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 HAWAI'I | *KA MOKU'ĀINA O HAWAI'I*
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

July 2, 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 Attorney General (AG), Child Enforcement Agency (CSEA).

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 Hawai'i

Attachments (2)

STATE OF HAWAII
DEPARTMENT OF THE ATTORNEY GENERAL (AG)
CHILD SUPPORT ENFORCEMENT AGENCY (CSEA)

KEIKI Replatform Off Mainframe (KROM) Project

MONTHLY IV&V REVIEW REPORT

MAY 31, 2025 | Version 0.1

ACCUITY

An independent member of bakertilly INTERNATIONAL

Table of Contents

BACKGROUND

The State of Hawaii (State), Department of Attorney General (AG), Child Support Enforcement Agency (CSEA) contracted Protech Solutions, Inc. (Protech) on October 2, 2023, to replatform the KEIKI System and provide ongoing operations support. Protech has subcontracted One Advanced and DataHouse to perform specific project tasks related to code migration, replatforming services, and testing. The agreement with DataHouse was terminated in February 2025. The Department of AG contracted Accuity LLP (Accuity) to provide Independent Verification and Validation (IV&V) services for the project.

Our initial assessment of project health was provided in the first Monthly IV&V Review Report as of October 31, 2023. Monthly IV&V review reports will be issued through August 2025 and build upon the initial report to continually update and evaluate project progress and performance.

Our IV&V Assessment Areas include People, Process, and Technology. Each month we will select specific IV&V Assessment Areas to perform more focused IV&V activities on a rotational basis.

The IV&V Dashboard and IV&V Summary provide a quick visual and narrative snapshot of both the project status and project assessment as of May 30, 2025. Ratings are provided monthly for each IV&V Assessment Area (refer to Appendix A: IV&V Criticality and Severity Ratings). The overall rating is assigned based on the criticality ratings of the IV&V Assessment Categories and the severity ratings of the underlying observations.

TEAMWORK AND PERSERVERANCE

"We may have all come on different ships, but we are in the same boat now."

- Martin Luther King Jr.

PROJECT ASSESSMENT

May 2025

SUMMARY RATINGS

OVERALL RATING

Y

Deficiencies were observed that merit attention. Remediation or risk mitigation should be performed in a timely manner.

PEOPLE G

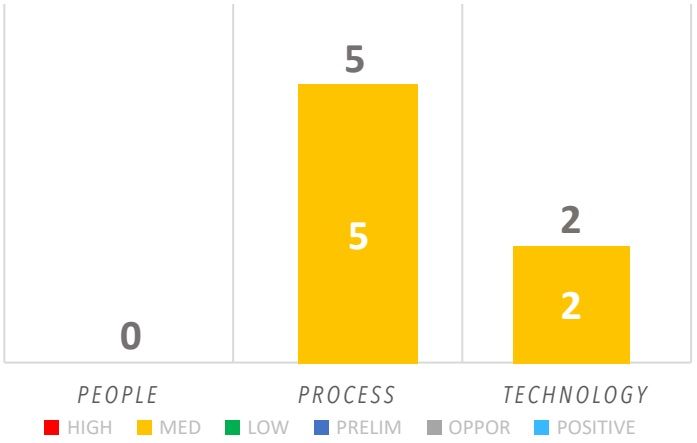
PROCESS Y

TECHNOLOGY Y

CRITICALITY RATINGS

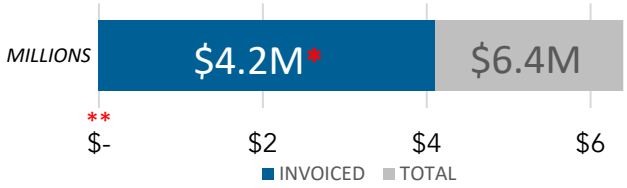
R HIGH | Y MEDIUM | G LOW | NA N/A

IV&V OBSERVATIONS



0	7	0	12
NEW OBSERVATIONS THIS MONTH	OPEN OBSERVATIONS TOTAL	CLOSED OBSERVATIONS THIS MONTH	OPEN RECOMMENDATIONS TOTAL

PROJECT BUDGET *

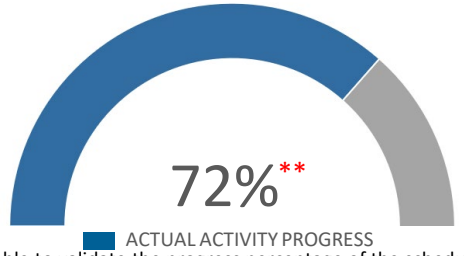


* Only includes contracts. IV&V is unable to validate total budget.

** Invoice for May is unavailable at time of report generation.

PROJECT PROGRESS

(Percent of the weighted duration of total tasks)



** IV&V is unable to validate the progress percentage of the schedule as it does not include all project activities.

KEY PROGRESS & RISKS

Key Progress:

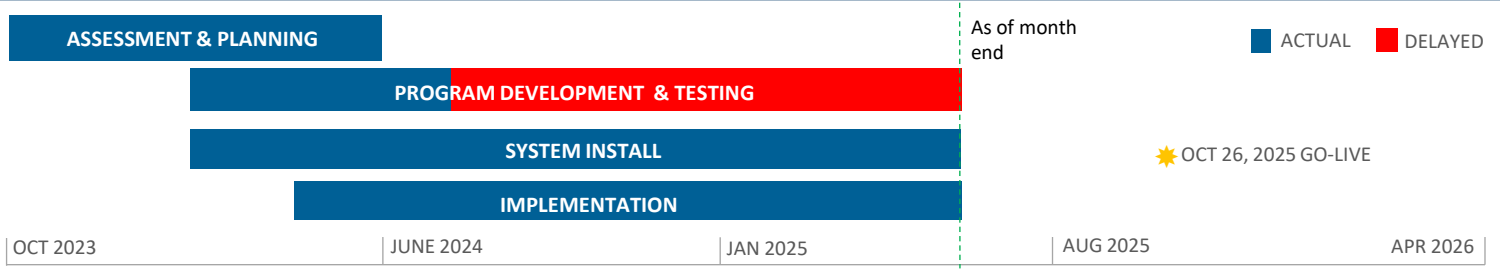
- Batch job performance testing and data extract discrepancies continued to be addressed through iterative retesting cycles, demonstrating the team's commitment to resolving complex data issues.
- Protech proposed a fast-tracking approach to maintain milestone alignment. This approach has not been formally approved by CSEA.
- System testing is in progress with retesting of critical defects and data discrepancies continuing throughout May, and the System Installation Phase is at 69%.

Key Risks:

- The critical path for the KEIKI KROM project in May 2025 has zero float between the D-21 System Test Results Report approval and the Acceptance Testing start date. This indicates that any delays in finalizing D-21 or other tasks on the critical path could lead to cascading schedule delays for UAT and Go-Live readiness.
- The absence of an approved, updated project schedule as of May increases the risk of stakeholder fatigue and downstream impacts on UAT readiness and overall project delivery. The schedule variance at the end of May was 54 days so containing further schedule erosion is critical.
- The temporary leave of absence of the CSEA Project Manager in May posed a risk to project governance. This major risk has been added to the RAID log and is in mitigation status with coverage being provided by CSEA project leads. IV&V will continue to monitor any potential for gaps in project management.

PROJECT SCHEDULE – Current Progress

(See next page for the current agreement and schedule history)

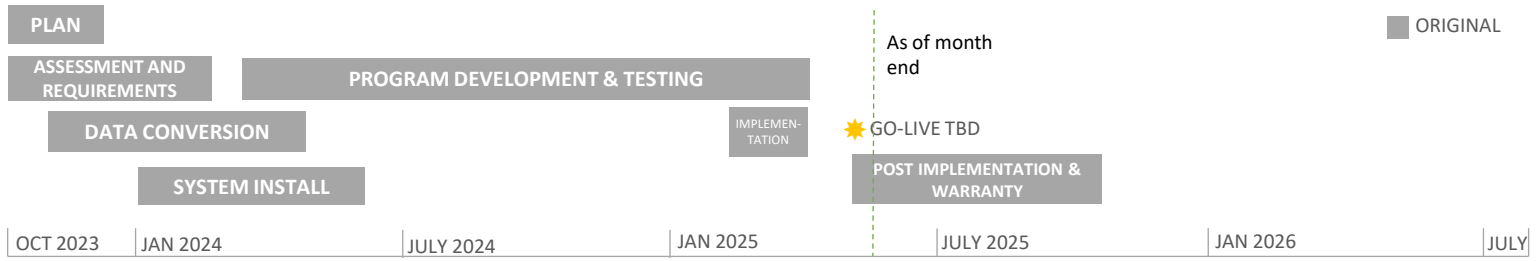


KROM PROJECT SCHEDULE HISTORY

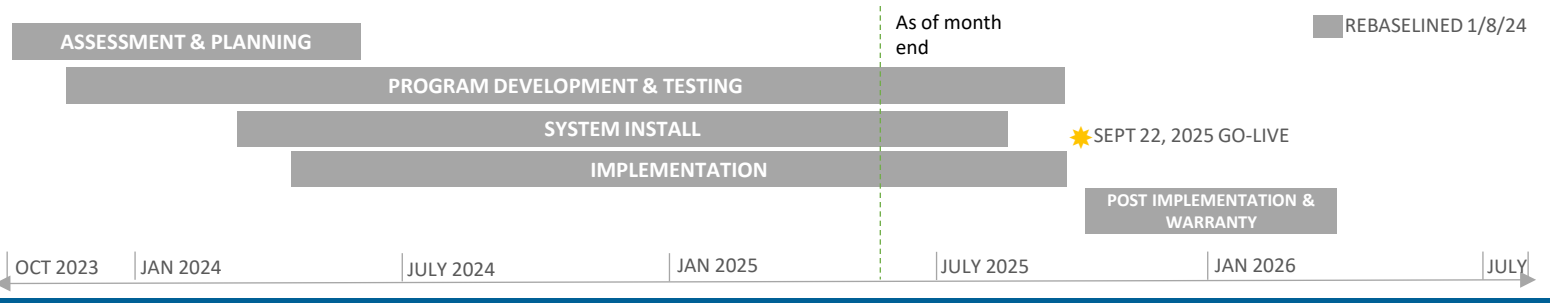
Provided here is a comprehensive view of three timelines:

1. The baseline project schedule set in September 2023.
2. The rebaselined schedule following the approval of the DDI Project Management Plan on January 8, 2024.
3. The current schedule based on the April 10, 2025, no-cost change request.

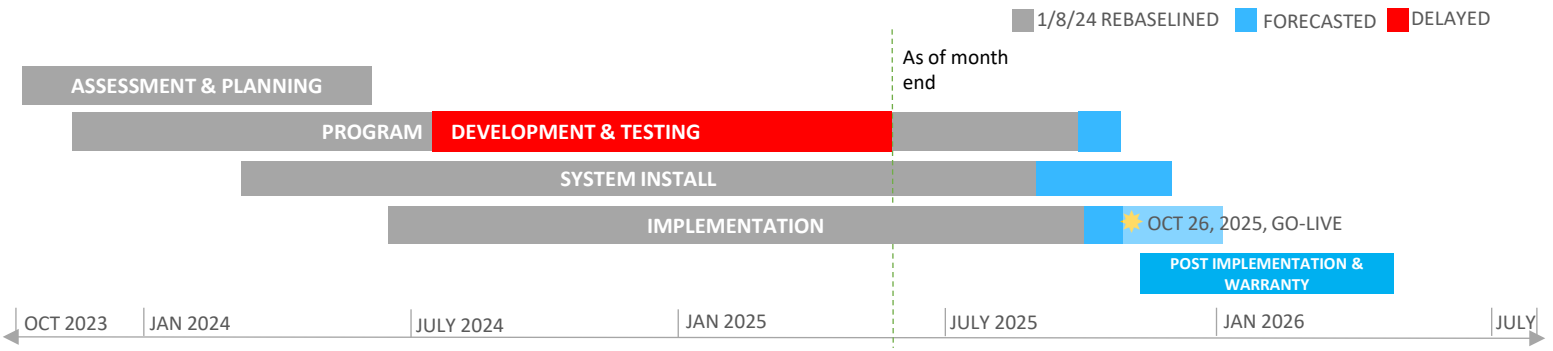
PROJECT SCHEDULE – Baseline



PROJECT SCHEDULE – Rebaselined January 8, 2024



PROJECT SCHEDULE – Revised April 10, 2025, Signed Agreement



MAY 2025 · KROM PROJECT

MAR	APR	MAY	IV&V ASSESSMENT AREA	IV&V SUMMARY
Y	Y	Y	Overall	**Project Schedule:** The project progress status as of May 30, 2025 was 72% with a 54-day variance from the baseline schedule, reflecting challenges with data discrepancies, batch job testing, and critical system testing defects. The critical path has zero float between the D-21 System Test Results Report approval and the Acceptance Testing start date. The temporary leave of absence of the CSEA Project Manager has introduced a new major risk documented in the project RAID log which is in mitigation status and being tracked. The CSEA project leadership is covering project management activities for the interim. There is a risk for uncertainty in project governance, driven by the currently forecasted Go-Live date of January 3, 2026, which is the proposed adjusted date that is pending confirmation by Protech as of the end of May 2025. Formal schedule realignment and defect resolution will be important to maintain progress and prevent further schedule erosion. **Project Costs:** Contract invoices remain within the total contracted costs. **Quality:** The overall project quality reflects ongoing efforts to address critical system testing defects and data discrepancies. Batch job performance testing continues to identify discrepancies in data extracts and job runtimes, with iterative retesting cycles executed to address these issues. Protech and IBM teams have collaborated on resolving differences in data validation outputs between CSEA (legacy) and KROM, focusing on reconciling data source and target differences and aligning batch testing with performance expectations. Overall batch testing execution sits at 90%. With overall system testing at 91% as of May 28, 2025. Despite these positive efforts, ten critical system testing defects remain open, and batch job performance issues are still under review. The project team's focus on performance improvement and data accuracy is essential to meet UAT readiness standards and quality of product. The departure of the CSEA Project Manager, while temporary, could raise the potential for gaps in quality oversight. Through regular weekly testing and status updates helps to ensure ongoing progress tracking and key stakeholder engagement. The CSEA project team is providing focused coverage to mitigate this potential for oversight gaps. **Project Success:** The KEIKI KROM project has maintained milestone progress through active collaboration across Protech (DDI), IBM, and CSEA teams. While system testing and data validation challenges remain, proactive retesting and weekly updates have helped sustain project momentum. The project remains in **yellow** status due to unresolved critical system testing defects, data discrepancies in extracts, and the need for Protech (DDI) to provide an updated schedule formalized for CSEA acceptance to align with the current 54-day variance and gain CSEA approval to meet stakeholder expectations.

MAR	APR	MAY	IV&V ASSESSMENT AREA	IV&V SUMMARY
G	G	G	People Team, Stakeholders, & Culture	The project team has been actively engaged in addressing critical defect resolution and system testing delays, with CSEA participating in key decisions and validating data extracts. Collaboration across Protech (DDI), IBM, and CSEA is evident, with transparent risk discussions and status updates in weekly and monthly meetings. The team is demonstrating a tactical approach to reducing stakeholder testing fatigue by efficiently addressing the most impactful testing activities. **Team:** Protech continues to lead project delivery and is actively collaborating with IBM and CSEA teams to resolve defects, finalize system testing, and refine the UAT environment. Protech's focus has been on batch execution performance testing, mainframe printing transitions, and addressing critical defects through focused retesting cycles. The Protech (DDI) Test Team is also engaged daily, with consistent status reviews and updates in the testing environment to ensure alignment and progress on defect resolution and system testing deliverables. The departure of the CSEA Project Manager has created a temporary gap in project oversight, however, CSEA team members are providing interim coverage to maintain decision-making and governance continuity. **Stakeholders:** CSEA remains deeply engaged, with active roles in • Validating data extract processes and addressing discrepancies. • Participating in decision-making for printing solutions (mainframe vs. Windows printers). • Reviewing system testing outcomes and participating in weekly status meetings and interface discussions (KEIKI Weekly Status Report – 05282025). CSEA and Protech(DDI) are also involved in decisions around cost optimization (AWS EC2 scheduling) and final system readiness for UAT and Go-Live. **Culture:** The project demonstrates a culture of collaboration and open communication, highlighted by frequent cross-team engagements and proactive discussions in recurring meetings (e.g., Weekly Status, Monthly/Quarterly Steering Committees, Risk Review Meetings). CSEA and Protech (DDI) have maintained a shared focus on issue resolution and risk management, fostering a problem-solving mindset across the team. There is clear evidence of commitment to continuous improvement in processes, as seen in the regular evaluation of batch performance, data extracts, and readiness for UAT. The project's People dimension is performing well, with collaborative engagement across Protech (DDI), IBM, and CSEA, active defect resolution, and stakeholder alignment through regular reviews, reflecting a healthy **green** status.

MAY 2025 · KROM PROJECT

MAR	APR	MAY	IV&V ASSESSMENT AREA	IV&V SUMMARY
Y	Y	Y	Process Approach & Execution	**Process:** The project team focused on closing out critical system testing defects, refining batch job performance, and building out the UAT environment, which reached 48% completion. However, schedule alignment remains a challenge, with a 54-day variance, and zero float in the critical path with no realigned and formally approved schedule in place. These factors underscore the need for pinning down an accurate schedule to align stakeholder expectations and prevent further downstream delays. **Approach:** The team is following a milestone-driven approach, prioritizing defect closure and performance tuning while fast-tracking the schedule to recover project slippage. Protech's proposed approach includes daily status reviews and testing cycles to validate data and system performance. However, the lack of a formalized schedule to be submitted by Protech and reviewed and agreed to by CSEA for the purpose of rebaselining the project schedule puts limits on the effectiveness of this approach in aligning stakeholders and ensuring confidence that milestone targets will be met. **Execution:** Execution efforts in May centered on intensive retesting of system testing defects and performance issues, with daily defect triage meetings and focused testing cycles. Despite these targeted actions, 10 critical defects and persistent data extract discrepancies remain open. The team's efforts are being tracked through updated RAID logs and weekly status reports, ensuring transparency and accountability for closure activities. **Risk Log Alignment:** • System Testing phase is at 91% completion, but 10 critical defects remain unresolved, directly affecting downstream testing and data quality validation. These open critical defects are aligned with RAID Log IDs 35 and 56, which highlight integration and environment compatibility risks. • Batch job performance testing and data extract reconciliation remain ongoing, with continued retesting cycles for jobs showing performance discrepancies. These performance gaps are linked to RAID Log IDs 47 and 69, which cover data extraction challenges and data pipeline delays. • UAT environment build-out is at 48%, with remaining tasks focused on finalizing build configurations and data extract readiness. UAT environment dependencies are captured in RAID Log IDs 31, 32, and 33, related to environment readiness and data migration risks. • Protech's fast-tracking approach has not yet been formally approved by CSEA, resulting in uncertainty around actual schedule alignment and potential rebaselining needs. The lack of an approved rebaseline aligns with schedule risks noted across the RAID log, including RAID Log ID 69 for data-driven testing delays. • The departure of the CSEA Project Manager has created a gap in governance oversight, though interim coverage by CSEA team members has helped maintain continuity. This governance gap is noted in RAID Log ID 74, which tracks potential impacts from staffing changes and management transitions. The project process status is **yellow**. This status considers improvements in stakeholder alignment, risk mitigation strategies, and structured execution improvements. However, the critical path has zero float. Continued refinements in defect resolution, batch result validation, and training logistics will be necessary to complete System Testing, finalize Deliverable D-21 (System Test Results Report), and support the transition toward a Green project status.

MAR	APR	MAY	IV&V ASSESSMENT AREA	IV&V SUMMARY
			Technology System, Data, & Security	**System:** The overall system installation phase is at 69% completion as of May 28th. System testing efforts in May prioritized retesting of critical system testing defects, especially in key batch jobs like JESFTP and financial processes. Performance issues were actively addressed through code drops and configuration changes in coordination with IBM, focusing on reducing job runtimes to meet defined benchmarks. Despite these efforts, 10 critical defects remain open which have the potential to pose a risk to downstream UAT readiness and project milestones. **Data:** Data extract validation efforts called out continued discrepancies between the ADABAS and SQL-KROM outputs, particularly in jobs like NSDDB01J and NSDCR01J. Protech and IBM worked on validating source-to-target data mapping, using iterative data extract retesting to identify and close gaps. These activities were closely tracked in weekly status updates and documented defect logs, emphasizing data reconciliation as a critical focus area. Additionally, data extract outputs in batch testing were validated against performance targets to ensure alignment with downstream UAT data needs. **Security:** Nessus vulnerability scans for the UAT environments have been completed, with four exceptions documented and actively tracked in Jira for resolution. SSL encryption and SSO integration efforts are also ongoing to ensure secure environments for upcoming UAT testing. These security activities are being closely monitored to maintain compliance with project data protection standards and stakeholder expectations. **Risk Log Alignment:** • System performance and critical defect resolution are aligned with RAID Log IDs 35 and 56, which highlight interface testing challenges, environment compatibility issues, and risks to Go-Live readiness if system testing defects are not closed. These gaps directly correspond to RAID Log IDs 35 and 56, which cover interface integration challenges, and the decision needed on Code-1 Plus software to ensure environment compatibility and readiness for UAT. • Data extract validation continued to surface discrepancies between ADABAS and SQL-KROM datasets, notably in jobs like NSDDB01J and NSDCR01J, requiring repeated retesting and data reconciliation. These data issues are reflected in RAID Log IDs 47 and 69, which detail risks around data extraction baseline misalignment and delays in data import/export that directly affect data integrity and system readiness. • Security testing in May completed Nessus vulnerability scans, with four exceptions documented for further mitigation, and continued work on SSL encryption and SSO integration in UAT environments. There is no alignment for this in the RAID log as of May 30, 2025. The Technology status remains **yellow**, trending up, maintaining a stable technical foundation in May, with UAT environment build-out at 48% and active retesting of critical system testing defects. While 10 critical defects remain open and four security exceptions are still unresolved, continued progress across data extract reconciliation, system performance tuning, and security compliance in UAT environments has been achieved.

Existing Observation with Reopened Recommendations (Prior Findings)

IV&V ASSESSMENT AREAS

People

Process

Technology

OBSERVATION #: 2023.10.002.R1	STATUS: N/A	TYPE: PRELIMINARY	SEVERITY: N/A

TITLE: Formalize a Mutually Agreed to Project Schedule

Observation: The May 2025 project schedule continues to show a 54-day variance from the baseline, with no formal rebaseline in place to reflect ongoing challenges. This delay is primarily driven by unresolved critical system testing defects, persistent data extract discrepancies, and performance tuning issues in key batch jobs. The lack of a formal schedule rebaseline or CSEA agreed update further elevates the risk of downstream impacts on UAT readiness and stakeholder confidence.

Industry Standards and Best Practices: PMBOK® v7 Performance Domain: Planning – requires integrated schedules that reflect realistic milestone targets and incorporate decision-making frameworks, ensuring that governance and planning activities are fully synchronized for project success.

Analysis: The May 2025 project schedule continues to show a 54-day variance from the baseline, with no formal rebaseline in place to reflect ongoing challenges. This delay is primarily driven by unresolved critical system testing defects, persistent data extract discrepancies, and performance tuning issues in key batch jobs. The lack of a formal schedule rebaseline or update further elevates the risk of downstream impacts on UAT readiness and stakeholder confidence. This transition period provides a unique opportunity to align the project schedule with revised governance roles. Formalizing interim coverage and clarifying decision-making responsibilities can support final schedule rebaselining discussions and address stakeholder concerns about oversight and accountability. By integrating these updates into schedule alignment efforts, the project can reinforce collaboration and commitment to the Go-Live milestone.

Recommendation: REOPENED (2023.10.002.R1) – Improve the project schedule to address schedule concerns.

- Develop a detailed plan with assigned resources to complete project tasks.
- Provide the appropriate detail of tasks, durations, due dates, milestones, and key work products for various parties. CSEA assigned tasks should also be clearly reflected in the project schedule.
- Obtain agreement on the baseline schedule and then hold parties accountable for tasks and deadlines.

Existing Observation with Reopened Recommendations (Prior Findings)

IV&V ASSESSMENT AREAS

People

Process

Technology

OBSERVATION #: 2023.10.002 R4	STATUS: N/A	TYPE: PRELIMINARY	SEVERITY: N/A

TITLE: Formalize CSEA Interim PM Coverage

Observation: In May the CSEA Project Manager went on a temporary leave of absence. CSEA Project Leadership is providing interim coverage. The project at the end of May was experiencing a 54-day variance with zero float in the critical path.

Related RAID Log Action Items have not been reassigned to interim coverage owners.

Industry Standards and Best Practices: PMBOK® v7 Performance Domain: Stakeholder – emphasizes maintaining active engagement and accountability during governance transitions to ensure continued project alignment and stakeholder confidence.

Analysis: Project Management Interim Coverage: The departure of the CSEA Project Manager in May has introduced an immediate need for documented interim project management coverage to maintain project governance continuity. While CSEA project leads have assumed responsibility in the short term, the lack of a formalized approach leaves potential gaps in accountability, risk tracking, and decision-making. Ensuring that interim coverage roles are clearly defined and integrated into overall project governance will reduce risks of miscommunication and schedule misalignment. The details of these governance alignments and assignments should be clearly communicated to stakeholders and reflected in project documentation.

Recommendation: (2023.10.002.R4)

- Have the interim PMs clearly define their roles and responsibilities in project management responsibilities and governance documentation.
- Actively plan, share and execute project responsibilities.

Appendix A: IV&V Criticality and Severity Ratings

TERMS

RISK
An event that has not happened yet.

ISSUE
An event that is already occurring or has already happened.

IV&V CRITICALITY AND SEVERITY RATINGS

Criticality and severity ratings provide insight on where significant deficiencies are observed, and immediate remediation or risk mitigation is required. Criticality ratings are assigned to the overall project as well as each IV&V Assessment Area. Severity ratings are assigned to each risk or issue identified.

Criticality Rating

The criticality ratings are assessed based on consideration of the severity ratings of each related risk and issue within the respective IV&V Assessment Area, the overall impact of the related observations to the success of the project, and the urgency of and length of time to implement remediation or risk mitigation strategies. Arrows indicate trends in the project assessment from the prior report and take into consideration areas of increasing risk and approaching timeline. Up arrows indicate adequate improvements or progress made. Down arrows indicate a decline, inadequate progress, or incomplete resolution of previously identified observations. No arrow indicates there was neither improving nor declining progress from the prior report.

A **RED**, high criticality rating is assigned when significant severe deficiencies were observed, and immediate remediation or risk mitigation is required.

A **YELLOW**, medium criticality rating is assigned when deficiencies were observed that merit attention. Remediation or risk mitigation should be performed in a timely manner.

A **GREEN**, low criticality rating is assigned when the activity is on track and minimal deficiencies were observed. Some oversight may be needed to ensure the risk stays low and the activity remains on track.

A **GRAY** rating is assigned when the category being assessed has incomplete information available for a conclusive observation and recommendation or is not applicable at the time of the IV&V review.

TERMS

POSITIVE
Celebrates high performance or project successes.

PRELIMINARY CONCERN
Potential risk requiring further analysis.

Severity Rating

Once risks are identified and characterized, Accuity will examine project conditions to determine the probability of the risk being identified and the impact to the project, if the risk is realized. We know that a risk is in the future, so we must provide the probability and impact to determine if the risk has a Risk Severity, such as Severity 1 (High), Severity 2 (Moderate), or Severity 3 (Low).

While a risk is an event that has not happened yet, an issue is something that is already occurring or has already happened. Accuity will examine project conditions and business impact to determine if the issue has an Issue Severity, such as Severity 1 (High/Critical Impact/System Down), Severity 2 (Moderate/ Significant Impact), or Severity 3 (Low/Normal/Minor Impact/ Informational).

Observations that are positive, preliminary concerns, or opportunities are not assigned a severity rating.

SEVERITY 1: High/Critical level

SEVERITY 2: Moderate level

SEVERITY 3: Low level

Appendix B: Industry Standards and Best Practices

STANDARD	DESCRIPTION
ADA	Americans with Disabilities Act
ADKAR®	Prosci ADKAR: Awareness, Desire, Knowledge, Ability, and Reinforcement
BABOK® v3	Business Analyst Body of Knowledge
DAMA-DMBOK® v2	DAMA International's Guide to the Data Management Body of Knowledge
PMBOK® v7	Project Management Institute (PMI) Project Management Body of Knowledge
SPM	PMI The Standard for Project Management
PROSCI ADKAR®	Leading organization providing research, methodology, and tools on change management practices
SWEBOK v3	Guide to the Software Engineering Body of Knowledge
IEEE 828-2012	Institute of Electrical and Electronics Engineers (IEEE) Standard for Configuration Management in Systems and Software Engineering
IEEE 1062-2015	IEEE Recommended Practice for Software Acquisition
IEEE 1012-2016	IEEE Standard for System, Software, and Hardware Verification and Validation
IEEE 730-2014	IEEE Standard for Software Quality Assurance Processes
ISO 9001:2015	International Organization for Standardization (ISO) Quality Management Systems – Requirements
ISO/IEC 25010:2011	ISO/International Electrotechnical Commission (IEC) Systems and Software Engineering – Systems and Software Quality Requirements and Evaluation (SQuaRE) – System and Software Quality Models
ISO/IEC 16085:2021	ISO/IEC Systems and Software Engineering – Life Cycle Processes – Risk Management
IEEE 16326-2019	ISO/IEC/IEEE International Standard – Systems and Software Engineering – Life Cycle Processes – Project Management
IEEE 29148-2018	ISO/IEC/IEEE International Standard – Systems and Software Engineering – Life Cycle Processes – Requirements Engineering

STANDARD	DESCRIPTION
IEEE 15288-2023	ISO/IEC/IEEE International Standard – Systems and Software Engineering – System Life Cycle Processes
IEEE 12207-2017	ISO/IEC/IEEE International Standard – Systems and Software Engineering – Software Life Cycle Processes
IEEE 24748-1-2018	ISO/IEC/IEEE International Standard – Systems and Software Engineering – Life Cycle Management – Part 1: Guidelines for Life Cycle Management
IEEE 24748-2-2018	ISO/IEC/IEEE International Standard – Systems and Software Engineering – Life Cycle Management – Part 2: Guidelines for the Application of ISO/IEC/IEEE 15288 (System Life Cycle Processes)
IEEE 24748-3-2020	IEEE Guide: Adoption of ISO/IEC TR 24748-3:2011, Systems and Software Engineering – Life Cycle Management – Part 3: Guide to the Application of ISO/IEC 12207 (Software Life Cycle Processes)
IEEE 14764-2021	ISO/IEC/IEEE International Standard for Software Engineering – Software Life Cycle Processes – Maintenance
IEEE 15289-2019	ISO/IEC/IEEE International Standard – Systems and Software Engineering – Content of Life Cycle Information Items (Documentation)
IEEE 24765-2017	ISO/IEC/IEEE International Standard – Systems and Software Engineering – Vocabulary
IEEE 26511-2018	ISO/IEC/IEEE International Standard – Systems and Software Engineering – Requirements for Managers of Information for Users of Systems, Software, and Services
IEEE 23026-2015	ISO/IEC/IEEE International Standard – Systems and Software Engineering – Engineering and Management of Websites for Systems, Software, and Services Information
IEEE 29119-1-2021	ISO/IEC/IEEE International Standard – Software and Systems Engineering – Software Testing – Part 1: Concepts and Definitions
IEEE 29119-2-2021	ISO/IEC/IEEE International Standard – Software and Systems Engineering – Software Testing – Part 2: Test Processes
IEEE 29119-3-2021	ISO/IEC/IEEE International Standard – Software and Systems Engineering – Software Testing – Part 3: Test Documentation
IEEE 29119-4-2021	ISO/IEC/IEEE International Standard – Software and Systems Engineering – Software Testing – Part 4: Test Techniques
IEEE 1484.13.1-2012	IEEE Standard for Learning Technology – Conceptual Model for Resource Aggregation for Learning, Education, and Training
ISO/IEC TR 20000-11:2021	ISO/IEC Information Technology – Service Management – Part 11: Guidance on the Relationship Between ISO/IEC 20000-1:2011 and Service Management Frameworks: ITIL®
ISO/IEC 27002:2022	Information Technology – Security Techniques – Code of Practice for Information Security Controls

STANDARD	DESCRIPTION
FIPS 199	Federal Information Processing Standard (FIPS) Publication 199, Standards for Security Categorization of Federal Information and Information Systems
FIPS 200	FIPS Publication 200, Minimum Security Requirements for Federal Information and Information Systems
NIST 800-53 Rev 5	National Institute of Standards and Technology (NIST) Security and Privacy Controls for Federal Information Systems and Organizations
NIST Cybersecurity Framework v1.1	NIST Framework for Improving Critical Infrastructure Cybersecurity
LSS	Lean Six Sigma

Appendix C: Prior Findings Log

ASSESSMENT AREA	OBSERVATION ID	TYPE	ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	INDUSTRY STANDARDS AND BEST PRACTICES	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CLOSURE REASON
Process	2024.12.003	Risk	Moderate	Moderate	Non-critical tasks are being tracked alongside critical ones, diluting focus and potentially straining resources. Financial Test Deck (FTD) testing is blocked by unresolved defects, stalling progress on 92% of pending cases.	SPM (The Standard for Project Management) defines prioritization as essential for maintaining project alignment with strategic objectives.	Tracking non-critical tasks alongside critical ones is straining resources and delaying progress on essential activities like Financial Test Deck (FTD) testing, which is stalled by unresolved defects impacting 92% of cases. Refocusing on critical path tasks and resolving key defects, as emphasized by SPM, will prevent cascading delays and enable progress in blocked testing areas.	(2024.12.004.R1) Focus on critical path tasks, prioritize defect resolution in FTD and interface batch jobs, and deprioritize non-critical deliverables. Prioritizing critical deliverables ensures that delays do not propagate through the project timeline and unlocks progress for blocked testing activities.	Open	2025/05/30: In May, non-critical tasks continued to be tracked and documented in weekly status reports, although no formal update was provided on their resolution. These tasks remain open and should be aligned with the critical path to avoid compounding downstream delays. 2025/04/30: Process and task tracking improved in April but key readiness items (Batch Finalization, Pen Test, Compliance) are missing task details such as ownership or have not been fully scheduled yet. A formal Project Change Request (PCR-3) was approved on April 10th, extending SIT through April 30, 2025, and shifting the Go-Live date to October 26, 2025, with no cost impact. The targeted Go-Live date is currently November 11, 2025, to align with a long weekend for operational considerations. With the change occurring in mid-April the team continues actively planning toward UAT and scheduling alignments will continue through May. IV&V will continue to monitor the scheduling activities and strongly suggests a focused effort in task definitions and alignments to avoid schedule compression with increased risk in execution of UAT and Go-Live. 2025/03/31: During March, Protech assumed full responsibility for test execution and defect management, including taking over administration of the Jira defect tracking system. This transition supports improved traceability between test case execution and defect resolution. While the SIT dashboard continues to show script-level execution (106 of 119 scripts passed), IV&V is able confirm testing progress thru accessing of Jira reports. Defects are categorized as to Critical, Major, Minor, and Normal. ProTech has the ability to track and actively to work on critical and high priority defects. IV&V observed that linkage between failed/pending tests and their corresponding defects is still being validated under DDI's new triage process. CSEA and IV&V are monitoring this effort, and further improvements are expected as part of Protech's Jira backlog reconciliation. This item should remain open pending full integration and reporting consistency across SIT, batch, and UAT tracking systems. 2025/02/28: In February 2025, Protech fully assumed testing responsibilities following DataHouse's withdrawal, with AWS and JIRA administration transitioning on February 26. Batch job validation improved to 38%, but resource shortages continue to slow progress in financial and UI validation, impacting critical compliance tasks. Testing delays and data extraction issues persist, requiring additional skilled resources and prioritization of defect resolution to prevent further schedule slippage. The testing allocation and transition plan is currently underway with Protech. 2025/01/31: The status update for January regarding Observation 2024.12.003 emphasizes significant progress in addressing process inefficiencies, with a focus on optimizing workflows and refining procedural documentation. However, remaining gaps in execution and resource allocation necessitate continued oversight to ensure sustained improvements and full alignment with project objectives.		
Process	2024.12.005	Risk	Moderate	Moderate	Testing metrics from weekly reports show varying levels of progress, with areas like enforcement batch validation at only 21% coverage. The risk log shows Issue #47: Data extraction delays highlight the need for improved progress tracking and reporting.	IEEE 1012-2016 recommends verification and validation checkpoints for effective oversight.	Inconsistent progress metrics, such as only 21% coverage in enforcement batch validation, indicate gaps in tracking and reporting that hinder effective oversight. Implementing a real-time dashboard, as recommended by IEEE 1012-2016, will provide actionable insights to prioritize resources and address delays efficiently.	(2024.12.06.R1) Establish Progress Monitoring and Reporting: Implement a real-time dashboard to monitor test execution rates, defect closure, and coverage metrics. This provides actionable insights for targeting resources and resolving delays more efficiently.	Open	2025/05/30: The weekly status reports and test status updates did not contain any evidence of final clarification or resolution of the discrepancies in defect retest counts across system testing. As such, there is no indication that these inconsistencies have been fully addressed or resolved, meaning this observation must remain open for continued monitoring and action. 2025/04/30: In April Protech (DDI) fully stood up and transitioned all testing activities and ownership of the AWS environment for the KROM project. While the team is now using a testing dashboard in Jira which is transparent, the Deliverable D-21 (System Test Results Report) is at 25% completion and defect traceability and test closure are not finalized. 2025/03/31: Throughout March, risk and issue tracking improved through targeted updates in the IV&V reports and touchpoint confirmations; however, the RAID log content was not consistently cited in weekly status reports. While IV&V validated the active status of several key risks (e.g., Risk #89 related to data validation and Risk #112 concerning test execution continuity), these risks were primarily referenced through summary narratives, not as direct log item linkages. The most recent RAID log submitted in March lists several active risks not fully integrated into status reports, suggesting this observation should remain open until cross-referencing practices between RAID logs and weekly reporting are standardized. 2025/02/28: While testing reports did show improvement in February, IV&V will continue to monitor the clarity of the weekly testing reports citing the transition of testing responsibilities to Protech. In order to placemark test reporting progress and clarity, the percentage of testing per testing stream is as of 02/19/2025, - Financial Test Deck (FTD): 75% complete (18 scenarios passed, 6 active). - System Integration Testing (SIT) Execution: 82% complete (78 out of 95 test scripts executed). - Batch Job Testing: 38% validated (improving from previous months, but still below required levels). - Refined UI Testing: 90% complete (410 screens tested, 41 failed cases awaiting defect resolution). IV&V will continue to monitor test reporting clarity through the transition to Protech testing oversight. 2025/01/31: Ongoing challenges related to resource constraints and finalizing validation efforts require continued monitoring to ensure full implementation and long-term stability.		
Process	2024.12.006	Risk	Moderate	Moderate	Some lower-priority testing, such as reporting subsystem batch jobs, reflects 0% progress.	PMBOK® v7 encourages scope and schedule flexibility in adaptive project environments.	Delays in non-critical tasks, such as reporting subsystem batch jobs with 0% progress, highlight the need to reallocate resources to critical testing activities. By deprioritizing these areas and requesting extensions, as supported by PMBOK® v7, the project can focus on achieving timely completion of high-priority deliverables such as KMS Go Live.	(2024.12.07.R1) Request Extension for Non-Critical Deliverables: Deprioritize non-critical testing areas and request extensions for their delivery to reallocate focus to critical testing. To ensure timely completion of high-priority deliverables such as KMS Go Live.	Open	2025/05/30: May project updates did not provide explicit evidence of closure for lower-priority testing tasks, such as reporting updates and document finalization. These activities remain open and require focused attention to complete supporting documentation. 2025/04/30: The incomplete state (25%) of D-21 (System Testing Report) as of April 30 further supports keeping Observation 2024.12.006 open. The delays are not isolated to minor reports, they affect key transition documentation necessary for testing and cutover. This document is essential for closing out system testing, gating acceptance testing start, and meeting stakeholder validation requirements. 2025/03/31: In March, the project team communicated and aligned on a revised Go-Live date of November 11, 2025, extending the overall timeline to accommodate continued validation activities, including batch outputs and reporting. While a formal extension request specific to non-critical test items was not documented, the extended schedule and associated updates reflect a de facto approval for additional testing time. This schedule shift has enabled continued work on lower-priority validations, effectively meeting the recommendation's intent. This item may be considered for closure, contingent upon confirmation that remaining report testing is included in the updated cutover and UAT planning. Closure will also be contingent upon Protech completing the activities in the transition SOW for CSEA to review and provide approval in order to formalize the schedule. 2025/02/28: In February the testing teams have prioritized System Integration Testing (SIT) and Financial Deck Testing (FTD) execution, delaying non-essential batch jobs to mitigate schedule risks. A formal extension request is in discussion to defer lower priority deliverables like reporting subsystem batch jobs, ensuring resource alignment with critical milestones. IV&V will continue to monitor the outcome of the discussions. 2025/01/31: Continued progress in refining data management processes and enhancing coordination among key stakeholders. However, persistent challenges in ensuring data accuracy and resolving inconsistencies require further validation efforts and ongoing oversight to achieve full resolution.		

ASSESSMENT AREA	OBSERVATION ID	TYPE	ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	INDUSTRY STANDARDS AND BEST PRACTICES	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CLOSURE REASON
Process	2024.12.007	Risk	Moderate	Moderate	Risks related to dependencies, resource availability, and stakeholder approvals are not explicitly mitigated in the schedule. Weekly reports highlight an increasing trend in defects, with 480 defects logged as of December 18, 2024.	ISO/IEC 16085:2021 highlights risk management as a critical process for life cycle projects.	The increasing trend in logged defects (480 as of December 18, 2024) and unmitigated risks related to dependencies and resource availability emphasize critical gaps in risk management. Enhancing the risk mitigation plan, as recommended by ISO/IEC 16085:2021, will address recurring issues in defect-prone areas like financials and interfaces, reducing the likelihood of further delays.	(2024.12.08.R1) Further enhance the risk mitigation plan targeting defect-prone areas such as financials and enforcement systems, proactively reducing the likelihood of additional delays caused by recurring issues.	Open	2025/05/30: The weekly status and testing reports continue to document an upward trend in total logged defects, reaching 480 as of late May. This reinforces ongoing risks to schedule alignment and stakeholder confidence if defect closure efforts are not prioritized. 2025/04/30: Compliance and Penetration Testing tasks, dependencies and resource availability remain unassigned as of April 30. 2025/03/31: In March, risk awareness remained a core focus across IV&V and stakeholder reporting, with specific emphasis on transition readiness, batch data quality, and cutover planning risks. Active risks such as Risk #89 (data extraction) and Risk #112 (testing transition) were tracked through status reports and IV&V analysis, and the March RAID log reflected five open risks aligned with ongoing project concerns. However, RAID log integration into weekly reports was still partial, with risk IDs not consistently cited in narrative updates. As such, this observation should remain open, pending full and consistent mapping of RAID risks into weekly reporting artifacts and stakeholder communications. 2025/02/28: In February, risk management processes remain active, with ongoing monitoring of resource allocation, batch job validation, and interface file resolution. Several risks remain open, including data extraction delays, defect resolution issues, and resource constraints. Additional verification and sustained monitoring are needed to ensure risk mitigation strategies are fully implemented before closure. 2025/01/31: Risk mitigation efforts, including strengthened collaboration between teams to address system integration challenges and resolve key technical issues improved in January. However, some dependencies remain unresolved, necessitating additional testing and validation to fully mitigate potential risks before implementation.		
Process	2023.10.002	Risk	Moderate	Moderate	Project management responsibilities may impact effective project execution. The review of prior findings confirms that several closed issues correlate with ongoing challenges in data validation, resource management, interface dependencies, and testing progress. To ensure project success and minimize cutover risks, reopening these findings and implementing corrective actions are advised. Dependencies such as task 593 for "KMS: Acceptance Test Scripts Development Complete" remain unfulfilled. Weekly reports identify unresolved data file dependencies and incorrect file formats (e.g., GDG issues in batch jobs), further delaying progress. Linear task sequencing contributes to delays where tasks could feasibly run in parallel (e.g., compliance and database migration). Financials have 0% validation coverage in the refined UI, highlighting the backlog. REOPENED - May 2025 The May 2025 project schedule continues to show a 54-day variance from the baseline, with no formal rebaseline in place to reflect ongoing challenges. This delay is primarily driven by unresolved critical system testing defects, persistent data extract discrepancies, and performance tuning issues in key batch jobs. The lack of a formal schedule rebaseline or update further elevates the risk of downstream impacts on UAT readiness and stakeholder confidence. The CSEA Project Manager has exited the project with CSEA Project Leadership providing interim coverage. The project at the end of May was experiencing a 54 day variance with zero float in the critical path. Related RAID Log Action Items have not been reassigned to interim coverage owners.	PMBOK® v7 emphasizes resource optimization as part of the "Resource Management" domain. Aligning resource capacity with demand ensures timely task completion. **Performance Domain: Stakeholder** – emphasizes maintaining active engagement and accountability during governance transitions to ensure continued project alignment and stakeholder confidence. **Performance Domain: Planning** – requires integrated schedules that reflect realistic milestone targets and incorporate decision-making frameworks, ensuring that governance and planning activities are fully synchronized for project success. ISO/IEC 16085:2021 recommends proactive risk management to identify areas where concurrent task execution mitigates schedule risks.	CSEA's KEIKI system currently relies on a legacy cyberfusion system running on the State's mainframe for system file and data exchanges with multiple State of Hawaii agencies. The timing of multiple agencies moving off the mainframe at different times will result in the need to modify KEIKI system interfaces after the system has been deployed. Until other State modernization projects are completed, the KEIKI project cannot perform server-based data exchanges and will need to continue to interface via the mainframe. In addition, as the KEIKI project involves integrating a modernized child support system with existing legacy systems, there may be other technological and architectural gaps that arise. These gaps can include differences in technology stacks, such as programming languages, database systems, and operating environments, as well as the absence of modern application programming interfaces (APIs) in the legacy systems. Based on the timing of concurrent State of Hawaii modernization projects and upgrades, the end-to-end testing of the KEIKI system may necessitate the undertaking of supplementary tasks, allocation of additional resources, and coordination efforts. REOPENED-May 2025 **Schedule Variance:** This delay is primarily driven by unresolved critical system testing defects, persistent data extract discrepancies, and performance tuning issues in key batch jobs. The lack of a formal schedule rebaseline or update further elevates the risk of downstream impacts on UAT readiness and stakeholder confidence. **Project Management Interim Coverage:** The departure of the CSEA Project Manager in May has introduced an immediate need for documented interim project management coverage to maintain project governance continuity. While CSEA project leads have assumed responsibility in the short term, the lack of a formalized approach leaves potential gaps in accountability, risk tracking, and decision-making. Ensuring that interim coverage roles are clearly defined and integrated into overall project governance will reduce risks of miscommunication and schedule misalignment. The details of these governance alignments and assignments should be clearly communicated to stakeholders and reflected in project documentation.	**REOPENED:** 2023.10.002.R1 – Improve the project schedule to address schedule concerns. • Develop a detailed plan with assigned resources to complete project tasks. • Provide the appropriate detail of tasks, durations, due dates, milestones, and key work products for various parties. CSEA assigned tasks should also be clearly reflected in the project schedule. • Obtain agreement on the baseline schedule and then hold parties accountable for tasks and deadlines. REOPENED: 2023.10.002.R2 – Determine the root causes of delays and develop plans to address them. • Perform a root cause analysis including defining the problem, brainstorming possible causes, and developing a plan to address the root cause of the problem such as resource constraints, dependencies, and undefined tasks. Assess potential opportunities for parallelizing workstreams and efforts. • Based on the experience of the last two months, create a realistic schedule based on the time and resources needed to perform tasks. CLOSED: 2023.10.002.R3 – Assess the need for additional Protech resources for project management support. **REOPENED:** 2023.10.002.R4 – Have the CSEA and Protech Project Managers adopt a more joint, collaborative approach. • **Have the interim PMs clearly define their roles and responsibilities in project management responsibilities.** • Actively plan, share and execute project responsibilities.	Reopened	2025/05/30: The exit of the CSEA Project Manager which is now being covered by the CSEA project leads furthers the need to update govenance and decision frameworks to document and formalize the roles of interim CSEA project leads covering the CSEA's Project Management responsibilities. This will ensure accountability, maintain stakeholder alignment and reduce the risk of gaps in project oversight and consistency. This would be an opportune time to access the root causes driving schedule delays and work with Protech to align an agreed schedule in order to eliminate further cascading delays in the project go live date, which is experiencing a 54 day variance from the baseline schedule as of May 30, 2025. Project governance documents, (e.g. RAID Log) should be reviewed and assigned to appropriate action owners. Communications should be drafted to all project stakeholders in order to align them to the appropriate interim project manager with area of oversight responsibility. 2025/04/30: The root causes driving schedule delays, such as lack of resource clarity, overlapping dependencies, and unscheduled support tasks, remain visible in April. While the project team responded to delays with schedule updates (PCR-3) and completed SIT Iteration 2, the conditions that led to earlier delays have not been systematically mitigated. The continued shifting of the estimated Go-Live date beyond PCR-3's approved timeline further supports the observation that a durable resolution has not yet been realized. IV&V also notes that the critical path from Deliverable D-21 approval to Acceptance Testing start remains under pressure, with zero float, increasing the likelihood of cascading delays if unresolved tasks are not completed promptly. IV&V recommends that the project team consider conducting a root cause analysis and reviewing ownership assignments for critical path readiness tasks, including batch finalization, training, and security preparation, in alignment with PMBOK® v7 guidance on Risk and Resource Management, to reduce the likelihood of further schedule compression. 2025/03/31: As of March, project reporting has improved in granularity, with weekly status reports consistently identifying active risks and testing-related blockers, and IV&V tracking individual RAID log items (e.g., Risks #89 and #112). However, formal distinction between risks, issues, and decisions remains inconsistent across communications, particularly in status reports, where these items are often combined into narrative summaries without clear labeling. While the March RAID log itself includes structured entries for each category, this observation should remain open until consistent, category-specific tagging is incorporated into all reporting streams. In order for CSEA to formally approve the new project schedule, Protech must complete the activities in the transition SOW. Protech needs to schedule a firm delivery date that is acceptable to CSEA with urgency, since the schedule cannot be formally aligned in its absence. 2025/02/28: Efforts to parallelize workstreams (2023.10.002.R2-2) are being evaluated, but coordination between Protech and CSEA while underway is facing larger priorities for testing transition. While progress has been made in identifying root causes and adjusting scheduling strategies, this recommendation is requiring a more structured approach to align testing priorities which may end up being addressed in the testing transition plan. IV&V will continue to monitor that progress. 2024/01/31: Despite several meetings, there is still a need for a greater shared understanding of schedule concerns between Protech and CSEA. This risk will continue to be evaluated with the recent addition of Protech resources to improve the timeliness of project execution, a recommendation was added that project managers can adopt a more joint, collaborative approach to share and clearly delineate project management responsibilities. 2024/12/31: Accuity increased the severity rating from Level 3 (Low) to Level 2 (Moderate). More rigor on foundational project management practices is needed to prevent further delays and increase the quality of project execution. The approved project schedule still lacks detailed tasks to adequately plan project resources and monitor project performance. Although the project schedule has some percentage completion, the process to monitor and calculate metrics is unclear. 2024/11/30: This was originally reported in the October 2023 IV&V Monthly Report as a preliminary concern but was upgraded to and rewritten as a risk this month with recommendations. The project is still challenged with insufficiently updating deliverables and continued delays in the proposed project schedule. 2024/05/31: The risk was closed as project management activities are being executed more timely and effectively. 2024/04/30: The CSEA Project Manager still needs to independently validate the variance and critical path. For monthly steering committee and project status meetings, it would be beneficial for CSEA to take a more active role in communicating their perspective on project progress to stakeholders. R 2024/03/31: Closed two recommendations as a new, separate observation with recommendations related to schedule and resource management was opened. Refer to observation 2023.03.002. Project managers should prioritize working closely together to assess upcoming activities, the impact of project delays, and determine if any changes are needed to the overall project timeline. 2024/02/29: The project schedule does not include all project tasks and is being updated to include more granular-level project activities One recommendation was closed as Protech added additional project management resources.	Original Close: 2024/05/31 Reopened: 2023.10.002.R2 2024/12/24 **Reopened: 2023.10.002.R1 and 2023.10.002.R4 2025/05/30**	Original Closure Note: Closed as the project managers are working more collaboratively to share and execute project responsibilities.

ASSESSMENT AREA	OBSERVATION ID	TYPE	ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	INDUSTRY STANDARDS AND BEST PRACTICES	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CLOSURE REASON
Technology	2024.06.001	Risk	Moderate	Moderate	There is a risk for delays in the data extraction process, which is critical for the cutover activities, due to reliance on shared mainframe resources, inefficiencies in data extraction programs, and long download/upload times. Each time new data is needed for testing, the entire database must be extracted, which is time-consuming. CSEA is evaluating a SQL replication strategy to replace the current process and has assigned two dedicated resources to identify and test this approach. Daily meetings with DDI and CSEA have been established to collaborate on this issue. The target for validating this approach is July 31st. The static data collected from the data extract process projects a worst-case scenario of 12 to 36 days to fully extract ADABAS data to the 374 flat files, including downloading and uploading the files. This arises due to: 1) CSEA uses a shared mainframe, 2) inefficiencies of data extraction programs, 3) download/upload times. The data extract process is central to the cutover activities completing over Fri/Sat/Sun. If not improved, CSEA may face 4/5 days operational downtime for cutover weekend.	IEEE 1012-2016	The data extraction process is critical for the cutover activities and current projections show potential for significant delays. This issue results from reliance on shared mainframe resources, inefficiencies in data extraction programs, and long download/upload times. Each time new data is needed for testing, the entire database must be extracted, which is time-consuming. CSEA is evaluating a SQL replication strategy to replace the current process and has assigned two dedicated resources to identify and test this approach. Daily meetings with DDI and CSEA have been established to collaborate on this issue. The target for validating this approach is July 31st. The static data collected from the data extract process projects a worst-case scenario of 12 to 36 days to fully extract ADABAS data to the 374 flat files, including downloading and uploading the files. This arises due to: 1) CSEA uses a shared mainframe, 2) inefficiencies of data extraction programs, 3) download/upload times. The data extract process is central to the cutover activities completing over Fri/Sat/Sun. If not improved, CSEA may face 4/5 days operational downtime for cutover weekend.	2024.08.001.R1 - Verification of Data Extraction and Conversion Processes • Standard(s): IEEE 1012-2016 Emphasis: Verification ensures that the system is built correctly according to its specifications. o Recommendation: Implement a thorough verification process for all data extraction and conversion methods, particularly the Ascii to BCP script conversions. Establish checkpoints where the file counts and conversion accuracy are verified before moving to subsequent phases of the project to avoid potential issues in later stages. 2024.08.001.R2 - Validation of Extracted Data Consistency • Standard(s): IEEE 1012-2016 Emphasis: Validation ensures that the system meets its intended use and satisfies user needs. o Recommendation: Conduct end-to-end validation of the extracted data, ensuring that the SQL-to-SQL comparisons are consistent and match across systems (Protech and CSEA). Given the noted discrepancies, a validation step should be introduced after each major extraction and conversion task (e.g., Task 18). This will confirm that the extracted data matches the expected output and is usable for further processing. 2024.08.001.R3 - Risk Management for Binary and Ascii File Handling • Standard(s): IEEE 1012-2016 Emphasis: Risk management is integrated into the IV&V process to identify potential risks and implement mitigation strategies. o Recommendation: Assess the risks associated with the conversion and handling of binary and Ascii files. Discrepancies in binary file counts and the use of converters for 27 files were discussed. It is recommended to perform risk analysis on these conversions, ensuring that any potential data corruption or loss during conversion is identified and mitigated. Consider implementing additional testing and validation for these specific files. 2024.08.001.R4 - Resource Management and Space Availability • IEEE 1012-2016 Emphasis: Resource management is crucial for the successful execution of project activities. o Recommendation: The observation regarding potential space risks should be taken seriously. Conduct a resource assessment to ensure that there is sufficient storage and computing resources to handle the extraction, conversion, and processing of data. This should be done before the extraction process begins, with contingency plans in place in case of resource shortages.	Open	2025/05/30: The May weekly status and testing status updates confirmed that data extraction processes and performance discrepancies continue to delay system readiness for UAT testing. Additional testing cycles and data mapping validation efforts are underway to address these extract issues. IV&V will continue to monitor progress toward the July target. 2025/04/30: In April CSEA and Protech (DDI) continue daily coordination post transition (DataHouse departure and transitional SOW activity completion). SQL replication testing is active but not yet fully validated as stable (RAID log Risk #89). Over 30 data outputs from the Feb 18th batch are still in the validation process and the process is still reliant on workarounds and contingency planning ahead of the July 31 validation target. Observation 2024.06.001 should remain open. While progress across all four recommendation areas is evident, final validation has not been achieved, and extract-related risks remain active. Continued IV&V monitoring is necessary through July to assess the effectiveness of SQL replication and full extract validation before the system cutover. 2025/03/31: In March, the project team made notable progress toward addressing data extract quality issues, including the launch of structured half-day CSEA agency validation sessions, and the initiation of a deliverable to identify non-printable characters in hybrid DB fields. Although SQL replication failures and data formatting mismatches remain contributors to delayed batch output validation, Risk #89 continues to track these issues as open. With key activities underway but final validation still pending for over 30 outputs from the February 18 batch cycle, this observation should remain open, with closure considered once extract stability and validation results are fully confirmed. We acknowledge that targeting the new Go-Live date of 11/11/2025 to utilize a long weekend for cutover will reduce risk. 2025/02/28: While progress has been made in refining extraction strategies and implementing validation checkpoints, full validation and risk mitigation have not been achieved, and cutover risks remain active. Continued IV&V monitoring is required to ensure SQL replication testing is validated and operational before cutover planning. SQL replication testing continues (2024.08.001.R1), with CSEA and DDI holding daily coordination meetings, but validation of the approach has not yet been completed. These activities will need to resume with Protech taking over DDI's responsibilities. Verification and validation steps have improved (2024.08.001.R2), but discrepancies in extracted data persist, requiring additional conversion accuracy checks and space management adjustments (2024.08.001.R4). Risk management for binary and ASCII file handling. (2024.08.001.R3) is ongoing, with proactive error tracking reducing potential corruption risks, but validation remains incomplete. 2025/01/31: The latest status update for January indicates continued collaboration between CSEA and DDI to refine the SQL replication strategy, with dedicated resources actively testing extraction improvements to mitigate risks associated with prolonged data transfer times. In alignment with IEEE 1012-2016, verification checkpoints have been partially implemented (2024.08.001.R1), validation steps for extracted data consistency are progressing (2024.08.001.R2), and additional risk assessments for binary and ASCII file handling are ongoing to prevent data corruption (2024.08.001.R3), while space availability concerns remain under review with contingency planning in progress (2024.08.001.R4). 2024/12/24: (2024.08.001.R1) - Verification of Data Extraction and Conversion Processes: Verification processes have progressed, with partial implementation of checkpoints for ASCII to BCP script conversions. File counts and conversion accuracy validations are ongoing, resolving discrepancies iteratively to reduce downstream errors. Additional automated checks are required to fully strengthen the verification process. (2024.08.001.R2) - Validation of Extracted Data Consistency: SQL-to-SQL comparisons between Protech and CSEA systems have advanced, with validation checkpoints introduced after major extraction tasks. Improvements in data alignment are evident, but interface data discrepancies remain, requiring further validation for end-to-end consistency across systems. Batch validation using September 30 production data demonstrated reduced inconsistencies. (2024.08.001.R3) - Risk Management for Binary and ASCII File Handling: Risk assessments for binary and ASCII file conversions have identified critical areas requiring additional testing to mitigate risks of data corruption. Packed binary and date/time field issues have been resolved, but validation of file integrity during conversion phases is still crucial. Proactive error tracking has minimized potential issues during testing phases. (2024.08.001.R4) - Resource Management and Space Availability: Resource assessments and adjustments to mainframe utilization have improved testing efficiency by addressing storage and computational limitations. Contingency plans for storage shortages have been established, ensuring smoother testing and batch processing cycles. Continued focus on resource prioritization is needed to avoid delays in high-demand testing periods. IV&V will continue to monitor these recommendations and validate progress until full resolution is achieved. 2024/11/27 - (2024.08.001.R1) - Verification of Data Extraction and Conversion Processes Verification processes have been strengthened, particularly for ASCII to BCP script conversions. File counts and conversion accuracy are now validated during batch validation and regression testing phases, with checkpoints implemented to ensure accuracy before advancing to subsequent phases. Discrepancies if field alignment and conversion accuracy are being resolved iteratively, reducing downstream errors. (2024.08.001.R2) - Validation of Extracted Data Consistency End-to-end validation has been introduced, including SQL-to-SQL data comparisons between Protech and CSEA systems. Validation checkpoints after major extraction tasks ensure consistency in extracted data outputs. Major improvements in data alignment and reduced inconsistencies, as seen in batch validation using September 30 production data. (2024.08.001.R3) - Risk Management for Binary and ASCII File Handling		

ASSESSMENT AREA	OBSERVATION ID	TYPE	ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	INDUSTRY STANDARDS AND BEST PRACTICES	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CLOSURE REASON
										A detailed risk assessment has been performed for binary and ASCII file conversions, particularly for 27 critical files identfied in earlier phases. Additional testing is underway to mitigate risks of data corruption during conversion. Proactive error tracking and resolution are reducing potential issues, with measures in place to validate file counts and integrity during each phase of testing. (2024.08.001.R4) - Resource Management and Space Availability Resource assessments were conducted to ensure adequate storage and computational capacity for extraction and conversion tasks. Contingency plans have been established to address potential storage shortages or computing delays. Resource prioritization and adjustments to mainframe untilization have minimized space risks and improved processing efficiency for ongoing testing and validation. IV&V will continue to monitor the above recommendations until there is consistent evidence of resolution. 2024/10/31 - 2024.08.001.R1 (Verification of Data Extraction and Conversion): Open – In Progress: Verification steps are underway with some checkpoints implemented. Critical issues, like date/time discrepancies, have been resolved. Checkpoints to verify file counts and conversion accuracy have been partially implemented, although more robust, automated checks are still needed. 2024.08.001.R2 (Validation of Extracted Data Consistency): Open – Partially Implemented: SQL replication and extraction validations have progressed, with critical issues such as date/time and packed fields now resolved. The October reports indicate that ongoing discrepancies in interface data and batch outputs still require validation to confirm end-to-end consistency across systems. 2024.08.001.R3 (Risk Management for Binary and Ascii File Handling): Open – In Progress: Some risk assessments have been completed, but specific evaluations for the binary and Ascii files are still needed. The packed field and date/time data issues were resolved, reducing some risk associated with binary data. Additional validation and testing for converted files remain crucial to ensure data accuracy in other key areas. 2024.08.001.R4 (Resource Management and Space Availability): Open - Ongoing Evaluation: Resource constraints, particularly related to mainframe and storage capacity, are still an area of focus. The October updates highlighted that batch and interface testing are sometimes delayed due to dependency on shared mainframe resources and long runtimes for large batch jobs. Develop contingency plans to manage high-demand periods and alleviate mainframe dependency for smoother testing cycles. 2024/9/30:There is a delay in the resolution of the production test data delivery method, as noted in the weekly status report. The datetime issue with the replicated SQL data is a key blocker, with the CSEA working to resolve this through Natural programs. This has the potential to delay critical testing phases, as it impedes the ability to test with accurate production data. The date/time issue continues to be a blocker. Nulls and packed binary fields have been resolved. The UI refinement process has progressed, with 84% of the tasks completed. However, finalization and validation are still pending, and the scheduling of the walkthrough of the UI Refinement Plan is underway. The Financial Test Deck (FTD) execution is still only 35% complete, and scenario execution is 17% complete, while not directly on the critical path, delays in the FTD could become a future risk if unresolved issues persist. Batch testing is progressing, with 31% of batch test execution complete. 2024.08.001.R1 (Verification of Data Extraction and Conversion): Open – Progress made but verification of Ascii to BCP scripts and checkpoints not fully implemented. 2024.08.001.R2 (Validation of Extracted Data Consistency): Open – Partial progress, but full end-to-end validation of extracted data is still pending. 2024.08.001.R3 (Risk Management for Binary and Ascii File Handling): Open – No mention of specific risk assessments for binary and Ascii file handling; further analysis needed. 2024.08.001.R4 (Resource Management and Space Availability): Open – Ongoing evaluation of SQL replication strategy; resource concerns still active. 2024/8/30: The key decision to determine and finalize the method of test data delivery is now anticipated for September and the outcome is now based upon the solution for the date/time issue and the packed binary fields. CSEA and Protech have worked diligently to clear the other issue of nulls. 2024/7/31: CSEA is still investigating and testing the SQL to SQL solution, however, the testing results are still not meeting CSEA's expectations. CSEA's decision is due during the first week of August. Because of CSEA's concern that this issue is still unresolved, the potential impact on the schedule, the severity has been raised to high.		

ASSESSMENT AREA	OBSERVATION ID	TYPE	ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	INDUSTRY STANDARDS AND BEST PRACTICES	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CLOSURE REASON
Technology	2024.03.001	Risk	Moderate	Moderate	The timing of other State of Hawaii modernization projects impacts the ability to properly design KEIKI system interfaces and will necessitate the need for interface modifications after its deployment, which can lead to additional costs, delays, and disruption to the system.		CSEA's KEIKI system currently relies on a legacy cyberfusion system running on the State's mainframe for system file and data exchanges with multiple State of Hawaii agencies. The timing of multiple agencies moving off the mainframe at different times will result in the need to modify KEIKI system interfaces after the system has been deployed. Until other State modernization projects are completed, the KEIKI project cannot perform server-based data exchanges and will need to continue to interface via the mainframe. In addition, as the KEIKI project involves integrating a modernized child support system with existing legacy systems, there may be other technological and architectural gaps that arise. These gaps can include differences in technology stacks, such as programming languages, database systems, and operating environments, as well as the absence of modern application programming interfaces (APIs) in the legacy systems. Based on the timing of concurrent State of Hawaii modernization projects and upgrades, the end-to-end testing of the KEIKI system may necessitate the undertaking of supplementary tasks, allocation of additional resources, and coordination efforts.	**CLOSED:** 2024.07.001.R1 - It was recommended that CSEA meet with the new Chief Data Officer. And also to meet with the EFS team to identify any potential impacts to CSEA and align with IT policies. **CLOSED:** 2024.03.001.R1 – CSEA should coordinate regular meetings with impacted State of Hawaii agencies. • Roles, responsibilities, expectations and interface requirements should be clearly defined to ensure information and project status is proactively communicated for the various modernization efforts. 2024.03.001.R2 – The projects should properly plan for interfaces so that they are flexible enough to accommodate future changes and are compatible with other agencies. • Clearly identify all the interfaces that the system will interact with and how they will communicate. • Develop interfaces and data structure that are flexible enough to accommodate changes to the interfaces. • Detailed testing will be required as the various departments upgrade their systems to ensure compatibility.	Open	2025/05/30: In May, interface dependency updates focused on the CSEA proposed changes to the BOH interface file format, which have yet to be formalized and integrated into the schedule. Interface testing activities continued to address performance and data validation concerns, including FTP interface updates and mock file exchanges with external partners. Protech and CSEA should establish a formal change control process for interface updates, ensuring that any new interface file formats or dependencies are incorporated into the project baseline and verified through testing. 2025/04/30: Interface structures have been defined and designed for flexibility, but interface testing and retest confirmation remain incomplete. Dependencies on other agencies' modernization timelines continue to impact readiness, and discrepancies between legacy and replatformed outputs are still under resolution. Observation 2024.03.001 should remain open to track continued validation and confirmation of interface compatibility with both modern and legacy systems. While the interface inventory and flexibility planning are complete, testing delays and agency modernization dependencies are still impacting readiness and traceability. 2025/03/31: In March, Protech began validating the 228 open defects within Jira, including over 100 unconfirmed issues, and took ownership of ensuring traceability between defect resolution and retesting outcomes. While SIT retesting is well underway for most UI and batch-related defects, interface testing continues to experience delays, particularly due to difficulties capturing test files prior to downstream system consumption. These challenges have limited retesting confirmation for interface-related defects. Therefore, this observation remains open, with resolution contingent on improving test traceability and confirming retest documentation across all functional areas, including interfaces. 2025/02/28: Testing has identified compatibility challenges (2024.03.001.R2-2), particularly with external agency system upgrades, requiring enhanced flexibility in interface configurations. While progress has been made in interface planning and validation, ongoing compatibility challenges and pending refinements necessitate continued monitoring and testing before this recommendation can be closed. 2025/01/31: While progress has been made in developing flexible interface structures and planning for future modifications, end-to-end testing remains ongoing, and coordination with other departments is still required, meaning recommendation 2024.03.001.R2 cannot yet be closed until full compatibility and adaptability are validated. 2024/12/24 - (2024.03.001.R2) In December 2024, progress was made in identifying system interfaces and their communication methods, with updates shared during weekly interface workshops. Efforts to ensure flexibility in data structures and interface configurations continued, including adjustments for compatibility with modernization efforts in partner agencies. Testing activities focused on validating data exchange through SQL-to-SQL comparisons and resolving discrepancies in interface files, with additional workshops scheduled to address integration challenges. While significant improvements were achieved, ongoing coordination with other departments is essential to ensure compatibility as their systems undergo upgrades. Detailed end-to-end testing remains a critical next step to confirm readiness for production. 2024/11/27 -(2024.03.001.R2)– Interface Planning and Compatibility All interfaces have been cataloged, classified as inbound, outbound, or both, with their communication protocols clearly defined. This includes identifying dependencies with external systems from partner agencies. Further validation of interface files, particularly those with missing or incomplete data, is being prioritized during ongoing batch testing. Interfaces and related data structures have been developed with flexibility in mind, allowing for future changes without significant redevelopment. The system design supports updates to schema or message formats. Continue refining flexibility by testing adaptability with mock data representing potential future scenarios and configurations. Interface validation testing is underway using production-like files. Initial validations highlighted discrepancies in legacy and replatformed outputs, which are being addressed iteratively. Detailed testing will continue alongside integration testing (SIT) to ensure that interfaces remain compatible with upgrades to external agency systems. 2024/10/31: 2024.07.001.R1 (Alignment of Data Policies with Chief Data Officer) CSEA has conducted the recommended meetings and established alignment on data exchange policies and impact assessments, this recommendation can be closed. Continued coordination could be noted as a follow-up item rather than an open recommendation. 2024.03.001.R2 (Interfaces) Open/In Progress: Good progress has been made in identifying interfaces, and with continued focus on data coordination and flexibility planning, we can further strengthen alignment with this recommendation. Ongoing efforts to secure reliable data and enhance adaptable structures will help ensure compatibility and reduce potential disruptions in the future. 2024/09/30: The new Chief Data Officer is engaged in the focus on data governance policies and interface details with the EFS team, this effort will be ongoing through project Go-Live. 2024/08/30: ETS' new Chief Data Officer has been aligned as a key stakeholder and is in the process of focusing on data governance policies and interface concerns with the EFS team (2024.07.001.R1) IV&V will continue to monitor and update as the focus on policies and interface concerns progress. 2024/07/31: The Chief Data Officer and the EFS team have been contacted and will be meeting with CSEA. 2024/06/30: CSEA and Protech agreed to develop a list of interfaces categorized into three groups: 1) Axway (source: AWS vs. Mainframe), 2) Mainframe (group of interfaces on the mainframe with departments pointing to Axway), and 3) Cyberfusion. They also decided to share this list at the next monthly meeting with State Departments. IV&V will continue to monitor the coordination with other State of Hawaii modernization projects 2024/05/31: Accuity closed one recommendation as CSEA is coordinating regular meetings with impacted State of Hawaii agencies to monitor the status of their modernization projects and mainframe operations. CSEA is planning to develop an inventory of interfaces to share at an upcoming meeting with impacted Departments. 2024/04/30: CSEA organized a meeting with other Departments in April to exchange information regarding the status of their respective system modernization efforts, specifically those related to the shared mainframe and dependencies.		

ASSESSMENT AREA	OBSERVATION ID	TYPE	ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	INDUSTRY STANDARDS AND BEST PRACTICES	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CLOSURE REASON
People	2024.12.001	Risk	Moderate	Moderate	Critical tasks like "AWS Environment Pub1075 Compliance" and "KMS: Acceptance Test Scripts Development Complete" have 0% completion despite their planned start in October 2023. This indicates potential resource or prioritization constraints. Weekly testing reports highlight slow progress due to insufficient resources (data processing) allocated to batch validation and interface testing. For example, only 16% of batch jobs have passed validation as of December 18, 2024. Though data transfer and processing is the primary issue, downstream considerations for knowledge transfer must also be considered and delivered timely to prevent future testing and validation delays and provide a seamless hand off to CSEA to maintain quality.	PMBOK® v7 emphasizes resource optimization as part of the "Resource Management" domain. Aligning resource capacity with demand ensures timely task completion.	Resource allocation challenges are hindering progress on critical tasks like compliance testing and test script development, evidenced by 0% completion rates and testing backlogs (e.g., only 16% of batch jobs validated). Addressing these issues through skilled resource deployment and upskilling initiatives will mitigate delays, accelerate milestone completion, and align with PMBOK® principles for optimized resource management.	(2024.12.001.R1) Enhancement of resource allocation: the vendor team should consider assigning and aligning additional or more experienced resources to the delayed tasks and backlog testing areas such as financials and support UI validation.	**Closed**	2025/04/30: System Installation activities progressed to 66% completion, including KEIKI database and AWS-hosted environment configuration.IRS Pub 1075 (security and privacy requirements for agencies and contractors who receive or process Federal Tax Information) compliance was documented and tracked throughout Q1. Functional SIT and system testing were completed in April, and backlog test cases appear closed via full script execution in SIT Iteration 2, which shows all 119 test scripts were executed and passed. IV&V recommends closing this observation and its resulting recommendation (2024.12.001.R1).. 2025/03/31: As of March 2025, CSEA has confirmed that they have appropriate access to AWS since the Protech transition and overall testing access and coordination have improved, particularly through structured agency validation meetings led by CSEA. The KEIKI project's batch testing was reported as 87% complete, according to the most recent Critical Path schedule update. This reflects cumulative progress across multiple batch testing iterations, including performance tuning efforts and output validation cycles associated with the February 18 dataset. The remaining batch activities, including Iteration 5 and final validation are scheduled to continue into April. This observation shall remain open until the formal schedule alignment has been conducted and approved by CSEA and backlog testing areas have been addressed. 2025/02/28: 38% of batch jobs have passed validation as of February 26, 2025, showing an improvement but still below required levels for progression into the next phase. Resource shortages in financials and UI validation are slowing testing execution, requiring additional skilled personnel to meet backlog demands. DDI has withdrawn from the project as of February 19, 2025, causing the necessity for a testing allocation transition plan to Protech which is still in progress, IV&V will continue to monitor progress. 2025/01/31: Progress continues in addressing the identified issue, with recent efforts focused on refining data validation processes and improving coordination between stakeholders. However, challenges remain in fully resolving discrepancies, and additional verification steps will be required to ensure consistency before final implementation.	**5/31/25**	See Status Update 2025/04/30
People	2024.12.002	Risk	Moderate	Moderate	Notes from the project schedule highlight that approvals (e.g., from CSEA) are critical to task progression. Weekly reports indicate challenges in joint troubleshooting sessions with IBM due to PII and file transfer protocol issues.	ADKAR® emphasizes building awareness and desire for change among stakeholders to align efforts.	Engaging multiple stakeholders in concurrent projects (Risk #31) is critical to mitigating interface testing risks, but this requires synchronized coordination to prevent delays. Interface workshops and stakeholder meetings (Risk #35) play a key role in fostering collaboration and ensuring timely resolution of interface-related issues, reducing the risk of misalignment in testing and implementation activities.	2024.12.002.R1) Facilitate regular communication with stakeholders like CSEA through daily meetings to expedite resolution of open issues. This will improve turnaround time for defect resolution and test execution dependencies while strengthening stakeholder engagement.	Closed	2025/02/28: CSEA is holding half day meetings with the business teams that started in early February to ensure that all the test scripts are fully reviewed and edited in order to expedite the resolution of open issues. This activity also provides a mechanism for change management by fostering collaboration and a mutual understanding of expected functionality, reducing the risk of misalignment in testing. IV&V notes that this recommendation has been acted upon and will close accordingly. 2025/01/31: The status this month reflects ongoing efforts to enhance system integration and streamline data exchange processes, with incremental improvements in validation and testing workflows. Despite progress, key dependencies and unresolved technical issues continue to pose challenges, requiring further collaboration and refinement to achieve full resolution.	2/28/25	IV&V notes that this recommendation has been taken into action and will close accordingly.

ASSESSMENT AREA	OBSERVATION ID	TYPE	ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	INDUSTRY STANDARDS AND BEST PRACTICES	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CLOSURE REASON
Process	2024.08.001	Risk	Moderate	Low	Industry Standards and Best Practices: IEEE 730-2014 standard recommends that status reports include certain key information to ensure effective communication of testing and quality assurance activities.		There is currently a weekly testing report provided to the Project Team. The report conveys the number of testing scenarios in process, however the report does not offer a total number of test cases to be processed for each workstream, nor does it convey full metrics, such as percentage of completion of the total scope within the testing categories and how those align with the project schedule parameters. This can contribute to risk when total transparency is not displayed.	**Closed** 2024.08.001.R1 – The report should outline recommended actions based on the current state of testing, as well as the next steps for future testing activities. Ensure that key stakeholders can easily understand the report's findings and implications. •Metrics and Measurements: The separate weekly test report should provide metrics that reflect the quality of the software, such as pass/fail rates, coverage of tests (e.g., percentage of test cases executed), and other relevant testing metrics, i.e., total scenarios to be tested, percentage of completion and timeline for completion. •Schedule and Milestones: The current status of the testing schedule should be reported, noting any deviations from planned milestones and deadlines. The report should reflect the current state of testing completion tracking as aligned with the project schedule. •Decisions and Change Requests: Any key decisions made during the testing phase, including approved or pending change requests that impact testing or quality assurance activities, should be included.	Closed	2024/10/31: 2024.08.001.R1 (Testing Reports) The weekly testing reports now include pass/fail rates, coverage metrics, defect tracking, and milestone updates, providing a clearer understanding of testing progress and project health. This aligns with the recommendation for improved reporting metrics and stakeholder communication. 2024/09/30: 2024.08.001.R1 (Testing Reports) Significant improvements have been made in the most recent reports and provide a clearer understanding for all stakeholders. IV&V will continue to monitor as these improvements to visibility progress.	2024/10/31	There is now an aligned and improved test reporting metrics with stakeholder communication that affords efficiency and agility in the team making informed decisions.
Process	2024.06.002	Risk	Moderate	Moderate	The project faces a significant risk of incurring extensive costs for delivering the necessary data to test the refactored KEIKI application, potentially leading to delays in the project timeline and increased budget constraints. Despite discussions with Protech and AWS, the issue remains billing-related rather than technical, necessitating ongoing negotiations with ETS to determine financial responsibility. CSEA has developed a second option to use a SQL to SQL transfer in to reduce the amount of federal funding needed for this piece of the contract. In the month of July testing will be conducted to test the viability of this cost saving measure. A decision will be made at the end of July. With the new State CIO starting on August 15, decision-making could be further delayed into the Fall.		Meetings have been held with Protech to discuss the data extraction costs. Protech has engaged AWS for options, but AWS indicates the issue is billing-related, not technical. The cost of delivering data for testing is critical for the KEIKI project, but CSEA finds the current costs prohibitive. Discussions with Protech and AWS indicate the need to resolve the billing issue rather than technical challenges. Without a resolution, this issue could impact the project timeline and budget. CSEA continues to engage ETS to negotiate a cost cap and explore alternative solutions.	2024.07.002.R1 – Continue negotiations with ETS to secure financial support for data delivery. • Engage in discussions to find a feasible cost structure that aligns with project budgets. • Ensure clear communication of cost concerns and impacts to ETS. 2024.07.002.R2 – Explore alternative solutions with Protech and AWS. • Investigate potential cost-saving measures or alternative technical approaches. • Seek AWS assistance to better understand and manage billing concerns. 2024.07.002.R3 – Improve performance of data extraction programs to minimize timing and associated costs. • Work with Protech to identify and implement optimizations in the data extraction process.	Closed	2024/07/31: The SQL to SQL method for data extraction and transfer has been confirmed. CSEA has addressed the issue of cost.	2024/07/31	The SQL to SQL method for data extraction and transfer will be used. CSEA has confirmed that the costs have been addressed.
Process	2024.03.002	Issue	Moderate	Moderate	Inadequate schedule and resource management practices may lead to project delays, missed project activities, unrealistic schedule forecasts, or unidentified causes for delays.		The overall project end date and Go-Live date is projecting a 17-day variance due to the delay in the assessment validation which was completed in February. It is crucial for the Protech and CSEA project managers to both take active roles in tracking and monitoring project activities, especially delayed and upcoming tasks, to collaborate on ways to get the project back on track. Although the project metrics are showing a 17-day variance, some project tasks are delayed 1 to 2 months from the approved baseline including building the KEIKI database, developing system test scripts, UI design, UI development, code conversion, system test execution, etc. CSEA should have a clear understanding of the impact of delays on the overall timeline and validate the 17-day schedule variance.	2024.03.002.R1 – Based on the complexity of the KEIKI project, review and refine the schedule regularly with detailed tasks, realistic durations, and adequate resources. • The project managers should meet weekly to discuss the project schedule, continue to identify detailed-level tasks based on high-level timelines, and identify schedule and resource related risks. • The CSEA project manager should conduct independent reviews of the schedule and project metrics, proactively communicate upcoming State tasks to CSEA stakeholders, create State specific detailed schedules, and communicate any concerns with the quality of vendor execution. • The Protech project manager should be executing tasks based on the approved schedule, identify schedule variances, ensure all project resources are on track, and report on quality and project metrics to ensure the project is meeting its objectives and goals.	Closed	2024/06/30: Issue closed. The schedule was updated and the 17-day variance was successfully mitigated, ensuring the project remained on track. The project schedule continues to be discussed weekly. IV&V encourages the CSEA PM to conduct in depended reviews of the schedule and project metrics. IV&V will continue to monitor progress made on schedule and resource management practices. 2024/05/31: Protech delivered a draft of the replanned project schedule and analysis for CSEA's feedback and approval. The revised schedule maintains the original Go-Live date. 2024/04/30: Project managers started meeting regularly to review the project schedule. The project managers will do a deeper analysis of the upcoming technical tasks, and then recalibrate the project schedule in May.	2024/06/30	The schedule was updated and the 17-day variance was successfully mitigated, ensuring the project remained on track. The project schedule continues to be discussed weekly.
Process	2024.02.001	Preliminary	N/A	N/A	Additional information is needed regarding Protech's program development and testing approach.		In February, Protech delivered the System Requirements Document and Test Plan which are still under review. CSEA already provided a number of comments for both deliverables requesting additional clarification or additional documentation. Both deliverables do not provide sufficient understanding of Protech and One Advanced's approach for the program development and testing phase. There needs to be a clearer mutual understanding of how Protech's development and testing approach will ensure that the new system and user interface will maintain the same functionality, data, and system interfaces as the old system. The System Requirements Definition deliverable is high-level documentation of items such as source code, data component, and interface tables but does not actually capture the required functionality using industry standard format for requirements. Documenting requirements is especially important for the development of the new front-end user interface (UI). The System Requirements Definition deliverable included a User Interface section but does not include sufficient information regarding UI requirements. Protech has another UI Refinement plan deliverable due in May 2024, however, it is unclear if UI requirements will be included in that deliverable. If system requirements will not be used to manage development of UI as well as replatforming and refactoring of code work, then it is important to understand how Protech and One Advanced are planning to manage and report on development progress. Additionally, without documented system requirements, testing will be even more critical for identifying gaps in or issues with functionality during the development process. CSEA also has a number of comments and questions on the Protech Test Plan deliverable. In addition to the System Test Plan, Protech is developing an Acceptance Test Plan (UAT Plan) deliverable due in April 2024 which may help to provide additional clarification of the comprehensive testing	N/A for preliminary concerns.	Closed	2024/06/30: Preliminary closed. CSEA acknowledged the risk associated with not having defined UI system requirements. Instead, the test scripts are used as the requirements. The teams collaborate closely and hold regular test meetings to ensure alignment and thorough testing. 2024/05/31: Protech's testing approach presentation was pushed back to June. The presentation is critical as test scripts are finalized and system testing begins in June. 2024/04/30: Protech will present their testing approach in May. The presentation is important as test scripts are finalized, and system testing is approaching. 2024/03/31: Protech is planning on a presentation in April or May to explain how their testing approach will ensure that the new system and user interface will maintain the same functionality as the old system. Without documented requirements, it is still unclear how program development progress, testing, and acceptance will be managed and monitored.	2024/06/30	CSEA acknowledged the risk of not having defined UI system requirements and addressed it by using test scripts as the requirements. Additionally, the teams collaborated closely and held regular test meetings to ensure alignment and thorough testing. This approach mitigates the risk by ensuring that the testing process is comprehensive and that any issues are promptly identified and resolved through ongoing communication and collaboration.
Process	2024.01.001	Risk	Moderate	Low	Ineffective project status meetings and reports can lead to delayed decision-making, lack of accountability, and reduced morale.		Weekly status reports are provided with a dashboard of the project status, high level schedule, late tasks, tasks planned this week, open tasks, 30-day look ahead, deliverable status, risks log, key decisions, change requests, and other project information. Despite numerous data points, the weekly project status reports may not give a complete picture of the project's progress. To get a better understanding of any delays, risks, issues, or action items, additional research and analysis of past reports, review of the Microsoft Project schedule, and inquiry with project members is necessary. For example, late project deliverables may be listed as simply "in progress"; however, one is unable to determine how many additional days the deliverable was pushed back without checking the previous weekly status report and the reason for additional time is not discussed or disclosed.	CLOSED: 2024.01.001.R1 – CSEA should play an active role in refining the project status report and providing topics for weekly project meetings. • Contribute to the improvement of project meetings and reports that actively engage team members and highlight key information relevant to the audience to promote problem-solving and constructive dialogue. • CSEA could solicit feedback prior to meetings so the team can be prepared to ask questions or discuss relevant project topics. CLOSED: 2024.01.001.R2 – Set clear objectives for meetings and provide concise and relevant information that adds value. • Meetings and reports without clear objectives can quickly turn into a one-way status update without any meaningful discussion or clear understanding of project status, risks, and issues. • Provide reports that are concise, relevant and clear to the audience. Only include charts and tables that provide value and present data in a format that helps provide meaningful information to move the team forward. CLOSED: 2024.01.001.R3 - Additional quality metrics and project success metrics should be added to project status reports.	Closed	2024/06/30: Risk closed. As system testing started in June, the team started adding a Weekly Test Report. The report outlines the testing scope, the defects that were retested and validated, and gives a summary of the progress of all test cases. IV&V will continue to assess the effectiveness of project status reports and meetings. 2024/05/31: Accuity decreased the severity rating from Level 2 (Moderate) to Level 3 (Low). The CSEA PM presented some of the project's key success metrics at the May Steering Committee Meeting. High-level pre-delivery testing metrics were provided in May. 2024/04/30: Accuity closed two recommendations. Project status reports continue to be refined and now clearly report tasks that have been rescheduled from the previous week's reporting period. CSEA did not start reporting on success metrics in April as planned. 2024/03/31: Although improvements were made to project status reports, they could be further improved by outlining delayed tasks and upcoming activities to ensure stakeholders are adequately prepared. CSEA continued to refine success metrics to prepare for reporting which will begin next month. 2024/02/29: A new recommendation was added and two recommendations were closed. Two recommendations were closed as CSEA and Protech worked together to improve project status reports to be more clear, meaningful, and relevant to the audience. The streamlined status reports are facilitating greater understanding and allowing more time for meaningful discussion amongst project stakeholders.	2024/06/30	Test reports were added to the weekly status meetings. The report contains testing and defect metrics.
Technology	2023.12.001	Positive	Moderate	N/A	The Automated Application Assessment process was well planned and executed.		Protech's partner, Advanced, worked closely with CSEA's technical SMEs and outlined a clear, well-defined process to collect and assess the KEIKI mainframe application in preparation for the migration and code conversion. Advanced's weekly status updates and follow-ups helped all stakeholders understand their roles, responsibilities, outstanding tasks, and status of activities. Their final assessment report was comprehensive, data-driven and insightful, and prepared the project team well as they begin the next phase of legacy code and data system migration.	N/A	Closed	N/A	2024/01/31	Closed as this is a positive observation.

ASSESSMENT AREA	OBSERVATION ID	TYPE	ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	INDUSTRY STANDARDS AND BEST PRACTICES	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CLOSURE REASON
Technology	2023.11.001	Risk	Moderate	Moderate	Complex data system migration requirements, combined with incomplete documentation and the absence of a formalized process for non-code tasks, may lead to project delays, unmet contract requirements, and quality issues.		Data system migration and mapping can be complex and cause project delays if not properly planned and managed. The KEIKI system's incomplete documentation and multitude of jobs, workflows, interfaces, and interface files pose a risk of overlooking certain elements, making it challenging to track and validate migration requirements. The project lacks a formalized process for non-code tasks in the data system requirements collection, migration, and validation activities. The project has a formalized process for application code migration but lacks a clear process for gathering non-code and ancillary elements including hardware, software, interfaces, and batch files. The absence of a separate, formalized process and reliance on manual processes using Excel worksheets may result in data loss, poor quality, and technical issues affecting system performance and user experience. The SI's waterfall approach requires upfront gathering and definition of all requirements in a linear sequence. Late identification of data system migration requirements may result in insufficient time or budget to execute the migration properly.	2023.11.001.R1 – Develop separate formalized data system migration plans and processes for non-code elements. • A separate implementation plan should be clearly outlined, determining the timeline, tasks, tools, and resources needed to perform these activities. • Develop a formalized data migration acceptance process for the remaining cycles with defined acceptance criteria. • Determine what validation is needed by other agencies and stakeholders that rely on CSEA's Keiki system and outputs. 2023.11.001.R2 – Investigate automated tools for tracking and validating data system requirements. • Automated data validation should be investigated to help identify missing elements, increase data accuracy, and alleviate resource constraints. 2023.11.001.R3 – Ensure data system requirements are comprehensive and complete upfront. • Given the waterfall approach, schedule and resource considerations should be given to increasing system requirement gathering upfront. • The project managers should ensure greater coordination of project information needed for requirements management and tracking. • Consider an iterative approach for non-code migration activities, which allows for several rounds of review and validation. 2023.11.001.R4 – Appoint dedicated Data System Migration Leads from both Protech and CSEA. • Consider identifying dedicated leads to assist with analyzing the existing data environment, identifying data migration requirements, supporting the migration process, troubleshooting issues that arise, and coordinating tasks with Protech, Advanced, Datahouse, and CSEA.	Closed	2024/01/31: Risk closed as the inventory of non-code and ancillary elements including hardware, software, interfaces, and batch files was completed and will be validated as part of the technical architecture and system requirements documentation. 12/31/23: CSEA appointed two dedicated Data System Migration Leads. It is unclear if Protech also appointed a dedicated lead. A clear plan is still missing, and CSEA documented a formal issue related to the lack of information coordination and redundant requests related to the data system migration requirements. 2023/12/31: CSEA appointed two dedicated Data System Migration Leads. It is unclear if Protech also appointed a dedicated lead. A clear plan is still missing, and CSEA documented a formal issue related to the lack of information coordination and redundant requests related to the data system migration requirements.	2024/01/31	Risk closed as the inventory of non-code and ancillary elements was completed.
People	2023.10.001	Positive	N/A	N/A	The project team members are engaged and the environment between Protech and CSEA is collaborative.	PMI Project Management Body of Knowledge (PMBOK) Chapter 2.2 and PMI The Standard for Project Management (SPM) Chapter 3.2 state the importance and benefits of creating a collaborative project team environment.	The CSEA SMEs appear to be engaged in ongoing Assessment sessions and accountable for timely completing required tasks, providing information, and responding to questions. The project team members regularly seek feedback, input, and clarification in an open and respectful manner. The experience and knowledge of Protech team members combined with the dedication and high level of engagement from CSEA SMEs support the positive project team environment.	N/A	Closed	N/A	2023/11/30	Closed as this is a positive observation.

Appendix D: Comment Log on Draft Report

Comment Log on Draft Report

KROM Project: IV&V Document Comment Log				
ID #	**Page #**	**Comment**	**Commenter's Organization**	**Accuity Resolution**
1	4	Key risks: The term ”departure” should be replaced with “temporary leave of absence,” as the CSEA PM has not departed the project.	CSEA	CSEA has confirmed the CSEA Project Manager's status as a temporary leave of absence, and the report has been updated accordingly.
2	6	The target go-live date is incorrect, and is the proposed adjusted date which is pending confirmation by Protech.	CSEA	The report was restated regarding the target go-live date status.
3	6	Project Schedule: The term ”departure” should be replaced with “temporary leave of absence,” as the CSEA PM has not departed the project.	CSEA	CSEA has confirmed the CSEA Project Manager's status as a temporary leave of absence, and the report has been updated accordingly.
4	8	Under Approach, the statement that CSEA is limiting Protech's effectiveness in its effort to close defects and tuning is unwarranted. Protech continues to work on these areas regardless of CSEA approval.	CSEA	The subject in the statement refers to the lack of a formalized schedule that should be proposed by Protech and approved by CSEA. IV&V has reworded the statement for clarity.
5	11	Observation: The CSEA PM has not exited the project but is on a temporary leave of absence.	CSEA	CSEA has confirmed the CSEA Project Manager's status as a temporary leave of absence, and the report has been updated accordingly.
6	18	2024.12.003 is being followed by all parties so this observation can be closed.	CSEA	The May weekly status reports confirm that non-critical tasks continued to be documented without formal updates or defined timelines for resolution. These examples support the original assessment in Observation 2024.12.003 that these tasks remain open and unaligned with critical path management. As of the May 28 reporting period, this status remains unchanged. The key action is to establish and report resolution timelines and closure updates for non-critical downstream gating tasks.

ACCUITY

FIRST HAWAIIAN CENTER

Accuity LLP
999 Bishop Street
Suite 2300
Honolulu, Hawaii 96813

P 808.531.3400
F 808.531.3433
www.accuityllp.com

An independent member of bakertilly INTERNATIONAL