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DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES | *KA ʻOIHANA LOIHELU A LAWELAWE LAULĀ*

OFFICE OF ENTERPRISE TECHNOLOGY SERVICES | *KEʻENA HOʻOLANA ʻENEHANA*

P.O. BOX 119, HONOLULU, HAWAII 96810-0119

January 31, 2025

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

The Honorable Nadine K. Nakamura
Speaker and Members of the
House of Representatives
Thirty-Third State Legislature
State Capitol, Room 431
Honolulu, Hawaiʻi 96813

Aloha Senate President Kouchi, Speaker Nakamura, 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 10 days of receiving the report, please find attached the report the Office of Enterprise Technology Services received for the State of Hawaiʻi, Department of Labor and Industrial Relations (DLIR) Hawaiʻi Unemployment Insurance Modernization (Hui Huakaʻi) Project

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

Sincerely,

Christine M. Sakuda
Chief Information Officer
State of Hawaiʻi

Attachments (2)

HUI Huaka'i Project

Department of Labor and Industrial Relations (DLIR)

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

For Reporting Period: **[November]**

Draft Submitted: December 5, 2024

Final Submitted: January 17, 2025

PUBLIC CONSULTING GROUP

Solutions that Matter

Overview

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

Executive Summary

Project HUI Huaka'i is currently in Green status *but is trending Yellow. November focused on refining the Requirements Traceability Matrix (RTM), linking requirements in the development queue, and providing more granular detail in the project schedule. This will allow the project to track project scope and delivery in a best-practice manner.*

The HUI Huaka'i project demonstrates strong performance in several areas, including data conversion, requirements gathering, organizational change management (OCM), and security, fraud, and risk management. These areas are conducting productive meetings and achieving measurable progress. The Hawaii UI PMO has actively supported the project's success by facilitating effective daily and weekly meetings, ensuring timely deliverables, and establishing a PMO office that fosters a collaborative team environment while remaining accessible to vendors and stakeholders.

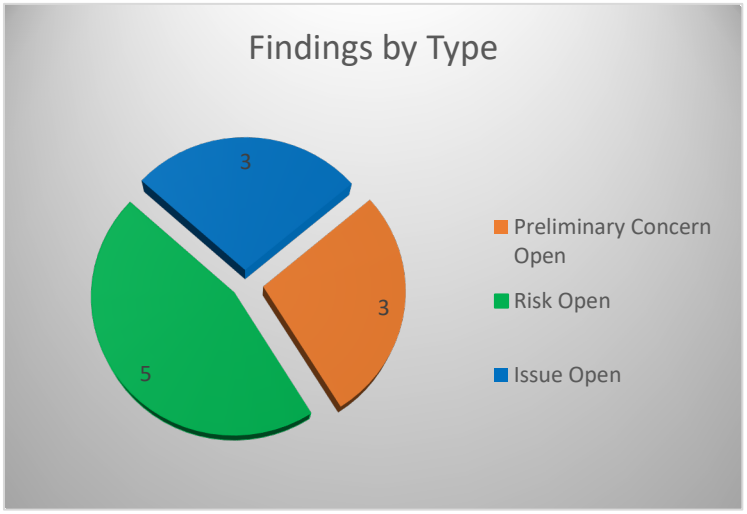
The workstreams of Project Management, Schedule Management, Resource Management, and Scope Analysis are in Yellow because the project management plan, resource management plan, and project schedule have not been finalized. These documents have been submitted, but they are undergoing modification to meet best practice standards. Until these documents are finalized, project governance will continue to be a highly resource-intensive activity.

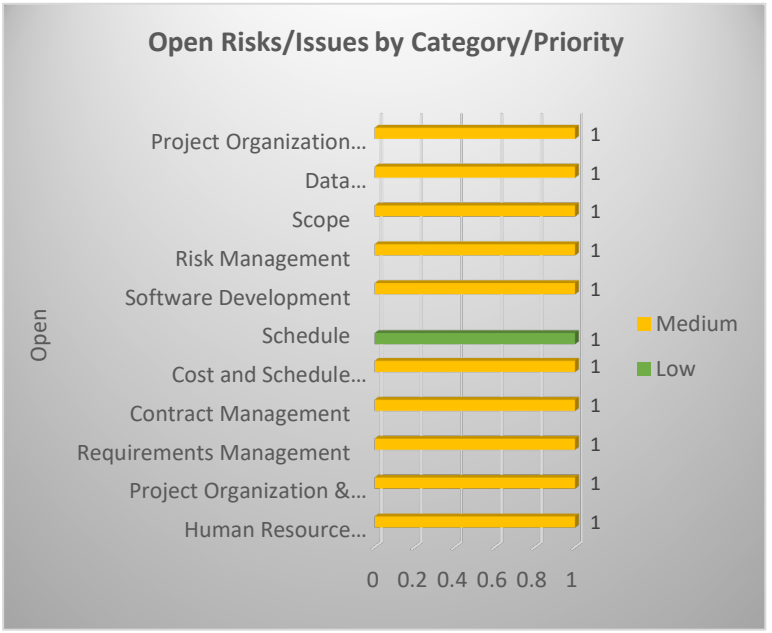
IV&V is concerned that the project is in its ninth month and foundational project management documents have not been finalized. This can create challenges in effectively tracking progress in a best-practice manner. To address these challenges, the UI PMO has taken a proactive role in ensuring the deliverables meet best practices.

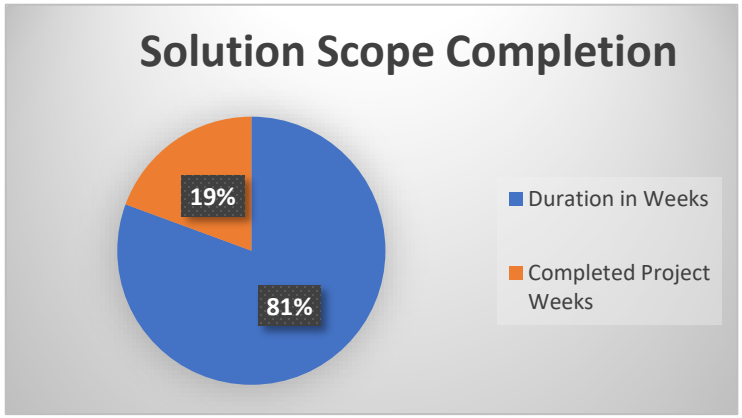
The IV&V team reported three (3) preliminary concerns, three (3) issues, and five (5) risks detailed in the IV&V Findings and Recommendations section of this report. 2 risks were closed during this reporting period.

Executive Summary

IV&V identified (12) eight findings that include two (2) preliminary concerns, three (3) issues, and five (5) risks) for this reporting period. Findings, Risks and Issues, Project Cost, and Scope Completion are represented below.



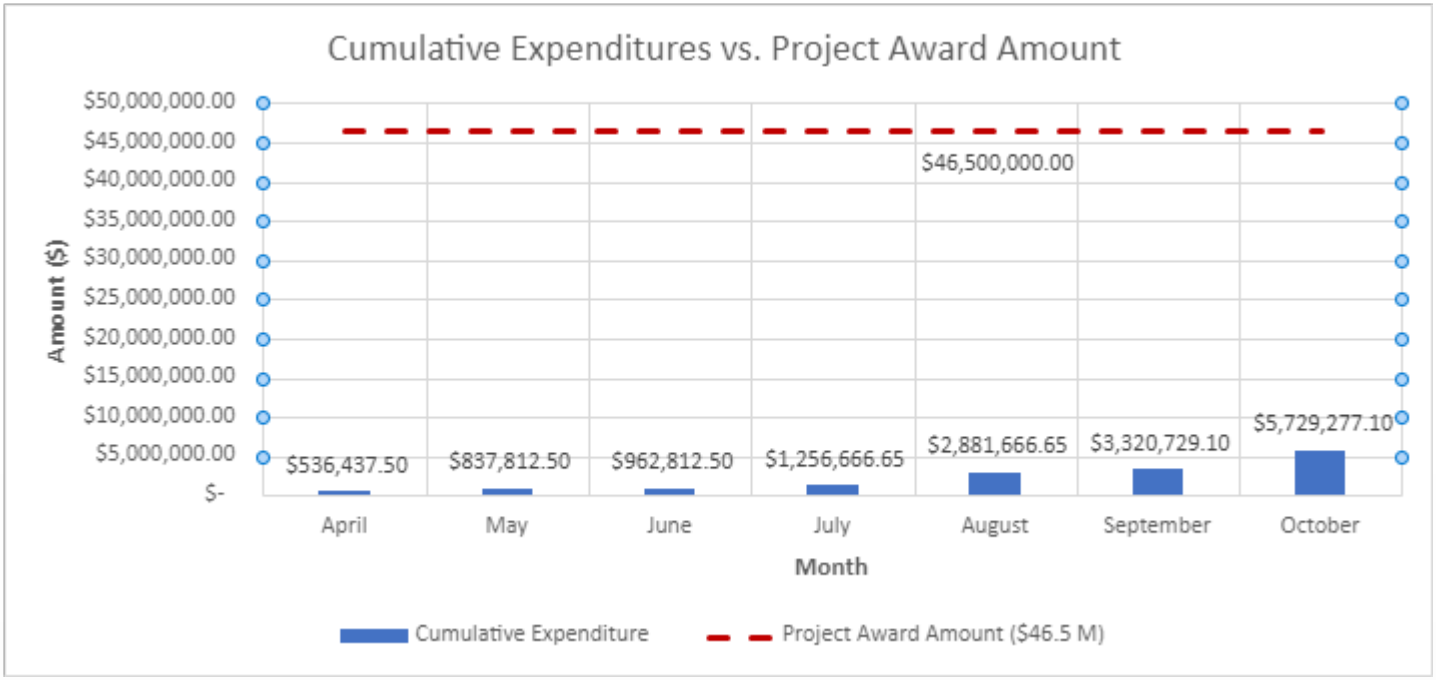




Executive Summary

HUI Huaka'i Project expenditures to the contract vendor are represented below. There were no expenditures in November.

Month	Expenditure	Cumulative Expenditure	Project Award Amount ($46.5 M)
April	$536,437.50	$536,437.50	$46,500,000.00
May	$301,375.00	$837,812.50	$46,500,000.00
June	$125,000.00	$962,812.50	$46,500,000.00
July	$293,854.15	$1,256,666.65	$46,500,000.00
August	$1,625,000.00	$2,881,666.65	$46,500,000.00
September	$439,062.45	$3,320,729.10	$46,500,000.00
October	$2,408,548.00	$5,729,277.10	$46,500,000.00
November	$-	$5,729,277.10	$46,500,000.00



STANDARD REPORT SECTIONS

Project Organization Management

2 Months Prior	Prior Month	Current Month	Category	IV&V Observations
L	M	M	Project Organization Management	Project Organization Management is Yellow with the following Observations: Foundational documents such as the Project Management Plan (PMP) and the Project Schedule have not been finalized. As of 12/2/2024, the schedule is not final and lacks the details needed to report Schedule Performance (SPI), Scope Management, or Earned Value Management (EVM). In November, the UI Solution vendor canceled the requirements gathering meetings and scheduled RTM initiative meetings to fill gaps in the RTM and provide details for the project schedule. The UI Solution Vendor submitted a change request to change the due dates for the five (5) project Document deliverables that were reported as being late in the October report. The UI PMO continues to lead and guide efforts to finalize the project documents and keep the project on track. The project plan and related documents outline the project objectives, methodology, and implementation strategy. They are a comprehensive guide for project teams, stakeholders, and management to understand the project scope, requirements, and execution plan. **IV&V Recommends:** • Identifying the Product Owner. • Finalizing schedule details. • Finalizing project deliverable documents • Finalizing all foundational project documents Related Open Findings: **Finding #10** – Misalignment of Elicitation Session Agendas **Initial Observation # 29** – Meeting Mismanagement

Cost and Schedule Management

2 Months Prior	Prior Month	Current Month	Category	IV&V Observations
L	M	M	Cost and Schedule Management	Schedule Management is Yellow with the following **Observations**: The UI Solution Vendor was expected to share an updated schedule by the end of November. In conjunction with an updated RTM and product roadmap and has been working on a mitigation plan to report accurate overall project performance in a best practice manner. In mid-November the project replaced requirements meetings with RTM meetings to ensure that all project requirements and status were tracked. The updated RTM will provide details that will provide metrics for scope reporting. As of November 30, the mitigation plan and updated Project schedule have not been shared. Without a final, baselined, detailed schedule, the Hawaii PMO and IV&V cannot track and report project metrics in a best-practice manner. Additionally, the lack of a detailed project schedule can cause stakeholders to face challenges in accurately assessing the project's progress and identifying potential delays, which could result in poor resource management, missed deadlines, and potential project scope creep. **IV&V Recommends:** • Finalizing schedule details. • Thoroughly reviewing and validating the project schedule with the project team and stakeholders. considering resource availability, constraints, and potential risks. • Obtaining stakeholder approval and setting the schedule as the baseline, i.e., the official project plan, once the schedule is approved. • Updating the Project Schedule to include the number of personnel and their appropriate skill levels. • Highlighting tasks that are on the critical path in a different color • Assigning resources to the detailed tasks. **Related Findings:** **Finding #21 -** Enhancing Project Clarity: Identifying Critical Tasks in the Project Schedule **Finding #22 –** Incomplete Project Schedule **Finding #27** – Late document deliverables – **Closed due to submitted change request 11/28/2024**

Requirements Management

2 Months Prior	Prior Month	Current Month	Category	IV&V Observations
L	L	L	Requirements Management	Requirements Management is Green with the following **Observations**: The project's new RTM initiative, launched during this reporting period, actively creates and updates additional features and requirements. This effort results in a comprehensive overhaul and reevaluation of the entire RTM. While this initiative demonstrates alignment with PMBOK guidelines in areas such as "Manage Quality" and "Plan Risk Responses," misalignments remain, particularly concerning the maturity and timing of the RTM. Due to the lack of a detailed schedule of deliverables and milestones, IV&V is unable to track requirements management status effectively. **IV&V Recommends:** To address these misalignments, IV&V recommends prioritizing the finalization of the RTM and establishing firm deadlines to bring traceability into compliance with project requirements and PMBOK best practices. Additionally, IV&V advises reinforcing stakeholder engagement, conducting a retrospective to identify process gaps, and implementing a proactive monitoring framework to prevent further delays. **Related Findings:** **Finding #4** – Traceability Concerns in Requirements Traceability Matrix and Azure DevOps Feature Items

System Architecture and Design

2 Months Prior	Prior Month	Current Month	Category	IV&V Observations
L	L	L	System Architecture and Design	System Architecture and Design is Green with the following **Observations:** An Initial System Design Document was due on 10/23/2024. A change request was submitted, and the new delivery date is January 31, 2025.

Testing and Operational Preparedness

2 Months Prior	Prior Month	Current Month]	Category	IV&V Observations
L	L	L	Testing (Sprint, Unit, System, Integration, UAT)	Testing (Sprint, Unit, System, Integration, UAT) is Green with the following **Observations:** In November, IV&V reviewed the UI Solution vendor's Master Test Plan and version 2 of the Test Strategy document. IV&V found that the Testing Strategy document effectively incorporated the feedback from version 1 and is a sufficient document outlining the project's approach to testing. The Master Test Plan contains foundational elements of the testing strategy but falls short in overall quality and comprehensiveness. While it addresses some high-level objectives and references certain activities and tools, there are significant gaps that hinder its ability to provide a cohesive and complete roadmap for the testing process. The Master Test Plan provides a starting framework but requires substantial additions and refinements to be effective and comprehensive. Addressing these gaps will improve the plan's alignment with industry standards (e.g., IEEE 829-2008) and ensure it is a reliable guide for achieving testing objectives. **IV&V Recommends:** • Add comprehensive schedules, estimates, and milestones for all testing activities. • Clearly define roles and responsibilities for test activities and decision-making. • Expand traceability processes to ensure alignment between system and software requirements. • Include a section on change management and a version control history. • Identify and document risks, along with mitigation strategies. • Establish quality control measures and metrics for all testing phases, not just UAT.
L	L	L	Operational Preparedness	**There are no updates for this period.**

Data Conversion Management

[2 Months Prior]	[Prior Month]	[Current Month]	Category	IV&V Observations
L	L	L	Data Conversion / Management	Data Conversion / Management is Green with the following **Observations:** The weekly Data Conversion and Data Cleansing meetings are progressing effectively. Data Conversion efforts, which currently focus on finalizing the Data Dictionaries (DDs), have completed the reviews for the Mainframe and Sides DDs. The review of the Web Admin DD is expected to be completed by the end of 2024. The Data Cleansing vendor, using SAP Information Steward, is defining optimal business rules to ensure high-quality data for HI DLIR's modernization initiatives and provides a monthly Data Scorecard. This Scorecard reports the results of data that failed established Data Cleansing Rules, with each table receiving a score from 0 to 10 based on the number of data points that failed. Any data points that do not meet the rules are reviewed with the HI DLIR UI Team, and rules or cleansing actions are adjusted as necessary. According to the November 2024 Data Scorecard, all tables with reported scores fall within the range of 9.97 to 10. The project manages Data Dictionary tasks through a Conversion Traceability matrix maintained in Excel. Data Cleansing tasks are managed through sprint boards in Azure DevOps (ADO). IV&V currently lacks access to the Data Cleansing Sprint Boards. IV&V reviewed the Data Conversion Plan document and found it generally sufficient. However, IV&V expects that areas such as user training, communication, downtime, and business disruption will be elaborated in the next iteration of the Data Conversion Plan document. **IV&V recommends:** • A rollback plan and process are included in future documentation. • Including a project schedule detailing data conversion processes in future documentation. • Creating a risk to the project for the lack of legacy data documentation, such as a data dictionary. • Including legacy data source information in future documentation. • Including a more in-depth training approach for conversion procedures and activities in future documentation. • Defining a Business Glossary early in an IT project, such as during data conversion, to establish a foundation for clear communication, consistent documentation, and accurate requirements. It minimizes misunderstandings, reduces risks, and promotes efficiency, setting the project up for success from the start. While defining a Business Glossary is not always the primary focus of the conversion process itself, integrating one into the data conversion phase can enhance overall data management. It is a strategic and beneficial practice. **Related Findings:** • **Finding #19** Defining a Business Glossary during the early phases of the project.

Security, Training/Knowledge Transfer, Interfaces and Quality Management

2 Months Prior	Prior Month	Current Month	Category	IV&V Observations
L	L	L	Security	Security is Green with the following **Observations:** Security Requirements Gathering is in progress.
L	L	L	Training / Knowledge Transfer	Training / Knowledge Transfer is Green with the following **Observations:** The Team Training Plan was not delivered on the scheduled date of 10/28/2024. The UI Solution Vendor submitted a change request to change the deliverable due date to 11/30/2024.
L	L	L	Interfaces	**There are no updates for this period.**
L	L	L	Quality Management	**There are no updates for this period.**

Software Development

2 Months Prior	Prior Month	Current Month	Category	IV&V Observations
L	L	L	Software Development	Software Development is Green with the following **Observations:** • The UI project has not set a source code quality threshold. The absence of a source code quality threshold in tools like SonarQube can lead to several significant issues, potentially impacting both short-term productivity and long-term system stability. • There are no Sprint Retrospectives at the end of each development sprint. • The current agile ceremonies are very brief, which can lead to several drawbacks. While brevity can be advantageous, it's crucial that ceremonies like Sprint Planning facilitate meaningful dialogue and effective collaboration. If discussions are overly short, transparency around team progress and challenges may decrease, negatively affecting collaboration. • During some requirement sessions, it has been observed that the vendor does not share notes and post-meeting action items. This could lead to missed action items, missed communication, and a lack of tracking of accomplished work from previous meetings. IV&V Recommends: • Based on Scrum Alliance guidelines, additional questions should be asked to ensure the proper execution of a Scrum meeting and Sprint Planning meetings. • As a guideline, IV&V recommends the durations for key Scrum events for 2-week Sprints based on PMBOK Best Practices (refer to Finding #20). • Using a source code quality threshold. • Implementing Sprint Retrospectives to enhance team collaboration, continuously improve development processes, and ultimately increase the project's success. **Related Findings:** **Finding #19** – Defining a Business Glossary during the Data Conversion Phase **Finding #24** - Source code quality threshold

Human Resources Staffing Management

2 Months Prior	Prior Month	Current Month	Category	IV&V Observations
L	M	M	Human Resources Staffing Management	Human Resources Staffing Management is Yellow with the following **Observations:** Resources are managed with an interim Resource Management Plan. The absence of a final Resource Management can make it difficult to assess whether the assigned project resources are adequate to complete the scheduled work. A lack of resources can create delays in project work and deliverables. The Hawaii UI PMO added a Technical Lead and a Project Analyst, and the UI Solution Vendor added two developers during this reporting period. **IV&V Recommends:** • Finalizing the Resource Management Plan. • Review the resource allocation timeline to ensure it aligns with project milestones and confirm that any required resource training is identified and scheduled. **Related Findings**: **Finding #3** – Monitor and Track Project Resourcing

Scope Analysis

2 Months Prior	Prior Month	Current Month	Category	IV&V Observations
L	M	M	Scope Analysis	Scope Analysis is Yellow based on the following **Observations:** As of 11/30, there is no finalized RTM and Testing schedule. IV&V is unable to conduct the scope analysis and will continue to monitor. IV&V is still unable to analyze or report on report on scope as it requires: • Calculating the estimated percentage of RTM scope implemented, • Estimating the percentage of testing completion for the current scope. The Hawaii UI PMO reported that they are working with the UI Solution Vendor to be able to provide metrics for project scope and health analysis, and metrics would be available for November reporting. IV&V has not seen these metrics. **Related Findings:** **Finding #28** – Incomplete Scope Limiting IV&V Reporting Capabilities

Contract and Communication Management

2 Months Prior	Prior Month	Current Month	Category	IV&V Observations
L	L	L	Contract Management	Contract Management is Green but is trending Yellow with the following **Observations:** The HUI Huaka'i Project gave UI Solution Vendor a Vendor Improvement Action Plan early in the project to establish a common understanding of the State's expectations. Additionally, they established a weekly review process to ensure the vendor remediated issues. The UI Solution Vendor has not provided an updated mitigation plan to address the Vendor Improvement Action Plan, and there were no follow-up meetings in November. Follow-up on a Vendor Improvement Plan ensures both the PMO and the Solution Vendor agree on what needs to improve. Additionally, it is important to monitor performance to ensure performance is improving and not degrading further. **IV&V Related Findings**: **Initial Observation #30:** UI Solution Vendor PIP follow-up
L	L	L	Communication Management	Communication Management is Green with the following **Observations:** In September, IV&V reviewed the Communications Plan. The documents were measured against standards, including CMMI-DEV, PMBOK, and ISO/IEC. The Communications Plan is a comprehensive guide for communicating information, detailing what to share, when, with whom, and how. The plan identifies stakeholders and describes the creation of a quadrant graph as a stakeholder register, capturing details such as engagement, influence, and impact levels. Additionally, the plan outlines methods for reporting project status, issues, risks, and mitigation strategies. There is no finalized Stakeholder Management Plan. **IV&V Recommends:** • The Project develops a Stakeholder Management Plan to identify and prioritize stakeholders, ensuring their needs and expectations are effectively addressed to enhance communication and increase project success. • While the Communications Plan outlines performance measurement, IV&V suggests implementing tools such as variance analysis and forecasting methods to further assess project performance.

Risk and Issue Management

2 Months Prior	Prior Month	Current Month	Category	IV&V Observations
L	L	L	Risk & Issue Management	Risk and Issue Management is Green with the following **Observations**: The UI project team has bi-weekly Risk Management Meetings on Fridays. The Risk Management Plan was measured against standards such as the PMBOK. IV&V has reviewed the Final Risk Management Plan, which now incorporates several of IV&V's earlier recommendations. IV&V has provided additional feedback through a document review checklist. **IV&V Recommends:** • Defining all relevant inputs and outputs in the risk management process in an appendix. • Considering risks at two levels (i.e., individual and overall) within the project. • Detail the five steps of the vendor's risk management framework and include all relevant inputs and outputs for each step. • Incorporating stakeholder risk appetite and thresholds into the plan. • Outlining the communication plan for risk management. • Maintain a RAID Log. • A section that lists the tools and software used for risk management is included. • Including a section that outlines the training requirements for the project team on risk management practices and initiatives. • The UI project starts using a RAID log immediately and follows Best Practices for its maintenance.

Technical Architecture

2 Months Prior	Prior Month	Current Month	Category	IV&V Observations
L	L	L	Technical Architecture	**There are no updates for this period.**

Organizational Change Management

Risk and Issue Management is Green with no issues. OCM activities for the month are listed below.

OCM Activities	Date
Communications • Posted November Project Update on the intranet site • Sent November Project Update email communication Engagement • Planned and obtained approval for the Holiday BYO Bento celebration Change Impacts • Revamped change impact and value categories to streamline change impact collection	November 2024

IV&V Findings and Recommendations

M Project Organization Management

The following slides list the findings in each category (focus area) that IV&V tracks throughout the project. Criticality ratings are provided by category and finding. Findings are itemized and described, including the impact on the project and recommendations for mitigating risk. A separate findings log spreadsheet can be referenced as supporting documentation to provide greater detail on each IV&V finding.
Findings will include Issue Analysis (Open/Closed Issues), Risks/Concerns/Observations/Deficiencies, and Recommendations for Remediation.

#	Key Findings	Criticality Rating
10	Risk – **Misalignment of Elicitation Session Agendas:** *IV&V observed that the agendas provided for the elicitation/requirements sessions are not consistently provided and not consistently accurate. This often leads to misalignment with the actual discussions during the meetings. Participants are instructed to prepare by reading and familiarizing themselves with the user stories and features to be discussed. However, the sessions often diverge from the prescribed agenda.* *Additionally, the meeting minutes, while accurately reflecting the discussions that took place, need to match the agenda distributed beforehand. This inconsistency hinders participants' engagement, leading to inefficiencies and a lack of productive engagement.* *Analysis and significance:* *As a result of inconsistent and inaccurate agendas, participants are unable to adequately prepare for sessions, leading to ineffective discussions and a lack of productive engagement. The discrepancies between the meeting minutes and the agenda further exacerbate these inefficiencies, potentially hindering the progress of elicitation activities.*	Medium

Recommendations	Status
*Recommendations found on the following slide**	

IV&V Findings and Recommendations

M Project Organization Management

Recommendations	Status
IV&V Recommends: 1. Ensuring that meeting agendas are closely followed during Elicitation sessions to provide structure and allow participants to prepare and engage effectively. 2. Communicate any changes to the agenda in advance to give participants ample time to adjust their preparations. 3. Implement feedback to gather participant input on meeting effectiveness	Open

Update(s)

11/20/2024
During this reporting period, the tax requirements elicitation sessions paused for two weeks to accommodate a project-wide Requirements Traceability Matrix (RTM) initiative across all functional areas. Agendas for the new RTM initiative meetings lack detail, and there is no clarity on where agendas, meeting minutes, and action items are being documented or stored. The RTM sessions folder within the SharePoint for tax currently only contains meeting recordings.
IV&V recommends establishing a documented and consistent process across all functional areas for recording and sharing meeting agendas, minutes, and action items. This process should also define where these documents are stored and ensure accessibility for all project stakeholders.

10/23/2024
During this reporting period IV&V observed additional issues and no measurable improvement in this area. These are the observations made over a three-week period:
During a review of recent elicitation sessions, the following issues were identified:
- One week had no agenda sent out for scheduled meetings.
- One day occurred where no meeting minutes were provided following the session.
- The two remaining agendas provided were identical, with only the dates changed, listing the same seven user stories for discussion across three weeks.

Despite these agendas, only one of the seven user stories listed was actually discussed, with 17 unique user stories discussed across the three-week period.
IV&V is escalating this concern to a risk.

IV&V Findings and Recommendations

Data Conversion/Management

#	Key Findings	Criticality Rating
19	Risk – **Defining a Business Glossary during the data conversion phase**: *Not defining a Business Glossary during the data conversion phase can lead to several disadvantages.* A Business Glossary is a comprehensive repository that defines key business terms, concepts, and relationships within an organization and has clear definitions for data. It provides clear and consistent definitions to ensure that everyone in the organization understands and uses the same terminology in the same way. Developing and documenting standard data definitions reduces ambiguity and improves communication. A Data Dictionary and a Business Glossary are integral to effective data management, supporting communication, consistency, and governance from different but complementary perspectives. A Business Glossary defines business terms to ensure common understanding across the organization. It's business-centric, with a focus on meaning and usage. A Data Dictionary defines data elements in a technical context, detailing data types, structure, and constraints. It's data-centric, with a focus on the specifics of data storage and management. Business glossaries have the following objectives: 1. Foster a shared understanding of key business concepts and terminology. 2. Minimize the risk of data misuse caused by inconsistent interpretations of these concepts (continued on the next slide). 3. Improve alignment between technical assets and the business organization by bridging naming conventions Not defining a Business Glossary during the data conversion and data cleansing phase can lead to several disadvantages: 1. Miscommunication: Without a shared understanding of terminology, team members may interpret data differently, leading to confusion and errors.	Medium

IV&V Findings and Recommendations

Data Conversion/Management

#	Key Findings	Criticality Rating
	2. Inconsistent Data: Variations in terms can result in inconsistencies in data mapping and conversion, compromising data quality. 3. Increased Errors: Ambiguities in definitions may lead to mistakes in data extraction, transformation, and loading processes. 4. Inefficiency: Team members may spend extra time clarifying terms and resolving misunderstandings instead of focusing on critical tasks. 5. Stakeholder Disagreement: Different stakeholders may have varying interpretations of terms, leading to conflicts and delays in decision-making. 6. Poor User Adoption: If end users encounter unclear or inconsistent terminology in the converted data, it may hinder their ability to effectively use the new system. 7. Difficulty in Compliance: Regulatory or compliance requirements may be harder to meet without clear definitions, increasing the risk of non-compliance. (continued on the next slide) 8. Limited Data Governance: A lack of a business glossary can weaken data governance efforts, making it challenging to maintain data integrity and accountability. 9. Longer Training Time: New users may require more extensive training to understand the data, as they lack a reference point for definitions. 10. Compromised Reporting and Analytics: Inconsistent terminology can lead to inaccurate reporting and analysis, impacting strategic decision-making. Based on Best Practices (in the *DAMA - DMBOK 2nd edition*), establishing a Business Glossary is necessary. It helps ensure clarity, consistency, and effective communication throughout the data conversion and data management processes. The project has not yet initiated the development of a Business Glossary. The PMO believes that the Glossary of Terms provided in the Request for Proposal (RFP) is sufficient for the current stage of the project. (*Recommendations found on the following slide**)	Medium

IV&V Findings and Recommendations

Data Conversion/Management

#	Key Findings	Criticality Rating
	However, the IV&V team highlights that a Glossary of Terms and a Business Glossary serve distinct purposes, particularly in the context of data management. IV&V expresses concern that postponing the creation of a comprehensive Business Glossary could lead to increased rework in later stages of the project. This delay may result in teams facing inefficiencies, including frequent clarifications of terminology, verification of mappings, and correction of errors caused by ambiguity. The project commenced data conversion and data cleansing activities in June 2024, and these activities are ongoing. While defining a Business Glossary is not always the primary focus of the conversion process itself, integrating one into the data conversion phase can enhance overall data management. It is a strategic and beneficial practice.	Medium

Recommendations	Status
IV&V recommends defining a Business Glossary early in an IT project as it provides a foundation for clear communication, consistent documentation, and accurate requirements. It minimizes misunderstandings, reduces risks, and promotes efficiency, setting the project up for success from the start. Incorporating a Business Glossary during data conversion and cleansing not only ensures the success of the project but also lays the groundwork for ongoing data quality, governance, and effective communication within the organization.	Open

IV&V Findings and Recommendations

L Software Development

#	Key Findings	Criticality Rating
24	Preliminary Concern – **Source code quality threshold:** *The absence of a source code quality threshold in tools like SonarQube can potentially impact both short-term productivity and long-term system stability.* During the Benefits Sprint Planning meeting on 10/10/2024, 1. The UI Solution Vendor confirmed they will use tools like SonarQube for code quality inspection and review. 2. However, UI PMO personnel confirmed that the project has not set a source code quality threshold. Setting a quality threshold in SonarQube or similar tools establishes a benchmark that enforces clean, secure, and maintainable code, reducing long-term risks and facilitating sustainable growth. The absence of a source code quality threshold in tools like SonarQube can lead to several significant issues, potentially impacting both short-term productivity and long-term system stability, for example, 1. Technical debt accumulation that leads to hard-to-maintain codebases, requiring more time and effort to fix issues later on. 2. Increased Defects and Bugs: Defects may proliferate, eventually requiring extensive testing and debugging, especially as the project scales. 3. Security Vulnerabilities: Critical vulnerabilities may reach production, posing serious security risks and potentially leading to costly breaches. 4. Reduced Code Maintainability: Source code without quality checks can lead to productivity issues and a slowdown in development velocity. 5. Lack of Accountability: Developers may skip best practices, leading to inconsistencies across the codebase. Quality thresholds promote accountability among developers. (continued on the next slide)	Medium

IV&V Findings and Recommendations

Software Development

#	Key Findings	Criticality Rating
	6. Performance Issues and Poor User Experience: Unchecked code can lead to inefficient, resource-heavy code. This can affect performance, responsiveness, and user satisfaction, especially in resource-sensitive environments.	Medium

Recommendations	Status
Establishing a source code quality threshold using tools like SonarQube involves defining measurable, enforceable standards for code quality, security, and maintainability. IV&V recommends: 1. Focus on metrics that matter most to the DLIR UI project. These metrics could be code smells, bugs, vulnerabilities, code coverage and technical debt. 2. Define quality gates that must be passed before code is merged or released. Examples of recommended thresholds are a) Bugs: No critical or blocker bugs. b) Vulnerabilities: No critical or blocker vulnerabilities. c) Code Coverage: Minimum of 80% or based on the project's needs. d) Code Smells: Defined maximum count or percentage per module. e) Duplications: Less than 5% code duplication. 3. Integrate SonarQube or similar tools with your CI/CD pipeline (e.g., Jenkins, GitHub Actions, Azure DevOps) and make quality gate failures block code merges or deployments to enforce compliance. 4. Use dashboards to track code quality trends over time and share reports with the team and management to demonstrate improvements or identify areas needing attention.	Open

Update(s)
11/30/2024 The project has not yet established a quality threshold, as the current focus is on gathering requirements.

IV&V Findings and Recommendations

L Software Development

#	Key Findings	Criticality Rating
26	Issues – **Sprint Retrospectives**: *The absence of a Sprint Retrospective in an agile IT project can have several negative impacts.* A Sprint Retrospective is one of the key ceremonies in Scrum and other agile frameworks, focused on continuous improvement. It is an agile meeting held at the end of each sprint to allow the team to reflect on their performance, discuss what went well, identify areas for improvement, and agree on actionable changes for future sprints. Currently, the UI project lacks Sprint Retrospectives at the end of each development sprint. Some of the primary consequences of absence of a Sprint Retrospective in an agile IT project are: 1. Missed Opportunities for Continuous Improvement. 2. Increased Frustration and Low Morale of team members. 3. Lack of Team Alignment and Communication. 4. Reduced Product Quality and Customer Satisfaction. 5. Missed Innovation and Learning. Retrospectives are essential for fostering continuous improvement, ensuring agile processes are truly iterative and adaptive. Without a Sprint Retrospective, an agile IT project risks becoming static and inefficient, with reduced quality, team cohesion, and customer satisfaction.	Medium

Recommendations	Statu
*Recommendations found on the following slide**	Open

IV&V Findings and Recommendations

L Software Development

Recommendations	Statu
IV&V recommends: 1. Introducing regular Retrospectives: Schedule a Sprint Retrospective at the end of each sprint to give the team dedicated time to reflect on the sprint's successes, challenges, and areas for improvement. 2. Setting clear goals for retrospectives: Define specific objectives for retrospectives, such as improving processes, enhancing team communication, or identifying technical obstacles. 3. Encouraging open and constructive feedback: Foster a safe environment where team members feel comfortable sharing their thoughts and concerns. 4. Using structured formats: Adopt retrospective formats that guide discussions, like "Start, Stop, Continue" or "What Went Well, What Didn't, What Can Be Improved." These structures help keep discussions focused and actionable. 5. Assigning action items: Document key takeaways and assign clear action items with owners and deadlines. Follow up on these items in subsequent retrospectives to ensure improvements are implemented. 6. Involving stakeholders: Occasionally, involve key stakeholders to gain additional perspectives. 7. Leveraging Retrospective Tools: Use tools like Jira, Miro, or MURAL's retrospective feature to streamline and record feedback. 8. Making retrospectives consistent: Consistently holding retrospectives builds a rhythm and habit within the team, making continuous improvement a natural part of the development process. 9. Encouraging small, iterative Improvements: Small adjustments or incremental changes often lead to sustained improvements and are easier to adopt. 10. Monitoring the impact: Track whether changes from retrospectives improve team velocity, quality, or collaboration. Reviewing the impact helps refine the process and shows the value of retrospectives to the team.	Open

IV&V Findings and Recommendations

M Project Schedule and Cost Management

#	Key Findings	Criticality Rating
21	Risk—Enhancing Project Clarity: Identifying Critical tasks in the Project Schedule: To maintain schedule clarity, all critical tasks on the project schedule should be explicitly identified using a clear and consistent method (e.g., highlighting). By explicitly identifying critical tasks using a clear and consistent method, the Project Manager can ensure everyone involved is aware of the most important tasks, leading to better prioritization, communication, and, ultimately, a higher chance of project success. The project schedule should follow proper formatting to ensure all stakeholders understand the critical path and are aligned.	Low

Recommendations	Status
IV&V recommends: • All tasks that are on the critical path be highlighted in a different color.	Open

Update(s)

11/30 - The UI Solution Vendor is expected to share an updated version of the schedule by the end of November. The UI Solution Vendor has been working on a mitigation plan to report accurate overall project performance, in conjunction with the RTM and product roadmap. The plan was originally scheduled for delivery on 11/08/24 but was later pushed to 11/15/24. However, the mitigation plan was not shared by either of these dates, and no new delivery date has been set.

10/28 - IV&V understands that the UI Solution Vendor has hired a resource to work on the schedule. They continue to refine their schedule to add more detail and have reported that they will have an updated version the week of 11/11/25.

IV&V Findings and Recommendations

M Project Schedule and Cost Management

#	Key Findings	Criticality Rating
22	Risk—**Incomplete Project Schedule** The HI DLIR project, initiated on March 12, 2024, lacks a complete schedule for stakeholders to reference despite being well into the development and requirements-gathering phases. Without a solidified schedule, tracking progress effectively is challenging. Stakeholders cannot accurately measure project velocity or monitor burndown rates. The inconsistency is evident in the current schedule, specifically requirements gathering, where all child items for requirements sessions are assigned the same 210-day duration. IV&V would expect these items to have distinct start and stop dates, levels of effort (LOE), and dependencies outlined. Representing the entire requirements-gathering effort as a single block of time is inaccurate and could mislead stakeholders about project progress and workload distribution. Due to the lack of a detailed project schedule, stakeholders are likely to face challenges in accurately assessing the project's progress and identifying potential delays. This can result in poor resource management, missed deadlines, and potential project scope creep.	Medium

Recommendations	Status
IV&V recommends: • Developing and finalizing a detailed project schedule. • Regularly updating the project schedule to reflect the actual progress and changes. • Using the schedule as a source of truth to measure and report on project velocity and burndown rates to better manage project performance. • Reevaluate requirements gathering tasks in relation to the project schedule.	Open

IV&V Findings and Recommendations

M Project Schedule and Cost Management

Update(s)
11/18/2024 During this reporting period, IV&V observed efforts to update the project schedule, but it remains unfinished. IV&V will continue to monitor. Throughout November, the UI Solution vendor has been working on a mitigation plan and a schedule. Project Report 11/3 stated that the Mitigation plan would be delivered on 11/8. Project Report 11/10 stated that a mitigation plan would be delivered on 11/15. Project Report 11/17 did not mention a mitigation plan but stated that the schedule would be delivered on 11/30. Project Report 11/24 did not mention a mitigation plan but stated the schedule would be delivered on 11/30.

IV&V Findings and Recommendations

L Requirements Management

#	Key Findings	Criticality Rating
4	***Issue* – Traceability Concerns in Requirements Traceability Matrix and Azure DevOps Feature Items:** *IV&V identified anomalies with the traceability and linking of Requirements Traceability Matrix items to Feature items in Azure DevOps. During the review of the tax backlog features, IV&V found that 91 out of 149 Tax Features had no link to an existing Requirement. Several features were identified with the same title as an existing Requirement but were not linked (e.g., T1.71 is not linked to a feature, yet there is a feature with the same title within the tax backlog that isn't linked, such as Feature #39125). Numerous work items in Azure DevOps displayed related items listed as "Work item not found or no permission." Lack of traceability and proper linking can lead to incomplete or inaccurate tracking of project requirements and features. Potentially corrupted links may hinder project progress and cause delays. Misalignment between requirements and features could result in unmet project objectives.*	Medium

Recommendations	Status
IV&V recommends conducting a thorough review of all related items in Azure DevOps to identify and correct any corrupted or missing links. Additionally, IV&V recommends establishing a routine audit process to ensure ongoing traceability and proper linking of requirements to features. If needed, additional training or guidance to team members on the importance of maintaining accurate and consistent links between requirements and features in Azure DevOps could be helpful.	Open

Update(s)
*Updates found on the following slide**

IV&V Findings and Recommendations

L Requirements Management

Update(s)

11/22/2024

Update Description:

The project's new RTM initiative, launched during this reporting period, is actively creating and updating additional features and requirements. This effort is resulting in a comprehensive overhaul and reevaluation of the entire RTM. Consequently, IV&V is unable to effectively evaluate and update traceability within the RTM at this time. While this initiative demonstrates alignment with PMBOK guidelines in areas such as "Manage Quality" and "Plan Risk Responses," significant misalignments remain, particularly concerning the maturity and timing of the RTM:

Delayed RTM Finalization (Scope Management): According to PMBOK's "Plan Scope Management" (5.1) and "Validate Scope" (5.5) processes, a finalized Requirements Traceability Matrix (RTM) should exist early in the project to ensure alignment between requirements and deliverables. The lack of a finalized RTM at this advanced stage of the project indicates gaps in project planning and execution, which undermine the project's ability to accurately track and manage scope.

Inadequate Monitoring (Monitoring and Controlling): PMBOK's "Monitor and Control Project Work" (4.5) emphasizes the importance of consistent oversight of critical project deliverables, including the RTM. The absence of a finalized and stable RTM highlights insufficient monitoring of traceability, which has led to recurring issues with incomplete links between requirements and features.

Lack of Proactive Risk Mitigation (Risk Management): PMBOK's "Plan Risk Responses" (11.5) stresses early identification and mitigation of risks, such as incomplete or corrupted traceability. The ongoing RTM initiative appears reactive rather than proactive, addressing problems that should have been identified and resolved earlier in the project lifecycle.

*Updates continued on the following slide**

IV&V Findings and Recommendations

L Requirements Management

Update(s) Continued

11/22/2024
Update Continued:
Resource Planning and Accountability (Resource Management): According to PMBOK's "Manage Team" (9.5) and "Develop Team" (9.4) processes, accountability for critical deliverables like the RTM should be established early on, and team members should have the necessary resources and training to execute effectively. The continued delay in RTM completion suggests deficiencies in resource planning, training, and team oversight.

IV&V Recommendation: To address these misalignments, IV&V recommends prioritizing the finalization of the RTM and establishing firm deadlines to bring traceability into compliance with project requirements and PMBOK best practices. Additionally, IV&V advises reinforcing stakeholder engagement, conducting a retrospective to identify process gaps, and implementing a proactive monitoring framework to prevent further delays.

IV&V will continue to monitor progress on the RTM initiative and reassess traceability compliance once the process stabilizes.

10/23/2024 –
During this reporting period, IV&V executed another analysis for both Benefits and Tax backlogs and found:
- Tax has a backlog total of 163 features, of which 99 lack a link to an existing requirement. This domain has had no measurable change.
- Benefits has a backlog of 248 features, of which 78 lack a link to an existing requirement. This is an encouraging 20% increase of features linked to an existing requirement in the RTM since the last reporting period, showing improvement.

Due to the lack of measurable progress in the tax domain over the course of four reporting periods, IV&V is raising this risk as an issue and will continue to monitor reassess traceability compliance once the process stabilizes

IV&V Findings and Recommendations

M Human Resource Staffing Management

#	Key Findings	Criticality Rating
3	Risk – ***Monitor and track project resourcing:*** *It is the nature of IT projects that resources can be onboarded/offboarded during the project's duration. Onboarding/offboarding impacts project areas such as team dynamics, project momentum, and productivity.*	Medium

Recommendations	Status
IV&V recommends that the HUI Huaka'i project • Monitor and track project resourcing as resources are onboarded/offboarded and the impact onboarding/offboarding has on areas such as team dynamics, team morale, project momentum, productivity, re-assignment of responsibilities, and knowledge transfer (KT). • Provides a Resource Management Plan.	Open

Update(s)
11/30/2024 - The Hawaii UI PMO added a new Technical Lead, and a Project Analyst.
10/31/2024 - IV&V has reviewed the UI Solution Vendor's Resource Management Plan. DLIR/UI has hired three Unemployment Insurance Subject Matter Experts (SMEs)—a Benefits UI SME, a Tax UI SME, and an Appeals UI SME—along with a Behavioral Insights Analyst. IV&V remains concerned that the lack of sufficient resources in other areas may introduce several risks, such as reduced productivity and efficiency, quality compromises, employee burnout, and delayed time-to-market. (*continued on the next slide*)

IV&V Findings and Recommendations

M Human Resource Staffing Management

Update(s)
09/30/2024 - The project has added three (3) new contractors that are going to initially assist with Appeals Requirements Gathering. IV&V is concerned that the lack of sufficient resources in other areas may introduce several risks: 1. Delays in Project Timeline: Key tasks may remain incomplete, resulting in overall project delays. 2. Resource Shortages: A lack of manpower could overburden existing team members, negatively impacting productivity and quality. 3. Scope Creep: Struggling to meet original goals may lead to scope changes that complicate timelines and budgets. 4. Lower Quality Deliverables: Insufficient skills and expertise may compromise the quality of work, affecting project success. 5. Increased Risk of Burnout: Existing staff may face burnout from increased workloads, leading to turnover and further resource challenges 6. Stakeholder Dissatisfaction: Delays or poor-quality outcomes can frustrate stakeholders, potentially damaging relationships and trust.
08/31/2024 - The UI Solution Vendor is updating the Resource Management Plan. IV&V has not reviewed the final Resource Management Plan.

IV&V Findings and Recommendations

M Scope Analysis

#	Key Findings	Criticality Rating
28	Risk – ***Incomplete Scope Limiting IV&V Reporting Capabilities:*** *IV&V cannot conduct a meaningful analysis of project scope due to missing data in several critical areas. Specifically, IV&V lacks:* *- An estimated percentage of RTM scope implemented,* *- The estimated percentage of testing completion for the current scope,* *- Dates and explanations for any scope changes.* *Without a finalized RTM and detailed testing dates, IV&V is unable to calculate these metrics. This data gap impedes a comprehensive assessment of project scope and health. The Hawaii UI PMO has indicated they are collaborating with the UI Solution Vendor to supply the necessary metrics, which are expected to be available for November reporting.* *As a result of insufficient RTM and testing information, IV&V cannot generate accurate estimates or track project scope effectively, likely resulting in an incomplete understanding of project progress and quality. This may lead to undetected scope issues or delayed identification of project health risks, potentially degrading project management effectiveness and stakeholder confidence.*	Medium

Recommendations	Status
IV&V recommends that the HUI Huaka'i project • Monitor and track project resourcing as resources are onboarded/offboarded and the impact onboarding/offboarding has on areas such as team dynamics, team morale, project momentum, productivity, re-assignment of responsibilities, and knowledge transfer (KT). • Provides a Resource Management Plan.	Open

IV&V Findings and Recommendations

M *Scope Analysis*

Update(s)
11/18/2024 As of 11.18, a finalized RTM and Testing schedule remain to be finalized. IV&V is unable to calculate these project reporting metrics effectively at this time. IV&V will continue to monitor.

IV&V Findings and Recommendations

L Risk & Issue Management

#	Key Findings	Criticality Rating
25	Issue – **RAID (Risks, Actions, Issues and Decisions) Log:** *The absence of a RAID log can have several significant and potentially costly impacts.* **** This risk is closed as the project does have a RAID log.*** The Risk Management Plan does not mention the creation and maintenance of a RAID log for the project. The RAID log is a key tool in effective risk management and overall project management. This document is a central repository that helps project teams systematically capture, track, and address four crucial elements: Risks, Actions, Issues, and Decisions. The absence of a RAID log can affect everything from project timelines to overall success. Without a structured way to track Risks, Actions, Issues, and Decisions, the project team may face the following challenges: 1. Increased Risk Exposure. 2. Lack of Accountability for Actions 3. Inefficient Issue Management. 4. Decisions Get Lost or Revisited Unnecessarily. 5. Poor Communication and Lack of Transparency	Medium

Recommendations	Status
The RAID log is essential to project success, providing a centralized, structured approach to managing potential risks, key actions, issues, and critical decisions. Without a RAID log, the UI project is prone to inefficiency, unexpected challenges, and a lack of alignment, which can severely hinder performance and outcomes. (continued on the next slide)	Open

IV&V Findings and Recommendations

L Risk & Issue Management

Recommendations	Status
IV&V recommends the UI project start using a RAID log immediately and follow these Best Practices: 1. Regular RAID log updates. 2. Prioritization: prioritize issues based on impact and likelihood to focus on critical items. 3. Assign clear ownership for each RAID item to ensure accountability. 4. Record details like potential impact, mitigation strategies, status, and resolution efforts.	Open

Update(s)
11/30/2024 – Closed as the project has a RAID log. **11/18/2024** As of 11.18, a finalized RTM and Testing schedule remain to be finalized. IV&V is unable to calculate these project reporting metrics effectively at this time. IV&V will continue to monitor.

IV&V Findings and Recommendations

M Project Schedule and Cost Management

#	Key Findings	Criticality Rating
27	Risk – ***Document Deliverables are late.*** *The Project Team Training Plan, Security Plan, UIS Implementation Plan, and Vendor Management Plan, due 10/22/2024, 10/28/2028, 10/28/2024, and 10/30/2024, respectively, have not been delivered according to the schedule.*	Medium

Recommendations	Status
IV&V recommends that the UI Solution Vendor: • Submit a change request to reschedule late deliverables • Adjust the project schedule • Deliver the project documents as soon as possible • **Closed – Vendor submitted a change request on 11/8/2025.**	Open

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 a slight impact on 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

Artifacts reviewed during the reporting period:
November Project HUI Huaka'i Weekly Status Reports
Project Management Plan
CATCH and HI DLIR Cleansing Meeting Agendas for the weekly meetings in November 2024.
Data Cleansing meeting notes (sent by email) for the weekly meetings in November 2024
Ongoing UI Data Conversion_Weekly.docx
Development (Appeals) Features Backlog - Boards (azure.com)
Development (Benefits) Team Epics Backlog - Boards (azure.com)
DLIR Traceability Matrix Team Epics Backlog - Boards
Project Schedule
Data Conversion Plan
Test Master Plan
Test Strategy Document, V2
Decision Log
HI DLIR Data Scorecard 12.2.24

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