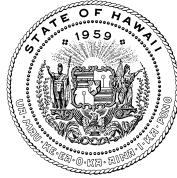


JOSH GREEN, M.D.  
GOVERNOR  
KE KIA'ĀINA



KEITH A. REGAN  
COMPTROLLER  
KA LUNA HO'OMALU HANA LAULĀ

CHRISTINE M. SAKUDA  
CHIEF INFORMATION OFFICER  
LUNA 'ENEHANA

**STATE OF HAWAII | KA MOKU'ĀINA O HAWAII**  
**DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES | KA 'OIHANA LOIHELU A LAWELawe LAULĀ**  
**OFFICE OF ENTERPRISE TECHNOLOGY SERVICES | KE'ENA HO'OLANA 'ENEHANA**  
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

April 4, 2025

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

The Honorable Nadine K. Nakamura  
Speaker and Members of the  
House of Representatives  
Thirty-Third State Legislature  
State Capitol, Room 431  
Honolulu, Hawai'i 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 Hawai'i, Department of Labor and Industrial Relations (DLIR) Hawai'i Unemployment Insurance Modernization (Hui Huaka'i) Project

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

Sincerely,

A handwritten signature in blue ink, appearing to read "CSakuda".

Christine M. Sakuda  
Chief Information Officer  
State of Hawai'i

Attachments (2)



# *HUI Huaka'i Project*

## Department of Labor and Industrial Relations (DLIR)

IV&V Monthly Status Report – **[Final]**  
For Reporting Period: **[February]**

*Draft Submitted: March 5 , 2025*

*Final Submitted: April 1,2025*

# 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

The HUI Huaka'i Project is currently classified as low-risk with a **Green** status.

The project is progressing well. In February, the HUI Huaka'i Project focused on improving project status reporting. The UI Solution Vendor and the Hawaii UI PMO provided detailed explanations and demonstrations of the reporting methods used to track scope and schedule progress. These methods leverage Microsoft Project schedules, Power BI reporting, and Azure DevOps (ADO) to provide multiple points of comparison for planned vs. actual scope and schedule completion, as well as requirements and development completion percentages. This improvement increases transparency and reliability in scope reporting.

Meeting management has improved, and the project requirements meetings schedule has stabilized. Requirements meetings are going well, and the project started development sprint 15 at the end of the reporting period.

The IV&V team identified two (3) preliminary concerns, one (1) issue detailed in the IV&V Findings and Recommendations section of this report.

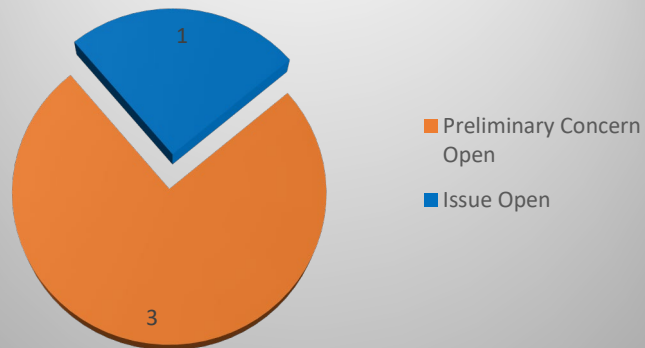
# Changes Since Last Period

Category	January Status	February Status	Notable Changes
Project Management	Green	Green	The requirements gathering meeting schedule has remained consistent in February. Reports were developed to track the scope and schedule progress.
Resource Planning	Green	Green	The project has added 4 new resources
Project Schedule	Green	Green	The UI Solution Vendor and the Hawaii UI PMO provided detailed explanations and demonstrations of the reporting methods used to track scope and schedule progress. These methods leverage Microsoft Project schedules, Power BI reporting, and Azure DevOps (ADO) to provide multiple points of comparison for planned vs. actual scope and schedule completion, as well as requirements and development completion percentages. This improvement increases transparency and reliability in scope reporting.

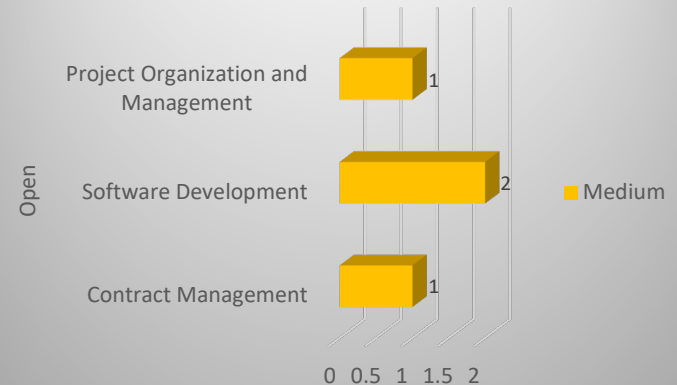
# Executive Summary

*IV&V identified (4) four findings that include two (3) preliminary concerns and one (1) issue for this reporting period. Findings, Risks and Issues, and Project Expenditures are represented below.*

Findings by Type



Open Risks/Issues by Category/Priority

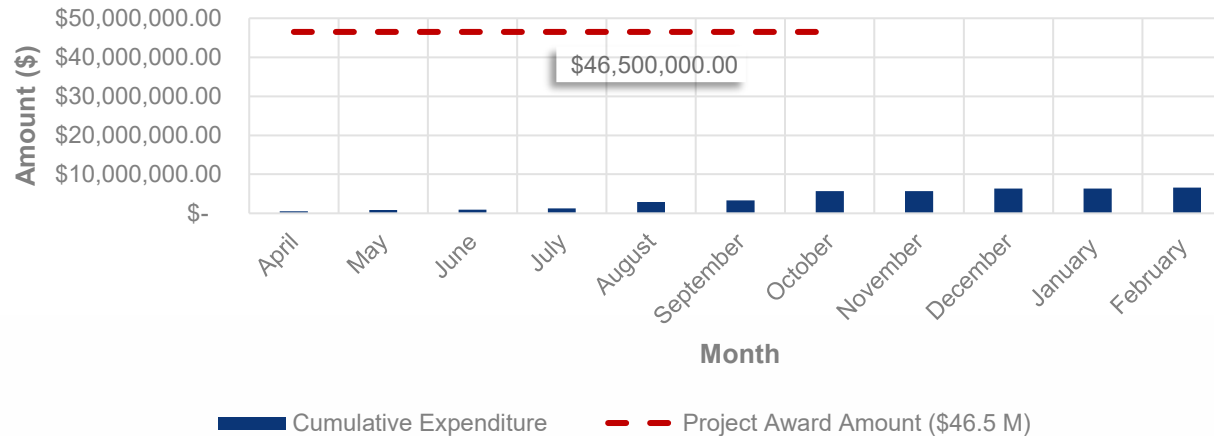


# Executive Summary

*HUI Huaka'i Project expenditures to the contract vendor are represented below. \* Other vendor expenditures being paid are not represented below.*

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
December	\$ 577,980.46	\$ 6,307,257.56	\$ 46,500,000.00
January	\$ -	\$ 6,307,257.56	\$ 46,500,000.00
February	\$ 301,333.32	\$ 6,608,590.88	\$ 46,500,000.00

Cumulative Expenditures vs. Project Award Amount






# STANDARD REPORT SECTIONS



# Project Organization and Management

December	January	February	IV&V Observations
M	L	L	<p>Project Organization Management is <b>Green</b> with the following <b>Observations</b>:</p> <p>IV&amp;V has observed improvement in meeting management. The meeting schedule is consistent, meeting cancellations are minimal, and agendas and meeting notes are sent to stakeholders within the required timeframe. IV&amp;V will continue to monitor</p> <p>IV&amp;V identified a preliminary concern with the project document maintenance in that no standard is being followed for revision and maintenance.</p> <p><b>To strengthen this project area, IV&amp;V Recommends:</b></p> <ul style="list-style-type: none"> <li>• Creating a consistent meeting schedule and minimizing meeting cancellations.</li> <li>• Expand the document maintenance process to include timelines, version number thresholds, responsible parties, and a clear format for the document maintenance section of project management plans.</li> </ul> <p><b>Related Findings:</b></p> <ul style="list-style-type: none"> <li>• <b>Finding #10</b> – Misalignment of Elicitation Session Agendas – <b>Closed due to considerable meeting management improvement 1/28</b></li> <li>• <b>Initial Observation # 29</b> – Meeting Mismanagement - <b>Closed due to meeting management improvement 2/28</b></li> <li>• <b>Preliminary Concern #32</b> – Lack of standards for document maintenance</li> </ul>

# Cost and Schedule Management

December	January	February	IV&V Observations
			<p>Cost and Schedule Management is trending <b>Green</b> with the following <b>Observations</b>:</p> <p>IV&amp;V reviewed the schedule and other foundational documents at a high level and found the documents satisfactory. The schedule includes detailed and well-organized, high-level milestones, providing a strong foundation for tracking progress and accountability. The state has accepted the schedule as a governing but "living" document. The current Schedule Performance Index (SPI) is .99.</p> <p>IV&amp;V will continue to monitor the schedule's implementation, particularly project velocity, as the backlog evolves. Any concerns or discrepancies identified in future reporting periods will result in new findings if necessary. The current schedule is deemed sufficient for project management and performance tracking.</p> <p><b>Related Findings:</b></p> <p>NA</p>

# Requirements Management

December	January	February	IV&V Observations
M	L	L	<p>Requirements Management is <b>Green</b> with the following <b>Observations</b>:</p> <p>This category remains Green as IV&amp;V has observed progress across different UI domains, including Tax, Benefits, Appeals, Systems, and Security. The RTM continues to align with Azure DevOps, ensuring traceability and scope control. The project team has upheld consistent governance practices, and the previously developed queries remain effective in monitoring and validating traceability.</p> <p>Domain-Specific Observations:</p> <ul style="list-style-type: none"> <li>• <b>Tax:</b> The Tax team is currently in Sprint 14 and has completed eight sprints. To date, 72 user stories in the tax domain have been developed and delivered. Sprint planning has generally aligned with the work completed, with some exceptions, such as Sprint 9, where the team initially planned for 12 work units but completed 45, significantly underestimating the scope.</li> <li>• <b>Benefits:</b> During February, the UI Solution Vendor completed the majority (about 90%) of the Claimant Portal requirements and features. Testing will commence in March, and the vendor will send out clarification questions as needed. The state demonstrated the claimant portal's authentication, registration, and verification process.</li> <li>• <b>Appeals:</b> During this reporting period, the Appeals team continued reviewing requirements, focusing on Requests, Hearing Management, Hearing Check-ins, and Hearing Recordings. Additionally, a joint session was held with the Benefits team to discuss the automatic generation of Appeal Packets and related capabilities. A key takeaway from the session was that the Benefits team holds decision-making responsibility for Appeals Packet compilation, and both teams will continue aligning efforts on overpayment and fraud determination. The project will onboard a new Appeals Officer on Monday, March 3, 2025, likely allowing key Appeals stakeholders to dedicate more time to this UI project.</li> <li>• <b>Security:</b> During February, weekly security sessions were ongoing to review project requirements and state-specific security needs with the state UI SMEs.</li> <li>• <b>Interfaces:</b> During this reporting period, weekly system requirements sessions began to review high-level project requirements with state UI SMEs and discuss state-specific needs, with a focus on interfaces to external systems.</li> </ul> <p>(Continued on next slide)</p>

# Requirements Management Continued

December	January	February	IV&V Observations
M	L	L	<p><b>To strengthen this project area, IV&amp;V Recommends:</b></p> <ul style="list-style-type: none"> <li>• Continue leveraging the RTM initiative to ensure ongoing maintenance and accuracy of traceability as the project progresses.</li> <li>• Utilize the developed queries to routinely monitor traceability and promptly address any emerging gaps or inconsistencies.</li> <li>• Maintain collaborative governance practices to prevent future misalignments and strengthen resource planning.</li> </ul> <p><b>Related Findings:</b> NA</p>

# System Architecture and Design

December	January	February	IV&V Observations
L	L	L	<p>System Architecture and Design is <b>Green</b> with the following <b>Observations</b>:</p> <p>During this reporting period, weekly security and system requirements sessions were held to review project requirements with state UI SMEs. Security sessions focused on state-specific security needs, while system requirements sessions addressed high-level project and state-specific needs, particularly interfaces to external systems.</p>

# Testing (Sprint, Unit, System Integration, UAT)

December	January	February	Category	IV&V Observations
L	L	L	Testing (Sprint, Unit, System, Integration, UAT)	<p>Testing (Sprint, Unit, System, Integration, UAT) is <b>Green</b> with the following <b>Observations</b>:</p> <p>This category remains Green as regular test cycles continue on schedule. However, IV&amp;V has still not received feedback or an updated version of the solution vendor's Master Test Plan incorporating recommendations from the quality checklist. Additionally, IV&amp;V has requested access to a Testing Dashboard in Azure DevOps (ADO) this month, which has been approved by the UI PMO but is awaiting access. The UI solution vendor provided an update that this request is in progress but requires elevated permissions and adjustments, which takes some time. Once access is granted, IV&amp;V will provide an update in the next reporting period.</p> <p><b>To strengthen this project area, IV&amp;V Recommends:</b></p> <ul style="list-style-type: none"> <li>• Address IV&amp;V's Master Test Plan feedback.</li> <li>• Add comprehensive schedules, estimates, and milestones for all testing activities.</li> <li>• Clearly define roles and responsibilities for test activities and decision-making.</li> <li>• Establish quality control measures and metrics for all testing phases, not just UAT.</li> </ul>
L	L	L	Operational Preparedness	<b>There are no updates for this period.</b>

# Data Conversion/Management













December	January	February	IV&V Observations
L	L	L	<p>Data Conversion / Management is <b>Green</b> with the following Observations:</p> <p>The weekly Data Conversion and Data Cleansing meetings are progressing well. The project remains in the Transformation phase of the Extract-Transform-Load (ETL) process, with efforts focused on finalizing L1P and L1Z mapping and consumption, which are nearing completion.</p> <p>The Data Cleansing vendor, utilizing SAP Information Steward, is defining optimal business rules to ensure high-quality data for HI DLIR's modernization initiatives. As part of this effort, the vendor provides a monthly Data Scorecard, which evaluates data quality by reporting records that fail established cleansing rules. Each table is assigned a score from 0 to 10 based on the number of failed data points. Any discrepancies are reviewed with the HI DLIR UI Team, and rules or cleansing actions are adjusted as needed. According to the February 2025 Data Scorecard, all reported tables scored between 9.65 and 10.</p> <p>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&amp;V currently lacks access to the Data Cleansing Sprint Boards.</p> <p>The project tracks Data Dictionary tasks using a Conversion Traceability Matrix in Excel, while Data Cleansing tasks are managed via sprint boards in Azure DevOps (ADO), which IV&amp;V currently lacks access to.</p> <p>IV&amp;V has assessed the Data Conversion Plan document as generally adequate but expects the next iteration to include more detailed information on key aspects such as user training, communication, downtime, and potential business disruptions.</p> <p>Although a Business Glossary has not been developed, the project intends to utilize information in the Data Dictionary and the glossary of terms in Attachment C Glossary of Terms and Abbreviations of the RFP documentation package. As a result, IV&amp;V has closed this finding for the current reporting period.</p> <p><i>(Continued on next slide)</i></p>

# Data Conversion/Management

December	January	February	IV&V Observations
L	L	L	<p><b>To strengthen this project area, IV&amp;V Recommends:</b></p> <ul style="list-style-type: none"> <li>• A rollback plan and process are included in future documentation.</li> <li>• Including a project schedule detailing data conversion processes in future documentation.</li> <li>• Creating a risk to the project for the lack of legacy data documentation, such as a data dictionary.</li> <li>• Including legacy data source information in future documentation.</li> <li>• Including a more in-depth training approach for conversion procedures and activities in future documentation.</li> <li>• 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.</li> </ul> <p><b>Related Findings:</b>  <b>Finding #19</b> Defining a Business Glossary during the early phases of the project – <b>Closed 2/28/25</b></p>



# Security, Training/Knowledge Transfer, Interfaces, Quality Management

December	January	February	Category	IV&V Observations
			Security	Security is <b>Green</b> with the following <b>Observations</b> :  Security Requirements Gathering is in progress. The UI Solution Vendor is presenting the requirements and documenting the requirements that the core product meets.
			Training / Knowledge Transfer	<b>There are no updates for this period.</b>
			Interfaces	<b>There are no updates for this period.</b>
			Quality Management	<b>There are no updates for this period.</b>

# Software Development

December	January	February	IV&V Observations
L	L	L	<p>Software Development is <b>Green</b> with the following <b>Observations</b>:</p> <ul style="list-style-type: none"> <li>IV&amp;V has observed continued progress in software development. The findings related to the business glossary and source code threshold are now closed. The project intends to implement code quality inspection tools when appropriate, likely after a significant portion of development is completed. IV&amp;V maintains that implementing a code quality inspection tool early in development will help to detect possible failures and defects from continuous code changes, ensure security by identifying potential security risks, and prevent deployments if active bugs are logged against release.</li> <li>Regarding Sprint Retrospectives, the UI Solution Vendor has confirmed they conduct these sessions; however, their focus is at a product level rather than project-specific retrospectives. IV&amp;V has not attended these sessions to verify their effectiveness but encourages the vendor to hold project-level retrospectives that include key stakeholders to enhance collaboration and process improvement.</li> <li>Additionally, IV&amp;V has opened a new Preliminary Concern regarding transparency in backlog management. There are concerns that the vendor's backlog grooming processes lack transparency and stakeholder involvement, which could misalign prioritization with business needs and reduce stakeholder satisfaction.</li> </ul> <p><b>To strengthen this project area, IV&amp;V Recommends:</b></p> <ul style="list-style-type: none"> <li>Based on Scrum Alliance guidelines, additional questions should be asked to ensure the proper execution of a Scrum meeting and Sprint Planning meetings.</li> <li>Implementing Sprint Retrospectives to enhance team collaboration, continuously improve development processes, and ultimately increase the project's success.</li> </ul> <p><b>Related Findings:</b></p> <p><b>Finding #19</b> – Defining a Business Glossary during the Data Conversion Phase – <b>Closed 2/28/25</b>  <b>Finding #24</b> - Source code quality threshold – <b>Closed 2/28/25</b>  <b>Finding #26</b> - Sprint Retrospectives  <b>Finding #31</b> – Lack of Transparency in Backlog Management</p>

# Human Resources Staffing Management

December	January	February	IV&V Observations
M	L	L	<p>Human Resources Staffing Management <b>Green</b> with the following <b>Observations</b>:</p> <p>The project added four benefit SMEs during this reporting period. Additionally, the project will onboard a new Appeals Officer on Monday, March 3, 2025, likely allowing key Appeals stakeholders to dedicate more time to this UI project.</p> <p>A UI Specialist retired on February 28, 2025.</p> <p><b>To strengthen this project area, IV&amp;V Recommends:</b></p> <ul style="list-style-type: none"> <li>• Define specific capacity planning metrics (e.g. FTE estimates)</li> <li>• Add a mechanism to track changes in resource allocation during iterative planning sessions</li> <li>• Provide quantitative resource forecasts for key project activities like implementation and testing</li> <li>• Define specific skill sets required for each role to improve clarity</li> <li>• Establish a structured reporting cadence to share resource status updates with the steering committee and other stakeholders</li> </ul> <p><b>Related Findings:</b>  <b>Finding #3</b> – Monitor and Track Project Resourcing – <b>Closed due to submitted Resource Management Plan 12/31/2024.</b></p>

# Scope Analysis

December	January	February	IV&V Observations
M	L	L	<p>Scope Analysis is <b>Green</b> based on the following <b>Observations</b>:</p> <p>This category remains Green as ongoing collaboration between the UI PMO, the UI Solution Vendor, and IV&amp;V has continued to improve scope analysis and reporting. During this reporting period, the vendor and state provided detailed explanations and demonstrations of the reporting methods used to track scope and schedule progress. These methods leverage Microsoft Project schedules, Power BI reporting, and Azure DevOps (ADO) to provide multiple points of comparison for planned vs. actual scope and schedule completion, as well as requirements and development completion percentages. This improvement increases transparency and reliability in scope reporting.</p> <p>While IV&amp;V has seen a demonstration of the Power BI reports, access to the actual reporting dashboard was unavailable to include metrics for the February reporting period.</p> <p>The Hawaii UI PMO reports that the RTM percentage developed and delivered is 17%.</p> <p><b>To strengthen this project area, IV&amp;V Recommends:</b></p> <ul style="list-style-type: none"> <li>• Ensure delivery of scope-related metrics by the UI PMO to support accurate reporting for future updates.</li> <li>• Continue utilizing multiple reporting methods to ensure comprehensive tracking and transparency in scope analysis.</li> <li>• Monitor trends in scope completion percentages to identify and address any potential misalignments between planned and actual progress.</li> <li>• Ensure ongoing stakeholder engagement in scope discussions to reinforce alignment with project goals and business needs.</li> </ul> <p><b>Related Findings:</b> NA</p>

# Contract Management, Communication Management

December	January	February	Category	IV&V Observations
L	L	L	Contract Management	<p>Contract Management is Green but is trending Yellow with the following <b>Observations</b>:</p> <p>The HUI Huaka'i Project gave the UI Solution Vendor a Vendor Improvement Action Plan early in the project to establish a common understanding of the State's expectations.</p> <p>The UI Solution Vendor has significantly progressed in resolving the Vendor Improvement Action Plan. IV&amp;V received no updates on the Vendor Improvement Action Plan in February.</p> <p><b>IV&amp;V Related Findings:</b></p> <p><b>Initial Observation #30:</b> UI Solution Vendor PIP follow-up</p>
L	L	L	Communication Management	<p>There are no updates for this period.</p>

# Risk and Issue Management

December	January	February	IV&V Observations
L	L	L	<p>Risk and Issue Management is <b>Green</b> with the following <b>Observations</b>:</p> <p>This category remains Green, as the project team continues to demonstrate strong risk management practices. The twice-weekly risk meetings on Tuesdays and Thursdays, with one session dedicated to risks and the other to the AID (Action, Issue, Decision) log, remain effective and well-structured. IV&amp;V has observed that these meetings continue to provide visibility into risks and issues, reinforcing the project's commitment to proactive risk management and control measures.</p> <p><b>To strengthen this project area, IV&amp;V Recommends:</b></p> <ul style="list-style-type: none"> <li>• Incorporate IV&amp;V findings into the state's RAID log to ensure risks and issues identified by IV&amp;V are formally tracked and reviewed alongside other project risks.</li> <li>• Defining all relevant inputs and outputs in the risk management process in an appendix.</li> <li>• Detail the five steps of the vendor's risk management framework and include all relevant inputs and outputs for each step.</li> <li>• Incorporating stakeholder risk appetite and thresholds into the plan.</li> <li>• Outlining the communication plan for risk management.</li> <li>• A section that lists the tools and software used for risk management is included.</li> <li>• Including a section that outlines the training requirements for the project team on risk management practices and initiatives.</li> </ul>

# Technical Architecture

December	January	February	IV&V Observations
			There are no updates for this period.

# Organizational Change Management

*The current OCM meetings are running smoothly without any issues. The OCM Team continues to conduct the Change Impact Analysis with the Appeals Team.*

OCM Activities	Date
The OCM Team's February accomplishments included:	
• B-Y-O-Cup Engagement Session	February 12, 2025
• Appeals Current State and Change Impact Validation Session	February 19, 2025 & February 21, 2025
• Benefits Current State and What's Changing Discussion	February 19, 2025
• Monthly Project Intranet Post	February 21, 2025
• DLIR Newsletter Article	February 20, 2025



# IV&V Findings and Recommendations

## L Project Organization and Management

#	Key Findings	Criticality Rating
32	<p><b>Preliminary Concern – There is a lack of standards for the approval, revision, and maintenance processes for Project Management Plans.</b></p> <p>Initial Observations:</p> <ol style="list-style-type: none"><li>1. The format of the document maintenance section of Project Management Plans is not consistent between documents. For example, the Implementation Strategy contains "Effective Date" and "Approver," whereas other documents do not.</li><li>2. There are discrepancies between document version numbers. For example, the implementation strategy's file name reads version 2.0; however, the document maintenance section only contains versions up to 1.3.</li><li>3. Document maintenance sections within approved Project Management Plans are incomplete. For example, the Document Maintenance table within the approved Data Conversion Strategy only depicts version 1.0 - Draft.</li><li>4. There are discrepancies between version number thresholds. It is unclear which version number indicates when IV&amp;V Feedback is incorporated. For example, the UIS Implementation Strategy includes IV&amp;V updates in version 1.2, whereas Business Process Reengineering includes IV&amp;V updates in version 1.5.</li></ol> <p>Analysis:</p> <p>In order for the project to be successful, the project management plans and governing documents should be up-to-date and the single source of truth. Additionally, if the document maintenance process is not adhered to, the project is at risk of losing valuable input and tracked changes.</p>	Medium

# IV&V Findings and Recommendations

## Project Organization and Management

Recommendations	Status
<p>IV&amp;V recommends:</p> <ul style="list-style-type: none"><li>• Expand on the document maintenance process to include timelines, version number thresholds, responsible parties, and a clear format for the document maintenance section of project management plans.</li><li>• Review previously approved and finalized project management plans to adhere to the abovementioned process.</li></ul>	Open
Update(s)	

# IV&V Findings and Recommendations

## Data Conversion/Management

#	Key Findings	Criticality Rating
19	<p><b>Risk – Defining a Business Glossary during the data conversion phase:</b> <i>Not defining a Business Glossary during the data conversion phase can lead to several disadvantages.</i></p> <p>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.</p> <p>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.</p> <p>Business glossaries have the following objectives:</p> <ol style="list-style-type: none"><li>1. Foster a shared understanding of key business concepts and terminology.</li><li>2. Minimize the risk of data misuse caused by inconsistent interpretations of these concepts (continued on the next slide).</li><li>3. Improve alignment between technical assets and the business organization by bridging naming conventions</li></ol> <p>Not defining a Business Glossary during the data conversion and data cleansing phase can lead to several disadvantages:</p> <ol style="list-style-type: none"><li>1. Miscommunication: Without a shared understanding of terminology, team members may interpret data differently, leading to confusion and errors.</li></ol>	Medium

# IV&V Findings and Recommendations

## Data Conversion/Management

#	Key Findings	Criticality Rating
	<ol style="list-style-type: none"><li>2. Inconsistent Data: Variations in terms can result in inconsistencies in data mapping and conversion, compromising data quality.</li><li>3. Increased Errors: Ambiguities in definitions may lead to mistakes in data extraction, transformation, and loading processes.</li><li>4. Inefficiency: Team members may spend extra time clarifying terms and resolving misunderstandings instead of focusing on critical tasks.</li><li>5. Stakeholder Disagreement: Different stakeholders may have varying interpretations of terms, leading to conflicts and delays in decision-making.</li><li>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.</li><li>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)</li><li>8. Limited Data Governance: A lack of a business glossary can weaken data governance efforts, making it challenging to maintain data integrity and accountability.</li><li>9. Longer Training Time: New users may require more extensive training to understand the data, as they lack a reference point for definitions.</li><li>10. Compromised Reporting and Analytics: Inconsistent terminology can lead to inaccurate reporting and analysis, impacting strategic decision-making.</li></ol> <p>Based on Best Practices (in the <i>DAMA - DMBOK 2nd edition</i>), establishing a Business Glossary is necessary. It helps ensure clarity, consistency, and effective communication throughout the data conversion and data management processes.</p> <p>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. (<i>Recommendations found on the following slide*</i>)</p>	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
Update(s)		
<b>2/28/2025 - Closed</b> Although a Business Glossary has not been developed, the project intends to utilize information in the Data Dictionary and the glossary of terms in <i>Attachment C Glossary of Terms and Abbreviations</i> of the RFP documentation package. As a result, IV&V has closed this finding for the current reporting period.		

# IV&V Findings and Recommendations

## Data Conversion/Management

### Update(s)

**1/31/2024**

IV&V's discussions with the Data Cleansing vendor on Wednesday, 1/22/2025 at DLIR, indicate their appreciation for the value of a Business Glossary. However, the project has yet to make any progress in defining one.

**12/31/2024**

The project has not made any progress with defining a Business Glossary.

The PMO considers the Glossary of Terms in the RFP adequate for the project's current phase. However, the IV&V team emphasizes the distinct roles of a Glossary of Terms and a Business Glossary in data management. IV&V remains concerned that delaying the creation of a comprehensive Business Glossary may lead to inefficiencies and rework later, including frequent clarifications, mapping verifications, and error corrections due to ambiguity.

# IV&V Findings and Recommendations

## Software Development

#	Key Findings	Criticality Rating
24	<p>Preliminary Concern – <b>Source code quality threshold:</b> <i>The absence of a source code quality threshold in tools like SonarQube can potentially impact both short-term productivity and long-term system stability.</i></p> <p>During the Benefits Sprint Planning meeting on 10/10/2024,</p> <ol style="list-style-type: none"><li>1. The UI Solution Vendor confirmed they will use tools like SonarQube for code quality inspection and review.</li><li>2. However, UI PMO personnel confirmed that the project has not set a source code quality threshold.</li></ol> <p>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,</p> <ol style="list-style-type: none"><li>1. Technical debt accumulation that leads to hard-to-maintain codebases, requiring more time and effort to fix issues later on.</li><li>2. Increased Defects and Bugs: Defects may proliferate, eventually requiring extensive testing and debugging, especially as the project scales.</li><li>3. Security Vulnerabilities: Critical vulnerabilities may reach production, posing serious security risks and potentially leading to costly breaches.</li><li>4. Reduced Code Maintainability: Source code without quality checks can lead to productivity issues and a slowdown in development velocity.</li><li>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)</li></ol>	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
<p>Establishing a source code quality threshold using tools like SonarQube involves defining measurable, enforceable standards for code quality, security, and maintainability. IV&amp;V recommends:</p> <ol style="list-style-type: none"><li>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.</li><li>2. Define quality gates that must be passed before code is merged or released. Examples of recommended thresholds are<ol style="list-style-type: none"><li>a) Bugs: No critical or blocker bugs.</li><li>b) Vulnerabilities: No critical or blocker vulnerabilities.</li><li>c) Code Coverage: Minimum of 80% or based on the project's needs.</li><li>d) Code Smells: Defined maximum count or percentage per module.</li><li>e) Duplications: Less than 5% code duplication.</li></ol></li><li>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.</li><li>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.</li></ol>		Closed
Update(s)		
<p><b>2/28/2025 - Closed</b></p> <p>The project plans to implement code quality inspection tools when appropriate, such as after a reasonable portion of software development has been completed and any potential security vulnerabilities associated with these tools have been assessed. As a result, IV&amp;V has closed this finding for the current reporting period.</p>		



# IV&V Findings and Recommendations

## Software Development

### Update(s)

**1/31/2025**

The project is currently researching the application of a source code quality threshold.

**12/31/2024**

The development team has started using SonarQube. However, the project has not made any progress with defining a source code quality threshold. IV&V is concerned that the lack of a source quality threshold could lead to increased defects, technical debt, critical security vulnerabilities reaching production, inefficient code, performance issues, and reduced development velocity.

**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

## Software Development

#	Key Findings	Criticality Rating
26	<p>Issues – <b>Sprint Retrospectives:</b> <i>The absence of a Sprint Retrospective in an agile IT project can have several negative impacts.</i></p> <p>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.</p> <p>Currently, the UI project lacks Sprint Retrospectives at the end of each development sprint.</p> <p>Some of the primary consequences of absence of a Sprint Retrospective in an agile IT project are:</p> <ol style="list-style-type: none"><li>1. Missed Opportunities for Continuous Improvement.</li><li>2. Increased Frustration and Low Morale of team members.</li><li>3. Lack of Team Alignment and Communication.</li><li>4. Reduced Product Quality and Customer Satisfaction.</li><li>5. Missed Innovation and Learning.</li></ol> <p>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.</p>	Medium
Recommendations		Status
<i>Recommendations found on the following slide*</i>		Open

# IV&V Findings and Recommendations

## Software Development

Recommendations	Status
<p>IV&amp;V recommends:</p> <ol style="list-style-type: none"><li>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.</li><li>2. Setting clear goals for retrospectives: Define specific objectives for retrospectives, such as improving processes, enhancing team communication, or identifying technical obstacles.</li><li>3. Encouraging open and constructive feedback: Foster a safe environment where team members feel comfortable sharing their thoughts and concerns.</li><li>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.</li><li>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.</li><li>6. Involving stakeholders: Occasionally, involve key stakeholders to gain additional perspectives.</li><li>7. Leveraging Retrospective Tools: Use tools like Jira, Miro, or MURAL's retrospective feature to streamline and record feedback.</li><li>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.</li><li>9. Encouraging small, iterative Improvements: Small adjustments or incremental changes often lead to sustained improvements and are easier to adopt.</li><li>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.</li></ol> <p><i>Updates found on the following slide*</i></p>	Open

# IV&V Findings and Recommendations

## Software Development

### Update(s)

**2/28/2025**

The Solution Provider has stated that they conduct regular internal retrospectives focused on product-related discussions, including identifying issues and areas for improvement. However, IV&V has not attended these sessions, and the project is not conducting Agile project management sprint retrospectives.

**1/31/2025**

IV&V was informed that Sprint Retrospectives are being conducted, and the UI solution vendor indicated that these retrospectives are occurring independently of the project and are being used to inform the core product and its enhancements. There are concerns regarding the scope, operational **methodology**, and stakeholder inclusion, or lack thereof, of these retrospectives in their current state. These retrospectives appear to operate independently from the project, state, and oversight, potentially introducing risks and limiting the project's ability to achieve effective process improvements.

**12/31/2024**

The project is yet to incorporate Sprint Retrospectives at the end of every development sprint. IV&V is concerned that the absence of sprint retrospectives at the end of each sprint could result in missed opportunities for continuous improvement, increased frustration and low morale among team members, misalignment and poor communication within the team, reduced product quality and customer satisfaction, and missed opportunities for innovation and learning.




# IV&V Findings and Recommendations

## Software Development

#	Key Findings	Criticality Rating
31	<p><b>Preliminary Concern – Lack of Transparency in Backlog Management</b></p> <p>The backlog grooming process is occurring outside of formal Agile ceremonies, led primarily by the solution vendor’s development manager/lead architect without active state agency participation. As a result, the agency’s priorities and business needs may not be adequately considered in backlog decisions.</p> <p>As a result of the backlog grooming process being conducted independently by the vendor without state agency involvement, there is a risk that prioritization may not fully align with business needs, potentially leading to misallocated development effort and reduced stakeholder satisfaction.</p>	Medium
Recommendations		Status
<p>1.) <i>Increase State Agency Engagement in Backlog Refinement—Before sprint planning, the state should have visibility into and input on backlog prioritization.</i></p> <p>2.) <i>Establish a Structured Refinement Process—To ensure alignment, consider formalizing a backlog review process with key stakeholder representatives.</i></p> <p>3.) <i>Improve Transparency – The vendor should provide backlog updates and justifications for prioritization before presenting finalized work in sprint planning.</i></p>		Open

# Appendix A – IV&V Criticality Ratings

See definitions of Criticality Ratings below:

Criticality Rating	Definition
	A high rating is assigned if there is a possibility of substantial impact to product quality, scope, cost, or schedule. A major disruption is likely and the consequences would be unacceptable. A different approach is required. Mitigation strategies should be evaluated and acted upon immediately.
	A medium rating is assigned if there is a possibility of moderate impact to product quality, scope, cost, or schedule. Some disruption is likely and a different approach may be required. Mitigation strategies should be evaluated and implemented as soon as feasible.
	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:

February 2024 Project HUI Huaka'i Weekly Status Reports

Project Management Plan

CATCH and HI DLIR Cleansing Meeting Agendas for the weekly meetings in February 2025.

Data Cleansing meeting notes (sent by email) for the weekly meetings in February 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](#)

Appeals Requirements Sessions agendas and Meeting Notes

Benefits Requirements Sessions agendas and Meeting Notes

[Feature 28386 26 Interfaces](#)

Project Schedule

Data Conversion Plan

Decision Log

RAID Log

# 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**