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STATE OF HAWAIʻI | *KA MOKUʻĀINA O HAWAIʻI*
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES | *KA ʻOIHANA LOIHELU A LAWELAWE LAULĀ*

OFFICE OF ENTERPRISE TECHNOLOGY SERVICES | *KEʻENA HOʻOLANA ʻENEHANA*

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

March 13, 2025

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

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

Aloha Senate President Kouchi, Speaker Nakamura, and Members of the Legislature:

Pursuant to HRS section 27-43.6, which requires the Chief Information Officer to submit applicable independent verification and validation (IV&V) reports to the Legislature within 10 days of receiving the report, please find attached the report the Office of Enterprise Technology Services received for the State of Hawaiʻi, Department of 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 Hawaiʻi

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

January 31, 2025 | Version 0.0

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. 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 January 31, 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

"Unity is strength; collaboration is power."

- Mattie Stepanek

PROJECT ASSESSMENT

January 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

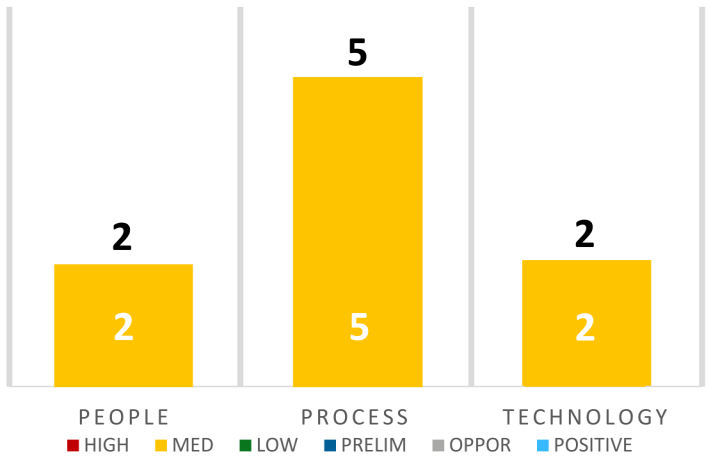
PROCESS Y

TECHNOLOGY Y

CRITICALITY RATINGS

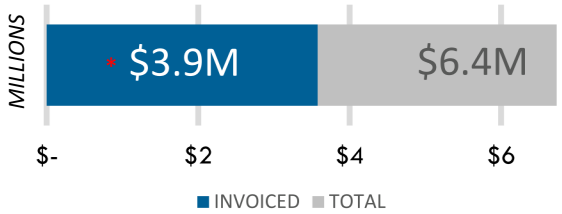
R	Y	G	NA
HIGH	MEDIUM	LOW	N/A

IV&V OBSERVATIONS



0	9	0	12
NEW OBSERVATIONS THIS MONTH	OPEN OBSERVATIONS TOTAL	CLOSED OBSERVATIONS THIS MONTH	OPEN RECOMMENDATIONS TOTAL

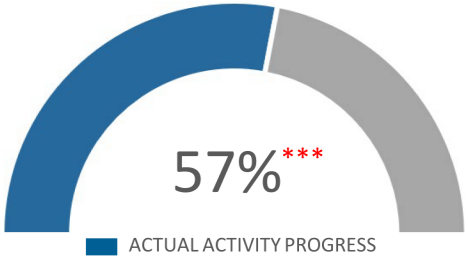
PROJECT BUDGET *



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

PROJECT PROGRESS

(Percent of the weighted duration of total tasks)

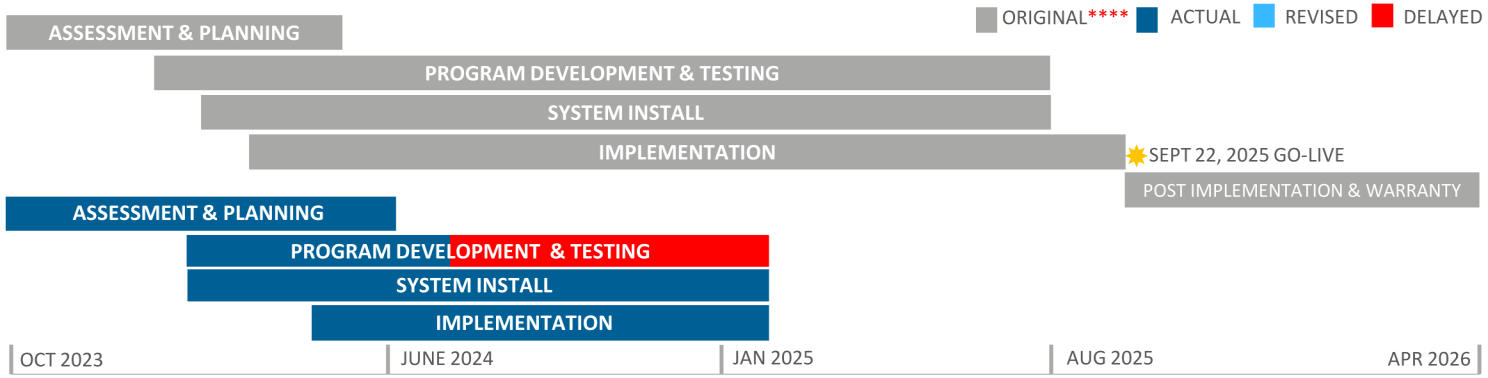


*** IV&V is unable to validate the progress percentage of the schedule as it does not include all project activities.

KEY PROGRESS & RISKS

- **Testing Progress:** Included advancements in system integration testing, defect resolution efforts addressing key functionality gaps, and increased validation coverage for financials and batch processes, though challenges remain with data inconsistencies, prolonged batch job execution times, and dependencies on unresolved interface issues.
- **Data Validation:** Incremental improvements through SQL-to-SQL comparisons and refined extraction processes, but persistent discrepancies in interface data, batch outputs, and file formatting continue to pose challenges, requiring further verification and correction efforts.
- **Schedule Slippage:** The schedule slippage is currently being driven by delays in batch job execution, ongoing data validation issues, and dependencies on external modernization projects, with critical tasks remaining unfulfilled and the project team actively working on mitigation strategies to regain alignment with key milestones. The CPLI index remains at .91, target is 1.00.

PROJECT SCHEDULE – Baseline to Current Schedule Progress



**** The project schedule was rebaselined following the approval of the DOI Project Management Plan on January 8, 2024

JANUARY 2025 · KROM PROJECT

NOV	DEC	JAN	IV&V ASSESSMENT AREA	IV&V SUMMARY
Y	Y	Y	Overall	**Project Schedule:** The KROM Mainframe Replatforming Project is 57% complete, with system testing at 63% completion, though batch job execution and data validation remain delayed due to data inconsistencies. The contractual completion date has shifted by 44 days, from April 6, 2026, to June 5, 2026, and the baseline go-live date of September 22, 2025, is now projected for November 7, 2025. There is no change to the baseline until formally accepted by CSEA. A strategic decision was made by CSEA to implement the system over a weekend that includes a holiday on the following Tuesday for the purpose of minimizing operational disruptions. The project team is actively working on mitigation strategies, including configuration optimizations, SQL replication improvements, and refined test execution processes to regain schedule alignment with the baseline September go-live date. **Project Costs:** Contract invoices remain within the total contracted costs. **Quality:** The overall project quality in January showed progress in system and batch testing, but persistent defects and data validation issues continue to impact reliability. 552 defects have been logged since June 2024, with 405 defects resolved, but critical issues in batch job execution, financial processing, and UI functionality remain open. While testing coverage is improving, challenges with long batch job runtimes, interface data inconsistencies, and defect resolution delays highlight ongoing quality risks that require focused mitigation efforts. **Project Success:** The project made progress in system testing, defect resolution, and data validation, with 405 defects fixed out of 552 logged since June 2024. Despite schedule delays and ongoing quality challenges, key milestones such as code deployment KEIKI code version 1.0.0.19, SQL replication improvements, and UI testing advancements indicate forward momentum. Batch job performance issues, interface data inconsistencies, and testing inefficiencies remain critical hurdles that must be addressed to ensure long-term project success. The overall project status remains **yellow** due to schedule slippage from batch job execution delays, persistent defect resolution challenges, and inefficiencies in data extraction and validation, all of which pose risks to project quality and timeline despite ongoing mitigation efforts.

NOV	DEC	JAN	IV&V ASSESSMENT AREA	IV&V SUMMARY
G	G	G	People Team, Stakeholders, & Culture	**People:** The KEIKI Replatforming Project involves a team known as DDI (Development and Implementation Team), consists of Protech, One Advanced and DataHouse who are working with CSEA (State of Hawaii Child Support Enforcement Agency) , and IBM all together to modernize the legacy mainframe system. The project team is facing continued testing delays. **Resource Constraints:** The resource constraints affecting testing in the KROM Mainframe Replatforming Project include staffing shortages, data access issues, and long batch job execution times. Post-UAT test script development for Paternity Establishment, Order Establishment, Case Management, Enforcement, Financials, and Interfaces is behind schedule, due to late submission of the testing scripts and indicating a need to bolster testing resources to complete testing as planned. Testing delays caused by long batch job execution times are compounding resource constraints, requiring configuration changes to improve performance and minimize resource bottlenecks. Defect resolution is impacted due to data-sharing restrictions with IBM, requiring testers to manually create mock-up test files, which is a time-consuming and resource-intensive process. The root cause was DDI's decision not to vet their personnel under the state's requirement when working with sensitive data. CSEA and DDI are actively assessing workload distribution to ensure adequate staffing for batch job validation, financial test deck execution, and system integration testing. **Stakeholders:** Stakeholders include CSEA leadership, project sponsors, and end-users, who are closely monitoring progress, particularly around testing effectiveness, schedule risks, and system readiness for go-live. **Transparency Needs:** In the later part of the month improvements to enhanced reporting on resource allocation and defect resolution were presented to support timely decision making and project oversight. These enhancements aimed to increase visibility into staffing constraints, defect resolution trends, and testing progress, ensuring that stakeholders have real-time data to assess project health. In addition, to better support CSEA and the project team, Protech should send the updated Project Schedule at least 2 days prior to the Weekly Update Meeting. This will give stakeholders visibility into project progress and time to prepare for the meeting. **Culture:** The project culture emphasizes team collaboration, issue resolution, and adaptation to challenges, but persistent defect resolution delays, PII-related restrictions, and data-sharing limitations with IBM have created obstacles that require enhanced coordination and transparency across teams. The project status for the People section remains **green** due to the effective collaboration among the project team, stakeholders, and a culture that emphasizes adaptability and proactive issue resolution. As the schedule progresses, IV&V will continue to monitor communication and schedule transparency.

NOV	DEC	JAN	IV&V ASSESSMENT AREA	IV&V SUMMARY
			Process Approach & Execution	The Project continues to advance testing, defect resolution, and system integration while addressing process inefficiencies, resource constraints, and technical transitions. The project team is adequately identifying and documenting process risks in a Risk Register (RAID log). The following are open items that IV&V deems as posing significant impact to the project schedule and warrant attention. Timelines for execution activities need to be defined so progress and results can be tracked. Process Inefficiencies in Data Extraction (Risk #47, Weekly Status Reports) • Risk: The data extraction process is inefficient, affecting testing timelines and causing delays in defect resolution. • Approach: CSEA and DDI are optimizing extraction timing and refining baseline data. • Execution: The team is evaluating alternative extraction methods to accelerate testing cycles. System Interface Integration Challenges (Risk #35, Risk Register) • Risk: KEIKI has 56 system interfaces, requiring extensive validation and testing, which poses risks to scope, schedule, and quality. • Approach: Protech and CSEA are reviewing interface validation requirements to improve integration. • Execution: The team is engaging with external stakeholders to align on interface dependencies and test planning. Transition to New KEIKI Coding Language (Risk #32, Risk Register) • Risk: The migration from Natural to C# introduces knowledge gaps that could impact system maintenance and development. • Approach: CSEA is conducting structured knowledge transfer sessions and training developers. • Execution: Instructor-led training sessions have not yet begun and are targeted for May-June. to ensure team proficiency and reduce technical debt. Migration to a New KEIKI Development Environment (Risk #33, Weekly Test Reports) • Risk: CSEA staff requires proper system documentation and training for the new development environment . • Approach: DDI is prioritizing knowledge transfer and documentation efforts. • Execution: Hands-on training sessions and detailed documentation are being developed to support a smooth transition. The project process status remains **yellow** trending down, due to risk items with undefined timelines for mitigation, which can lead to further schedule delays. The process risks are ongoing inefficiencies in data extraction (Risk #47), system interface integration challenges (Risk #35), and technical transition risks (Risk #32, #33).

NOV	DEC	JAN	IV&V ASSESSMENT AREA	IV&V SUMMARY
			**Technology** System, Data, & Security	The Project continues to advance in system optimization, data management, and security compliance, but persistent challenges in batch job performance, data extraction inefficiencies, and restricted testing environments are impacting progress. The project team is adequately identifying and documenting technology risks in the Risk Register (RAID Log). Although mitigation activities are being actively implemented, there has been limited success and additional solutions need to be identified (e.g., parallel processing, query optimization). To ensure timely risk mitigation and maintain project momentum, IV&V suggests establishing clear timelines and planned solution details for implementing system performance improvements and including these details in the status reports for transparency. The following are key open risk items that reflect ongoing system, data and security challenges that the team is facing and these warrant further attention. System Performance and Stability (Weekly Status Reports, Risk #35) • Risk: Batch job execution times remain high, causing delays in system testing and defect resolution. • Approach: The team is implementing configuration optimizations and performance tuning to improve batch processing efficiency. • Execution: Protech and CSEA are actively monitoring and adjusting system configurations to stabilize performance. Data Management and Extraction (Risk #47, Weekly Test Reports) • Risk: Inefficient data extraction processes continue to slow validation and testing, increasing project risk. • Approach: CSEA and DDI are refining extraction methods and baseline datasets to reduce test cycle time. • Execution: Alternative data extraction and transformation techniques are under review to enhance efficiency. Security and Compliance (Weekly Status Report) • Risk: Data-sharing restrictions with IBM due to PII concerns are limiting test execution and defect resolution. • Approach: The project team is developing a compliance-friendly testing framework to allow mock data for defect reproduction. • Execution: Security reviews and additional compliance protocols are being implemented to ensure adherence to data protection policies. The Technology status remains **yellow**, trending up. While progress in system optimization, data extraction improvements, and security compliance is beginning to mitigate key risks, challenges in batch job performance, data validation, and restricted testing environments still require continued focus and resolution.

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.

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

TERMS

POSITIVE
Celebrates high performance or project successes.

PRELIMINARY CONCERN
Potential risk requiring further analysis.

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

Findings Log

ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	INDUSTRY STANDARDS AND BEST PRACTICES	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CL
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.	Open	1/31/25: 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.		
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.	Open	1/31/25: 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.		
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	1/31/25: 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.		
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	1/31/25 Ongoing challenges related to resource constraints and finalizing validation efforts require continued monitoring to ensure full implementation and long-term stability.		
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	1/31/25: 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.		

ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	INDUSTRY STANDARDS AND BEST PRACTICES	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CL
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	1/31/25: 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.		
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.	PMBOK® v7 emphasizes resource optimization as part of the "Resource Management" domain. Aligning resource capacity with demand ensures timely task completion. ISO/IEC 16085:2021 recommends proactive risk management to identify areas where concurrent task execution mitigates schedule risks.	**Previous:** The Protech Project Manager provided a draft project schedule; however, it was incomplete and listed due dates that were already missed for several deliverables. The implementation of strong schedule and resource management practices early will help the project start off right and stay on track. Protech's Project Manager is experienced with similar implementations and is working collaboratively with the project team to address feedback. Possible root causes or contributing factors are turnover of project managers, an aggressive project timeline, and need for additional project management support. Another possible root cause is Protech's need to revisit the project RFP and submitted proposal to reduce the misalignment of expectations, creating longer deliverable review cycles. Feedback on preliminary deliverables does not appear to be adequately addressed. For example, the need for a resource loaded schedule was communicated verbally and in meetings repeatedly. **Current:** Unresolved dependencies, such as task 593 and data file issues, are delaying progress on critical testing milestones like "KMS: Acceptance Test Scripts Development Complete." Addressing these delays through resource reallocation, collaboration with State partners, and adherence to IEEE 12207-2017 standards will ensure smooth integration of KEIKI system interfaces and uninterrupted downstream task progression. Delays caused by linear task sequencing, such as in compliance and database migration, highlight the need for implementing parallel workstreams to address backlogs like the 0% validation coverage in financials. Following ISO/IEC 16085:2021, initiating concurrent workstreams across subsystems will improve testing throughput and reduce dependencies, expediting overall project progress.	CLOSED: 2023.10.002.R1 – Improve the project schedule to address schedule comments. • 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, dependancies, 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. CLOSED: 2023.10.002.R4 – Have the CSEA and Protech Project Managers adopt a more joint, collaborative approach. • Have the PMs clearly define their roles and responsibilities in project management responsibilities. • Actively plan, share and execute project responsibilities.	Reopened	1/31/25: Critical dependencies such as Task 593 remain unfulfilled, and unresolved data file issues, incorrect formats, and linear task sequencing continue to impact testing progress and validation coverage, requiring immediate corrective action. 12/24/24: Observation 2023.10.002.R2 was reopened due to delays and the necessity to address them in a documented fashion. A root cause analysis is suggested to address resource constraints, dependancies and undefined tasks. Due to schedule slippage. 05/31/24: The risk was closed as project management activities are being executed more timely and effectively. 04/30/24: 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. 03/31/24: 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. 02/29/24: 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. 01/31/24: 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. 12/31/23: 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. 11/30/23: 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.	Original Close: 5/31/2024 Reopened: 12/24/24	Ori pro col pro

ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	INDUSTRY STANDARDS AND BEST PRACTICES	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CL
Moderate	Moderate		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	1/31/25: 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). 12/24/24 - (2024.08.001.R1) - Verification of Data Extraction and Conversion Processes: Progressing with partial implementation of checkpoints for ASCII to BCP script conversions. Additional automated checks needed for full verification. (2024.08.001.R2) - Validation of Extracted Data Consistency: SQL-to-SQL comparisons advanced, with validation checkpoints introduced after major extraction tasks. Interface data discrepancies still require further validation. (2024.08.001.R3) - Risk Management for Binary and ASCII File Handling: Risk assessments identified critical areas needing more testing to mitigate corruption risks. Proactive error tracking is reducing potential issues. (2024.08.001.R4) - Resource Management and Space Availability: Resource adjustments have improved testing efficiency, and contingency plans for storage shortages have been established. Continued prioritization needed to prevent delays. IV&V will continue monitoring until full resolution is achieved. 11/27/24 - (2024.08.001.R1) - Verification of Data Extraction and Conversion Processes: Verification strengthened, with file counts and conversion accuracy validated during batch validation and regression testing phases. (2024.08.001.R2) - Validation of Extracted Data Consistency: End-to-end validation introduced, with SQL-to-SQL comparisons between Protech and CSEA reducing inconsistencies in batch validation. (2024.08.001.R3) - Risk Management for Binary and ASCII File Handling: A detailed risk assessment has been completed, with proactive error tracking reducing conversion issues. (2024.08.001.R4) - Resource Management and Space Availability: Resource assessments conducted, ensuring adequate storage and processing capacity. Contingency plans implemented to mitigate storage risks. IV&V will continue to monitor these recommendations. 10/31/24 -(2024.08.001.R1) - Verification of Data Extraction and Conversion: In progress, with checkpoints implemented for file counts and conversion accuracy. (2024.08.001.R2) - Validation of Extracted Data Consistency: Partially implemented, with critical extraction issues resolved but ongoing discrepancies in interface and batch outputs. (2024.08.001.R3) - Risk Management for Binary and ASCII File Handling: Risk assessments initiated but require further evaluations. (2024.08.001.R4) - Resource Management and Space Availability: Storage constraints and batch testing delays remain a focus. 09/30/24: The production test data delivery method remains delayed, with the datetime issue still a blocker. Financial Test Deck (FTD) execution at 35%, scenario execution at 17%—while		

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							not directly on the critical path, delays could present future risks. Batch testing is progressing, with 31% of execution complete. 08/30/24: Key decision on test data delivery method delayed to September, dependent on resolving the date/time and packed binary field issues. CSEA and Protech resolved issues related to nulls. 07/31/24: CSEA is still testing the SQL-to-SQL solution, but results do not meet expectations. Decision expected in early August. Severity increased to high due to unresolved concerns and potential schedule impact.		

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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	1/31/25: 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. 12/24/24- (2024.03.001.R2) - Interface Planning and Compatibility: 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. 11/27/24- (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. 10/31/24- (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. 09/30/24: 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. 08/30/24: ETS' new Chief Data Officer has been aligned as a key stakeholder and is focusing on data governance policies and interface concerns with the EFS team. (2024.07.001.R1) - IV&V will continue monitoring updates as the focus on policies and interface concerns progresses. 07/31/24:The Chief Data Officer and the EFS team have been contacted and will be meeting with CSEA. 06/30/24: CSEA and Protech agreed to develop a list of interfaces categorized into three groups: Axway (AWS vs. Mainframe source) Mainframe (group of interfaces on the mainframe with departments pointing to Axway) Other		

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								Cybertusion This list will be shared at the next monthly meeting with State Departments. IV&V will continue to monitor the coordination with other State of Hawaii modernization projects. 05/31/24: 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. 04/30/24: 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.		
	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	9/30/2024: 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 visiblilty progress. 10/31/2024: 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.	10/31/24	Th rep co agi de
	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	7/31/24: The SQL to SQL method for data extraction and transfer has been confirmed. CSEA has addressed the issue of cost.	7/31/2024	Th ext us ha
	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	04/30/24: 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. 05/31/24: 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. 06/30/24: 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 independed reviews of the schedule and project metrics. IV&V will continue to monitor progress made on schedule and resource management practices.	6/30/2024	Th da en Th dis

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nar	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 strategy and delineation of testing responsibilities between Protech and CSEA. CSEA plans to work with Protech to clarify and refine both deliverables. IV&V will continue to monitor this preliminary concern as additional information is discovered.	N/A for preliminary concerns.	Closed	03/31/24: 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. 04/30/24: Protech will present their testing approach in May. The presentation is important as test scripts are finalized, and system testing is approaching. 05/31/24: 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. 06/30/24: 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. IV&V will continue to monitor the clarification of the program development and testing approach.	6/30/2024	CSI ha an the tea reg ali ap tha co pro thr col
	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	02/29/24: 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. 03/31/24: 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. 04/30/24: 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. 05/31/24: 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. 06/30/24: 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	6/30/2024	Tes sta tes

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e	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	01/31/24	Clo
	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	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. 01/31/24: 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.	01/31/24	Ris an
e	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	11/30/23	Clo

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	5	Under project schedule, the baseline go-live date now being projected on November 7, 2025. This adjustment is not necessarily due to testing delays but rather a strategic decision to implement the system over a weekend that includes a holiday on the following Tuesday (Veterans Day) to minimize operational disruptions.	CSEA	IV&V monitors any changes that will directly or indirectly impact scope, schedule, and cost. IV&V has added this additional information to reflect the comments provided.
2	6	Under people, why are DDI, IBM, Protech, and DataHouse are listed as separate members?	CSEA	The subcontractors of the primary contractor, along with the relationships within the core team, project team, or any other stakeholders, have the potential to influence and impact a project. Therefore, IV&V closely monitors all influences whether individually or collectively for any potential impact on the project. IV&V has edited the statement for clarity.
3	6	Under resource constraints, the post-UAT test script development delay is not due to a lack of CSEA resources, but the late submission of test scripts for review.	CSEA	IV&V has made notation of the late testing scripts, indicating a need to bolster testing resources to complete testing as planned.
4	6	Under transparency needs, regarding defect resolution being impacted due to data-sharing restrictions with IBM. The DDI vendor chose not to have its employees vetted, which would have alleviated these restrictions and the manual creation of mock-up test files.	CSEA	IV&V agrees and has corrected the report to reflect DDI as the party not willing to vet personnel under state requirements.
5	6	Regarding Protech sending the updated Project Schedule at least two days prior to the Weekly Update Meeting, since that meeting focuses on the progress of that current week, it is unclear how receiving an updated project schedule in advance would add value to those meetings.	CSEA	On page 15 of the KEIKI Replatform Off Mainframe Project Management Plan, it states, "Protech is responsible for submitting an updated project schedule at least two days prior to the Weekly Update Meeting to ensure stakeholders have sufficient time for review and discussion." The project is at a critical point, deep into

ID #	Page #	Comment	Commenter's Organization	Accuity Resolution
				implementation and testing, with a go-live date being extended and testing experiencing delays. According to best practices from the Project Management Institute (PMI) and the ISO 21600 standard, it is essential to ensure that all meeting participants have sufficient time to review relevant documents before attending a meeting. This includes providing a specific agenda with any key issues and decisions to be made in advance of the meeting. We understand that producing and generating this in advance can be challenging. However, providing the updated schedule at least two days in advance will allow participants to have visibility and perform necessary analysis.
6	7	Under process, migration is not to Java, but to C#. Instructor-led training sessions have not yet begun, is targeted for May-June.	CSEA	IV&V agrees and has made the stated corrections.
7	Appendix C	Prior Findings Log - Dashboard already exists in Jira and many tools are presented in the testing status report.	CSEA	As of the date of this report IV&V had no access to Jira. Considerations should also be made for any stakeholders who may not have Jira access for transparency purposes.

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