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

OFFICE OF ENTERPRISE TECHNOLOGY SERVICES | *KEʻENA HOʻOLANA ʻENEHANA*

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

August 7, 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

June 30, 2025 | Version 1.1

ACCUITY

An independent member of bakertilly INTERNATIONAL

Table of Contents

BACKGROUND

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

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

Our IV&V Assessment Areas include People, Process, and Technology. 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 June 30, 2025. Ratings are provided monthly for each IV&V Assessment Area (refer to Appendix A: IV&V Criticality and Severity Ratings). The overall rating is assigned based on the criticality ratings of the IV&V Assessment Categories and the severity ratings of the underlying observations.

TEAMWORK AND PERSERVERANCE

"The strength of the team is each individual member. The strength of each member is the team."

- Phil Jackson

PROJECT ASSESSMENT

June 2025

SUMMARY RATINGS

OVERALL RATING

Y

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

PEOPLE G

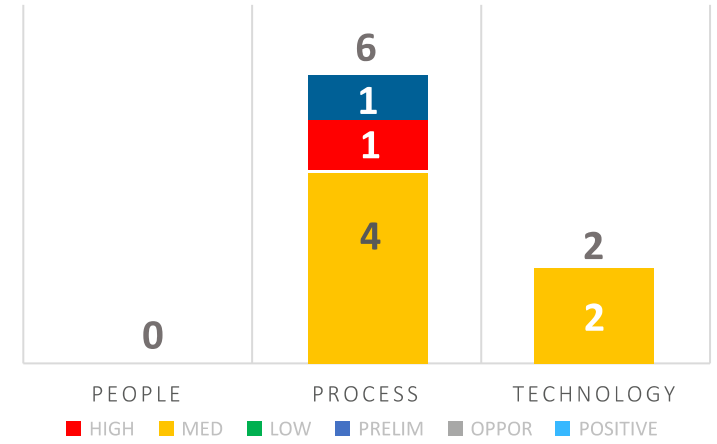
PROCESS Y

TECHNOLOGY Y

CRITICALITY RATINGS

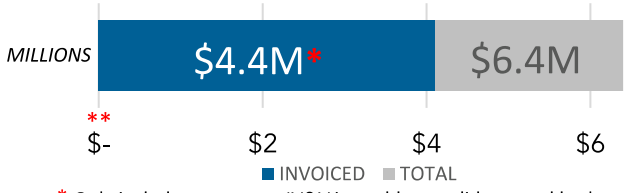
R HIGH | Y MEDIUM | G LOW | NA N/A

IV&V OBSERVATIONS



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

PROJECT BUDGET *

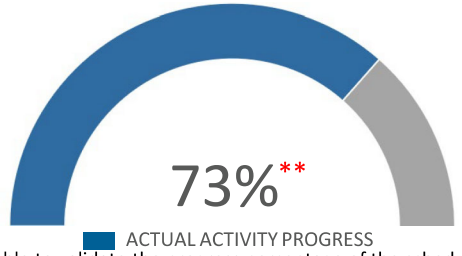


* Only includes contracts. IV&V is unable to validate total budget.

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

PROJECT PROGRESS

(Percent of the weighted duration of total tasks)



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

KEY PROGRESS & RISKS

Key Progress:

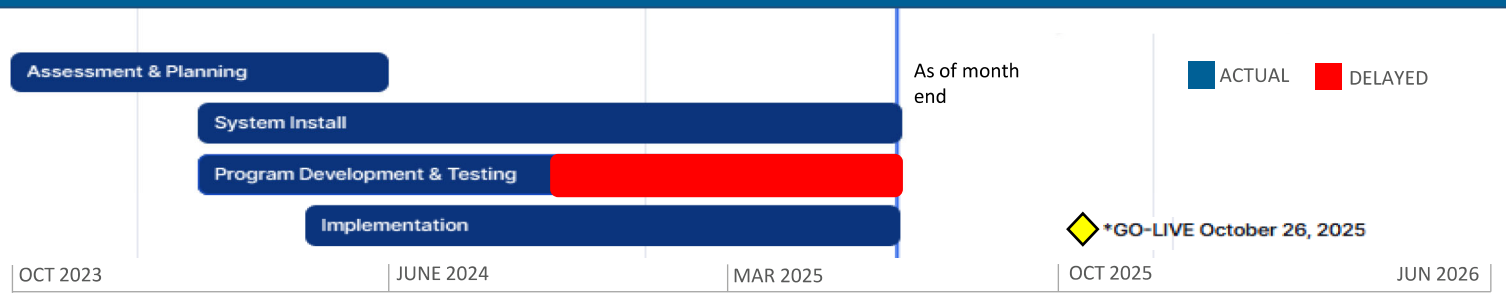
- Batch testing is 88% complete, with overall system installation phase at 72%.
- The CSEA and KROM outputs from the FCR outgoing process on the April 10 Pre-Batch DB were confirmed as successfully matched.
- Of the remaining 8 critical defects, four have been resolved. The remainder have been reclassified as lower severity and are actively being addressed.
- CSEA is responsible for training staff on operational activities. Preparations, documentation, and presentations are well underway.
- Data extracts complete in under 24 hours, enabling CSEA to schedule migration over any weekend instead of waiting for a longer holiday weekend.
- CSEA leadership and ProTech have jointly assumed project management responsibilities during the temporary absence of the CSEA Project Manager.

Key Risks:

- There is now a 69-day variance affecting the critical path requiring escalation and leadership involvement.
- A change in the defect classification terminology was made which was not aligned with the System Test Plan.
- A critical defect in NSDDC01J batch job execution is affecting the Precisely API allocation. Testing is currently limited to 10 records.
- The prorated method of payment based upon the current approved schedule may reduce accountability and performance incentives.

PROJECT SCHEDULE – Current Progress

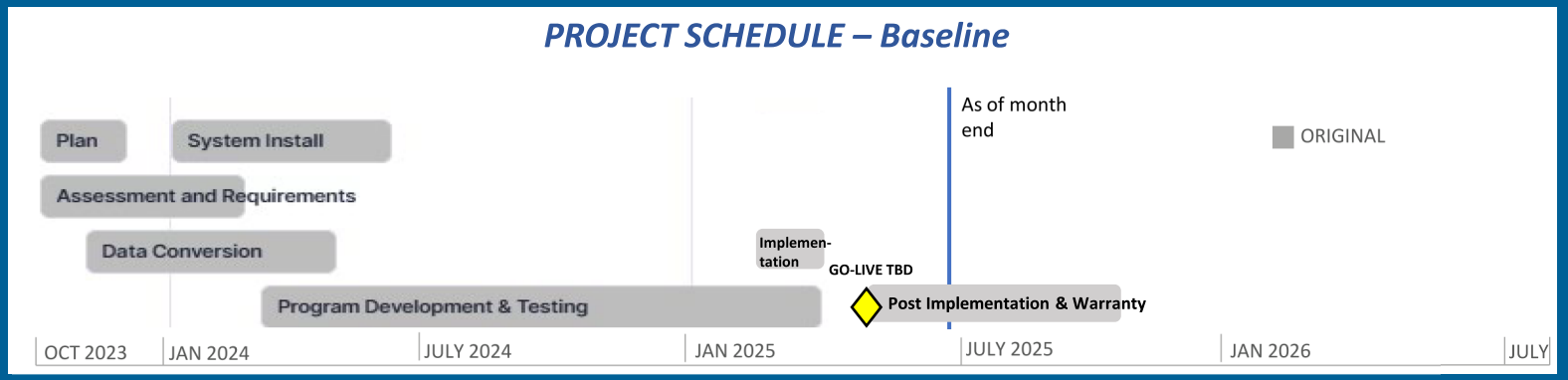
(See next page for the current agreement and schedule history)

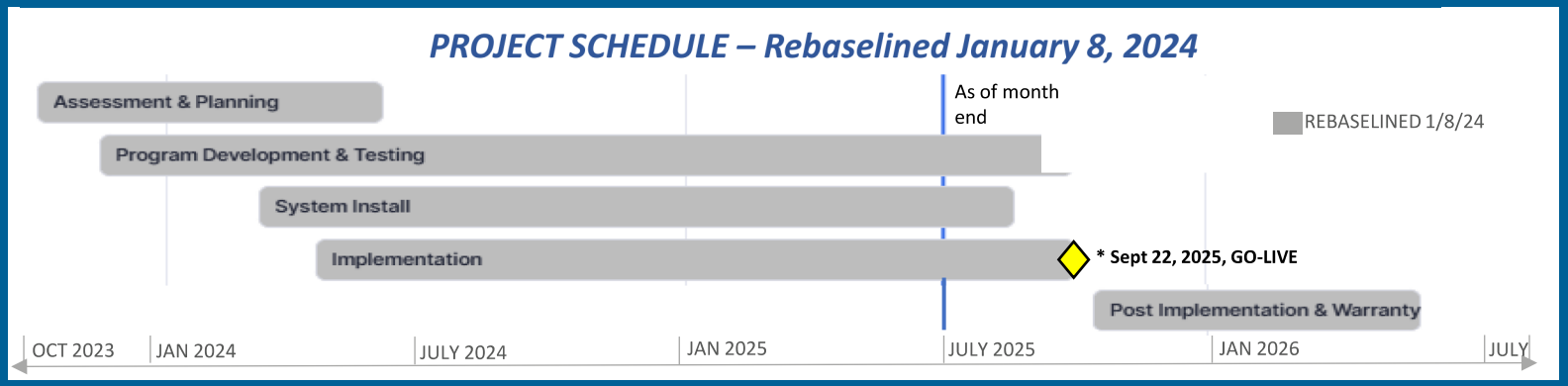


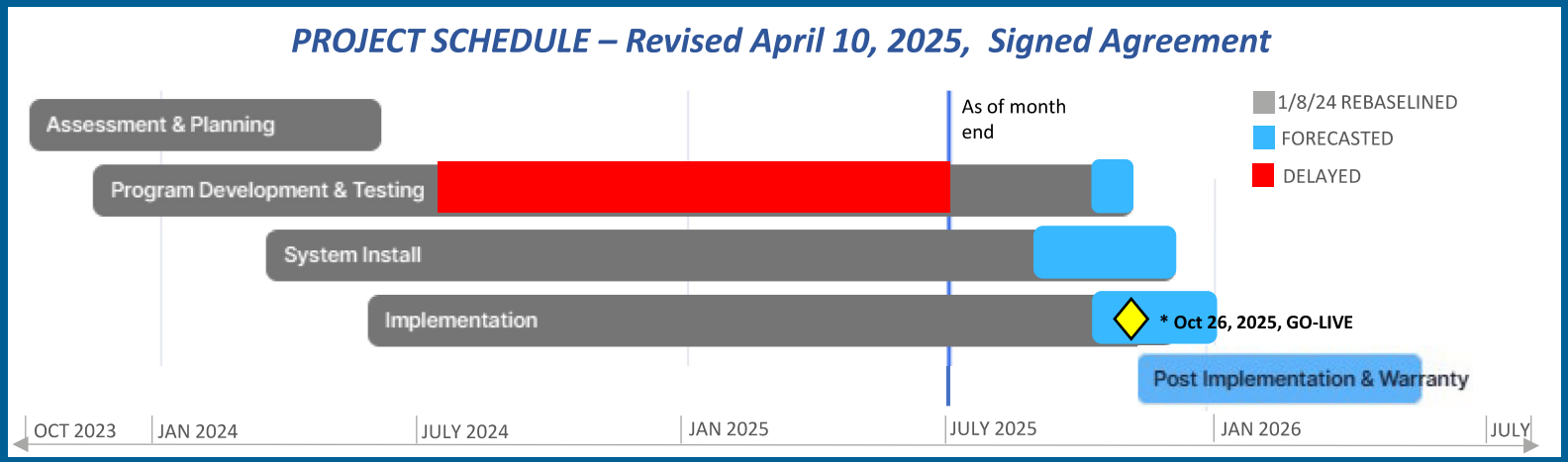
KROM PROJECT SCHEDULE HISTORY

Provided here is a comprehensive view of three timelines:

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







JUNE 2025 · KROM PROJECT

APR	MAY	JUNE	IV&V ASSESSMENT AREA	IV&V SUMMARY
Y	Y	Y	Overall	**Project Schedule:** The project progress status as of June 30, 2025 was 73% with a 69-day variance from the baseline schedule. reflecting challenges with data discrepancies, batch job testing, and critical system testing defects. The critical path has zero float between the D-21 System Test Results Report approval and the Acceptance Testing start date. SIT testing has exceeded the planned time. The likelihood of reaching the current Go-Live of October 26, 2025 is very low. **Project Costs:** Contract invoices remain within the total contracted costs. IV&V notes that the current prorated method for paying ProTech based upon the current schedule with a Go-Live date of October 26, 2025 may result in payments that are not aligned with actual project progress. This may lead to reducing financial incentives and accountability. **Quality:** CSEA's primary objective is to receive a *high-quality* solution. To this end, the project members remain aligned to this goal. One of the key indicators is the resolution of all defects prior to exiting System Integration Testing (SIT). For June, all critical defects have either been resolved or downgraded in severity. The four that had previously been identified as critical and remain open, are actively being addressed. There are 37 *non-critical defects* varying in priority that remain open. Over 10,000 comments have been generated from the SIT test scripts. ProTech is actively responding to and providing answers. The FCR outgoing process has been successfully tested and the CSEA and KROM outputs were confirmed. Challenges, however, persist in completing batch job testing which stands at 88% and overall system testing, which is at 91% as of June 25, 2025. CSEA leadership and ProTech have jointly addressed the gap left by the temporary departure of the CSEA Project Manager. **Project Success:** The KEIKI KROM project has maintained milestone progress through active collaboration among Protech (DDI), IBM, and CSEA teams. While system testing and data validation challenges remain, proactive retesting, weekly leadership meetings and weekly updates have helped sustain project momentum. The project is in **yellow** trending down status due primarily to the schedule slippage and high likelihood that the October 26, 2025 Go-Live date will not be met. This presents a significant risk. However, the project team and leadership remain firmly committed and continue to make measurable progress towards delivering a quality solution. To address the outdated timeline, rebaselining the schedule has been identified as a key correction action. ProTech's current plan is to wait until SIT is completed before rebaselining the schedule. This approach is intended to provide a more accurate and realistic timeline. Until the rebaselining is finalized, the project will continue to carry elevated risk.

APR	MAY	JUNE	IV&V ASSESSMENT AREA	IV&V SUMMARY
G	G	G	People Team, Stakeholders, & Culture	The project team has been actively engaged in addressing critical issues and key operational areas. Protech (DDI), IBM, and CSEA continue to work together to effectively resolve issues and close defects. The Test Team scrums occur daily. Interface meetings meet twice a week. Replication and environmental build review meetings occur as needed. Risk reviews occur bi-weekly. Status meetings with expanded project team occur weekly. There are also monthly Steering Committee and Stakeholder meetings. **Team:** In addition, a joint leadership team has been formed to address and manage critical and high priority issues and topics. The team is comprised of ProTech's Engagement Manager, CSEA's IT manager, and other key CSEA staff. This team meets weekly, uses a formal agenda, and creates action items that will be worked on by the respective member(s). This has been effective in getting through some key challenges, meeting each organization's needs to move forward, and increasing the trust and confidence amongst its members. Protech continues to lead project delivery and is actively collaborating with IBM and CSEA teams to resolve defects, finalize system testing, and refine the UAT environment. Protech's focus has been on batch execution performance testing, mainframe printing transitions, addressing comments generated from the SIT test scripts and addressing defects through focused retesting cycles. The Protech (DDI) Test Team is also engaged daily, with consistent status reviews and updates in the testing environment to ensure alignment and progress on defect resolution and system testing deliverables. Meanwhile, the CSEA leadership has taken an even larger role of managing scope, schedule, resources, and the various contracts left by the temporary departure of the CSEA Project Manager. CSEA remains deeply engaged, with active roles in • Validating data extract processes and addressing discrepancies. • Reviewing the status and progress of defects and open risk items. • Reviewing the responses to the SIT test script comments. • Developing content and preparing for the functional staff training. • Preparing for UAT- creating test scripts, setting up testing teams, test strategy, an escalation process, documentation, and entry and exit criteria. • Reviewing system testing outcomes and participating in weekly status meetings and interface discussions. **Stakeholders:** Monthly stakeholder meetings include representatives from the State ETS, Department of Labor and Industrial relations and Department of Human Services. These stakeholders also utilize sensitive Federal information and are similarly impacted by the State's ETS mainframe shutdown directive.

APR	MAY	JUNE	IV&V ASSESSMENT AREA	IV&V SUMMARY
G	G	G	People Team, Stakeholders, & Culture	*People cont.* **Culture:** The project demonstrates a culture of collaboration and communication. As CSEA surfaces questions and issues, ProTech has been responsive in providing clarification, follows up as needed, and arranges additional meetings to ensure that they are fully addressed and resolved. The project's People dimension continues to be a **green** status. All parties continue to demonstrate strong commitment to a shared successful project delivery. CSEA's active engagement and oversight have helped to ensure that outcomes stay aligned with their goals.

APR	MAY	JUNE	IV&V ASSESSMENT AREA	IV&V SUMMARY
Y	Y	Y	Process Approach & Execution	**Process:** The project team focused on closing out critical system testing defects, refining batch job performance, responding to SIT test script comments, and building out the UAT environment. However, schedule alignment remains a challenge, with a 69-day variance, and zero float in the critical path with no realigned and formally approved schedule in place. These factors underscore the need for pinning down an accurate schedule to align stakeholder expectations and prevent further downstream delays. 1) A new observation was opened this month regarding the classification of defects. This differed from the System Test plan and caused confusion. A meeting was held to discuss and align. 2) 2023.10.002 R4 Formalize CSEA Interim PM Coverage observation opened in May 2025 has been adequately addressed. Project team members are actively providing support coverage. In addition, formal notification was provided by CSEA. This observation has been closed. 3) The current payment process is based on prorated payments to ProTech on an outdated schedule. With the project delayed several months, rebaselining is highly recommended to update the project schedule, but also to realign the payment schedule so that it provides accountability and financial incentive. 4) The general process for performance evaluation is based on a passive data cleansing process rather than a more rigorous comprehensive data quality management approach. This may lead to continued data integrity issues as well as additional time and effort spent repeatedly troubleshooting the same underlying data issues. **Approach:** The team is following a milestone-driven approach, prioritizing defect closure and addressing performance issues. Protech's approach includes daily status reviews and testing cycles to validate data and system performance. However, as the schedule progresses, the lack of a formal rebaseline limits the effectiveness of this approach in aligning stakeholders and providing adequate notification for future resource scheduling. Also, during June, changes to the classification of defects were implemented without prior discussion with CSEA. According to the original RFP RR-01-2023- (pp.22-23), the Program Development and Testing Phase includes the following: "f) System test completion, includes test results from initial and subsequent testing after bug fixes... m) System acceptance. Includes test results, completed issues log, and acceptance by CSEA." Given the number of concurrent activities underway, it is essential that issues like these are proactively raised during joint meetings with CSEA. Doing so will help minimize confusion and ensure that CSEA is aware and has the opportunity to provide input on the prioritization and urgency of these matters. **Execution:** Execution efforts in June continued with intensive retesting of system testing defects and performance issues, with daily defect triage meetings and focused testing cycles. The team's efforts are being tracked through updated RAID logs and weekly status reports, ensuring transparency and accountability for closure activities.

APR	MAY	JUNE	IV&V ASSESSMENT AREA	IV&V SUMMARY
Y	Y	Y	Process Approach & Execution	*Process Cont.* A prior observation noted that a real-time dashboard that provided insights and oversight as to testing activities was recommended. In a special meeting to review the eight critical open Jira tickets, ProTech presented the internal documentation maintained in the Jira system. This documentation included detailed records of the work performed, root cause analysis, screenshots of the outcomes, and status updates with supporting notes. While the CSEA project team has confirmed access to Jira's system and real-time dashboard, due to the ongoing testing delays it remains necessary to continue to monitor whether the available reporting is sufficiently effective. As more details for Windows check printing are identified, those activities need to be added to the timeline. To maintain alignment and support effective planning, the project schedule must be updated to reflect any additional work required. Thus, from a process and execution standpoint, the **yellow** project status reflects ongoing challenges in communication, transparency, and schedule alignment. While technical progress is being made, the supporting processes — particularly around defect classification, data cleansing, reporting, and schedule management — require attention and improvement to ensure alignment and successful project completion.

APR	MAY	JUNE	IV&V ASSESSMENT AREA	IV&V SUMMARY
Y	Y	Y	Technology System, Data, & Security	**System:** The overall system installation phase is at 72% completion as of the June 25th schedule report. Batch testing iteration #6 performance testing is at 75% completion. Keiki Mainframe Printing is at 39% completion. System integration Testing iteration #2 is at 97% completion. The bridge program for address normalization sits at 91% completion. Keiki online printing is at 89% completion. The system test results report is at 0% completion and is a gating item for UAT. Acceptance testing preparation sits at 78%. Batch validation testing and refined UI online testing continue in version v1.0.0.31. System Integration Testing (SIT) is ongoing. Script execution and comment resolution are in progress. As of June 25, 2025, there are 37 open defects: 9 high are highest priority, 28 are medium or lower priority. No critical severity defects remain open. 5 performance-related defects remain open, primarily linked to batch processes such as OCSE157, State Tax Offset, and AP Bill processing. A demo of Rundeck scheduler was completed; Twilio integration is being explored for job failure notifications. **Data:** The data extract validation process from ADABAS to SQL continues to show record count mismatches in June, requiring further validation during system testing. Both hybrid and non-hybrid extraction methods are being evaluated. The non-hybrid method remains untested, and its viability is targeted to be determined before UAT ends. A successful match between CSEA and KROM outputs for the April 10 FCR outgoing pre-batch was reported on June 20**.** To improve batch performance, Protech is partitioning tables (e.g., F156) and loading binary data in parallel. This has reduced load time from 17 to under 5 hours. **Security:** A comprehensive diagram showing certificate use across KROM servers has been requested and is pending delivery from Protech as of June 25th. Protech continues work on integrating authentication mechanisms for the KEIKI system. No issues were reported with login or access. As of June 25, all Nessus scan compliance issues have been resolved. A re-scan and report review are scheduled for July 9. Patch management was completed for all development servers as of June 18. **Risk Log Alignment:** • System performance is aligned with RAID Log IDs 35 and 56, which highlight interface testing challenges, and environment compatibility issues. These gaps directly correspond to RAID Log IDs 35 and 56, which cover interface integration challenges, and the decision needed on Code-1 Plus software to ensure environment compatibility and readiness for UAT. • Data extract validation continued to surface discrepancies between ADABAS and SQL-KROM datasets, These data issues are reflected in RAID Log IDs 47 and 69, which detail risks around data extraction baseline misalignment and delays in data import/export that directly affect data integrity and system readiness. The Technology status is **yellow** due to unresolved data validation issues between ADABAS and SQL, and the incomplete system test results report, which is a gating item for UAT. Additionally, open performance-related defects and delays in key components like mainframe printing and the non-hybrid extraction method pose risks to UAT readiness and overall schedule adherence.

IV&V ASSESSMENT AREAS

People

Process

Technology

OBSERVATION #: 2025.06.001	STATUS: N/A	TYPE: PRELIMINARY	SEVERITY: N/A

TITLE: **Defects Classification**

Observation: Prior to June 2025, ProTech utilized a one-dimension classification system for categorizing defects as either critical, non-critical, or cosmetic. In June 2025, ProTech implemented a different classification system of severity *and* priority levels for defects. Furthermore, the assignment of the severity and priority to the existing defects was made by ProTech and presented to CSEA which led to initial confusion.

Industry Standards and Best Practices: PMBOK® v7 Process Governance: requires that all key stakeholders are involved in key decisions. This helps to ensure that decisions meet agreed-upon standards.

Analysis: ProTech proposed the following severity and priority levels:
Severity: Critical, major, normal, minor
Priority: Highest, high, medium, lowest

In contrast, the Deliverable System Test Plan defines:
Severity: Critical, major, normal, minor
Priority: Critical, high, medium, low

A key difference between the two is the removal of the 'critical' level from the priority scale in ProTech's version. A 'critical' rating is defined as a 'show-stopper' and will prevent the project (and testing) from moving forward until the issue has been resolved. Furthermore, the System Test Plan includes clear definitions of how to assign each level and the required actions to be taken. Without the 'critical' level, there is risk of misclassifying issues leading to delays or inadequate responses.

Subsequently, in an alignment meeting ProTech agreed to use the System Test Plan definitions. The most recent Weekly Test Report was released before this alignment. Thus, the Test report along with the defects data in Jira are difficult to interpret creating uncertainty as to what was presented.

Recommendation: (2025.06.001.R1) Aligning the defect handling process with the System Test Plan.

- Apply the mutually agreed upon definitions as stated in Deliverable 7, System Test Plan version 1.3.
- Update the defect categorization in Jira.
- Provide updated Test reports going forward.
- Review with CSEA any changes to the status or *categorization* of critical defects.
- Review with CSEA prior to making changes in the *process* of handling defects.

Appendix A: IV&V Criticality and Severity Ratings

TERMS

RISK
An event that has not happened yet.

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

IV&V CRITICALITY AND SEVERITY RATINGS

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

Criticality Rating

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

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

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

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

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

TERMS

POSITIVE
Celebrates high performance or project successes.

PRELIMINARY CONCERN
Potential risk requiring further analysis.

Severity Rating

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

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

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

SEVERITY 1: High/Critical level

SEVERITY 2: Moderate level

SEVERITY 3: Low level

Appendix B: Industry Standards and Best Practices

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

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

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

Appendix C: Prior Findings Log

ASSESSMENT AREA	OBSERVATION ID	TYPE	ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	INDUSTRY STANDARDS AND BEST PRACTICES	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CLOSURE REASON
Process	2024.12.003	Risk	Moderate	Moderate	Non-critical tasks are being tracked alongside critical ones, diluting focus and potentially straining resources. Financial Test Deck (FTD) testing is blocked by unresolved defects, stalling progress on 92% of pending cases.	SPM (The Standard for Project Management) defines prioritization as essential for maintaining project alignment with strategic objectives.	Tracking non-critical tasks alongside critical ones is straining resources and delaying progress on essential activities like Financial Test Deck (FTD) testing, which is stalled by unresolved defects impacting 92% of cases. Refocusing on critical path tasks and resolving key defects, as emphasized by SPM, will prevent cascading delays and enable progress in blocked testing areas.	(2024.12.004.R1) Focus on critical path tasks, prioritize defect resolution in FTD and interface batch jobs, and deprioritize non-critical deliverables. Prioritizing critical deliverables ensures that delays do not propagate through the project timeline and unlocks progress for blocked testing activities.	Open	2025/06/25: In June, ProTech reported the eight remaining critical tasks had been resolved. Moreover, a different defect classification system was implemented that would differentiate between severity and priority defects and activities. Upon further review, four of the previously labeled critical defects had been reclassified to lower severity ratings and remain open. The overall defect management process remains largely unchanged: ProTech continues to escalate the highest-priority critical defects to IBM, while also reviewing and addressing lower-level non-critical ones. The approach is based upon the assumption that resolution of all defects is required to exit the SIT phase. 2025/05/30: In May, non-critical tasks continued to be tracked and documented in weekly status reports, although no formal update was provided on their resolution. These tasks remain open and should be aligned with the critical path to avoid compounding downstream delays. 2025/04/30: Process and task tracking improved in April but key readiness items (Batch Finalization, Pen Test, Compliance) are missing task details such as ownership or have not been fully scheduled yet. A formal Project Change Request (PCR-3) was approved on April 10th, extending SIT through April 30, 2025, and shifting the Go-Live date to October 26, 2025, with no cost impact. The targeted Go-Live date is currently November 11, 2025, to align with a long weekend for operational considerations. With the change occurring in mid-April the team continues actively planning toward UAT and scheduling alignments will continue through May. IV&V will continue to monitor the scheduling activities and strongly suggests a focused effort in task definitions and alignments to avoid schedule compression with increased risk in execution of UAT and Go-Live. 2025/03/31: During March, Protech assumed full responsibility for test execution and defect management, including taking over administration of the Jira defect tracking system. This transition supports improved traceability between test case execution and defect resolution. While the SIT dashboard continues to show script-level execution (106 of 119 scripts passed), IV&V is able confirm testing progress thru accessing of Jira reports. Defects are categorized as to Critical, Major, Minor, and Normal. ProTech has the ability to track and actively to work on critical and high priority defects. IV&V observed that linkage between failed/pending tests and their corresponding defects is still being validated under DDI's new triage process. CSEA and IV&V are monitoring this effort, and further improvements are expected as part of Protech's Jira backlog reconciliation. This item should remain open pending full integration and reporting consistency across SIT, batch, and UAT tracking systems. 2025/02/28: In February 2025, Protech fully assumed testing responsibilities following DataHouse's withdrawal, with AWS and JIRA administration transitioning on February 26. Batch job validation improved to 38%, but resource shortages continue to slow progress in financial and UI validation, impacting critical compliance tasks. Testing delays and data extraction issues persist, requiring additional skilled resources and prioritization of defect resolution to prevent further schedule slippage. The testing allocation and transition plan is currently underway with Protech. 2025/01/31: The status update for January regarding Observation 2024.12.003 emphasizes significant progress in addressing process inefficiencies, with a focus on optimizing workflows and refining procedural documentation. However, remaining gaps in execution and resource allocation necessitate continued oversight to ensure sustained improvements and full alignment with project objectives.		
Process	2024.12.005	Risk	Moderate	Moderate	Testing metrics from weekly reports show varying levels of progress, with areas like enforcement batch validation at only 21% coverage. The risk log shows Issue #47: Data extraction delays highlight the need for improved progress tracking and reporting.	IEEE 1012-2016 recommends verification and validation checkpoints for effective oversight.	I	(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	2025/06/30: A testing report was not included in the June 26, 2025 weekly status meeting. It was unclear to CSEA as to the reclassification, reprioritization and handling of the remaining eight critical tickets. In a special meeting to review the eight critical Jira tickets, ProTech reviewed the internal documentation in Jira, which included the work performed, root cause analysis, screen shots of the results, and notes including the updated ticket status. IV&V confirmed that two members of the CSEA leadership team currently have access to Jira. However, due to ongoing testing delays and challenges, IV&V will continue to monitor this recommendation of test execution reporting as it supports overall testing progress. 2025/05/30: The weekly status reports and test status updates did not contain any evidence of final clarification or resolution of the discrepancies in defect retest counts across system testing. As such, there is no indication that these inconsistencies have been fully addressed or resolved, meaning this observation must remain open for continued monitoring and action. 2025/04/30: In April Protech (DDI) fully stood up and transitioned all testing activities and ownership of the AWS environment for the KROM project. While the team is now using a testing dashboard in Jira which is transparent, the Deliverable D-21 (System Test Results Report) is at 25% completion and defect traceability and test closure are not finalized. 2025/03/31: Throughout March, risk and issue tracking improved through targeted updates in the IV&V reports and touchpoint confirmations; however, the RAID log content was not consistently cited in weekly status reports. While IV&V validated the active status of several key risks (e.g., Risk #89 related to data validation and Risk #112 concerning test execution continuity), these risks were primarily referenced through summary narratives, not as direct log item linkages. The most recent RAID log submitted in March lists several active risks not fully integrated into status reports, suggesting this observation should		

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										remain open until cross-referencing practices between RAID logs and weekly reporting are standardized. 2025/02/28: While testing reports did show improvement in February, IV&V will continue to monitor the clarity of the weekly testing reports citing the transition of testing responsibilities to Protech. In order to placemark test reporting progress and clarity, the percentage of testing per testing stream is as of 02/19/2025, - Financial Test Deck (FTD): 75% complete (18 scenarios passed, 6 active). - System Integration Testing (SIT) Execution: 82% complete (78 out of 95 test scripts executed). - Batch Job Testing: 38% validated (improving from previous months, but still below required levels). - Refined UI Testing: 90% complete (410 screens tested, 41 failed cases awaiting defect resolution). IV&V will continue to monitor test reporting clarity through the transition to Protech testing oversight. 2025/01/31: Ongoing challenges related to resource constraints and finalizing validation efforts require continued monitoring to ensure full implementation and long-term stability.		
Process	2024.12.006	Risk	Moderate	Moderate	Some lower-priority testing, such as reporting subsystem batch jobs, reflects 0% progress.	PMBOK® v7 encourages scope and schedule flexibility in adaptive project environments.	Delays in non-critical tasks, such as reporting subsystem batch jobs with 0% progress, highlight the need to reallocate resources to critical testing activities. By deprioritizing these areas and requesting extensions, as supported by PMBOK® v7, the project can focus on achieving timely completion of high-priority deliverables such as KMS Go Live.	(2024.12.07.R1) Request Extension for Non-Critical Deliverables: Deprioritize non-critical testing areas and request extensions for their delivery to reallocate focus to critical testing. To ensure timely completion of high-priority deliverables such as KMS Go Live.	Open	2025/06/30: The remaining open tickets have been reclassified with assigned levels (by ProTech) for priority and criticality. Tickets requiring assistance from IBM are forwarded. It appears that all of the remaining 37 open tickets are being actively worked upon as the goal for ProTech is to have no open tickets to exit SIT. The recommendation is still applicable and IV&V will continue to monitor the defects management process. 2025/05/30: May project updates did not provide explicit evidence of closure for lower-priority testing tasks, such as reporting updates and document finalization. These activities remain open and require focused attention to complete supporting documentation. 2025/04/30: The incomplete state (25%) of D-21 (System Testing Report) as of April 30 further supports keeping Observation 2024.12.006 open. The delays are not isolated to minor reports, they affect key transition documentation necessary for testing and cutover. This document is essential for closing out system testing, gating acceptance testing start, and meeting stakeholder validation requirements. 2025/03/31: In March, the project team communicated and aligned on a revised Go-Live date of November 11, 2025, extending the overall timeline to accommodate continued validation activities, including batch outputs and reporting. While a formal extension request specific to non-critical test items was not documented, the extended schedule and associated updates reflect a de facto approval for additional testing time. This schedule shift has enabled continued work on lower-priority validations, effectively meeting the recommendation's intent. This item may be considered for closure, contingent upon confirmation that remaining report testing is included in the updated cutover and UAT planning. Closure will also be contingent upon Protech completing the activities in the transition SOW for CSEA to review and provide approval in order to formalize the schedule. 2025/02/28: In February the testing teams have prioritized System Integration Testing (SIT) and Financial Deck Testing (FTD) execution, delaying non-essential batch jobs to mitigate schedule risks. A formal extension request is in discussion to defer lower priority deliverables like reporting subsystem batch jobs, ensuring resource alignment with critical milestones. IV&V will continue to monitor the outcome of the discussions. 2025/01/31: Continued progress in refining data management processes and enhancing coordination among key stakeholders. However, persistent challenges in ensuring data accuracy and resolving inconsistencies require further validation efforts and ongoing oversight to achieve full resolution.		

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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	2025/06/30: The project schedule has a 69-day variance and there are still 37 open defect tickets remaining. Staff resourcing, coordination, and stakeholder approvals are areas of high risk. The risk mitigation plan is not tightly integrated with a current or realistic project schedule. IV&V will continue to monitor this observation. 2025/05/30: The weekly status and testing reports continue to document an upward trend in total logged defects, reaching 480 as of late May. This reinforces ongoing risks to schedule alignment and stakeholder confidence if defect closure efforts are not prioritized. 2025/04/30: Compliance and Penetration Testing tasks, dependencies and resource availability remain unassigned as of April 30. 2025/03/31: In March, risk awareness remained a core focus across IV&V and stakeholder reporting, with specific emphasis on transition readiness, batch data quality, and cutover planning risks. Active risks such as Risk #89 (data extraction) and Risk #112 (testing transition) were tracked through status reports and IV&V analysis, and the March RAID log reflected five open risks aligned with ongoing project concerns. However, RAID log integration into weekly reports was still partial, with risk IDs not consistently cited in narrative updates. As such, this observation should remain open, pending full and consistent mapping of RAID risks into weekly reporting artifacts and stakeholder communications. 2025/02/28: In February, risk management processes remain active, with ongoing monitoring of resource allocation, batch job validation, and interface file resolution. Several risks remain open, including data extraction delays, defect resolution issues, and resource constraints. Additional verification and sustained monitoring are needed to ensure risk mitigation strategies are fully implemented before closure. 2025/01/31: Risk mitigation efforts, including strengthened collaboration between teams to address system integration challenges and resolve key technical issues improved in January. However, some dependencies remain unresolved, necessitating additional testing and validation to fully mitigate potential risks before implementation.		
Process	2023.10.002	Risk	Moderate	High	Project management responsibilities may impact effective project execution. The review of prior findings confirms that several closed issues correlate with ongoing challenges in data validation, resource management, interface dependencies, and testing progress. To ensure project success and minimize cutover risks, reopening these findings and implementing corrective actions are advised. Dependencies such as task 593 for "KMS: Acceptance Test Scripts Development Complete" remain unfulfilled. Weekly reports identify unresolved data file dependencies and incorrect file formats (e.g., GDG issues in batch jobs), further delaying progress. Linear task sequencing contributes to delays where tasks could feasibly run in parallel (e.g., compliance and database migration). Financials have 0% validation coverage in the refined UI, highlighting the backlog. REOPENED - May 2025 The May 2025 project schedule continues to show a 54-day variance from the baseline, with no formal rebaseline in place to reflect ongoing challenges. This delay is primarily driven by unresolved critical system testing defects, persistent data extract discrepancies, and performance tuning issues in key batch jobs. The lack of a formal schedule rebaseline or update further elevates the risk of downstream impacts on UAT readiness and stakeholder confidence. The CSEA Project Manager has exited the project with CSEA Project Leadership providing interim coverage. The project at the end of May was experiencing a 54 day variance with zero float in the critical path. Related RAID Log Action Items have not been reassigned to interim	PMBOK® v7 emphasizes resource optimization as part of the "Resource Management" domain. Aligning resource capacity with demand ensures timely task completion. **Performance Domain: Stakeholder** – emphasizes maintaining active engagement and accountability during governance transitions to ensure continued project alignment and stakeholder confidence. **Performance Domain: Planning** – requires integrated schedules that reflect realistic milestone targets and incorporate decision-making frameworks, ensuring that governance and planning activities are fully synchronized for project success. ISO/IEC 16085:2021 recommends proactive risk management to identify areas where concurrent task execution mitigates schedule risks.	CSEA's KEIKI system currently relies on a legacy cyberfusion system running on the State's mainframe for system file and data exchanges with multiple State of Hawaii agencies. The timing of multiple agencies moving off the mainframe at different times will result in the need to modify KEIKI system interfaces after the system has been deployed. Until other State modernization projects are completed, the KEIKI project cannot perform server-based data exchanges and will need to continue to interface via the mainframe. In addition, as the KEIKI project involves integrating a modernized child support system with existing legacy systems, there may be other technological and architectural gaps that arise. These gaps can include differences in technology stacks, such as programming languages, database systems, and operating environments, as well as the absence of modern application programming interfaces (APIs) in the legacy systems. Based on the timing of concurrent State of Hawaii modernization projects and upgrades, the end-to-end testing of the KEIKI system may necessitate the undertaking of supplementary tasks, allocation of additional resources, and coordination efforts. REOPENED-May 2025 **Schedule Variance:** This delay is primarily driven by unresolved critical system testing defects, persistent data extract discrepancies, and performance tuning issues in key batch jobs. The lack of a formal schedule rebaseline or update further elevates the risk of downstream impacts on UAT readiness and stakeholder confidence. **Project Management Interim Coverage:** The departure of the CSEA Project Manager in May has introduced an immediate need for documented interim project management coverage to maintain project governance continuity.	REOPENED: 2023.10.002.R1 – Improve the project schedule to address schedule concerns. • Develop a detailed plan with assigned resources to complete project tasks. • Provide the appropriate detail of tasks, durations, due dates, milestones, and key work products for various parties. CSEA assigned tasks should also be clearly reflected in the project schedule. • Obtain agreement on the baseline schedule and then hold parties accountable for tasks and deadlines. REOPENED: 2023.10.002.R2 – Determine the root causes of delays and develop plans to address them. • Perform a root cause analysis including defining the problem, brainstorming possible causes, and developing a plan to address the root cause of the problem such as resource constraints, dependencies, and undefined tasks. Assess potential opportunities for parallelizing workstreams and efforts. • Based on the experience of the last two months, create a realistic schedule based on the time and resources needed to perform tasks. CLOSED: 2023.10.002.R3 – Assess the need for additional Protech resources for project management support. **CLOSED**: 2023.10.002.R4 – Have the CSEA and Protech Project Managers adopt a more joint, collaborative approach. • Have the interim PMs clearly define their roles and responsibilities in project management responsibilities. • Actively plan, share and execute project responsibilities.	Reopened	2025/06/30: 2023.10.002.R1- The project schedule delay has increased to a 69-day variance. ProTech has proposed to update the project schedule after the issues and defects have been resolved and have exited the SIT phase. ProTech continues to actively work on the 37 remaining open defects and batch load testing. The schedule is at risk and recommendations remain current. 2025/06/30: 2023.10.002.R2- Upon reviewing internal Jira documentation on testing, ProTech is performing root cause analysis, output(s) include screen shots, and testing notes on open tickets. The current schedule does not appear to reflect the timing of testing completion or the resolution of open activities. IV&V will continue to monitor. 2025/06/30: 2023.10.002.R4- CSEA leadership and ProTech have jointly addressed the gap left by the temporary departure of the CSEA Project Manager. This was conveyed both in written and verbal communications. This recommendation has been addressed and is now Closed. 2025/05/30: The temporary leave of absence of the CSEA Project Manager which is now being covered by the CSEA project leads furthers the need to update govenance and decision frameworks to document and formalize the roles of interim CSEA project leads covering the CSEA's Project Management responsibilities. This will ensure accountability, maintain stakeholder alignment and reduce the risk of gaps in project oversight and consistency. This would be an opertune time to access the root causes driving schedule delays and work with Protech to align an agreed schedule in order to eliminate further cascading delays in the project go live date, which is experiencing a 54 day variance from the baseline schedule as of May 30, 2025. Project governance documents, (e.g. RAID Log) should be reviewed and assigned to appropriate action owners. Communications should be drafted to all project stakeholders in order to align them to the appropriate interim project manager with area of oversight responsibility.	Original Close: 2024/05/31 Reopened: 2023.10.002.R2 2024/12/24 Reopened: 2023.10.002.R1 and 2023.10.002.R4 2023/50/30 **Closed: 2023.10.002.R4** **2025/06/30**	Original Closure Note: Closed as the project managers are working more collaboratively to share and execute project responsibilities.

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					coverage owners.		While CSEA project leads have assumed responsibility in the short term, the lack of a formalized approach leaves potential gaps in accountability, risk tracking, and decision-making. Ensuring that interim coverage roles are clearly defined and integrated into overall project governance will reduce risks of miscommunication and schedule misalignment. The details of these governance alignments and assignments should be clearly communicated to stakeholders and reflected in project documentation.			2025/04/30: The root causes driving schedule delays, such as lack of resource clarity, overlapping dependencies, and unscheduled support tasks, remain visible in April. While the project team responded to delays with schedule updates (PCR-3) and completed SIT Iteration 2, the conditions that led to earlier delays have not been systematically mitigated. The continued shifting of the estimated Go-Live date beyond PCR-3's approved timeline further supports the observation that a durable resolution has not yet been realized. IV&V also notes that the critical path from Deliverable D-21 approval to Acceptance Testing start remains under pressure, with zero float, increasing the likelihood of cascading delays if unresolved tasks are not completed promptly. IV&V recommends that the project team consider conducting a root cause analysis and reviewing ownership assignments for critical path readiness tasks, including batch finalization, training, and security preparation, in alignment with PMBOK® v7 guidance on Risk and Resource Management, to reduce the likelihood of further schedule compression. 2025/03/31: As of March, project reporting has improved in granularity, with weekly status reports consistently identifying active risks and testing-related blockers, and IV&V tracking individual RAID log items (e.g., Risks #89 and #112). However, formal distinction between risks, issues, and decisions remains inconsistent across communications, particularly in status reports, where these items are often combined into narrative summaries without clear labeling. While the March RAID log itself includes structured entries for each category, this observation should remain open until consistent, category-specific tagging is incorporated into all reporting streams. In order for CSEA to formally approve the new project schedule, Protech must complete the activities in the transition SOW. Protech needs to schedule a firm delivery date that is acceptable to CSEA with urgency, since the schedule cannot be formally aligned in its absence. 2025/02/28: Efforts to parallelize workstreams (2023.10.002.R2-2) are being evaluated, but coordination between Protech and CSEA while underway is facing larger priorities for testing transition. While progress has been made in identifying root causes and adjusting scheduling strategies, this recommendation is requiring a more structured approach to align testing priorities which may end up being addressed in the testing transition plan. IV&V will continue to monitor that progress. 2024/02/29: 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.		
Technology	2024.06.001	Risk	Moderate	Moderate	There is a risk for delays in the data extraction process, which is critical for the cutover activities, due to reliance on shared mainframe resources, inefficiencies in data extraction programs, and long download/upload times. This could impact the project by increasing costs, compromising the quality of the overall solution, and causing operational downtime of 4 to 5 days during the cutover weekend, thereby extending the project timeline.	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	Open	2025/06/25: In June, the data extract validation process between ADABAS and SQL continued to show record count mismatches, requiring further investigation and validation during system testing. Both hybrid and non-hybrid extraction methods are under evaluation; however, the non-hybrid method remains untested, with its viability expected to be determined before UAT ends. A successful match was confirmed for the April 10 FCR outgoing pre-batch on June 20, but consistent alignment across all datasets has not yet been achieved. To address performance discrepancies, Protech initiated table partitioning (e.g., F156) and parallel binary data loading, which successfully reduced batch load times from 17 hours to under 5 hours. Despite this improvement, five open performance-related defects remain, primarily affecting batch processes such as OCSE157, State Tax Offset, and AP Bill processing. IV&V will continue to monitor progress toward the July target. 2025/05/30: The May weekly status and testing status updates confirmed that data extraction processes and performance discrepancies continue to delay system readiness for UAT testing. Additional testing cycles and data mapping validation efforts are underway to address these extract issues. IV& V will continue to monitor progress toward the July target. 2025/04/30: In April CSEA and Protech (DDI) continue daily coordination post transition (DataHouse departure and transitional SOW activity completion). SQL replication testing is active but not yet fully validated as stable (RAID log Risk #89). Over 30 data outputs from the Feb 18th batch are still in the validation process and the process is still reliant on workarounds and contingency planning ahead of the July 31 validation target. Observation 2024.06.001 should remain open. While progress across all four recommendation areas is evident, final validation has not been achieved, and extract-related risks remain active. Continued IV&V monitoring is necessary through July to assess the effectiveness of SQL replication and full extract validation before the system cutover.		

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								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.		2025/03/31: In March, the project team made notable progress toward addressing data extract quality issues, including the launch of structured half-day CSEA agency validation sessions, and the initiation of a deliverable to identify non-printable characters in hybrid DB fields. Although SQL replication failures and data formatting mismatches remain contributors to delayed batch output validation, Risk #89 continues to track these issues as open. With key activities underway but final validation still pending for over 30 outputs from the February 18 batch cycle, this observation should remain open, with closure considered once extract stability and validation results are fully confirmed. We acknowledge that targeting the new Go-Live date of 11/11/2025 to utilize a long weekend for cutover will reduce risk. 2025/02/28: While progress has been made in refining extraction strategies and implementing validation checkpoints, full validation and risk mitigation have not been achieved, and cutover risks remain active. Continued IV&V monitoring is required to ensure SQL replication testing is validated and operational before cutover planning. SQL replication testing continues (2024.08.001.R1), with CSEA and DDI holding daily coordination meetings, but validation of the approach has not yet been completed. These activities will need to resume with Protech taking over DDI's responsibilities. Verification and validation steps have improved (2024.08.001.R2), but discrepancies in extracted data persist, requiring additional conversion accuracy checks and space management adjustments (2024.08.001.R4). Risk management for binary and ASCII file handling. (2024.08.001.R3) is ongoing, with proactive error tracking reducing potential corruption risks, but validation remains incomplete. 2025/01/31: The latest status update for January indicates continued collaboration between CSEA and DDI to refine the SQL replication strategy, with dedicated resources actively testing extraction improvements to mitigate risks associated with prolonged data transfer times. In alignment with IEEE 1012-2016, verification checkpoints have been partially implemented (2024.08.001.R1), validation steps for extracted data consistency are progressing (2024.08.001.R2), and additional risk assessments for binary and ASCII file handling are ongoing to prevent data corruption (2024.08.001.R3), while space availability concerns remain under review with contingency planning in progress (2024.08.001.R4). 2024/12/24: (2024.08.001.R1) - Verification of Data Extraction and Conversion Processes: Verification processes have progressed, with partial implementation of checkpoints for ASCII to BCP script conversions. File counts and conversion accuracy validations are ongoing, resolving discrepancies iteratively to reduce downstream errors. Additional automated checks are required to fully strengthen the verification process. (2024.08.001.R2) - Validation of Extracted Data Consistency: SQL-to-SQL comparisons between Protech and CSEA systems have advanced, with validation checkpoints introduced after major extraction tasks. Improvements in data alignment are evident, but interface data discrepancies remain, requiring further validation for end-to-end consistency across systems. Batch validation using September 30 production data demonstrated reduced inconsistencies. (2024.08.001.R3) - Risk Management for Binary and ASCII File Handling:		
										Risk assessments for binary and ASCII file conversions have identified critical areas requiring additional testing to mitigate risks of data corruption. Packed binary and date/time field issues have been resolved, but validation of file integrity during conversion phases is still crucial. Proactive error tracking has minimized potential issues during testing phases. (2024.08.001.R4) - Resource Management and Space Availability: Resource assessments and adjustments to mainframe utilization have improved testing efficiency by addressing storage and computational limitations. Contingency plans for storage shortages have been established, ensuring smoother testing and batch processing cycles. Continued focus on resource prioritization is needed to avoid delays in high-demand testing periods. IV&V will continue to monitor these recommendations and validate progress until full resolution is achieved.		

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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	2025/06/25: As of June, interface development and testing efforts continue under System Integration Testing (SIT) Iteration 2, which is 97% complete. Interface-related performance issues persist, particularly with batch processes such as OCSE157, State Tax Offset, and AP Bill, and are being tracked under RAID Log IDs 35 and 56. These issues highlight ongoing challenges in ensuring compatibility and performance across agency systems. The project has not yet confirmed a final decision on the use of Code-1 Plus software, which is critical for address normalization and cross-agency data compatibility. Additionally, the bridge program to support address normalization is 91% complete, and the Twilio integration for job failure notifications is being explored to improve system responsiveness. While progress is being made, continued attention to interface flexibility, performance tuning, and coordination with external system upgrades is needed to meet and support future integration requirements. 2025/05/30: In May, interface dependency updates focused on the CSEA proposed changes to the BOH interface file format, which have yet to be formalized and integrated into the schedule. Interface testing activities continued to address performance and data validation concerns, including FTP interface updates and mock file exchanges with external partners. Protech and CSEA should establish a formal change control process for interface updates, ensuring that any new interface file formats or dependencies are incorporated into the project baseline and verified through testing. 2025/04/30: Interface structures have been defined and designed for flexibility, but interface testing and retest confirmation remain incomplete. Dependencies on other agencies' modernization timelines continue to impact readiness, and discrepancies between legacy and replatformed outputs are still under resolution. Observation 2024.03.001 should remain open to track continued validation and confirmation of interface compatibility with both modern and legacy systems. While the interface inventory and flexibility planning are complete, testing delays and agency modernization dependencies are still impacting readiness and traceability. 2025/03/31: In March, Protech began validating the 228 open defects within Jira, including over 100 unconfirmed issues, and took ownership of ensuring traceability between defect resolution and retesting outcomes. While SIT retesting is well underway for most UI and batch-related defects, interface testing continues to experience delays, particularly due to difficulties capturing test files prior to downstream system consumption. These challenges have limited retesting confirmation for interface-related defects. Therefore, this observation remains open, with resolution contingent on improving test traceability and confirming retest documentation across all functional areas, including interfaces. 2025/02/28: Testing has identified compatibility challenges (2024.03.001.R2-2), particularly with external agency system upgrades, requiring enhanced flexibility in interface configurations. While progress has been made in interface planning and validation, ongoing compatibility challenges and pending refinements necessitate continued monitoring and testing before this recommendation can be closed. 2025/01/31: While progress has been made in developing flexible interface structures and planning for future modifications, end-to-end testing remains ongoing, and coordination with other departments is still required, meaning recommendation 2024.03.001.R2 cannot yet be closed until full compatibility and adaptability are validated. 2024/12/24 - (2024.03.001.R2) In December 2024, progress was made in identifying system interfaces and their communication methods, with updates shared during weekly interface workshops. Efforts to ensure flexibility in data structures and interface configurations continued, including adjustments for compatibility with modernization efforts in partner agencies. Testing activities focused on validating data exchange through SQL-to-SQL comparisons and resolving discrepancies in interface files, with additional workshops scheduled to address integration challenges. While significant improvements were achieved, ongoing coordination with other departments is essential to ensure compatibility as their systems undergo upgrades. Detailed end-to-end testing remains a critical next step to confirm readiness for production. 2024/11/27 -(2024.03.001.R2)– Interface Planning and Compatibility All interfaces have been cataloged, classified as inbound, outbound, or both, with their communication protocols clearly defined. This includes identifying dependencies with external systems from partner agencies. Further validation of interface files, particularly those with missing or incomplete data, is being prioritized during ongoing batch testing. Interfaces and related data structures have been developed with flexibility in mind, allowing for future changes without significant redevelopment. The system design supports updates to schema or message formats. Continue refining flexibility by testing adaptability with mock data representing potential future scenarios and configurations. Interface validation testing is underway using production-like files. Initial validations highlighted discrepancies in legacy and replatformed outputs, which are being addressed iteratively. Detailed testing will continue alongside integration testing (SIT) to ensure that interfaces remain compatible with upgrades to external agency systems.		

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										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.		
People	2024.12.001	Risk	Moderate	Moderate	Critical tasks like "AWS Environment Pub1075 Compliance" and "KMS: Acceptance Test Scripts Development Complete" have 0% completion despite their planned start in October 2023. This indicates potential resource or prioritization constraints. Weekly testing reports highlight slow progress due to insufficient resources (data processing) allocated to batch validation and interface testing. For example, only 16% of batch jobs have passed validation as of December 18, 2024. Though data transfer and processing is the primary issue, downstream considerations for knowledge transfer must also be considered and delivered timely to prevent future testing and validation delays and provide a seamless hand off to CSEA to maintain quality.	PMBOK® v7 emphasizes resource optimization as part of the "Resource Management" domain. Aligning resource capacity with demand ensures timely task completion.	Resource allocation challenges are hindering progress on critical tasks like compliance testing and test script development, evidenced by 0% completion rates and testing backlogs (e.g., only 16% of batch jobs validated). Addressing these issues through skilled resource deployment and upskilling initiatives will mitigate delays, accelerate milestone completion, and align with PMBOK® principles for optimized resource management.	(2024.12.001.R1) Enhancement of resource allocation: the vendor team should consider assigning and aligning additional or more experienced resources to the delayed tasks and backlog testing areas such as financials and support UI validation.	Closed	2025/04/30: System Installation activities progressed to 66% completion, including KEIKI database and AWS-hosted environment configuration.IRS Pub 1075 (security and privacy requirements for agencies and contractors who receive or process Federal Tax Information) compliance was documented and tracked throughout Q1. Functional SIT and system testing were completed in April, and backlog test cases appear closed via full script execution in SIT Iteration 2, which shows all 119 test scripts were executed and passed. IV&V recommends closing this observation and its resulting recommendation (2024.12.001.R1).. 2025/03/31: As of March 2025, CSEA has confirmed that they have appropriate access to AWS since the Protech transition and overall testing access and coordination have improved, particularly through structured agency validation meetings led by CSEA. The KEIKI project's batch testing was reported as 87% complete, according to the most recent Critical Path schedule update. This reflects cumulative progress across multiple batch testing iterations, including performance tuning efforts and output validation cycles associated with the February 18 dataset. The remaining batch activities, including Iteration 5 and final validation are scheduled to continue into April. This observation shall remain open until the formal schedule alignment has been conducted and approved by CSEA and backlog testing areas have been addressed. 2025/02/28: 38% of batch jobs have passed validation as of February 26, 2025, showing an improvement but still below required levels for progression into the next phase. Resource shortages in financials and UI validation are slowing testing execution, requiring additional skilled personnel to meet backlog demands. DDI has withdrawn from the project as of February 19, 2025, causing the necessity for a testing allocation transition plan to Protech which is still in progress, IV&V will continue to monitor progress. 2025/01/31: Progress continues in addressing the identified issue, with recent efforts focused on refining data validation processes and improving coordination between stakeholders. However, challenges remain in fully resolving discrepancies, and additional verification steps will be required to ensure consistency before final implementation.	45784	See Status Update 2025/04/30

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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	2024.08.001	Risk	Moderate	Low	Industry Standards and Best Practices: IEEE 730-2014 standard recommends that status reports include certain key information to ensure effective communication of testing and quality assurance activities.		There is currently a weekly testing report provided to the Project Team. The report conveys the number of testing scenarios in process, however the report does not offer a total number of test cases to be processed for each workstream, nor does it convey full metrics, such as percentage of completion of the total scope within the testing categories and how those align with the project schedule parameters. This can contribute to risk when total transparency is not displayed.	**Closed** 2024.08.001.R1 – The report should outline recommended actions based on the current state of testing, as well as the next steps for future testing activities. Ensure that key stakeholders can easily understand the report's findings and implications. •Metrics and Measurements: The separate weekly test report should provide metrics that reflect the quality of the software, such as pass/fail rates, coverage of tests (e.g., percentage of test cases executed), and other relevant testing metrics, i.e., total scenarios to be tested, percentage of completion and timeline for completion. •Schedule and Milestones: The current status of the testing schedule should be reported, noting any deviations from planned milestones and deadlines. The report should reflect the current state of testing completion tracking as aligned with the project schedule. •Decisions and Change Requests: Any key decisions made during the testing phase, including approved or pending change requests that impact testing or quality assurance activities, should be included.	Closed	2024/10/31: 2024.08.001.R1 (Testing Reports) The weekly testing reports now include pass/fail rates, coverage metrics, defect tracking, and milestone updates, providing a clearer understanding of testing progress and project health. This aligns with the recommendation for improved reporting metrics and stakeholder communication. 2024/09/30: 2024.08.001.R1 (Testing Reports) Significant improvements have been made in the most recent reports and provide a clearer understanding for all stakeholders. IV&V will continue to monitor as these improvements to visibility progress.	2024/10/31	There is now an aligned and improved test reporting metrics with stakeholder communication that affords efficiency and agility in the team making informed decisions.
Process	2024.06.002	Risk	Moderate	Moderate	The project faces a significant risk of incurring extensive costs for delivering the necessary data to test the refactored KEIKI application, potentially leading to delays in the project timeline and increased budget constraints. Despite discussions with Protech and AWS, the issue remains billing-related rather than technical, necessitating ongoing negotiations with ETS to determine financial responsibility. CSEA has developed a second option to use a SQL to SQL transfer in to reduce the amount of federal funding needed for this piece of the contract. In the month of July testing will be conducted to test the viability of this cost saving measure. A decision will be made at the end of July. With the new State CIO starting on August 15, decision-making could be further delayed into the Fall.		Meetings have been held with Protech to discuss the data extraction costs. Protech has engaged AWS for options, but AWS indicates the issue is billing-related, not technical. The cost of delivering data for testing is critical for the KEIKI project, but CSEA finds the current costs prohibitive. Discussions with Protech and AWS indicate the need to resolve the billing issue rather than technical challenges. Without a resolution, this issue could impact the project timeline and budget. CSEA continues to engage ETS to negotiate a cost cap and explore alternative solutions.	2024.07.002.R1 – Continue negotiations with ETS to secure financial support for data delivery. • Engage in discussions to find a feasible cost structure that aligns with project budgets. • Ensure clear communication of cost concerns and impacts to ETS. 2024.07.002.R2 – Explore alternative solutions with Protech and AWS. • Investigate potential cost-saving measures or alternative technical approaches. • Seek AWS assistance to better understand and manage billing concerns. 2024.07.002.R3 – Improve performance of data extraction programs to minimize timing and associated costs. • Work with Protech to identify and implement optimizations in the data extraction process.	Closed	2024/07/31: The SQL to SQL method for data extraction and transfer has been confirmed. CSEA has addressed the issue of cost.	2024/07/31	The SQL to SQL method for data extraction and transfer will be used. CSEA has confirmed that the costs have been addressed.
Process	2024.03.002	Issue	Moderate	Moderate	Inadequate schedule and resource management practices may lead to project delays, missed project activities, unrealistic schedule forecasts, or unidentified causes for delays.		The overall project end date and Go-Live date is projecting a 17-day variance due to the delay in the assessment validation which was completed in February. It is crucial for the Protech and CSEA project managers to both take active roles in tracking and monitoring project activities, especially delayed and upcoming tasks, to collaborate on ways to get the project back on track. Although the project metrics are showing a 17-day variance, some project tasks are delayed 1 to 2 months from the approved baseline including building the KEIKI database, developing system test scripts, UI design, UI development, code conversion, system test execution, etc. CSEA should have a clear understanding of the impact of delays on the overall timeline and validate the 17-day schedule variance.	2024.03.002.R1 – Based on the complexity of the KEIKI project, review and refine the schedule regularly with detailed tasks, realistic durations, and adequate resources. • The project managers should meet weekly to discuss the project schedule, continue to identify detailed-level tasks based on high-level timelines, and identify schedule and resource related risks. • The CSEA project manager should conduct independent reviews of the schedule and project metrics, proactively communicate upcoming State tasks to CSEA stakeholders, create State specific detailed schedules, and communicate any concerns with the quality of vendor execution. • The Protech project manager should be executing tasks based on the approved schedule, identify schedule variances, ensure all project resources are on track, and report on quality and project metrics to ensure the project is meeting its objectives and goals.	Closed	2024/06/30: Issue closed. The schedule was updated and the 17-day variance was successfully mitigated, ensuring the project remained on track. The project schedule continues to be discussed weekly. IV&V encourages the CSEA PM to conduct in depended reviews of the schedule and project metrics. IV&V will continue to monitor progress made on schedule and resource management practices. 2024/05/31: Protech delivered a draft of the replanned project schedule and analysis for CSEA's feedback and approval. The revised schedule maintains the original Go-Live date. 2024/04/30: Project managers started meeting regularly to review the project schedule. The project managers will do a deeper analysis of the upcoming technical tasks, and then recalibrate the project schedule in May.	2024/06/30	The schedule was updated and the 17-day variance was successfully mitigated, ensuring the project remained on track. The project schedule continues to be discussed weekly.
Process	2024.02.001	Preliminary	N/A	N/A	Additional information is needed regarding Protech's program development and testing approach.		In February, Protech delivered the System Requirements Document and Test Plan which are still under review. CSEA already provided a number of comments for both deliverables requesting additional clarification or additional documentation. Both deliverables do not provide sufficient understanding of Protech and One Advanced's approach for the program development and testing phase. There needs to be a clearer mutual understanding of how Protech's development and testing approach will ensure that the new system and user interface will maintain the same functionality, data, and system interfaces as the old system. The System Requirements Definition deliverable is high-level documentation of items such as source code, data component, and interface tables but does not actually capture the required functionality using industry standard format for requirements. Documenting requirements is especially important for the development of the	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. IV&V will continue to monitor the clarification of the program development and 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.	2024/06/30	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.

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							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.			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.		consideration.
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.
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	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.	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.	2024/01/31	Risk closed as the inventory of non-code and ancillary elements was completed.

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							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.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.		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.		
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	1&2 of appendix	Re: CSEA access to JIRA, CSEA staff does have access and are able to drill down from the dashboard or other alternative views.	CSEA-ITO	IV&V has accepted the comment and has made corresponding revisions to Observations 2024.12.005 and 2023.10.002.R2 on pages 1 and 2 in Appendix C respectively.
2	4	The IV&V Observations chart for the 'Process' category has been revised to reflect 1 preliminary, ***1 high-risk*** (formerly medium), and 4 medium-risk observations.	Accuity	The previous draft inadvertently showed the process observation as a medium-risk . The IV&V Observations chart has now been revised to align with the Prior Findings Log's Observation **2023.10.002,** reflecting the latest 6/30/25 update.
3	10	As referenced in Comment Log ID #1, CSEA has access to Jira and is able to drill-down from the dashboard or other alternative views.	Accuity	Page 10 was updated to align with Comment Log ID #1 in Appendix D.

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