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

OFFICE OF ENTERPRISE TECHNOLOGY SERVICES | *KEʻENA HOʻOLANA ʻENEHANA*

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

March 27, 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

February 28, 2025 | Version 0.1

ACCUITY

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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 February 28, 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

"Keep on going, and the chances are that you will stumble on something, perhaps when you are least expecting it. I never heard of anyone ever stumbling on something sitting down."

- Charles F. Kettering

PROJECT ASSESSMENT

February 2025

SUMMARY RATINGS

OVERALL RATING

Y

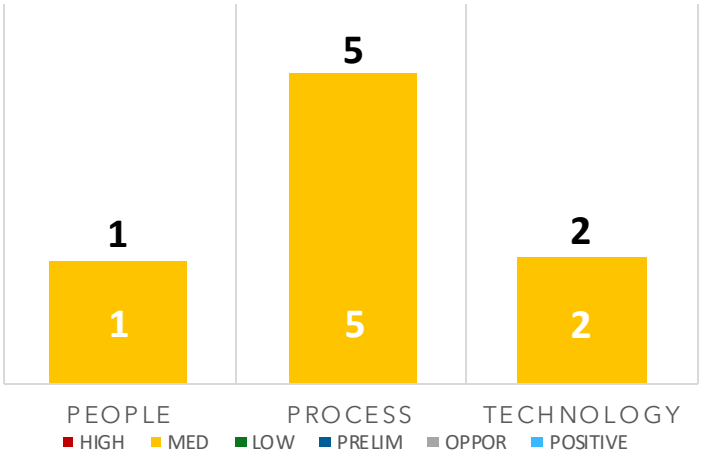
Deficiencies were observed that merit attention. Remediation or risk mitigation should be performed in a timely manner.

PEOPLE	G
PROCESS	Y
TECHNOLOGY	Y

CRITICALITY RATINGS

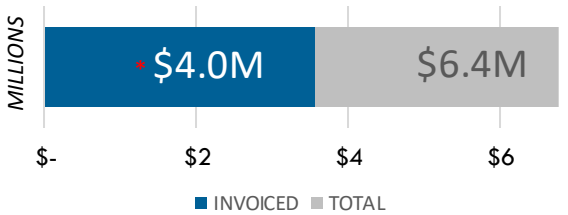
R	Y	G	NA
HIGH	MEDIUM	LOW	N/A

IV&V OBSERVATIONS



0	8	1	11
NEW OBSERVATIONS THIS MONTH	OPEN OBSERVATIONS TOTAL	CLOSED OBSERVATIONS THIS MONTH	OPEN RECOMMENDATIONS TOTAL

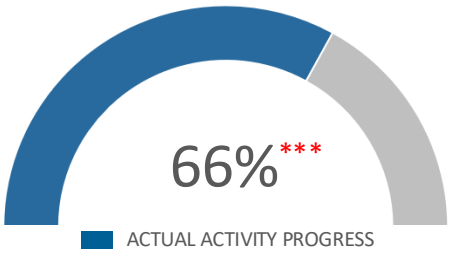
PROJECT BUDGET *



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

PROJECT PROGRESS

(Percent of the weighted duration of total tasks)

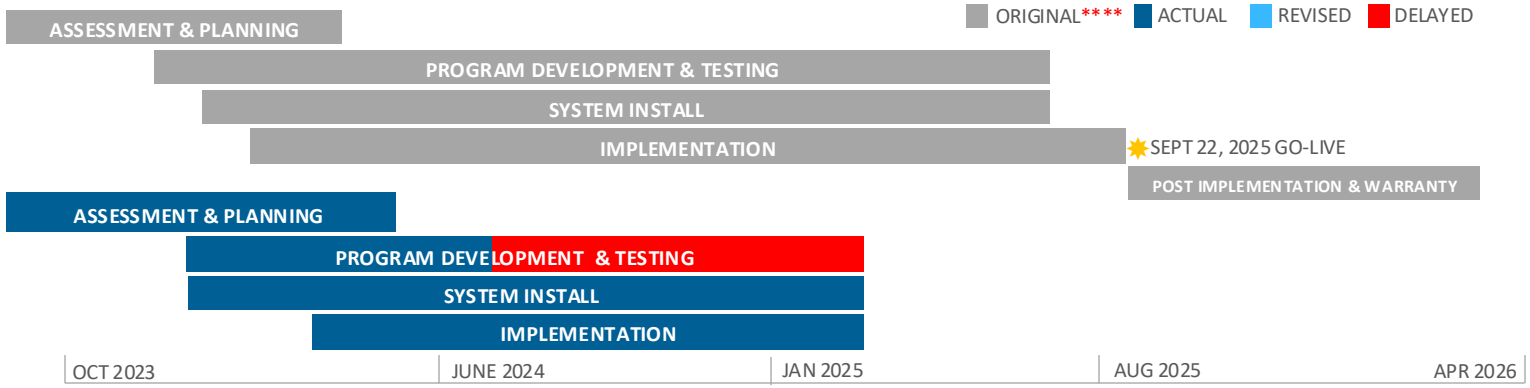


*** IV&V is unable to validate the progress percentage of the schedule as it does not include all project activities.

KEY PROGRESS & RISKS

- **Key Progress:** Testing execution continues to advance, with System Integration Testing (SIT) at 82% completion and Financial Test Deck (FTD) validation reaching 75%, demonstrating steady progress.
- Protech has assumed testing responsibilities following DataHouse's withdrawal on February 19, 2025, implementing structured transition efforts to maintain testing continuity and mitigate disruptions. The fully validated transition plan is currently in flight.
- CSEA is refining extraction workflows, implementing automated validation scripts, and improving cross-agency coordination to mitigate data processing inefficiencies via consistent and frequent working sessions. Thus, closing this recommendation based upon action taken (2024.12.002.R1).
- **Key Risks:** Batch job validation remains at 38%, impacted by SQL replication failures and data extraction inefficiencies, underscoring the need for a solid testing transition plan to ensure seamless execution and defect resolution.

PROJECT SCHEDULE – Baseline to Current Schedule Progress



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

DEC	JAN	FEB	IV&V ASSESSMENT AREA	IV&V SUMMARY
Y	Y	Y	Overall	**Project Schedule:** The KROM project schedule is being closely monitored, focusing on testing timelines and resource alignment. On February 19th, the abrupt withdrawal of DataHouse from the project, required the immediate activation of contingency plans to cover testing activities. As of February 19, 2025, Protech has assumed full testing responsibilities. This transition is actively managed with Protech and CSEA collaborating to finalize the transition plan and mitigate any potential for disruptions. The Go-Live cutover timeline is being adjusted to align with a long weekend deployment, to minimize operational impact. Testing and defect resolution continue. In the February 20th status meeting with Protech and CSEA, a revised schedule was presented by Protech which shifted the current Go-Live date to September 8th, and various action items were assigned to the Protech and CSEA team members to facilitate the transition with focus on improvement of testing protocols. **Project Costs:** Contract invoices remain within the total contracted costs. **Quality:** The overall project quality efforts in February shows some improvement in testing execution and defect resolution. Though challenges persist in batch job validation and interface testing. System Integration Testing (SIT) is at 82% completion, Financial Test Deck (FTD) testing has reached 75%, and batch job validation stands at 38%, reflecting ongoing efforts to meet testing benchmarks. Defect management remains a key focus, with 24 new defects identified and 9 defects resolved, representing a 37.5% closure rate. Testing dependencies, such as data extraction delays and interface file issues, continue to require targeted mitigation strategies. Protech's assumption of testing responsibilities following the DataHouse withdrawal on February 19, 2025, has required a transition period, but testing continuity is currently being maintained. **Project Success:** Efforts to optimize resources have focused on reallocating skilled personnel (testers and analysts) prioritizing defect resolution and improving testing execution. Additional testers were assigned to Financial Test Deck (FTD) and UI validation, while batch job validation efforts were reinforced, leading to a 38% completion rate from the previous month's 16%. 82% of SIT test scripts have been executed, with an emphasis on validating high-risk functionalities. Daily coordination between CSEA and Protech has helped align testing priorities, ensuring continuity following Protech's assumption of testing responsibilities on February 19, 2025. These efforts have improved test efficiency and defect resolution, though continued monitoring is needed to maintain progress during the testing ownership transition to Protech. The overall project status remains **yellow** due to ongoing testing delays and transition risks following DataHouse's withdrawal as the testing team on February 19, 2025. While Protech has assumed full testing responsibilities, the transition period has introduced adjustments in staffing, test execution, and defect resolution efforts, requiring close coordination with CSEA to maintain progress.

DEC	JAN	FEB	IV&V ASSESSMENT AREA	IV&V SUMMARY
G	G	G	People Team, Stakeholders, & Culture	**Team:** The KEIKI Replatforming Project is driven by a collaborative team, including Protech, CSEA, and key agency stakeholders, working toward a successful transition from the legacy mainframe to a cloud-based infrastructure. CSEA introduced the new Protech (DDI) project Implementation Manager to the project as outlined in the project's onboarding and the State's validation process. Following DataHouse's withdrawal from testing on February 19, 2025, Protech assumed responsibility for test execution, defect resolution, system validation, and has assumed responsibility for the AWS Infrastructure, JIRA management and resource optimization to ensure continuity in critical testing phases. Protech has established frequent coordination sessions with CSEA to align on outstanding testing activities, test script execution, and defect resolution priorities. The transition plan is being refined to incorporate testing dependencies and resource allocation adjustments. CSEA plays a pivotal role in driving testing quality, conducting frequent half-day meetings with the business owners to align and vet business centric scripting for validation efforts. These sessions help streamline test execution, address data discrepancies, and ensure system readiness across the multiple agency environment.(2024.12.002.R1). The stakeholder ecosystem includes CSEA leadership, CSEA functional leads, and subject matter experts, Protech and CSEA technical teams, and external partners, all engaged in testing, compliance, and deployment activities. The project team fosters a culture of adaptability, continuous improvement, and cross-agency coordination, driving testing efforts towards structure, efficiency, and alignment with overall project goals. **Stakeholders:** Stakeholder transparency has significantly improved through enhanced communication, structured coordination, and proactive engagement efforts between CSEA, Protech, and agency partners. Stakeholder meetings provide details on the latest progress in all modernization projects. This collaboration contributes to alignment in project efficiencies and shared data awareness. As a result, stakeholders are better aligned on key milestones, ensuring informed decision-making and a shared understanding of challenges and priorities. **Culture:** The project, though experiencing a road bump, has evolved further toward increased collaboration in February. Prompted by the exit of DataHouse, the team culture has demonstrated adaptability and accountability, driven by stronger coordination between CSEA, Protech, and agency stakeholders. With Protech assuming testing responsibilities, the team is demonstrating resilience and a commitment to maintain testing continuity. Close monitoring of testing progress and a strong testing transition plan will be key to smoothing the pavement.

DEC	JAN	FEB	IV&V ASSESSMENT AREA	IV&V SUMMARY
			Process Approach & Execution	The project has maintained structured risk management and execution planning, to ensure continuity in testing, defect resolution, and stakeholder engagement. Efforts to modernize interfaces and align with state agency updates are ongoing, with CSEA leading half-day meetings to validate test scripting and ensure interface readiness. A focus on data extraction and replication continues, with SQL replication failures and data count discrepancies requiring enhanced validation steps. Risk awareness assists in process efficiency by enabling early detection, proactive mitigation, and adaptive execution strategies to minimize disruptions. Risk tracking within testing execution, data validation, and cutover plan tracking will ensure proactive mitigation, structured workflow improvements, and optimized project execution leading up to deployment. **Process**: Testing Transition & Execution Risks (Risk #112, Weekly Status Reports) • Progress: Protech has stabilized test execution following DataHouse's withdrawal, with SIT reaching 82% completion and Financial Test Deck (FTD) validation at 75% • Challenge: While Protech has assumed full testing responsibilities, the transition has contributed to delays in test execution and defect resolution, particularly in batch validation and interface testing. • Refinement Needed: The deliverable Knowledge Transfer Plan-Draft v0.1 dated 2/7/2025 has not been completed as of 2/28/2025. Implement structured knowledge transfer sessions to ensure full alignment on testing methodologies, defect triage, and execution strategies while setting schedule expectations with the test team. **Approach:** Data Extraction & Validation Inefficiencies (Risk #89, Weekly Status Reports) • Progress: CSEA has enhanced coordination efforts, implementing half-day agency meetings to align data validation processes. • Challenge: SQL replication failures, data discrepancies, and manual extraction inefficiencies are delaying batch job validation and increasing defect resolution times. • Refinement Needed: Optimize extraction schedules, implement automated validation scripts, and align cross-agency testing efforts to improve accuracy and efficiency. **Execution**: Go-Live Cutover Planning & Readiness (Risk #57, Weekly Status Reports) • Progress: The cutover timeline is actively being refined, with a focus on long weekend deployment and mock deployment planning. September 8th, 2025 is currently the proposed Go-Live date (Weekly Status Meeting 2/20/25). • Challenge: The cutover timeline requires refinement to align with a long weekend deployment, ensuring seamless transition and minimal operational impact. • Refinement Needed: Establish a formalized cutover readiness framework, conduct mock deployments, and integrate contingency risk measures to prevent disruption. The project process status moves to **yellow** trending up. This status change is due to improvements in stakeholder alignment, risk mitigation strategies, and structured execution improvements. Continued refinements in defect resolution, automation, and deployment planning will be necessary to fully stabilize project execution and transition toward a Green status.

DEC	JAN	FEB	IV&V ASSESSMENT AREA	IV&V SUMMARY
			Technology System, Data, & Security	This month highlights continued progress in system optimization, data management, and security compliance, but persistent challenges in batch job performance, data extraction inefficiencies, and restricted testing environments remain. Following DataHouse's withdrawal on February 19, 2025, Protech has taken responsibility for system testing and validation, requiring adjustments to testing environments and security compliance measures. While configuration optimizations and data validation enhancements are being implemented, ongoing extraction inefficiencies, interface data inconsistencies, and security-related constraints continue to have an impact on execution timelines. 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, affecting system performance and defect resolution cycles. • Approach: The team is implementing performance tuning techniques, including query optimization and batch configuration adjustments to stabilize processing times. • Execution: Protech and CSEA are actively monitoring with real time adjustments in progress to reduce batch runtimes and enhance overall system performance. Data Extraction & Validation (Risk #89, Weekly Status Reports) • Risk: Inefficient data extraction processes, SQL replication failures, and inconsistencies in data transformation are slowing batch job validation and increasing project risk. • Approach: CSEA is refining extraction workflows, automating validation steps, and aligning test data availability with testing schedules. • Execution: Alternative extraction methods, automated validation scripts, and structured data integrity checks are being implemented to reduce errors and improve efficiency. Security & Compliance (Risk #64, Weekly Status Reports) • Risk: Data-sharing restrictions due to PII compliance concerns are limiting defect resolution capabilities by restricting the use of real production data in testing environments. This issue is only relevant to one development team, not all testing resources and only when the data is required to resolve the defect. • Approach: The project team is developing a compliance-friendly testing framework, utilizing mock data and controlled datasets to meet security requirements while enabling effective defect reproduction. • Execution: Security reviews, controlled data masking, and additional compliance measures are being integrated to allow more efficient defect tracking and resolution while ensuring data protection policies are met. 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

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.	Open	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.		
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.
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	2025/02/28: 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	2025/02/28: 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	2025/02/28: 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.		
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	2025/02/28: 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.		

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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.	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	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. 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: 2024/12/24	Original Closure Note: Closed as the project managers are working more collaboratively to share and execute project responsibilities.
Technology	2024.06.001	Risk	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	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 A detailed risk assessment has been performed for binary and ASCII file conversions, particularly for 27 critical files identified 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 utilization 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.		

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										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.		
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	2025/02/28: 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.		

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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 independed 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 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	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 use of the term "SQL failures" is both ambiguous and potentially misleading. The data issues being encountered is due the DDI's lack of familiarity with data format differences that are inherent in the mainframe to cloud transfer process.	CSEA	The 'SQL replication failures' reference is meant to identify common issues that occur in copying from one database to another along with the synchronization of the data between databases. It is the responsibility of the SI vendor to address and resolve these issues. IV&V notes CSEA's comment regarding the root cause. IV&V acknowledges that Protech (DDI) is delayed in resolving the SQL replication failures causing batch testing schedule slippage. IV&V recommends adding this issue to the RAID log and addressing root cause and mitigation accordingly.
2	6	Under People/Team, following DataHouse's withdrawal from testing, Protech has also assumed responsibility for AWS Infrastructure.	CSEA	Accuity IV&V agrees and has added additional verbiage as requested. The reference is the signed ProTech letter dated February 20, 2025. JIRA Management and Resource Optimization and quality assurance are also outlined and will be added to ProTech's additional assumed project responsibilities.
3	6	The discussion on stakeholders in the Teams section omitted participation by key CSEA functional leads and subject matter experts.	CSEA	Accuity IV&V has added the CSEA functional leads and subject matter experts to the statement.
4	6	Team: Protech (DDI) introduced the new project Implementation Manager to the project as outlined in the project's onboarding and the State's validation process.	CSEA	Accuity IV&V has added (DDI) and the verbiage as outlined in the project's onboarding and State's validation process.

ID #	Page #	Comment	Commenter's Organization	Accuity Resolution
5	7	Under Process, a key transition that was left out includes the fact that the loss of DataHouse has left a significant gap in knowledge and experience of the State's infrastructure and protocol. CSEA has had to step in to initiate reestablishment of permissions, and correction to the DDI's initiatives in order to follow State protocol.	CSEA	IV&V recognizes that the departure of DataHouse has introduced additional challenges for CSEA, particularly around reestablishing system access and aligning DDI activities with State protocols. The effective impact will depend on the number of replacements. With respect to knowledge and experience, IV&V noted the additional ProTech team members were approved by CSEA. They appear to have sufficient credentials and experience with State CSEA systems and although there will be a ramp up period, we anticipate the impact may be limited. If the efforts related to reestablishing permissions and aligning DDI initiatives with State protocols are assessed as having a significant impact, IV&V suggests these items be considered for inclusion and ongoing monitoring in the RAID log.
6	7	Under Process, it is important to note that the Knowledge Transfer Plan deliverable has not yet been completed.	CSEA	IV&V notes the draft Knowledge Transfer Plan v0.1 dated 02/02/2025 has not been completed as of 02/28/2025 and has added the status to the report.
7	7	Under Process/Approach, the use of the term "SQL failures" is both ambiguous and potentially misleading. The data issues being encountered is due the DDI's lack of familiarity with data format differences that are inherent in the mainframe to cloud transfer process.	CSEA	The 'SQL replication failures' reference is meant to identify common issues that occur in copying one database to another along with the synchronization of the data between databases. It is the responsibility of the SI vendor to address and resolve these issues. IV&V notes CSEA's comment regarding root cause. IV&V acknowledges that Protech (DDI) is delayed in resolving the SQL replication failures causing batch testing schedule slippage. IV&V recommends adding this issue to the RAID log and addressing root cause and mitigation accordingly.
8	7	Under Execution, the recommended "Refinement Needed" is already in progress by the DDI.	CSEA	IV&V notes that the KEIKI Project Schedule Report dated 2/26/25 shows the Knowledge Transfer Plan deliverable is at 0% completion.

ID #	Page #	Comment	Commenter's Organization	Accuity Resolution
9	8	Risk: add an additional sentence, "This issue is only relevant to one development team and not all testing resources and only when the data is required to resolve the defect."	CSEA	IV&V has added the clarification requested to the statement.
10	8	Under Technology/Data Extraction, the use of the term "SQL failures" is both ambiguous and potentially misleading. The data issues being encountered is due the DDI's lack of familiarity with data format differences that are inherent in the mainframe to cloud transfer process.	CSEA	The 'SQL replication failures' reference is meant to identify common issues that occur in copying one database to another along with the synchronization of the data between databases. It is the responsibility of the SI vendor to address and resolve these issues. IV&V notes CSEA's comment regarding root cause. IV&V acknowledges that Protech (DDI) is delayed in resolving the SQL replication failures causing batch testing schedule slippage. IV&V recommends adding this issue to the RAID log and addressing root cause and mitigation accordingly.

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