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February 27, 2024

The Honorable Ronald D. Kouchi President of the Senate and Members of the Senate Thirty-Second State Legislature State Capitol, Room 409 Honolulu, Hawai'i 96813 The Honorable Scott K. Saiki Speaker and Members of the House of Representatives Thirty-Second State Legislature State Capitol, Room 431 Honolulu, Hawai'i 96813

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

Pursuant to HRS section 27-43.6, which requires the Chief Information Officer to submit applicable independent verification and validation (IV&V) reports to the Legislature within 10 days of receiving the report, please find attached the report the Office of Enterprise Technology Services received for the State of Hawai'i, Department of Attorney General (AG), Child Enforcement Agency (CSEA).

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

Sincerely,

Douglas Murdock Chief Information Officer State of Hawai'i

Attachment

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

KEIKI Replatform Off Mainframe (KROM) Project

AND

MONTHLY IV&V REVIEW REPORT

January 31, 2024 | Version 1.0



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Document History

DATE	DESCRIPTION	AUTHOR	VERSION
02/09/24	Monthly IV&V Review Report Draft created.	Julia Okinaka	0.0
02/26/24	Monthly IV&V Review Report finalized. Comments and responses were included in Appendix D which did not result in changes to the report.	Julia Okinaka	1.0

BACKGROUND

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

Our initial assessment of project health was provided in the first Monthly IV&V Review Report as of October 31, 2023. Monthly IV&V review reports will be issued through September 2024 and build upon the initial report to continually update and evaluate project progress and performance.

Our IV&V Assessment Areas include People, Process, and Technology. Each month we will select specific IV&V Assessment Areas to perform more focused IV&V activities on a rotational basis. The focus of our IV&V activities for this report included the completion of a two-month assessment of People and the beginning of a two-month assessment of 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 January 31, 2024. 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.

"The future TEAMWORK depends on what We "Alone We can do so littper, a south HER we can DO SO MUCH." - Mahatma Gandhi - Hellen Keller TESTING



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

JANUARY 2024 · KROM PROJECT

NOV	DEC	JAN	IV&V ASSESSMENT AREA	IV&V SUMMARY
			Overall	 Project delays continue even with the addition of Protech project management resources. Improvements of schedule management practices are necessary to prevent ongoing delays from impacting the overall project timeline and Go-Live date. If not addressed, process-related issues may have an impact on the success of the overall project. Project managers should adopt a more joint, collaborative approach to share and clearly delineate project management responsibilities. <i>Project Schedule</i>: If outstanding tasks are not properly managed, the cumulative impact of schedule delays may impact the aggressive September 22, 2025 Go-Live date (2023.10.002). <i>Project Costs</i>: Contract invoices received to-date are within total contract costs. Additional technology costs related to increasing bandwidth for data transfer are being evaluated. <i>Quality</i>: Quality metrics were identified in the Project Management Plan, including schedule metrics, test script pass rate, testing metrics, and defect management metrics. To date, schedule metrics have been monitored and reported on weekly; however, the schedule metrics are based on time lapsing for % completion instead of actual progress. Project Success: CSEA drafted success metrics this month that are aligned with the project's objectives and success criteria. IV&V will assess the communication, and reporting, and monitoring of success metrics in the coming months.
G		6	People Team, Stakeholders, & Culture	 The Monthly Steering Committee (ESC) met in January with representation from CSEA and Protech leadership. Continued active involvement by project sponsors is critical to project success. Protech added on additional project resources to help address project management and schedule management concerns, including two staff assigned to provide project management support. Other resources were provided in the areas of quality assurance, test scripts, and the HATS user interface (UI) (2023.10.002). More effective project communication is needed to ensure that all project members are aligned and understand their roles, which reduces confusion and enhances productivity. Regular communication can also build trust and promote a positive team environment (2024.01.001). As tasks continue to be extended, drawn out, and/or shifted back to overlap with other planned activities, the impact on project resources should be actively monitored (2023.10.002). So far, CSEA project team members are generally able to keep up with current project activities. Project stakeholders external to CSEA had not been identified in the approved ProjectManagement Plan which includes communication management. CSEA identified external project stakeholdersing their project Charter and plans on revisiting other project plans and activities to determine appropriate communications and engagement.

JANUARY 2024 · KROM PROJECT

NOV	DEC	JAN	IV&V ASSESSMENT AREA	IV&V SUMMARY
			Process Approach & Execution	 Improvements of schedule management practices are necessary to prevent ongoing delays from impacting the overall project timeline and go-live date. This risk will continue to be evaluated with the recent addition of Protech resources (2023.10.002). To improve the timeliness of project execution, project managers can adopt a more joint, collaborative approach to share and support project management responsibilities (2023.10.002). Weekly project status reports do not provide a comprehensive overview of the project status, requiring additional research and analysis of past reports and the Microsoft Project schedule to gain a complete understanding of project delays, risks, issues, and action items to ensure project progress remains on track (2024.01.001). In January, Protech delivered the Performance Metric Standard Reporting document. Six key deliverables are projected to be delayed including the KEIKI System Requirements Definition document, Code and Data Conversion Plan, Technical Architecture Plan, System Architecture, System Test Plan, and UI Refinement Plan. The project defined success metrics in January across various categories including system performance, data integrity, regulatory compliance, functionality, and effective user training. Proper reporting and monitoring of success metrics is important to determine if the project is on track.
			Technology System, Data, & Security	 After the Automated Application Assessment process was completed in December 2023, the validation of the KEIKI assessment results was targeted for completion in early January. Delays and challenges with the validation resulted in the recollection of some components and adjustments to the application scope, pushing back the validation target date to February. Several key tasks and deliverables are dependent on the assessment validation including the scope of the future production KEIKI application, requirements deliverable, and final code conversion. The inventory of KEIKI system asset requirements was completed and will be reviewed and validated as part of the Technical Architecture Document and System Requirements Definition document. The HATS UI customization is ongoing and UI designs delivery is on schedule in February. Some technology tasks are delayed including review of security requirements and test data obfuscation. CSEA held a meeting with the Office of Enterprise Technology Services to discuss current bandwidth limitations with the mainframe datacenter which may impact the ability to migrate large data. The additional time needed for data extract and transfer may result in additional project delays.* The KEIKI system has system interfaces with several State agencies who are also going through their own modernization efforts. Depending on the pace and outcomes of these modernization efforts, the system interfaces and associated testing may be impacted. CSEA is monitoring and exchanging information with the relevant agencies.*

IV&V ASSESSMENT AREAS

People

Process

Technology

OBSERVATION #: 2024.01.001

Observation: Ineffective project status meetings and reports can lead to delayed decision-making, lack of accountability, and reduced morale.

TYPE: RISK

SEVERITY:

STATUS: OPEN

Industry Standards and Best Practices: PMI PMBOK provides best practices and guidelines on developing a communications plan, identifying stakeholders, establishing communication channels, and conducting status meetings and producing status reports.

Analysis: 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.

Recommendation: 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.

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.

Appendix A: IV&V Criticality and Severity Ratings

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.

ISSUE An event that is already occurring or

An event that has not

happened yet.

happelined!y

TERMS

RISK



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.



TERMS

POSITIVE Celebrates high performance or project successes.

PRELIMINARY CONCERN Potential risk requiring further analysis.

Appendix B: Industry Standards and Best Practices

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

STANDARD	DESCRIPTION
IEEE 15288-2023	ISO/IEC/IEEE International Standard – Systems and Software Engineering – System Life Cycle Processes
IEEE 12207-2017	ISO/IEC/IEEE International Standard – Systems and Software Engineering – Software Life Cycle Processes
IEEE 24748-1-2018	ISO/IEC/IEEE International Standard – Systems and Software Engineering – Life Cycle Management – Part 1: Guidelines for Life Cycle Management
IEEE 24748-2-2018	ISO/IEC/IEEE International Standard – Systems and Software Engineering – Life Cycle Management – Part 2: Guidelines for the Application of ISO/IEC/IEEE 15288 (System Life Cycle Processes)
IEEE 24748-3-2020	IEEE Guide: Adoption of ISO/IEC TR 24748-3:2011, Systems and Software Engineering – Life Cycle Management – Part 3: Guide to the Application of ISO/IEC 12207 (Software Life Cycle Processes)
IEEE 14764-2021	ISO/IEC/IEEE International Standard for Software Engineering – Software Life Cycle Processes – Maintenance
EEE 15289-2019	ISO/IEC/IEEE International Standard – Systems and Software Engineering – Content of Life Cycle Information Items (Documentation)
EEE 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
EEE 23026-2015	ISO/IEC/IEEE International Standard – Systems and Software Engineering – Engineering and Management of Websites for Systems, Software, and Services Information
EEE 29119-1-2021	ISO/IEC/IEEE International Standard – Software and Systems Engineering – Software Testing – Part 1: Concepts and Definitions
EEE 29119-2-2021	ISO/IEC/IEEE International Standard – Software and Systems Engineering – Software Testing – Part 2: Test Processes
EEE 29119-3-2021	ISO/IEC/IEEE International Standard – Software and Systems Engineering – Software Testing – Part 3: Test Documentation
EEE 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®
SO/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



Appendix C: Prior Findings Log

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SSESSMENT OBSERVAT	TION		ORIGINAL	OUDDENT							
SESSMENT OBSERVAT			SEVERITY	CURRENT	OBSERVATION	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CLOSURE REASON
chnology 2023.12.00	001 P	ositive	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	NA	01/31/24	Closed as this is a positive observation.
nology 2023.11.00	001 R	sk	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.	requirements collection, migration, and validation activities. The project has a formalized process for application code migration but lacks a clear process for gathering non-code and ancillary elements including hardware, software, interfaces, and batch files. The absence of a separate, formalized process	 2023.11.001.R1 – Develop separate formalized data system migration plans and processes for non-code elements. A separate implementation plan should be clearly outlined, determining the timeline, tasks, tools, and resources needed to perform these activities. Develop a formalized data migration acceptance process for the remaining cycles with defined acceptance criteria. Determine what validation is needed by other agencies and stakeholders that rely on CSEA's Keiki system and outputs. 2023.11.001.R2 – Investigate automated tools for tracking and validating data system requirements. Automated data validation should be investigated to help identify missing elements, increase data accuracy, and alleviate resource constraints. 2023.11.001.R3 – Ensure data system requirements are comprehensive and complete upfront. The project managers should ensure greater coordination of project information needed for requirements management and tracking. Consider an outproint dedicated Data System Migration Leads from both Protech and GSEA. Consider Identifying data migration requirements, supporting the existing data and validation. 	Closed	12/31/23: CSEA appointed two dedicated Data System Migration Leads. It is unclear if Protech also appointed a dedicated lead. A clear plan is still missing, and CSEA documented a formal issue related to the lack of information coordination and redundant requests related to the data system migration requirements. 01/31/24: Risk closed as the inventory of non-code and ancillary elements including hardware, software, interfaces, and batch files was completed and will be validated as part of the technical architecture and system requirements documentation.	01/31/24	Risk closed as the inventory of code and ancillary elements w completed.
ocess 2023.10.00	002 R	sk	Prelim	Moderate	Untimely project management responsibilities may impact effective project execution.	was incomplete and listed due dates that were already missed for several deliverables. The implementation of strong schedule and resource management practices early will help the project start off right and stay on track. Protech's Project Manager is experienced with similar implementations and is working collaboratively with the project team to address feedback. Possible root causes or contributing factors are turnover of project management support. Another possible root cause is Protech's need to revisit the project RFP and submitted proposal to reduce the misalignment of expectations, creating longer deliverable review cycles.	 2023.10.002.R1 – Improve the project schedule to address schedule comments. Develop a detailed plan with assigned resources to complete project tasks. Provide the appropriate detail of tasks, durations, due dates, milestones, and key work products for various parties. CSEA assigned tasks should also be clearly reflected in the project schedule. Obtain agreement on the baseline schedule and then hold parties accountable for tasks and deadlines. 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 and undefined tasks. Based on the experience of the last two months, create a realistic schedule based on the time and resources needed to perform tasks. 2023.10.002.R3 – Assess the need for additional Protech resources for project management support. NEWI 2023.10.002.R4 – Have the CSEA and Protech Project Managers adopt a more joint, collaborative approach. Have the PMs clearly define their roles and responsibilities in project management responsibilities. Actively plan, share and execute project responsibilities. 	Open	11/30/23: This was originally reported in the October 2023 IV&V Monthly Report as a preliminary concern but was upgraded to and rewritten as a risk this month with recommendations. The project is still challenged with insufficiently updating deliverables and continued delays in the proposed project schedule. 12/31/23: Accuity increased the severity rating from Level 3 (Low) to Level 2 (Moderate). More rigor on foundational project management practices is needed to prevent further delays and increase the quality of project execution. The approved project schedule still lacks detailed tasks to adequately plan project resources and monitor project performance. Although the project schedule has some percentage completion, the process to monitor and calculate metrics is unclear. 01/31/24: Despite several meetings, there is still a need for a greater shared understanding of schedule concerns between Protech and CSEA. This risk will continue to be evaluated with the recent addition of Protech resources to improve the timeliness of project execution, a recommendation was added that project managers can adopt a more joint, collaborative approach to share and clearly delineate project management responsibilities. IV&V will continue to assess project management responsibilities.		

ASSESSMENT AREA	OBSERVATION			CURRENT	OBSERVATION	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CLOSURE REASON
People	2023.10.001	Positive	N/A		and the environment between Protech and CSEA is collaborative.	The CSEA SMEs appear to be engaged in o ngoing 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.		Closed	NA		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
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ID #	Page #	Comment	Commenter's Organization	Accuity Resolution
1	Ineffective Status Reporting	DDI has worked with CSEA to improve the weekly status report. The report has been streamlined and the schedule metrics have been added to link the metrics to specific areas/activities. Details as to the cause of delays/variances are reflected in the report as well. DDI continues to encourage participation in the status meetings by asking questions and calling on attendees to provide input.	CSEA	Statements and status updates from CSEA are for progress made after the January reporting period related to project reporting, project metrics, and communications management. Progress made on these processes and responsibilities will be reflected in future IV&V reports. No changes made to the January IV&V Report.

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