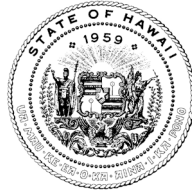


JOSH GREEN, M.D.  
GOVERNOR



DOUGLAS MURDOCK  
CHIEF INFORMATION  
OFFICER

## OFFICE OF ENTERPRISE TECHNOLOGY SERVICES

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August 4, 2023

The Honorable Ronald D. Kouchi  
President of the Senate  
and Members of the Senate  
Thirty-Second State Legislature  
State Capitol, Room 409  
Honolulu, Hawai'i 96813


The Honorable Scott K. Saiki  
Speaker and Members of the  
House of Representatives  
Thirty-Second State Legislature  
State Capitol, Room 431  
Honolulu, Hawai'i 96813

Aloha Senate 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 (IV&V) 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 Hawai'i, Public Utilities Commission (PUC), Content and Document Management System Project.

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

Sincerely,

  
Douglas Murdock (Aug 4, 2023 10:51 HST)

Douglas Murdock  
Chief Information Officer  
State of Hawai'i

Attachment



# Content and Document Management System (CDMS) Project

Hawaii Public Utilities Commission (PUC)

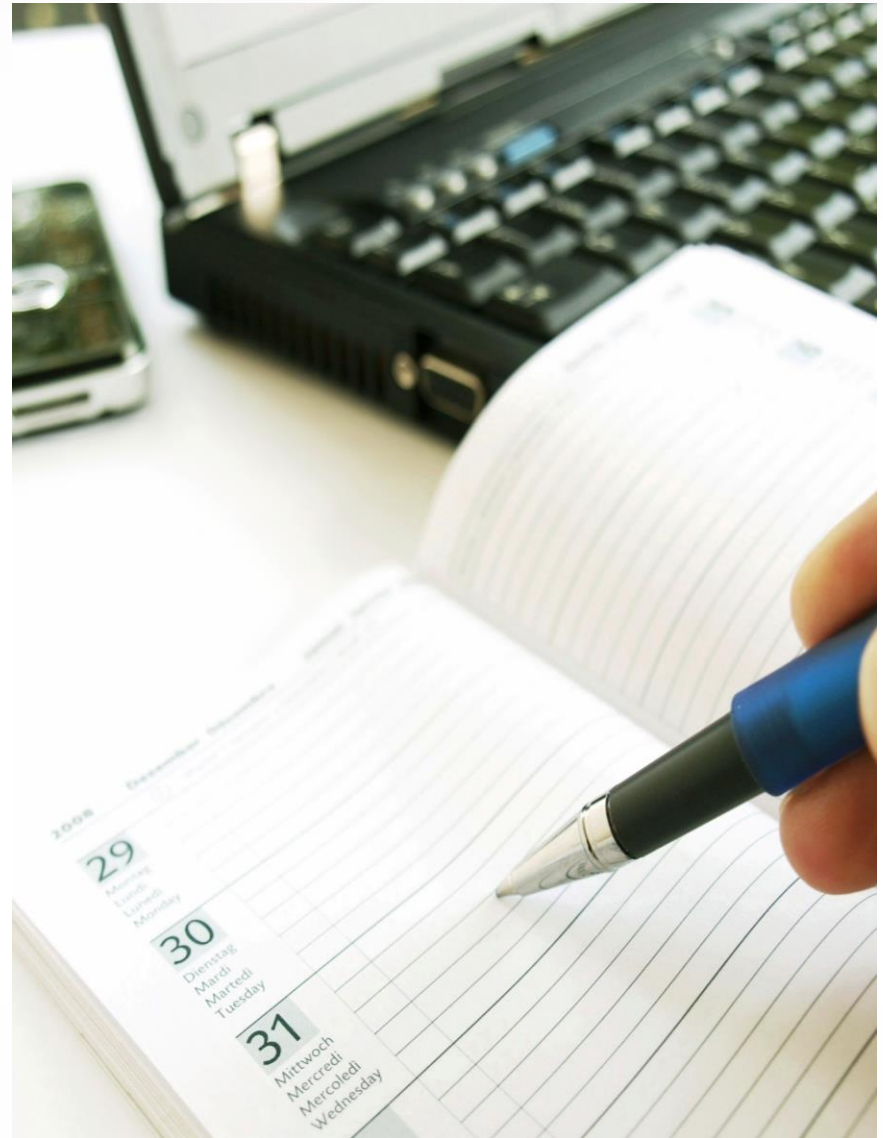
IV&V Monthly Status Report - FINAL  
For Reporting Period: **June 2023**

*Draft Submitted: 7/21/2023*

*Final Submitted: 8/3/2023*

# Overview

- Executive Summary / Go-Live Readiness
- IV&V Findings and Recommendations
- IV&V Preliminary Concerns
- IV&V Scope and Approach
- IV&V Engagement Status
- Appendices
  - A – IV&V Criticality Ratings
  - B – IV&V Inputs
  - C – Upcoming IV&V Activities



# Executive Summary

The PUC CDMS successfully launched into production on June 19, 2023. Despite losing the original Optical Character Recognition (OCR) vendor, the Systems Integrator (SI) implemented OCR functionality within the planned timeline. Additionally, the missing fiscal reporting functionality that was identified during User Acceptance Testing (UAT) was incorporated into the system. The Project is working to complete unfinished data conversion tasks and resolve these data-related issues. However, these data issues are not expected to cause any problems. After the system went live, users identified a notable gap in functionality: the inability to search PDF content except through the public portal. To address this, the Project is currently adding the capability to search PDF content from within the CDMS itself.

PUC and IV&V are concerned that the SI has not provided a ticketing system to manage go-live feedback. To mitigate this, PUC created an interim Task System utilizing an existing enterprise tool, Microsoft Planner, to track feedback and internal and external user requests.

IV&V is closing four findings now that the PUC CDMS is live: PUC's Subject Matter Experts (SMEs) availability (#14) were managed well. The challenges with Payment Processing (#21) were overcome. PUC accepted the system and remain confident the demonstrated functionality will meet their needs despite the SI not producing a fully traceable RTM (#25). Finally, the impact of losing the original OCR vendor (#26) was overcome.



# Executive Summary

May '23	Category	IV&V Summary
L	Project Management	The Project continues to rely on the PUC PM and PUC Technical SME heavily after go-live. The PUC PM took the initiative to create a task system using MS Planner to track user feedback and requests until the System Integrator (SI) delivered the ticketing system, indicating the PM's dedication and resourcefulness. The PUC Technical Lead has been busy supporting user needs. Since go-live, the overall demand on the PUC PM and Technical Lead's time has lessened and with the continued support of a contracted independent analyst, the Project is still able to manage post go-live activities effectively.

May '23	Category	IV&V Summary
L	Software Development	The Project continues receiving and tracking user feedback and input, which includes identifying areas for process improvement. The Project Team will prioritize and address these improvement areas accordingly. For instance, an oversight was identified regarding the inability to search PDF content within the CDMS which will be addressed as part of the warranty efforts.

May '23	Category	IV&V Summary
M	Testing	The Project successfully tested the remaining financial reporting functionality. Overall, the Project sufficiently mitigated insufficient testing by extending User Acceptance Testing (UAT) and resolving numerous defects prior to go-live. The Project has documented multiple issues in Production and continues to identify potential concerns that could have been addressed during earlier testing phases.



# Executive Summary

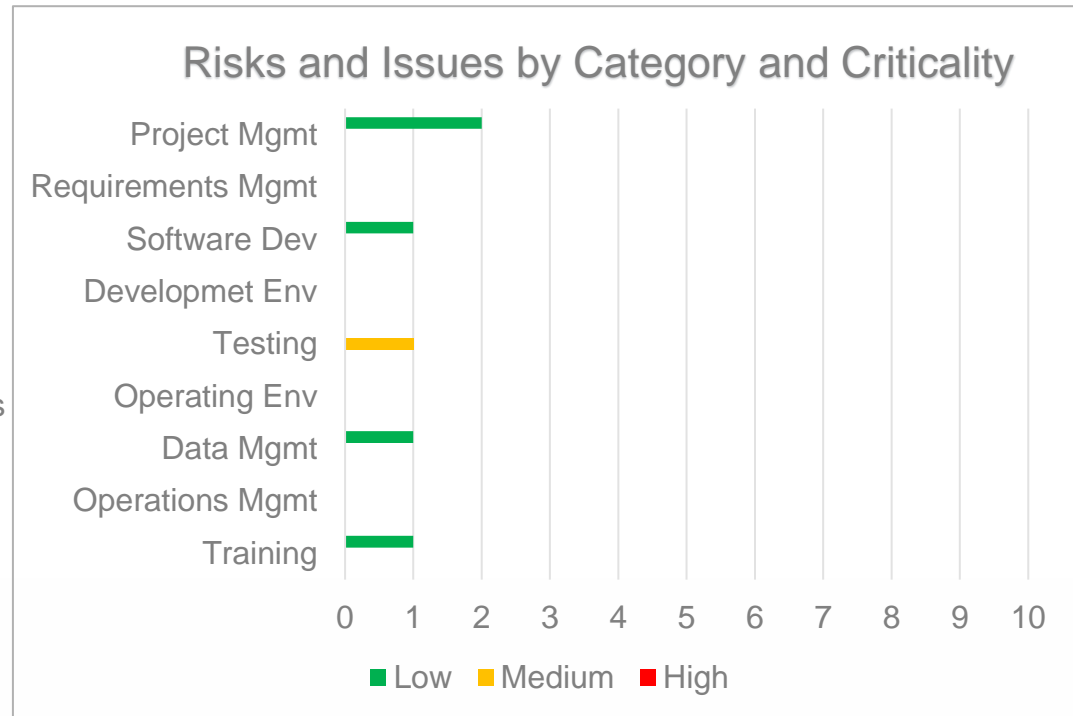
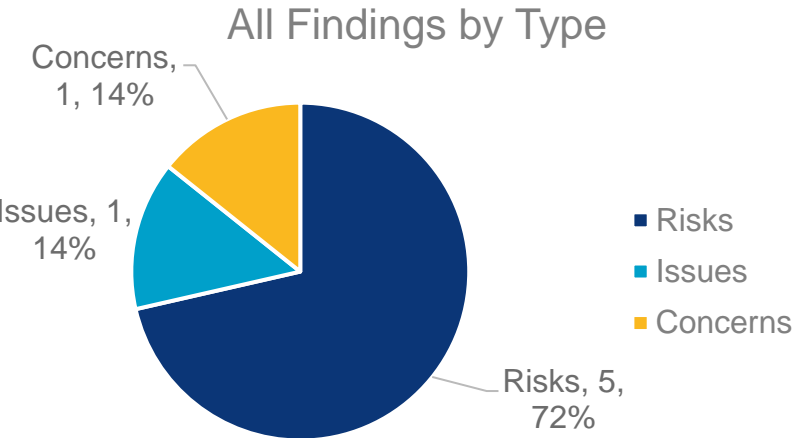
May '23	Category	IV&V Summary
L	Data Management	Data conversion and data clean-up tasks were successfully executed during the go-live weekend. However, it was not possible to correct all the data issues , specifically duplicate accounts, beforehand. Considering the limited amount of data issues remaining and the functioning of the merge feature to help clean data, the system performs as expected.

May '23	Category	IV&V Summary
L	Training (OCM)	Overall, the OCM (Organizational Change Management) messages and communications from PUC were successful. However, there were instances where external users may not have received adequate support and communication. The Project recognized these gaps and promptly addressed them by providing supplementary support and communication as required.



# Executive Summary

IV&V is monitoring seven findings. Four findings were closed and one new preliminary concern was opened this reporting period. PUC and IV&V closed: #14 PUC SME Resources, #21 Payment Processing Delays, #25 Insufficient Requirements Management, and #26 Loss of OCR Vendor. The remaining findings are six low risks and one medium issue. A new preliminary concerning the lack of a help desk ticketing system, #27, was opened.



The background is a solid blue color. It features several abstract geometric shapes, including squares and rectangles of various sizes and shades of blue. Some shapes are solid, while others are outlined in white. The shapes are scattered across the page, with a higher concentration on the left side. The text 'IV&V Findings and Recommendations' is centered in the middle of the page in a bold, yellow font.

# **IV&V Findings and Recommendations**



# IV&V Findings and Recommendations

IV&V ID #14	Type: Risk	Status: Closing	Category: Project Management
	Rating: Low		Date Opened: September 30, 2021

**Title:** Limited PUC resource availability could lead to schedule delays and incomplete system design.

**Observation:** Although the CDMS Project is a high priority at the PUC, resource limitations appear to exist throughout the life cycle of the Project. These constraints were communicated to the System Integrator (SI) early in the project for planning purposes.

**Context:** System development projects require coordination and engagement between the SI and the client in order to accurately document business needs, processes, user stories, business rules, and anything needed to build a system that meets the client's needs.

**Impact:** Schedule delays, increased project cost, implementation of a solution that that does not meet the PUC's needs

## Updates

6/30/2023: The new PUC CDMS system went live on June 19, 2023 and entered a 90-day warranty phase. PUC resources and SMEs are no longer needed to support design, development and implementation activities except for some post-go-live defects and enhancements. This risk is no longer applicable and is overcome by events



# IV&V Findings and Recommendations

<b>IV&amp;V ID #14 (cont.)</b>	Type: Risk Rating: Low	Status: Closing	<b>Category: Project Management</b>	
			<b>Date Opened: September 30, 2021</b>	
Recommendations/Action Items			Period	Status
The Project conduct detailed resource planning under the new schedule to avoid resource constraints.			Medium Term	In progress
PUC PM and SI PM develop a plan to address these constraint and work closely together throughout the project to plan important meetings based on resource availability.			Long Term	In progress
PUC and SI review Sprint Plan and ceremonies to identify specific resources to help identify resource risk that can be addressed before sprint cycles begin.			Short Term	Complete
SI employ agile processes and methodologies so that progress can be made regardless of PUC resource availability.			Long Term	Complete



# IV&V Findings and Recommendations

<b>IV&amp;V ID #15</b>	<b>Type: Risk</b> <b>Rating: Low</b>	<b>Status: In progress</b>	<b>Category: Project Management</b> <b>Date Opened: September 30, 2021</b>
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**Title:** Project deliverables and artifacts that lack sufficient detail could lead to project delays, misunderstandings, inefficient project execution, and rework.

**Observation:** Early SI submissions of project deliverables lacked sufficient detail.

**Context:** Project planning documentation such as the Project Plan, Risk Management Plan, Communication Plan and Change Management Plan, can be effective tools for projects of this size to increase stakeholder understanding of the goals, approach, steps, timelines, roles and responsibilities. Additionally, conceptual designs, requirements traceability matrices, and process maps can also provide important information for successfully developing a system that meets PUC's needs.

**Impact:** Failure to provide sufficient detail in project deliverables can lead to project team confusion, missteps, project delays, misunderstandings, inefficient project execution, and rework.

## Updates

6/30/2023: The new PUC CDMS system went live on June 19, 2023 and entered a 90-day warranty phase. Most deliverables have been delivered and accepted except for the 7.1 As-Built System Documentation and the 7.2 System Cutover & Execution.



# IV&V Findings and Recommendations

<b>IV&amp;V ID #15 (cont.)</b>	<b>Type: Risk</b>  <b>Rating: Low</b>	<b>Status: In progress</b>	<b>Category: Project Management</b>  <b>Date Opened: September 30, 2021</b>	
<b>Recommendations/Action Items</b>			<b>Period</b>	<b>Status</b>
Although DEDs were developed for all deliverables, the SI should involve PUC before providing the draft deliverable to obtain feedback and expedite review cycles.			Long term	In progress
The SI should perform additional QA of deliverables prior to submission			Long term	In progress



# IV&V Findings and Recommendations

IV&V ID #18	Type: Risk Rating: Low	Status: In progress	Category: Software Development Date Opened: October 28, 2021
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**Title:** Lack of attention to process improvement can lead to a system that simply automates existing processes instead of improving them

**Observation:** The extent to which the Project intends to focus on process improvements remains unclear. Pain points do not seem comprehensively tracked or considered during design sessions or whether all stakeholders are aware of or are actively utilizing the pain points list. While IV&V recognizes that change is difficult, some stakeholders appear to be hesitant to let go of familiar processes during the design sessions. It remains unclear if PUC has assigned the role of change champion to drive organizational process improvements.

**Context:** IT Projects that assign change champions and prioritize process improvement have an increased likelihood of resulting in systems that meet the organization's future business needs and improve system acceptance.

**Impact:** Lack of attention to process improvement can lead to a final product that fails to provide maximum value to users. Tracking pain points can be an effective OCM strategy to promote user adoption and increase user buy-in by providing visibility into how the system can resolve their pain points. Also, identifying and implementing opportunities for process improvement avoids SME frustration and rework.

## Updates

6/30/2023: The new PUC CDMS system went live on June 19, 2023 and entered a 90-day warranty phase. Users continue to provide feedback and the Project continues to track and manage areas of improvement. For example, users are only able to search PDF content from the public portal. The Project overlooked the inability to search PDF content from within the CDMS system. The Project is working on addressing this gap.



# IV&V Findings and Recommendations

IV&V ID #18 (cont.)	Type: Risk Rating: Low	Status: In progress	Category: Software Development Date Opened: October 28, 2021	
Recommendations/Action Items			Period	Status
Communicate to users and stakeholders process improvement that may not be optimized upon go-live but may be addressed during M&O.			Medium Term	In progress
Identify a PUC process improvement resource to drive/coordinate organizational process improvement efforts and assure system related processes are optimized. This resource could attend design sessions and validate designs support process improvement.			Short term	Not started
Work closely with the SI to identify opportunities for process improvement and implement associated features in the system being careful not to overwhelm users with too much change.			Long term	In progress
Formally engage stakeholders in identifying and tracking pain point and out-of-scope requirements so they are not forgotten and can be revisited in future project phases or other organizational initiatives.			Long term	In progress
Formally track readily available details of out-of-scope requirements that could be beneficial to users so they are not forgotten and they can be easily revisited in future project phases or other organizational initiatives.			Long Term	In progress



# IV&V Findings and Recommendations

ID #19

Type: Risk

Rating: Low

Status: In progress

Category: Project Management

Date Opened: November 30, 2021

**Title:** Key PUC project resources performing multiple roles could lead to schedule delays and significant project disruption.

**Observation:** IV&V has noted that at least two of the PUC project team members perform multiple roles and responsibilities on the project which may impact their ability to be successful if project demands increase.

In addition to serving as PUC's CDMS PM, this position also performs the following roles: Organizational Change Management lead, Process Improvement lead, Business Analyst Co-lead, User Acceptance Test (UAT) Co-lead, and Contract Administrator. In addition to performing ongoing operational responsibilities, the PUC CDMS Technical Lead is the Project IT Sponsor, Data SME, BA Co-Lead, and User Acceptance Test Co-Lead, and is heavily relied on for business analysis.

While these team members have indicated a strong commitment to project success, each has multiple competing priorities. The team members stated their support staff, including the new communications lead, will take on more responsibility to alleviate demands on their time. Also, the team members believe that the overall future workload will lessen.

It remains unclear if PUC staffing levels are appropriate for this project.

**Context:** Typically, Hybrid Agile projects require an increased level of customer engagement through all phases of the project. Overreliance on key resources can not only overtax and thereby reduce the effectiveness of these key individuals but also present a risk of significant project disruption in the event of their departure.

**Impact:** If the PUC PM and Technical SME are unable to transfer some responsibilities to other PUC resources, this could stretch them beyond their capacity which may lead to project delays and a decrease in quality in the project tasks they perform.

## Updates

6/30/2023: The new PUC CDMS system went live on June 19, 2023 therefore, the PUC PM and Technical SME no longer need to support DDI and go-live activities. However during the 90-day warranty period, the PUC PM continues to support managing user feedback and the PUC Technical SME is busy supporting user needs and questions. Overall, they continue to manage their time effectively.



# IV&V Findings and Recommendations

IV&V ID #19 (con't)	Type: Risk Rating: Low	Status: In progress	Category: Project Management Date Opened: November 30, 2021	
Recommendations/Action Items			Period	Status
Continue to focus on high priority and critical items			Medium term	In progress
Continue to leverage analyst to relieve the demand on the PUC PM			Medium term	In progress
The Project should plan for different contingencies depending on when the third PM becomes available.			Medium term	Complete
The Project should plan for different contingencies depending on the role of the original PM moving forward.			Medium term	Complete
Consider temporary staff augmentation options to both augment the existing project team and augment the operations staff to offload operational responsibilities from key resources			Long term	Complete
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.			Long term	Complete
Temporarily re-allocate operational responsibilities from key resources until project responsibilities are reduced.			Long Term	Complete





# IV&V Findings and Recommendations

ID #20	Type: Risk Rating: Low	Status: In progress	Category: Data Management Date Opened: March 31, 2022
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**Title:** Data cleansing challenges could overwhelm PUC SMEs and could confuse users, reduce user buy-in, and/or lead to schedule delays if the Project went live with some bad data

**Observation:** IV&V is concerned with the poor quality of the legacy system data and whether PUC has the capacity to effectively cleanse their data. Further, if the project aims to meet data conversion milestones, the project may elect to go-live with some bad data to meet their planned go-live date.

**Context:** Typically, any bad data is addressed prior to go live to facilitate user adoption and to increase perceived system quality.

**Impact:** If all important data is not cleaned up prior to go-live, user adoption may be challenged, and user perception of the system may be diminished.

## Updates

6/30/2023: The new PUC CDMS system was launched on June 19, 2023 and entered 90-day warranty phase. The majority of data conversion and clean-up tasks were successfully executed during the go-live weekend. However, it was not possible to address all the data beforehand. Particularly, merging all duplicate account data proved challenging in certain complex scenarios. Nevertheless, considering the limited amount of data and the functioning of the merge feature, the system performs as expected.



# IV&V Findings and Recommendations

<b>IV&amp;V ID #20 (cont.)</b>	<b>Type: Risk</b>  <b>Rating: Low</b>	<b>Status: In progress</b>	<b>Category: Data Management</b>  <b>Date Opened: March 31, 2022</b>	
<b>Recommendations/Action Items</b>			<b>Period</b>	<b>Status</b>
The Project determine how long it will take to complete the post go live cleanup activities and if possible, complete after go-live is complete, but prior to production users using the system.			Medium term	In progress
Communicate to users and stakeholders the expected bad data and provide timelines and processes for fixing the bad data.			Medium term	In Progress
Develop additional automation / pre-go-live strategies to clean data			Medium term	In Progress



# IV&V Findings and Recommendations

<b>IV&amp;V ID #21</b>	<b>Type: Risk</b> <b>Rating: Low</b>	<b>Status: Closing</b>	<b>Category: Project Management</b> <b>Date Opened: May 31, 2022</b>
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**Title:** Delays in establishing card-not-present payment gateway could lead to schedule delays and increased cost

**Observation:** The Project elected to pause most activities for almost 3 months to procure a card-not-present payment processing vendor. Originally, the Project was planning on forego a public solicitation for these services, but the State Procurement Office required it. The SI stated the pause will be a no cost change order. .

**Context:** The Project has had past difficulties accurately estimating the procurement of the card-not-resent service vendor and it is unclear how accurate these new estimates are.

**Impact:** If PUC is unable to secure a new payment processing vendor by the beginning of January 2023, the Project may be delayed. Original: If the PUC is unable to process payments on August 14th, 2022, the Project may be further delayed. Given the SI will not charge the customer for the initial 3-month delay, the budget impact could be minimal. However, the SI stated if payment processing is not available by 8/14, there is a \$10,000 a week fee for the additional schedule extension. PUC stated they are confident they can complete this procurement before the 8/14 deadline but if the Project is unable to meet these deadlines, the Project stated they have alternative plans.

## Updates

6/30/2023: The new PUC CDMS system went live on June 19, 2023 and entered a 90 day warranty phase. The missing financial reporting functionality was implemented before go-live and did not lead to any schedule delays or cost increases. This risk is moot and overcome by events.



# IV&V Findings and Recommendations

<b>IV&amp;V ID #21 (cont.)</b>	<b>Type: Risk</b> <b>Rating: Low</b>	<b>Status: Closing</b>	<b>Category: Project Management</b> <b>Date Opened: May 31, 2022</b>	
<b>Recommendations/Action Items</b>			<b>Period</b>	<b>Status</b>
PUC consider requesting the vendor to address the missing functionality prior to go-live to prevent any inconvenience			Medium term	In Progress
PUC could consider delaying the May 15, 2023 go-live date to provide more time to complete all Project activities satisfactorily. PUC reported no significant business impact if go-live is further delayed.			Medium term	Complete
Closely monitor procurement for any signs of delay			Medium term	Complete
Develop mitigation strategies if procurement activities appear unfavorable			Medium term	Complete



# IV&V Findings and Recommendations

ID #23	Type: Risk Rating: Low	Status: Open	Category: Training (OCM) Date Opened: February 28, 2023
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**Title:** Lack of PUC OCM resources could hinder OCM effectiveness

**Observation:** PUC has limited capacity to perform comprehensive OCM activities. OCM is currently being led by the PM with assistance from the PUC communications officer, both of which have limited capacity.

**Context:** A major goal of OCM is to ensure an organization adopts new systems and processes without causing negative impacts.

**Impact:** Insufficient OCM can lead to user dissatisfaction and a lack of buy-in. The need to address user concerns and confusion as they struggle to adapt to the new system/ processes could weigh heavily on project leadership and PUC staff the week of go-live.

## Updates

6/30/2023: The new PUC CDMS system was launched on June 19, 2023 and entered a 90-day warranty phase. Overall, the OCM (Organizational Change Management) messages and communications from PUC were successful. However, there were instances where external users may not have received adequate support and communication. The Project recognized these gaps and promptly addressed them by providing supplementary support and communication as required.



# IV&V Findings and Recommendations

<b>IV&amp;V ID #23 (cont.)</b>	<b>Type: Risk</b>  <b>Rating: Low</b>	<b>Status: Open</b>	<b>Category: Training (OCM)</b>  <b>Date Opened: February 28, 2023</b>	
<b>Recommendations/Action Items</b>			<b>Period</b>	<b>Status</b>
PUC could consider pushing the May 15, 2023 go-live date further out to provide more time to complete all OCM activities satisfactorily.			Medium term	Complete
PUC strategically plan to implement select OCM activities that will provide the greatest OCM benefit.			Medium term	In progress
Focus efforts towards public portal users given the greater risk of bad press if communications are insufficient.			Medium term	In progress



# IV&V Findings and Recommendations

IV&V ID #24	Type: Issue Rating: Medium	Status: Open	Category: Testing Date Opened: February 28, 2023
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**Title:** Insufficient testing could lead to unexpected delays, increased burden on PUC testers, and reduced user buy-in.

**Observation:** The tests scripts the SI provided for system and user acceptance testing (UAT) were not comprehensive enough to assure full test coverage of the system. Given the significant number of defects (over 200) found in the first round of UAT, it remains unclear if SI system tests, prior to UAT, were comprehensive. The SI has yet to revise their test scripts to PUCs satisfaction. PUC has stated it appears SI regression testing efforts may be insufficient.

**Context:** One of the goals of testing is to reduce the number of defects found in subsequent project phases. For example, prior to UAT, system test should be conducted to minimize the number of defect introduced into the UAT environment so that UAT users can concentrate on determining if the system meet their needs instead of defects that should have been caught earlier.

**Impact:** Insufficient SI testing could increase the UAT level of effort if they are left with the additional burden of discovering defects missed by the SI, resulting in further Project delays. Further, overall impressions of the system and the improvements it will bring could be overshadowed by negative opinions voiced by PUC testers and thereby reduce user buy-in. If testing is not completed in a timely manner and/or if the SI is unable to assure each requirement has been fully met and comprehensively tested, system go-live could be delayed.

## Updates

6/30/2023: The new PUC CDMS system went live on June 19, 2023 and entered a 90 day warranty phase. The Project tested the remaining financial reporting functionality successfully at go-live. Overall, the Project was able to mitigate this issue by extending UAT and removed many defects prior to go-live. However, the Project has documented many issues post go-live and continue to uncover potential issues that could have been addressed in prior testing phases.



# IV&V Findings and Recommendations

<b>IV&amp;V ID #24 (cont.)</b>	<b>Type: Issue</b>  <b>Rating: Medium</b>	<b>Status: Open</b>	<b>Category: Testing</b>  <b>Date Opened: February 28, 2023</b>	
<b>Recommendations/Action Items</b>			<b>Period</b>	<b>Status</b>
As UAT is the last phase before production extend UAT as long as necessary to ensure the system is ready for go-live to PUC's satisfaction.			Medium term	Complete
PUC and the SI perform significant ad-hoc testing			Medium term	Complete
PUC could consider pushing the May 15, 2023 go-live date further out to provide more time to complete all Project activities satisfactorily. PUC reported no significant business impact if go-live is further delayed.			Medium term	Complete





# IV&V Findings and Recommendations

<b>IV&amp;V ID #25</b>	Type: Issue Rating: Low	Status: Closing	Category: Requirements Date Opened: February 28, 2023
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**Title:** Insufficient requirements traceability could lead to missed requirements, rework, and budget/schedule impacts

**Observation:** The Requirements Traceability Matrix delivered by the SI lacks sufficient detail to fully map test scripts back to individual requirements, rather, the SI has elected to only map test scripts back to requirement categories. The SI has stated they will not provide this level of details that is typical of an industry standard RTM despite multiple requests from PUC.

**Context:** IEEE states: Requirements are the most important part of any software projects. Many software projects were failed due to incomplete requirements and lack of user involvements. It is very important to define all requirements at the beginning of any new project so that all members of the team can easily find what goals they should be striving toward. Requirement Traceability Matrix (RTM) is a document that contains all requirements presented by the customer or development team at the end of the life-cycle. The main purpose of creating Requirement Traceability Matrix is to check that all test cases are covered and should not be missed any functionality while testing."

**Impact:** Failure to trace test cases/scripts back to individual requirements could lead to a system has not been fully tested to assure all system requirements have been met.

## Updates

6/30/2023: The new PUC CDMS system went live on June 19, 2023 and entered a 90 day warranty phase. PUC accepted the incomplete RTM and with PUC's additional validation efforts, are comfortable all requirements have been sufficiently met at go-live.



# IV&V Findings and Recommendations

<b>IV&amp;V ID #25 (cont.)</b>	<b>Type: Issue</b>  <b>Rating: Low</b>	<b>Status: Closing</b>	<b>Category: Requirements</b>  <b>Date Opened: February 28, 2023</b>	
<b>Recommendations/Action Items</b>			<b>Period</b>	<b>Status</b>
PUC Request the SI deliver a finalized fully traceable RTM that meets industry standards			Short term	Not started
If the PUC and SI come to an agreement, suggest the SI collaborate on ways to mitigate this risk			Short term	Complete



# IV&V Findings and Recommendations

<b>IV&amp;V ID #26</b>	<b>Type: Risk</b> <b>Rating: Medium</b>	<b>Status: Closing</b>	<b>Category: Data Management</b> <b>Date Opened: May 31, 2023</b>
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**Title:** Lack of an OCR contractor could result in data conversion delays.

**Observation:** In the data conversion process, the SI had initially planned to subcontract the importation of electronic documents into DocuSign to Stria, which was recently acquired by Bitwise. Stria utilized customized tools to streamline this process. However, on 5/30/23, it was disclosed that Bitwise/Stria had furloughed all of their employees and currently face the risk of insolvency. Prior to this announcement, Stria had already processed a significant number of documents. In response to this situation, the SI has expressed their intention to take over the work that was subcontracted to Stria. They are actively working to ensure that the go-live of the project will not be adversely affected.

**Context:** OCR is a necessary part of PUC's data conversion efforts to ensure existing files are transferred to the new system.

**Impact:** In the event that the SI is unable to adequately carry out the tasks originally assigned to Stria, there is a possibility of project go-live being delayed. Such a delay would necessitate the correction or revision of the prepared communications, potentially leading to confusion among the users.

## Updates

6/30/2023: The new PUC CDMS system went live on June 19, 2023 and entered a 90 day warranty phase. Prior to go-live, the original OCR vendor became unavailable and the SI was able to satisfactorily meet the Project's OCR needs. While there are minor OCR defects, the lack of the OCR contractor did not result in delays. This risk is moot and overcome by events.



# IV&V Findings and Recommendations

<b>IV&amp;V ID #26 (cont.)</b>	<b>Type: Risk</b>  <b>Rating: Medium</b>	<b>Status: Closing</b>	<b>Category: Data Management</b>  <b>Date Opened: May 31, 2023</b>	
<b>Recommendations/Action Items</b>			<b>Period</b>	<b>Status</b>
Request the SI implement a proof of concept (POC) to validate whether they will be able to effectively carry out the tasks originally assigned to Stria.			Short term	Not started
If the POC is effective, request the SI import a larger subset of documents and thoroughly validate and test the accuracy of the import.			Short term	Not started
Set a go/no-go decision date that would allow time for effective communications in the event of a no-go decision.			Short term	Not started



# IV&V Findings and Recommendations

<b>IV&amp;V ID #27</b>	<b>Type: Concern</b> <b>Rating: n/a</b>	<b>Status: New</b>	<b>Category: Project Management</b> <b>Date Opened: June 30, 2023</b>
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**Title:** Upon its implementation, the SI failed to introduce a ticketing system, potentially leading to missed opportunities for enhancements and delays in addressing user needs.

**Observation:** The SI did not deliver its Help Desk Ticketing System upon go-live to track user feedback post-go-live. To mitigate this, PUC created an interim Task System utilizing an existing enterprise tool, Microsoft Planner, to track feedback and internal and external user requests.

**Context:** A help desk ticketing system is helpful to track user feedback and support items during Maintenance & Operations

**Impact:** Without a sufficient Ticketing System, it becomes challenging to track and manage issues which could result in missed opportunities, limited visibility into the system and inability to prioritize issues. This can cause user confusion and delays in addressing user needs.

## Updates

6/30/2023: n/a





# IV&V Scope and Approach

# IV&V Scope

- In accordance with PCG's contract for the CDMS Project at the PUC, the subject areas that are within the scope of IV&V activities include:
  - Project Management
  - Requirements Management
  - Software Development
  - Development Environment
  - System and Acceptance Testing
  - Operating Environment
  - Data Management
  - Operations Oversight
  - Training
- As the CDMS IV&V project progresses, PCG's activities will focus on areas that represent highest risk to the Hawaii PUC.



# IV&V Approach and Methodology

- 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.








# IV&V Engagement Status

# IV&V Engagement Status

IV&V Engagement Area	Apr 23	May 23	June 23	Comments
IV&V Budget				The IV&V engagement is deliverables-based and PUC is not at risk of being over budget.
IV&V Schedule				The IV&V engagement aligns with the SI schedule.
IV&V Deliverables				There are no known risks to upcoming IV&V deliverables.
IV&V Staffing				The IV&V team maintains the proposed team and there are no foreseeable changes.
IV&V Scope				The IV&V project continues to operate within the scope of its engagement.




Engagement Status Legend		
	The engagement area is within acceptable parameters.	
		The engagement area is somewhat outside acceptable parameters.
		
		The engagement area poses a significant risk to the IV&V project quality and requires immediate attention.

# Appendices



# Appendix A – IV&V Criticality Ratings

See definitions of Criticality Ratings below:

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

# Appendix B – IV&V Inputs

Meetings attended during the reporting period:	Artifacts reviewed during the reporting period:
Weekly check-ins with PUC	Training Materials
Monthly check-ins with PP	
Weekly PM Meetings	
Go, No-Go Meetings	
Training Sessions	



# Appendix C – Upcoming IV&V Activities

Anticipated meetings to attend next period	Anticipated artifacts to review next period
Weekly check-ins with PUC	
Monthly check-ins with PP	
Weekly PM Meetings	
CDMS – Risk Management Meeting	
Deliverable Review Sessions	



# Appendix D – Recommendation Periods

Period	Definition
<b>Short Term</b>	These are recommendations that should be completed within the month and/or require less than a month to complete
<b>Medium Term</b>	These are recommendations that should be completed within 2-6 months and/or require 2-6 months to complete
<b>Long Term</b>	These are recommendations that should be completed within 6 months to a year and/or require > 6 months to complete.





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