will continue to contend with UTC dates in other areas of the system which could lead to user confusion and frustration, inaccurate reporting, and potentially customer/vendor confusion. Also, it remains unclear why Oracle and the SI has required DOE SME's to research and log a ticket for each instance of the time zone bug rather than analyzing the bug themselves. Typically, system-wide bugs of this nature are consolidated into a single ticket that can be applied system-wide to display all dates in HST. IV&amp;V recommends DOE leadership escalate to Oracle executive leadership and insist efforts be made to comprehensively repair an obvious bug that likely affects a broad customer base, not just DOE.</p> <p>05/15/2021 - The project continues to contend with multiple Oracle Financials (OF) platform bugs that have hindered project productivity and complicated testing efforts. For example, Oracle has yet to resolve a platform bug where the Hawaii Standard Time (HST) default setting is inconsistently applied throughout the system. The SI has requested DOE SME's make efforts to identify each element of the system that is incorrectly defaulting dates to UTC (Coordinated Universal Time) instead of HST. Also, due to limitations on</p>	System Architecture & Design	Issue	Medium	Open			6/30/2020
8	PM processes	<b>Inefficient project management practices could lead to overall lack of productive project activities and ultimately schedule delay.</b>	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: <ul style="list-style-type: none"> <li>Insufficient action item tracking and follow-up</li> <li>Insufficient attention to risk management</li> <li>Unclear project scope definition</li> <li>Lack of clear meeting objectives and late delivery of meeting agenda's</li> <li>Lack of preparation and planning for meetings and work sessions</li> <li>Insufficient guidance on attendee management and vetting of attendees</li> <li>Previous SI project manager (PM) had not met project expectations for project leadership, strategic direction, communication, and organization.</li> </ul> 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 Cherryload executive (principle/partner). The recently added SI project coordinator appears to have had a positive impact on PM processes.	<ul style="list-style-type: none"> <li>Monitor and provide regular feedback on PM processes and implement continuous process improvement processes to assure consistent and effective project management.</li> <li>Integrate risk management practices into existing processes (e.g. Review important deadlines in weekly working sessions).</li> <li>Document and execute detailed risk mitigation steps for tasks that appear to be slipping that include offering additional resources to support project team members who are falling behind on critical path tasks.</li> <li>Project leadership reassess meeting scheduling processes and reach agreement with DOE SMEs on more optimal meeting governance to reduce the number and length of meetings so the project team can focus on and accelerate project tasks.</li> </ul>	<p>07/15/21 - DOE leadership has raised concerns (and IV&amp;V agrees) that the backlog of post go-live tasks are not being efficiently and/or effectively planned. It remains unclear whether the SI will fully track project tasks in a fully resolved, dependency-based project plan and track the critical path. Given that some SME's continue to be preoccupied with support tickets and resolving system issues, it remains unclear when they will have time to complete planned post go-live tasks. Therefore, resource management and critical paths could be a critical component of this planning effort. Further, it appears the SI PM activities have been significantly scaled back, likely leaving the burden of project management falling on DOE SME's and their PMO. DOE has indicated they intend to extend the Gartner PMO contract out to October 2021 which should help to mitigate some of this risk. However, there remains some ambiguity around the division of project PM responsibilities between the DOE PMO and SI PM team. IV&amp;V recommends DOE work quickly to clarify the division of responsibility between the two.</p> <p>06/15/21 - IV&amp;V remains concerned that some of the SI PM challenges the project continues to experience could negatively impact the management of the potentially extensive number of go-live and post go-live support activities, as well as the management of activities that have been pushed out to just before go-live. DOE has reported that SI changes to the post go-live production build checklist have been poorly communicated and has required DOE SMEs to make additional efforts to manage project communications. IV&amp;V and the DOE PMO remains concerned that the go-live checklist critical path is being manually tracked by the SI, which could, if not managed well, could increase the risk of an unsuccessful go-live.</p> <p>05/15/2021 - The SI's project management (PM) practice challenges continue to persist with little to no improvements. Though project activities continue to progress, IV&amp;V continues to observe instances of inefficient and unproductive PM practices that continue to put an additional burden on DOE SME's to assist the SI with managing project risks and tasks that are typically managed by the SI.</p> <p>04/15/2021 - DOE SME's continue to report (and IV&amp;V has observed) instances of SI leads lack of preparation before meetings. IV&amp;V continues to recommend DOE leadership request the SI make direct contact with key SME's prior to meetings to speed</p>	Project Organization & Management	Risk	Low	Open			6/30/2020

Id	Short Desc	Title / Summary	Finding Description	Analysis and Significance	Recommendation	Updates	Category	Type	Priority	Status	Closure Reason	Closed Date	Identified Date
9	Security model complex	User provisioning and security model complexities has led to unmet user expectations, unfulfilled business objectives, and schedule delays	Initial security discussions have revealed some complexities and challenges with implementing a security model that fully meets DOE business objectives including segregation of duties, principle of least privilege. The project has elected to implement a single Business Unit (BU) for all of DOE, which could create system implementation challenges given Oracle Financials security is optimally implemented for multiple BU's. The SI is making efforts to ensure DOE business objectives are met and can be implemented so as not to put an undue burden on user provisioning staff.	Implementation of a security model that does not meet user expectations and fully support end user provisioning and segregation of duties controls can lead to user frustration that: RSecurity is too restrictive and hinders their ability to be productive and do their job RSecurity is overly permissive and privileged information is visible to other groups that do not have a business need for the data RUser provisioning maintenance is overly complex and/or labor intensive RThe security model has made testing overly complex due to tester user provisioning challenges The security model is currently being developed by a single SI resource. Failure to fully vet the proposed security model with other Oracle Financials cloud security experts could lead a less than optimal security model which could lead to unmet user expectations as well as project disruption in the event that a significant change to the model is needed as go-live approaches.	<ul style="list-style-type: none"> <li>Make consistent OCM efforts to manage expectations based on potential limitations of the security model as they relate to business objectives.</li> <li>DOE establish clear controls with regard to segregation of duties and least privilege permissions.</li> </ul>	<p>07/15/21 - KT activities continue to be delayed due to prioritization of go-live and current user support activities. The bulk of go-live tickets related to security were special user requests that give users additional permissions beyond their existing auto-provisioned roles. It remains unclear whether the current security configurations mitigate fraud and fully support separation of duties and the principle of least permissions (PoLP).</p> <p>06/15/21 - As DOE SMEs knowledge of system security grows, they are better able to assist the (primarily) single SI security resource and mitigate some of this risk. DOE SMEs continue to report, and IV&amp;V has observed, that the SI security resource continues to struggle with effective communications, which has led to DOE SME frustration and could lead to inaccurate security configurations, which could lead to multiple user security related issues at go-live as well as increase the potential for fraud. DOE is concerned that the SI has thus far not been able to produce some requested security related reports (e.g., lists of users that have been manually provisioned). It remains unclear whether the current security configurations fully support separation of duties and the principle of least permissions (PoLP).</p> <p>05/15/2021 - System testing continues to reveal multiple security configuration bugs and it remains unclear why some security bugs continue to be identified despite test scripts being passed in earlier testing phases. It appears SI security configuration practices lack the rigor typically applied to system implementations of this size and complexity and it appears the SI continues to be over reliant on their single security resource. IV&amp;V remains concerned that the SI approach to security configuration has been largely trial and error in lieu of a more rigorous analysis efforts. This approach has put an additional burden on DOE SMEs and testers, and could lead to security bugs. IV&amp;V also remains concerned that the SI continues to make changes to the security model this close to go-live and that some aspects of security may not have been implemented properly and/or fully tested and that some users have been over provisioned in order to pass test scripts. Inaccurate security configurations could increase the risk of fraud and could lead to a chaotic post go-live if multiple users are reporting security configuration issues. The SI has stated that as DOE SMEs gain a deeper understanding of system security they are requesting more changes to the model, however, it remains unclear whether deeper SI analysis and vetting of requirements could have been done prior to implementing security configurations. IV&amp;V</p>	System Architecture & Design	Issue	Medium	Open			7/29/2020
10	Release management	Inadequate release management processes have led to significant rework and schedule delays	Due to existing Oracle Financials cloud limitations, upload of data is often difficult to back out. Errors made during data uploads can either require manual data entry corrections or an environment refresh that will likely take 3 weeks. During initial uploads to the development environment, the wrong version of a file use mistakenly uploaded which created some disruption of development activities.	Due to limitations of the OF cloud limitations, back out of bad data or configurations is not always automated and therefore can require manual correction of data. Alternatively, if the data corruption is significant, the project may elect to refresh the environment to a previous state, however, an Of refresh will likely take 3 weeks, which may not be feasible given the tight deadlines. If comprehensive quality controls are not implemented as an integral part of release management processes, mistakes that are made by both DOE and the SI can be difficult to back out. Lack of clear upload file versioning and other controls could lead to wrong files being uploaded which could lead to disruption of development efforts and, if not caught, could lead to disruption of testing phases and ultimately, schedule slippage. If release management procedures are unclear or if the execution of release procedures lack sufficient rigor, the likelihood of mistakes may increase. Miststeps during testing or go-live could lead to user confusion, reduced user buy-in, costly schedule delays, reduced executive stakeholder project support, and a negative public perception that could be picked up by the local media (aka "bad press").	<ul style="list-style-type: none"> <li>Implement comprehensive release management processes and quality controls (checks and double-checks) to ensure the right files are uploads with clean data.</li> <li>Institute rigorous checklists and code freeze communications to assure quality release management processes.</li> <li>Clearly define release management processes for DOE resources to manage releases post go-live.</li> </ul>	<p>07/15/21 - SI resources appear to have implemented more discipline release management procedures prior to go-live such that go-live was not impacted by violations of this process. DOE has stated their intention to hire a release manager to manage and support Oracle quarterly releases which could help to mitigate this risk for post go-live Oracle quarterly releases that will now need to be supported by DOE personnel. The next quarterly release is slated for 8/6. This release presents an opportunity for DOE to assess their ability to manage these releases with existing DOE resources given that SI resources have managed these releases in the past. The SI has reported the existing SI project team resources will be available to assist as needed.</p> <p>06/15/21 - The project is now executing the fourth and final (production) build of the system from the ground up. With the multiple build iterations, the SI appears to be increasing the quality of their configuration efforts. While this may reduce the probability that this issue will again negatively impact the project, IV&amp;V will maintain the "high" priority risk rating as the impact of this issue at go-live could be potentially be significant. Further, DOE SMEs have reported a limited number of instances where changes have been made to the system that were not properly tracked. A number of these instances had hindered DOE testing efforts, though, the SI was able to quickly apply fixes to allow testers to move forward.</p> <p>05/15/2021 - Now that the project team has performed multiple environment builds (SIT, UAT, and RST), the quality of the final production build is likely to increase. However, the SI continues to make multiple reactive changes to security configurations as multiple security bugs continue to be identified throughout UAT and RST testing. DOE SMEs have noted some unexplained differences that exist between the different environments, and it remains unclear why some security related bugs continue to be identified despite test scripts being passed in earlier testing phases. IV&amp;V has observed instances of SI security configuration practices that lack the sufficient quality controls and/or rigorous processes typically applied to system implementations of this size and complexity, and the SI continues to be over reliant on their single security resource. Therefore, IV&amp;V maintains the "High" priority rating for this risk.</p>	Quality Management	Issue	Low	Open			7/31/2020
11	KT & Long term support	Insufficient knowledge transfer and M&O planning prior to go-live has led to diminished quality of post go-live support.	There appears to be a lack of clarity around post go-live support responsibilities and the level of SI support. Apparently, some contractual post go-live support requirements have yet to be clarified and agreed to between the SI and DOE. Further, DOE expectations for the SI to train their IT staff have not been met. The DOE IT group currently has some interface development project responsibilities and DOE's expectation was that the SI would provide sufficient knowledge transfer (KT) on Oracle Financials (OF) and Oracle Integration Cloud (OIC) in order to perform these tasks in a timely manner as well as meet expectations for DOE post go-live support responsibilities. DOE has stated their expectation that DOE IT staff would work alongside the SI technical team for KT throughout project implementation, however, the level of KT has not met DOE expectations thus far. The SI has stated they are not contractually obligated to formally train the DOE IT staff on the technology.	If the DOE IT staff are not sufficiently trained to effectively implement their project tasks this could lead to a reduction of efficient execution and quality of the technical components they have been assigned and, ultimately, to schedule slippage. Lack of clarity or sufficient planning around post go-live support could lead to diminished quality of post go-live support. Failure to adequately augment the existing DOE IT group with OF skillsets could leave DOE unable to adequately support the new OF system post go-live and lead to an over-reliance on costly vendor resources and impact the project budget.	<ul style="list-style-type: none"> <li>DOE develop a resource management plan to address gaps in their existing IT team to ensure they are able to meet expectations for project post go-live support. Plan may include augmenting their IT staff with an additional resource to, at minimum, to manage Oracle quarterly updates.</li> <li>Consider preparing return on investment (ROI) data to present to the legislature that could clearly justify the cost of highly compensated OF (possibly exempt) resources that could potentially provide cost savings to the state compared to the cost of equivalent vendor support contracts.</li> <li>Clarify SI KT, warranty, and post go-live support contractual obligations to avoid disagreements and last minute efforts to adequately support the system post go-live.</li> <li>Consider instituting a distributed model/strategy (e.g. "Super SME") to support tier 1 user assistance, on-going training, and OCM communications.</li> <li>Optimize help desk reporting in order to better track and improve performance to ensure their processes customer support are optimal.</li> </ul>	<p>04/15/2021 - The SI continues to improve the production cutover plan/checklist which</p> <p>07/15/21 - With the successful go-live, IV&amp;V has modified the title of this issue to include only "diminished quality of post go-live support" as the impact. However, aspects of this risk have been realized at go-live as there are indications that insufficient post go-live support planning has diminished the quality of user support. DOE has reported that support resources have been brought on late which has limited the support planning efforts as well as support personnel (UST) training. At go-live, there was some confusion with support processes and some DOE SME's did not have the appropriate level of support and were overwhelmed with support requests and were unable to attend to tickets because they were also the single resource allocated to lead the resolution of unexpected purchasing-related system issues. There also appears to be some confusion over who would be responsible for troubleshooting when an excessive number of tickets are assigned to individuals who lack the capacity to resolve tickets in a timely manner. Therefore, IV&amp;V has escalated this risk to an issue. IV&amp;V recommends DOE optimize their help desk reporting in order to provide greater visibility for DOE executive leadership and better track and optimize performance to ensure customer needs are effectively met.</p> <p>06/15/21 - As more details of the post go-live support plan are becoming available, the potential for DOE SME's to become overwhelmed with user support requests may be increasing. DOE leadership and IV&amp;V remain concerned that DOE may not be fully prepared to maintain or fully support the system post go-live. DOE will likely rely heavily on SI resources that will likely be on-site at go-live. IV&amp;V remains concerned that the O&amp;M plan has yet to be fully vetted and finalized this close to go-live, which could leave the project ill-prepared to fully support the system and system users post go-live. DOE has recently appointed a lead to drive development of a system support plan and some progress has been made. However, it remains unclear if DOE will be able to execute their plan in time to provide comprehensive user support prior to go-live and meet user expectations. IV&amp;V recommends the DOE support infrastructure team address this concern in their plans and work to minimize the impact to key DOE SMEs as they will likely be pre-occupied with resolving system issues the first week of go-live. Key DOE SMEs continue to demonstrate elevated levels of understanding of system functionality and provide guidance to SI resources on process improvements. Some KT sessions continue to get pushed out to just prior to or just after go-live.</p>	Project Organization & Management	Issue	High	Open			8/17/2020

Id	Short Desc	Title / Summary	Finding Description	Analysis and Significance	Recommendation	Updates	Category	Type	Priority	Status	Closure Reason	Closed Date	Identified Date
12	Testing	Insufficient testing strategy and planning could lead to poor test quality, including incomplete and invalid test results	IV&V has observed some unproductive test preparation work sessions and some confusion among the project team members as some elements of the test strategy and plan are unclear or not well defined. At times, it appears the SI is asking DOE test leads to perform activities they lack expertise to perform. DOE test leads have also stated that SI led testing preparation efforts have not always been productive and have not met their expectations that the SI would provide sufficient testing preparation guidance. The SI appears to have responded by replacing the SI Test Lead, and the SI PM has taken over as the SI Test Lead, despite concerns that the SI PM may be overallocated. It is unclear whether the SI PM has capacity to effectively lead the testing effort and provide DOE test leads with sufficient guidance for them to adequately prepare for testing. The SI reports that they are making efforts to find a permanent replacement. Additionally, IV&V has concerns with the proposed testing strategy. The SI has stated they intend to begin SIT without some system components being fully operational which could, A) result in incomplete testing and, B) invalidate test results for functionality that has been previously tested.	Delays and unproductive test preparation sessions could lead to schedule delays once the project realizes they are not ready for SIT and UAT testing phases. If the SI cannot effectively leverage their testing expertise to offer guidance to the DOE testing team, DOE testing stakeholders could find themselves unprepared for SIT and UAT phases, which could lead to schedule delays. If the project, A) does not clearly define SIT or UAT entrance criteria and/or B) enters SIT or UAT phases without some system components being fully operational, the value of the project testing phases could be significantly reduced and lead to excessive bugs, overcomplicated testing, a solution that cannot perform the required or necessary functionality, and ultimately extend the project schedule.	<ul style="list-style-type: none"><li>Clarify and fully vet the testing strategy and plans for DOE leads and stakeholders.</li><li>Develop and implement a robust regression test methodology.</li><li>Develop and implement an efficient process for updating/refining test scripts based on tester.</li><li>Request the SI make additional exploratory testing (aka, "poke around in the system and to see if you can break it"). Suggest DOE test leads coordinate their own exploratory testing activities.</li><li>DOE leadership send out communications that help DOE staff clearly understand the priority of project tasks over other duties as critical go-live milestones approach.</li></ul>	<p>07/15/21 - DOE extensive efforts with ad-hoc testing and other coordinated testing efforts appear to have been adequate to achieve a successful go-live. Therefore, IV&amp;V will be closing this risk. However, some tickets have been submitted post go-live that may indicate some lack of test script coverage. IV&amp;V recommends DOE track these instances and produce test scripts that can help to ensure more comprehensive regression testing for quarterly updates and future releases. IV&amp;V will continue to track remaining related risks as part of finding #11 that addresses post go-live support risks.</p> <p>06/15/21 - IV&amp;V remains concerned that the project continues to advance to subsequent project phases (now the production build) without completing exit and entrance criteria. For example, the project elected to move forward with the production build despite incomplete conversion and interface functionality and despite not having completed all planned UAT and RST test scripts. The project has accepted the risk that some system tests will be delayed and that some functionality will be implemented late into the production build in order to keep to their scheduled go-live date. Some interfaces have yet to be completed and fully tested and some may be delayed until after go-live. Late introduction of functionality into the final production build is a bad practice and could lead to unexpected bugs or an unsuccessful go-live.</p> <p>05/15/2021 - Despite delays in the closeout of UAT (due to delays in implementing some data conversions and interfaces), the project elected to move forward with the next Rehearsal Smoke Test (RST) testing phase, accepting the risk that the testing of the system may be incomplete. Project delays have now led to slippage of the planned 5/14/21 RST completion date and the project will again elect to move to the next testing phase (Production Environment build) without completing the previous testing phase, despite having only completed 46% of RST test scripts.</p> <p>04/15/2021 - DOE SME's and IV&amp;V remain concerned that test scripts may not be comprehensive enough to catch some system defects. The SI has indicated they will not be creating any new scripts based on DOE tester feedback, therefore, DOE has assigned a resource to create new scripts and update unclear scripts. The project has elected to extend UAT by another week due to interface/conversion implementation delays as well as delays related to tester capacity. As important project milestones draw near, IV&amp;V</p>	Quality Management	Risk	Medium	Closing	DOE extensive efforts with ad-hoc testing and other procedures appear to have been adequate to achieve a successful go-live.	7/15/2021	9/15/2020
13	Low	Integration with external system (potentially with antiquated technology) could be unexpectedly complicated and lead to schedule delays	The project currently has requirements to integrate with older systems that often lack sufficient documentation and/or system expertise. A number of systems that the new FMS must interface with are based on older technology that may be incompatible with new technology and can be difficult to integrate with. Many systems have accumulated a significant amount (decades in some instances) of technical debt, reportedly due to lack of funding and technical team capacity. For example, it has been reported that patching for many systems are severely out of date and may run on Operating Systems or other software technology/tools that are no longer supported by the vendor. Many of these systems no longer have system experts because support staff have moved on or retired, and documentation and/or knowledge transfer upon their departure may not have been sufficient. Documentation for many older systems is reportedly missing or incomplete.	Unexpected complications that arise in attempts to integrate with antiquated systems can lead to project delays or unexpected costs for tools to compensate for limitations of antiquated systems. Interface development efforts can also be delayed when expected system documentation, expertise, or vendor support is no longer available. Given the amount of technical debt these systems have accumulated over the years and the lack of system patching, the system could open the FMS replacement system, other connected systems, and the DOE to undue system failure risks. If any of these antiquated DOE systems fail during project execution, project resources (who are already at capacity) will likely have to be reallocated towards repair and recovery of these systems, and lead to schedule delays.	<ul style="list-style-type: none"><li>Consider petitioning the State leadership for additional funding to resolve technical debt that could be putting the project and the State at risk of potentially embarrassing and costly security breaches and/or critical system failures.</li><li>Consider prioritizing patching and system upgrades to stabilize boundary systems.</li><li>Define clear procedures for updating and testing Aukahi that are thoroughly vetted when notification is received of a system Aukahi interfaces with is modified or upgraded.</li><li>Consider implementing early, basic proof of concept interfacing with older systems to assure integration is feasible and to vet optimal interface solutions.</li></ul>	<p>07/15/21 - Despite some challenges, project efforts to address antiquated systems risks appear to have been mostly successful, however, some interfaces had to be delayed until post go-live because of unexpected complexity and other potential external stakeholder challenges. Though the remaining interfaces were not critical for go-live, the level of effort for one interface has the potential to be significant.</p> <p>06/15/21 - Most external interfaces have been completed and fully tested, though some changes have yet to be applied and tested. IV&amp;V and DOE SMEs remain concerned that some interfaces may not have been fully tested and validated which could lead to project disruption just prior to or just after go-live.</p> <p>05/15/2021 - The project has made progress in resolving unexpected complications with some external interfaces which should be implemented prior to go-live. However, due to the tight project timeline and potential complications with the implementation of one external system interface, the project has elected to delay implementation to post go-live as the business unit will not be impacted as long as the interface is implemented soon after go-live. However, the project is currently unable to anticipate when they will be able to complete this interface.</p> <p>04/15/2021 - Delays related to the late discovery of interface requirements with one boundary system (SVM) continues to negatively impact the project. It remains unclear if this or other interfaces will be implemented prior to completion of UAT or prior to go-live.</p> <p>03/15/21 - For one boundary system, there was some confusion over whether another DOE 3rd party vendor would be modifying their interface to align with the project's interface design. Redesign of the interface has further delayed interface development.</p> <p>02/15/21 - External system interfaces continue to introduce delays in the project schedule, therefore, IV&amp;V has escalated this finding to an "issue". The project has elected to introduce some interfaces late into UAT which introduces testing and schedule risks. The project appears to have resolved HR system integration issues with the FMS HCM module and has made progress on resolving DAGS interface issues (e.g., check printing overflow challenges). The project has confirmed that they will be able to delay to</p>	System Architecture & Design	Issue	Low	Open		9/15/2020	
14	Training material	Training material development may be extensive and could lead to project delays or reduce the effectiveness of training	DOE leadership, including the Superintendent, has indicated that the quality, effectiveness, and comprehensiveness of training is a top priority. Early indications are that both the number and degree of changes may be significant. The project is currently tracking, via the projects Change Impact Analysis (CIA) spreadsheet, impactful changes to users and daily operations with the implementation of the new system. Training material will need to effectively address these changes and prepare users for work arounds, process changes, and new system concepts.	The SI has indicated that much of the system has maintained out of the box Oracle Financials functionality which should accelerate training material development. However, integrating CIA items into the training material could require a significant level of effort for both the SI and DOE. Because of the high priority given to the effectiveness of training, DOE review cycles may be unexpectedly extended in order to ensure quality. Given tight timelines and an aggressive go-live date, the project may elect to accept training material that does not fully meet their expectations, or they may elect to extend the schedule in order to resolve training material issues. The SI is in the process assessing whether increased resources or additional time needs to be allotted to this effort to ensure timely delivery of training materials.	<ul style="list-style-type: none"><li>Request the SI improve their quality assurance processes to ensure project deliverable drafts go through a rigorous quality assurance process prior to submission for DOE review.</li><li>DOE prepare contingencies and explore allocating additional resources to assure training material and training delivery quality.</li></ul>	<p>07/15/21 - Project efforts to develop adequate training materials for go-live, despite some challenges, appear to have been successful. Therefore, IV&amp;V will be closing this risk. However, IV&amp;V will continue to monitor related training risks as DOE has yet to hire a training support manager that would ensure adequate training for new DOE personnel. Newly onboarded personnel will be required to review existing training videos and support material to prepare themselves to use the system. IV&amp;V has opened a new issue (#15) related to training challenges that have impacted the project.</p> <p>06/15/21 - The project has now completed the majority of planned instructor-led training sessions. DOE SMEs and IV&amp;V remain concerned with the number of users that did not attend their scheduled courses and must now rely on viewing recorded sessions and that some attendees have reported that training may be insufficient to fully prepare them for usage of the system. If a significant number of users are unable to effectively use the system by the planned go-live date, the project could experience an unsuccessful go-live. DOE is reportedly making efforts to ensure all users, at minimum, view the recorded sessions. Further, many DOE users have become accustomed to hands on training that better prepares them for system usage; however, the project was unable to provide comprehensive hands on training, likely due to the accelerated schedule. The project will provide users with a sandbox environment for hands on testing and training, but it will not be available to users until after go-live. DOE SMEs ability to support users post go-live could be limited if they are preoccupied with resolving post go-live system issues.</p> <p>05/15/2021 - Training material development appears to be on track as the project appears to have addressed the initial productivity challenges. However, feedback from some of the early training sessions have questioned the effectiveness of training. Attendees have reported that some sessions are not comprehensive and only cover the "happy path" and don't always address how to handle potential complications. Some have reported the SI instructor is simply reading slides from the training slide deck and question the sessions value over simply reading slides on their own. IV&amp;V recommends the project quickly address this issue for future courses and consider how they might provide supplemental training for users that already attend courses that provided limited value. IV&amp;V also recommends the project allow users to apply what they've learned by doing real work in a test or sandbox environment or during a soft launch and gather important feedback for the</p>	Project Organization & Management	Risk	Medium	Closing	Project efforts to develop adequate training materials for go-live, despite some challenges, appear to have been successful.	7/15/2021	2/15/2021

Id	Short Desc	Title / Summary	Finding Description	Analysis and Significance	Recommendation	Updates	Category	Type	Priority	Status	Closure Reason	Closed Date	Identified Date
15	Training challenges	Training challenges have led to some confusion, user frustration, and overwhelmed support personnel.	DOE leadership, including the Superintendent, has indicated that the quality, effectiveness, and comprehensiveness of training is a top priority. However, SI implementation of training have not met DOE expectations as most SI trainers were brought in late into the project and did not have comprehensive knowledge of the system and refused to crosswalk existing legacy FMS functionality to new Aukahi functionality. Further, some SI instructors simply read through the slides without offering much context. Attendees questioned the value of these sessions over simply reading slides on their own. Post go-live, users complained that training should have included mappings between legacy FMS and Aukahi. Post go-live feedback has indicated that some users, despite attending training, remain unable to do their work without assistance. This has led to an elevated number of support tickets for basic system tasks. The bulk of support tickets appear to be related to purchasing. For the most part, DOE only has a single DOE SME responsible for responding to tickets related to purchasing. The project has also identified a significant purchase order related bug. Purchase orders currently affect the largest number of users.	Training challenges appear to have led to user frustration, users unable to do their job, an elevated number of user support tickets, and reduced user buy in. Because DOE currently has a single DOE SME responsible for responding to tickets related to purchasing, ticket response and resolution times will likely be delayed.	<ul style="list-style-type: none"> <li>• DOE clarify the plan for training for newly onboarded system users.</li> <li>• Consider establishing a policy that requires new users complete a training regime prior to gaining access to the system in order to assure system data integrity.</li> <li>• DOE work quickly to allocate additional resources to support the single DOE responsible for responding to tickets related to purchasing.</li> <li>• Train tier 2 help desk staff to available training resources, guides, and other support resources so they can effectively direct users to find the training/information they need.</li> <li>• ODM prepare additional communications to users for the most commonly reported trouble tickets.</li> <li>• DOE revise their support plan to effectively address instances where SMEs are overwhelmed with tickets.</li> </ul>		Project Organization & Management	Issue	Medium	Open			7/15/2021