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March 29, 2023

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 ten 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 Commerce and Consumer Affairs, Business Registration Modernization Project.

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

Sincerely,

Douglas Murdock (Mar 29, 2023 11:41 HST)

Douglas Murdock
Chief Information Officer
State of Hawai'i

Attachment

STATE OF HAWAII
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS (DCCA)

Business Registration Modernization (BRM) Project

MONTHLY IV&V REVIEW REPORT

February 28, 2023 | Version 1.0

ACCUITY

An independent member of bakertilly INTERNATIONAL

Table of Contents

Document History

DATE	DESCRIPTION	AUTHOR	VERSION
03/10/23	Monthly IV&V Review Report Draft created	Julia Okinaka	0.0
03/28/23	Monthly IV&V Review Report finalized with no changes. Comment submitted and included in Appendix D.	Julia Okinaka	1.0

BACKGROUND

The State of Hawaii (State), Department of Commerce and Consumer Affairs (DCCA) contracted Century Computers, Inc. (Pacxa) on July 1, 2022 to provide services for the Business Registration Modernization (BRM) Project to redesign the Business Registration (BREG) Division's business registration processes and modernize its systems. DCCA contracted Aalta LLC (Aalta) to provide project management services for DCCA and also contracted Accuity LLP (Accuity) to provide Independent Verification and Validation (IV&V) services for the BRM Project.

Our initial assessment of project health was provided in the first Monthly IV&V Review Report as of August 31, 2022. Monthly IV&V Review Reports will be issued through December 2023 and will 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. IV&V has areas of limited visibility or access to all project activities that may prevent a complete identification of project risks.

The IV&V Dashboard and IV&V Summary provide a quick visual and narrative snapshot of both the project status and project assessment as of February 28, 2023. 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.

RISK MANAGEMENT

"All of life is the management of risk, not its elimination."

- Walter Wriston

PROJECT ASSESSMENT

FEBRUARY 2023

SUMMARY RATINGS

OVERALL RATING

Y

Deficiencies were observed that merit attention and remediation in a timely manner.

PEOPLE Y

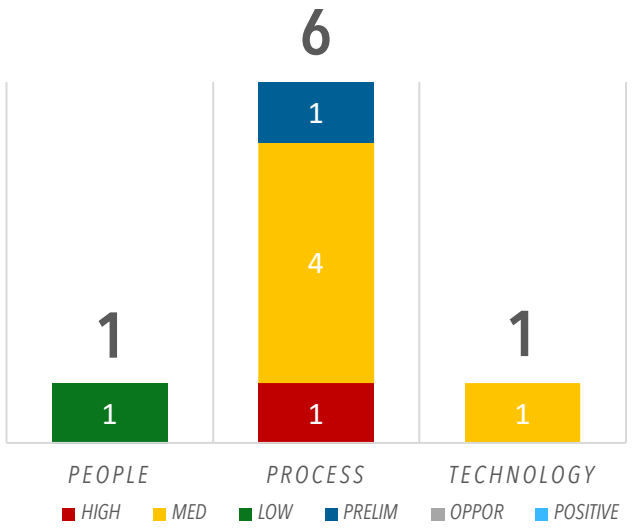
PROCESS Y

TECHNOLOGY Y

CRITICALITY RATINGS

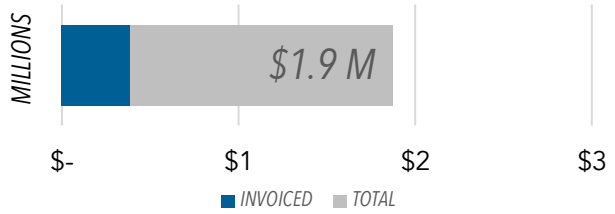
R HIGH | Y MEDIUM | G LOW | NA N/A

IV&V OBSERVATIONS



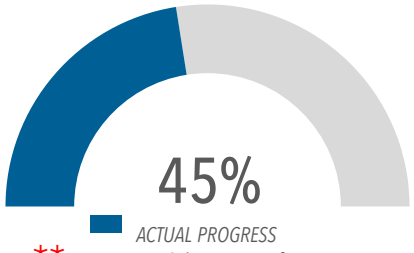
2	8	0	13
NEW OBSERVATIONS	OPEN OBSERVATIONS	CLOSED OBSERVATIONS	OPEN RECOMMENDATIONS

PROJECT BUDGET *



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

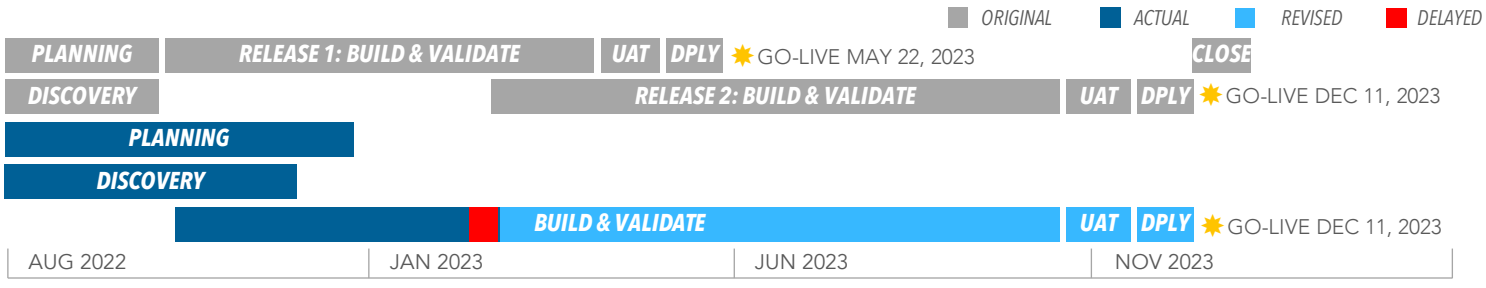
PROJECT PROGRESS **



** IV&V unable to verify %.

KEY PROGRESS & RISKS

- The BRM Project concluded Sprint 2; however, over 20% of Sprint 2 user stories were not completed.
- The DCCA PM's delay in developing clear processes to trace, test, and approve requirements may impact the ability to ensure the overall BRM solution fulfills all requirements and expectations.
- Current risk management processes aren't communicating risks or executing risk mitigating tasks early enough which may impact project scope, schedule, and costs.
- Untimely and insufficient completion of project management responsibilities may impact effective project execution.



DEC	JAN	FEB	IV&V ASSESSMENT AREA	IV&V SUMMARY
G	Y	Y	*Overall*	The BRM Project concluded Development Sprint 2; however, over 20% of Sprint 2 user stories were not completed. Stronger risk and schedule management practices are critical to ensuring impact to project scope, schedule, and costs are minimized. Project Schedule: There are ongoing schedule delays. If outstanding tasks are not properly planned, the cumulative impact of minor project changes may jeopardize the aggressive December 2023 Go-Live date (2022.09.001). Project Costs: Contract invoices received to-date are within total contract costs; however, additional technology costs are being evaluated by DCCA. Quality: Defects for Sprint 1 and 2 are being tracked and monitored to improve the quality of development and testing. As preliminary client validation (soft user acceptance testing (UAT)) is planned for May, the project's quality metrics should be reviewed and communicated. Project Success: Project success metrics are delayed and may lead to differences in the interpretation of project success (2022.08.006). DCCA's PM plans to finalize project success metrics in March 2023.
G	G	Y	*People* *Team, Stakeholders, & Culture*	• The executive steering committee (ESC) was involved in openly discussing project challenges and raised concern about the timely communication of project risks. Continued active involvement is critical as the project makes important technology decisions. • The project team should continue to develop an open, transparent culture of having candid dialogue, discussing potential risks, asking difficult questions, and holding each other accountable (2023.02.001). • The organizational change management (OCM) team distributed its second project newsletter and a staff survey collecting feedback on how staff are feeling about the project and new system. The OCM team plans on collecting staff feedback on a quarterly basis. • Progress continues to be made in many project workstreams, but given the ongoing delays and unanticipated changes, the team resources and time needed to perform the additional tasks should be evaluated and incorporated into the project schedule (2022.08.002 and 2022.09.001). • Pacxa leads are well prepared and strong at facilitating Joint Application Design (JAD) discussions and Sprint demonstrations. DCCA SMEs are engaged and ask good questions during these sessions.

DEC	JAN	FEB	IV&V ASSESSMENT AREA	IV&V SUMMARY
Y	Y	Y	*Process* *Approach & Execution*	• The project schedule continues to be challenged by delays. Given the large number of unanticipated changes, the project and resource schedule should be revisited regularly to reflect the additional tasks and staffing needs (2022.09.001). • The delay in developing processes to trace, test, and approve requirements may impact the ability to ensure the overall BRM solution fulfills all requirements and expectations. Aalta developed a tool to support DCCA with managing and tracing contract requirements; however, the tool has not been fully implemented and processes for managing and updating the tool are still unknown (2023.01.001). Pacxa's training on the requirements and development management tool is scheduled for early March 2023. • Current risk management processes aren't communicating risks or executing risk mitigating tasks early enough which may impact project scope, schedule, and costs (2023.02.001). • Aalta clarified their remaining project management deliverables; however, their deliverables planned for February are delayed (2022.11.001). Untimely and insufficient completion of project management responsibilities may impact effective project execution (2023.02.002). • Processes, resources, roles and responsibilities for test case development, soft UAT execution, and defect management still need clarification as soft UAT is tentatively planned for May 2023 (2023.02.02). • Quantitative success metrics need to be defined and are becoming more critical as we enter planning for Sprint 3 (2022.08.006).
G	Y	Y	*Technology* *System, Data, & Security*	• Development Sprint 2 wrapped up with 77% (86 of 111) of user stories completed. Although Pacxa explained that the variance was caused mostly by the complexity of user stories, the impact on the schedule needs to be determined. • JAD 8 sessions were completed with all planned topics successfully covered. • Some technology challenges were raised in February including the need for additional storage for the Clariti solution. Pacxa provided several options that are being analyzed and reviewed.* • The scanning software and hardware decision was made; however, the hardware is still pending procurement.* • Data conversion design, scripting, and loading activities for the legacy data processing system (BRIMS) to the Clariti solution was completed for Iteration 1 and 2. Some data conversion activities are progressing; however, there are continued delays due to the reliance on third-party vendors and other pending decisions (2023.01.002). *Accuity is not reporting individual technology risks as formal IV&V observations as they are already tracked by the project team. The rating for this IV&V Assessment Area reflects the cumulative risks.

IV&V ASSESSMENT AREAS

People

Process

Technology

OBSERVATION #: 2023.01.001	STATUS: OPEN	TYPE: RISK	SEVERITY: 2

TITLE: UNCLEAR REQUIREMENTS MANAGEMENT PROCESS

Observation: The DCCA PM's delay in developing processes to trace, test, and approve requirements may impact the ability to ensure the overall BRM solution fulfills all requirements and expectations.

Industry Standards and Best Practices: PMI PMBOK Chapters 2 and 3 establish how requirements are managed, documented, and approved. It states the importance of tracing requirements to such items as project objectives, deliverables, product design, product development, test scenarios, and acceptance criteria. It also states that requirements can be grouped into classifications including business, stakeholder, solution, project, and quality.

Analysis: This was originally reported in the January 2023 IV&V Monthly Report as a preliminary concern but is upgraded to a risk in this report. Since our initial preliminary observation, Pacxa provided access to the Azure DevOps (ADO) tool used for requirements traceability and scheduled training on the tool in early March 2023. The tool includes acceptance criteria, test cases, defect tracking, and reporting and dashboard capabilities.

Per contract requirements, the Aalta PM is responsible for working with DCCA to develop objective and measurable standards that are traceable to the objectives of the system integrator (SI) contract and reconcile the gap on an ongoing basis. Aalta is developing a requirements dashboard using Smartsheets for tracking Pacxa's contract requirements. Although the project kicked-off Development Sprint 3, the Smartsheets tool is still incomplete, has not been put into use, and DCCA's processes to trace, test, and approve requirements are still not defined.

Furthermore, as there are currently four separate tools with various project requirements, clarifying who is cross-referencing the requirements, contract deliverables, and project objectives is paramount to ensuring there is no duplication of efforts or gaps in the process.

1) Smartsheets Tool: Aalta loaded Pacxa's contract requirements into Smartsheets. It has contract requirements, but does not include all functional/technical requirements or project deliverables.
2) ADO Tool: Pacxa uses this tool to track their development work including user stories, bugs, features, test cases, and defects.
3) Requirements Traceability Matrix (RTM): The RTM maps the projects functional and technical requirements to each epic and feature in the ADO Tool. The one-to-many mapping of requirements to user stories may increase the complexity of testing, approving, and validating requirements.
4) Microsoft Project Schedule Tool: Pacxa's document deliverables are being traced in both the Smartsheets tool and Microsoft Project Schedule. Aalta's deliverables are not being tracked in any tool.

IV&V ASSESSMENT AREAS

People

Process

Technology

OBSERVATION #: 2023.01.001	STATUS: OPEN	TYPE: RISK	SEVERITY: 2

TITLE: **UNCLEAR REQUIREMENTS MANAGEMENT PROCESS (continued)**

The project has completed 8 of 19 planned JAD sessions. After each JAD session, Pacxa provides design documents with process flow diagrams, use cases, use case diagrams, and other information for the SI to build and test the solution. It is unclear if these documents are being thoroughly reviewed by DCCA and cross-checked against the contractual documents and the RTM to ensure requirements are being met. Furthermore, the demonstrations for Sprint 1 and 2 were completed but there is currently no process to review the user stories in connection with each Sprint for satisfaction against the requirements and acceptance criteria.

Recommendation: 2023.01.001.R1 – DCCA PM to formalize and communicate a clear process to review and accept project requirements and deliverables.

- Define roles and responsibilities of project team members to eliminate duplication of efforts or process gaps.
- Streamline the use of tools and clearly define the steps to ensure requirements satisfaction.
- Communicate DCCA PM and SME roles and responsibilities for reviewing the fulfillment of requirements after JAD Sessions and Sprint Demonstrations.

2023.01.001.R2 – Develop clear traceability and understanding of all contract requirements.

- The DCCA and Aalta PMs should reference and track all contractual requirements and vendor responsibilities contained within the Request for Proposal, RTM, proposals, best and final offer documents, and contracts.

IV&V ASSESSMENT AREAS

People

Process

Technology

OBSERVATION #: 2023.02.001	STATUS: OPEN	TYPE: RISK	SEVERITY: 2

TITLE: **INADEQUATE RISK MANAGEMENT PROCESSES MAY IMPACT SCOPE, SCHEDULE, AND COSTS**

Observation: Current risk management processes aren't communicating risks or executing risk mitigating tasks early enough which may impact project scope, schedule, and costs.

Industry Standards and Best Practices: PMI PMBOK Chapters 2 and 3 discuss the principals defining, managing, and responding to risks. It states that project teams often cannot foresee the combined risk and complexity because it is the compounded result of multiple risks, dependencies, events, and relationships. It emphasizes the importance of project teams being vigilant for indications of complexity, and continuously adapting approaches and plans to navigate obstacles to effective project execution.

Analysis: The lack of adequate communication around risks and potential changes, could result in unanticipated consequences. IV&V has observed many instances where delays and risks are not proactively communicated. For example, although risks are discussed at weekly status meetings; the risk regarding adequate data storage was not communicated for three weeks after initial discovery. Also, the project was not made aware that 25 out of 111 (23%) user stories tagged for Sprint 2 were at risk of not being completed until after the Sprint was completed.

Although IV&V has observed some initial improvement in recent meetings and the earlier communication of technology uncertainties and exploration of alternatives, it is imperative to foster an open, transparent culture where the discussion of risks and issues is expected and encouraged.

Recommendation: 2023.02.001.R1 – Foster an open, transparent culture where it is safe and comfortable to discuss risks.

- Foster a culture of having candid dialogue, discussing potential risks, asking difficult questions, and holding each other accountable.

2023.02.001.R2 – In instances where changes are unavoidable, the project team should initiate change management processes early.

- Risks, costs, schedule, and quality impacts should be assessed and clearly communicated.

IV&V ASSESSMENT AREAS

People

Process

Technology

OBSERVATION #: 2023.02.002	STATUS: N/A	TYPE: PRELIMINARY	SEVERITY: N/A

TITLE: UNTIMELY AND INSUFFICIENT COMPLETION OF PROJECT MANAGEMENT RESPONSIBILITIES

Observation: Untimely and insufficient completion of project management responsibilities may impact effective project execution.

Industry Standards and Best Practices: PMI PMBOK describes the best practices for project planning, schedule, cost, quality, and resource management.

Analysis: Aalta was contracted to provide various project, oversight, risk, and quality management services to DCCA. Aalta's deliverables were defined; however, many key deliverables are still pending including the criticality and risk assessment (CARA) report, interim User Acceptance Testing (UAT) Plan, project success metrics, and performance work statement (PWS) dashboard. Although some preliminary drafts and demos have been provided, additional information is needed on how to implement those plans and processes to successfully execute upcoming project activities.

Possible root causes or contributing factors are an aggressive project pace, the turnover and adequacy of project management resources, and project complexity. The Aalta Project Manager is collaborative and a team player; however, may not have adequate time to perform all of the required project management tasks. DCCA and Aalta will need to work together to establish appropriate project management processes and clarify the priority of project management deliverables and activities.

IV&V will continue to monitor this preliminary concern as additional information is discovered.

Recommendation: N/A for preliminary concerns.

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.

TERMS

RISK
An event that has not happened yet.

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

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 16085:2020	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 15288-2015	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 Observations Log

Appendix C: Observations and Recommendations Log

ASSESSMENT AREA	OBSERVATION ID	TYPE	ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CLOSURE REASON
Process	2023.01.001	Preliminary	N/A	Moderate	The DCCA PM's delay in developing processes to trace, test, and approve requirements may impact the ability to ensure the overall BRM solution fulfills all requirements and expectations.	This was originally reported in the January 2023 IV&V Monthly Report as a preliminary concern but is upgraded to a risk in this report. Since our initial preliminary observation, Pacxa provided access to the Azure DevOps (ADO) tool used for requirements traceability and scheduled training on the tool in early March 2023. The tool includes acceptance criteria, test cases, defect tracking, and reporting and dashboard capabilities. Per contract requirements, the Aalta PM is responsible for working with DCCA to develop objective and measurable standards that are traceable to the objectives of the system integrator (SI) contract and reconcile the gap on an ongoing basis. Aalta is developing a requirements dashboard using Smartsheets for tracking Pacxa's contract requirements. Although the project kicked-off Development Sprint 3, the Smartsheets tool is still incomplete, has not been put into use, and DCCA's processes to trace, test, and approve requirements are still not defined. Furthermore, as there are currently four separate tools with various project requirements, clarifying who is cross-referencing the requirements, contract deliverables, and project objectives is paramount to ensuring there is no duplication of efforts or gaps in the process. 1) Smartsheets Tool: Aalta loaded Pacxa's contract requirements into Smartsheets. It has contract requirements, but does not include all functional/technical requirements or project deliverables. 2) ADO Tool: Pacxa uses this tool to track their development work including user stories, bugs, features, test cases, and defects. 3) Requirements Traceability Matrix (RTM): The RTM maps the projects functional and technical requirements to each epic and feature in the ADO Tool. The one-to-many mapping of requirements to user stories may increase the complexity of testing, approving, and validating requirements. 4) Microsoft Project Schedule Tool: Pacxa's document deliverables are being traced in both the Smartsheets tool and Microsoft Project Schedule. Aalta's deliverables are not being tracked in any tool. The project has completed 8 of 19 planned JAD sessions. After each JAD session, Pacxa provides design documents with process flow diagrams, use cases, use case diagrams, and other information for the SI to build and test the solution. It is unclear if these documents are being thoroughly reviewed by DCCA and cross-checked against the contractual documents and the RTM to ensure requirements are being met. Furthermore, the demonstrations for Sprint 1 and 2 were completed but there is currently no process to review the user stories in connection with each Sprint for satisfaction against the requirements and acceptance criteria.	2023.01.001.R1 – DCCA PM to formalize and communicate a clear process to review and accept project requirements and deliverables. •Define roles and responsibilities of project team members to eliminate duplication of efforts or process gaps. •Streamline the use of tools and clearly define the steps to ensure requirements satisfaction. •Communicate DCCA PM and SME roles and responsibilities for reviewing the fulfillment of requirements after JAD Sessions and Sprint Demonstrations. 2023.01.001.R2 – Develop clear traceability and understanding of all contract requirements. •The DCCA and Aalta PMs should reference and track all contractual requirements and vendor responsibilities contained within the Request for Proposal, RTM, proposals, best and final offer documents, and contracts.	Open	02/28/23: This was originally reported in the January 2023 IV&V Monthly Report as a preliminary concern but is upgraded to a risk in the February 2023 report. Accuity will continue to update and monitor the requirements management process.		
Technology	2023.01.002	Risk	Moderate	Moderate	Multiple outstanding data conversion items are preventing the timely execution of data activities which may have impacts on the project schedule.	There are multiple phases and iterations of Data and Document Conversion happening concurrently. Although good progress has been made in some areas, there are a number of outstanding items that were planned to begin already, that are delayed such as: •HBE Portal to Clariti: The project planned on receiving the database extract at the end of December 2022; however, due to reliance on a third-party vendor, the data is expected to be delivered in February 2023. (Risk ID #9.00; Action Item #117) •RDPMS to DocuSign CLM Instance: The project planned on starting the migration of documents in January 2023. There is a currently a limitation with the bulk import process, and alternative bulk upload approaches need to be investigated with DocuSign, if available. (Action Item #114) •Migration of Documents from Old DocuSign Instance to New DocuSign CLM Instance: The project must find a mechanism to migrate over the documents to the new instance; however, the responsibility for the migration is still unclear. Furthermore, the project needs to create procedures to have the documents reorganized so that it is consumable by the new system. Additional meetings are being scheduled with DocuSign to resolve this matter. (Risk ID #2.00; Action Item #115 and #116) Status and steps to address the open data conversion issues are tracked in the RAID Log as open risks and actions.	2023.01.002.R1 – Enhance management and execution of the action items to address all the outstanding data conversion issues. •Risks, costs, and schedule impacts of delays and decisions must be clearly communicated and understood. •The action items should identify the persons responsible and target dates to ensure timely resolution of open items. •DCCA Technical leads to prioritize and escalate critical issues.	Open	02/28/23: Some data conversion activities are progressing; however, there are continued delays due to the reliance on third-party vendors and other pending decisions. Accuity will continue to update and monitor data conversion activities and the impact of ongoing delays.		

ASSESSMENT AREA	OBSERVATION ID	TYPE	ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CLOSURE REASON
Process	2022.11.001	Risk	Moderate	Moderate	Unclear project deliverables and schedule for the contracted DCCA project manager could impact the execution of Aalta and DCCA's project management responsibilities and activities.	In August 2022, DCCA contracted Aalta to provide project management services for the BRM Project. Aalta's proposal provides the details of their approach for performing the high-level scope of work outlined in their contract. The following is a summary of IV&V observations regarding the Aalta contract: •A number of reports, activities, and work products were discussed in Aalta's methodology as described in their proposal; however, it is unclear if these are to be performed. •Based on the description of the activities and work products from Aalta's proposal, it seems that some of these tasks would have been already performed as a part of the planning stage. •A project schedule of Aalta tasks (e.g., reports, work products, deliverables) is pending. •Some of Aalta's scope of work and deliverables overlap with Pacxa's contract (e.g., organizational change management plan, training plan). •In the first three months of Aalta's contract, Aalta's lead project manager changed three times which may have contributed to the delayed execution of tasks. A clear understanding of the Aalta's scope of work, approach, and timeline is necessary to ensure a smooth execution of project management activities for optimal team and project performance.	2022.11.001.R1 – Clarify Aalta's contract requirements. •Discuss the reports and work products from Aalta's proposal and classify as either 1) contract deliverables or 2) activities that Aalta only assists the project with. •For each contract deliverable, clarify purpose, content, and expectations. •For activities that Aalta only assists with, clearly outline the respective roles and responsibilities of each party. •Consider whether contract deliverables and activities still make sense for the areas of overlapping scope of work. 2022.11.001.R2 – Provide schedule information for Aalta tasks. •Provide the appropriate detail of tasks, durations, due dates, milestones, and deliverables. •Consider either developing a separate schedule or incorporating into Pacxa's project schedule.	Open	12/31/22: Accuity decreased the severity rating from Level 2 (Moderate) to Level 3 (Low) as Aalta clarified and delivered some of their contract deliverables including monthly reports, project management plan, and quality assurance surveillance plan. Additional clarification of Aalta's contract requirements and deliverables is needed. 01/31/23: Aalta confirmed their contract deliverables. A timeline and schedule for open deliverables is still pending. 02/28/23: Accuity increased the severity rating from Level 3 (Low) to Moderate as many key PM deliverables are still pending including the criticality and risk assessment (CARA) report, interim User Acceptance Testing (UAT) Plan, project success metrics, and performance work statement (PWS) dashboard. Although some preliminary drafts and demos have been provided, additional information is needed on how to implement those plans and processes to successfully execute upcoming project activities (see preliminary concern 2023.02.002). Accuity will continue to review Aalta's contract requirements and deliverables.		
Process	2022.09.001	Risk	Low	High	Current project delays may impact the overall project timeline.	The Planning and Discovery stages were expected to be completed in early October 2022 but are estimated to be two weeks behind schedule. The detailed project schedule is a deliverable of the Planning stage and the information gathered during the Discovery stage to-date will be used to better estimate the work for the remaining stages of the Project. As such, it is unclear if the two week delay will have any impact on the overall timeline. Improvements to the schedule management processes are needed to better estimate time needed to complete tasks, more quickly detect when tasks are falling behind schedule, and openly discuss options and strategies for minimizing delays. Strong schedule management practices help to keep the project on track and prevent reoccurring delays.	2022.09.001.R1 – Improve schedule management processes. •Identify and address the root causes of the delays. •Implement processes to monitor and report task delays. •Consider using project performance metrics to better detect schedule trends and issues.	Open	10/31/22: Accuity increased the severity rating from Level 3 (Low) to Level 2 (Moderate). Completion of the Planning and Discovery stages is one month behind what was originally planned. The estimated completion date was initially extended two weeks in September 2022, extended another week in October 2022, and then extended again at the end of October. The delays are due to the pending completion and acceptance of project management plans, the detailed project schedule, and the RTM but it is unclear what the root cause of these ongoing delays are. The trend of repeated revised due dates needs to be further investigated and addressed. 11/30/22: The baseline project schedule was developed and is currently under DCCA review. This schedule will be used to monitor progress going forward. As additional tasks are to be added, actual dates and progress percentages tracked, and the schedule is not resource loaded, we will continue to assess its effectiveness in managing the project. 12/31/22: The baseline project schedule was approved; however, there are some delayed tasks. Additional improvements are needed to more closely monitor the schedule and project progress. 01/31/23: There are some delayed technology activities that may impact future JAD sessions and the overall timeline if not addressed in the upcoming weeks. These delays are being tracked on the RAID Log. 02/28/23: There are ongoing schedule delays. If outstanding tasks are not properly planned, the cumulative impact of minor project changes may jeopardize the aggressive December 2023 Go-Live date (2022.09.001). Accuity will continue to evaluate schedule management practices.		

ASSESSMENT AREA	OBSERVATION ID	TYPE	ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CLOSURE REASON
People	2022.08.002	Risk	Low	Low	Insufficient DCCA project resources may lead to project delays, reduced project performance, or turnover of project resources.	It is unclear at this time if there are adequate DCCA project resources to efficiently perform project work to achieve the aggressive high-level timeline. DCCA did contract an external full-time Project Manager (Aalta) who officially onboarded at the end of August 2022. Having a dedicated and experienced resource in the Project Manager role has been shown to increase project success compared to a resource who is often pulled back to perform regular job duties. DCCA also appointed resources for the OCM and communications lead roles; however, other project roles and resources are not yet identified. The new DCCA Project Manager is working to identify the additional DCCA workstream lead roles (e.g., data conversion lead, testing lead) needed to efficiently and effectively perform project work as well as identify potential candidates within DCCA to fill these lead roles. A common issue in SOH modernization projects is that assigned resources must often balance competing priorities of project work and ongoing operational work. Additionally, assigned resources don't always have the necessary experience or knowledge of how to perform the project tasks. It is critical that a resource plan to backfill and train DCCA resources is developed to prevent project delays.	2022.08.002.R1 – Evaluate project resource needs and acquire additional resources. •Estimate resource time requirements and identify required knowledge or skillsets. •Develop a plan to minimize the impact to operations (e.g., backfill, reassign work) so that assigned project resources are not pulled back from project work. •Get commitments from resources and management for the time needed to perform project work. 2022.08.002.R2 – Provide adequate training and support to assigned resources to be able to perform role. •Consider performing general project management training so that resources understand general project processes and the purpose of project activities. •Consider providing additional support and information to resources regarding best practices and common approaches for assigned tasks or areas of responsibility. 2022.08.002.R3 - Develop a plan and processes to optimize utilization of DCCA project resources. •Ensure that only the necessary resources are attending each of the various Build and Validation stage sessions. •Plan out resources assigned to the various sessions that will be running in parallel to ensure there will be adequate resources and that resources are not overbooked.	Open	09/30/22: DCCA is still in the process of identifying resources to assign to lead roles and brainstorming different resource management strategies (e.g., staging resources for different phases). DCCA also plans to hire additional employees in 2023 to mitigate the impact to operations. 10/31/22: DCCA workstream lead roles were identified but the same resources were assigned to multiple roles. Additional resources are still needed. Additionally, many DCCA SMEs attend each of the ongoing Joint Application Design (JAD) sessions. As sprint meetings and demos will begin to run in parallel with the JAD sessions, DCCA needs to ensure that there will be adequate resources and that resources are not overbooked. We added an additional recommendation at 2022.08.002.R3 to use resource management strategies to optimize the utilization of limited DCCA project resources. 11/30/22: DCCA plans to reassess resource needs once project activities begin to run in parallel. We will continue to assess the risk of inadequate resources once sprint development sprints begin in December 2022 and when timing of the soft UAT cycles is determined. 12/31/22: Project team members are generally able to keep up with current project activities. Additional project activities involving DCCA team members will begin to run in parallel with development Sprint 1 in January 2023. 01/31/23: Project managers are working closely together and developed an approach to proactively communicate project activities and better facilitate the coordination of DCCA project resources. With growing technology delays, it is important to clarify technical lead roles to ensure tasks are assigned and completed timely (See 2023.01.002). 02/28/23: Progress continues to be made in many project workstreams, but stronger task management, communication, and coordination of resources may help facilitate the completion of action items and ongoing delays. Accuity will continue to assess the adequacy and management of project resources.		
Process	2022.08.006	Risk	Low	Moderate	A lack of quantitative success metrics may lead to differences in the interpretation of project success.	Project goals were drafted; however, quantitative success metrics were not yet defined. Clear and measurable success metrics ensure that everyone is working to the same definition of success, that progress can be monitored, and corrective actions can be taken if necessary.	2022.08.006.R1 – Formalize measurable goals and success metrics. •Consider financial, nonfinancial, tangible, and intangible metrics such as operational key performance indicators (KPIs), customer or employee satisfaction, user adoption, return on investment, or cycle or processing times. •Consider benefits realization management objectives as well as alignment to BREG goals. 2022.08.006.R2 – Collect baseline data and monitor progress. •Consider methods for collecting data such as process mining, surveys, queries, observation, or open forums. •Consider sources of data such as legacy systems, operations, and internal and external stakeholders.	Open	09/30/22: The Project will work to define KPIs and success metrics. 10/31/22, 11/30/22, 12/31/22, and 1/31/23: No updates to report. 02/28/23: Accuity increased the severity rating from Level 3 (Low) to Level 2 (Moderate). Project success metrics are delayed and may lead to differences in the interpretation of project success. The DCCA PM plans to finalize the metrics in March 2023. Accuity will review selected metrics once selected.		

ASSESSMENT AREA	OBSERVATION ID	TYPE	ORIGINAL SEVERITY	CURRENT SEVERITY	OBSERVATION	ANALYSIS	RECOMMENDATIONS	STATUS	STATUS UPDATE	CLOSED DATE	CLOSURE REASON
People	2022.08.003	Risk	Low	Low	A delay in formalizing the executive steering committee may limit the strategic guidance and support to the project.	The Pacxa kickoff presentation noted that a governance model will be developed. The topic of a steering committee was also raised during meetings. However, the selection of the steering committee members and kickoff of the committee meetings are still pending.	2022.08.003.R1 – Assemble and formalize an executive steering committee. •The size and selection of committee members should balance the representation of key stakeholders with the need for efficient decision making. •Formalize the committee mission, responsibilities, and the types and the thresholds of decisions that need committee approval in a steering committee charter.	Closed	09/30/22: DCCA is still in the process of formalizing steering committee members and documenting the governance model. 10/31/22: The steering committee members were selected and the first meeting is expected to be scheduled in November 2022. Committee meetings should commence soon to ensure there is adequate guidance, support, and oversight of the project. 11/30/22: The project governance model was established and the first executive steering committee (ESC) meeting was held.	11/30/22	Closed as the governance model was established.
Process	2022.08.004	Risk	Low	Low	A lack of cost management practices may lead to unexpected or improper costs.	Major project costs were finalized for the system implementor (Pacxa), project manager (Aalta), and IV&V (Accuity) contracts. However, it is unclear how the complete project budget will be managed and how additional costs outside of the major contracts will be identified. For example, certain assumptions were made regarding the use of existing enterprise licensing for DocuSign CLM and Salesforce community licenses. As additional information and clarification of technical requirements is obtained, these assumptions and the potential additional costs must be closely managed. Other costs for project tools (e.g., code repository, project management, testing) should also be considered and managed.	2022.08.004.R1 – Prepare a comprehensive project budget and a schedule of long-term operational costs (e.g., licenses, subscriptions, maintenance, cloud services). 2022.08.004.R2 – Develop DCCA cost management processes. •Develop processes to prepare cost variance analysis and reports. •Develop processes to monitor contract deliverables against payment terms.	Closed	09/30/22: The contracted DCCA Project Manager will be responsible for monitoring and reporting costs for the project contracts. DCCA still needs to determine who will be responsible for managing and procuring other project costs (e.g., additional licensing, project tools). 10/31/22: Processes for monitoring contract costs and tracking a comprehensive project budget still need to be formalized. 11/30/22: The additional procurement for licensing was completed. Other costs related to a conversion tool for proprietary format files and the project management tool will be covered by Pacxa's contract and are not additional project costs. The contracted DCCA project manager will identify potential project costs and will be responsible for monitoring Pacxa contract deliverables for milestone payments.	11/30/22	Closed as sufficient cost management processes are in place.
Process	2022.08.007	Risk	Prelim	Moderate	Key technical decisions are pending and may impact the project schedule and costs (Updated).	This was originally reported in the August 2022 IV&V Monthly Report as a preliminary concern but was upgraded to a risk in September 2022. There are some key technical decisions that are pending (e.g., DocuSign repository, Salesforce org, NIC). Pending decisions could impact progress for configuring the solution for the upcoming Joint Application Design (JAD) sessions in late October 2022 as well as the development of the data conversion plan. These key technical decisions need to be made in a timely manner to prevent impact to the project schedule. Further discussions are still needed to understand potential costs, project impact, and risk mitigation options. A plan of action needs to be developed and closely monitored to manage the many individual but critical tasks needed for timely resolution.	2022.08.007.R1 - Discuss possible options. •Risks, costs, and impacts for each option must be clearly communicated and understood. 2022.08.007.R2 - Set a plan of action. •Detail out the tasks, targeted due dates, and responsible parties.	Closed	09/30/22: This was originally reported in the August 2022 IV&V Monthly Report as a preliminary concern but was upgraded to and rewritten as a risk this month with recommendations. The project team did discuss a couple possible mitigation strategies to minimize the potential impact to the project schedule of the pending technical decisions. However, there may be other risks that these strategies will create. While it is critical that the decisions are made in a timely manner, it is also important that these options and associated risks must be thoroughly discussed and fully understood by the Project. 10/31/22: Progress was made on key technical decisions but final resolution is still pending. 11/30/22: Key technical decisions were made regarding the system architecture of the DocuSign and Salesforce orgs. Decisions were also made regarding data conversion (e.g., conversion tool, NIC) allowing data conversion planning activities to move forward.	11/30/22	Closed as key decisions were made. Although this risk was addressed, the execution and implementation of the decisions will continue to be monitored for impact to the project. Additionally, as the speed of execution to make these decisions could be improved, we will continue to evaluate schedule management processes in observation 2022.08.002.
People	2022.08.001	Positive	N/A	N/A	The project team environment between Pacxa and DCCA is collaborative and respectful.	The project team members regularly seek feedback, input, and clarification in an open and respectful manner. The experience and knowledge of Pacxa team members combined with the dedication and high level of engagement from DCCA SMEs support the positive project team environment.	N/A	Closed	N/A	09/30/22	Closed as this is a positive observation.
Process	2022.08.005	Opportunity	N/A	N/A	Implementation of recurring meetings help to promote frequent and focused discussions.	Recurring meetings help to promote collaboration and transparency, engage project team members, and coordinate various workstreams. They also provide regular touchpoints and communication channels to help keep critical project activities moving forward. Recurring project management meetings provide visibility of all project activities to Pacxa, DCCA, as well as IV&V. Recurring technical meetings have worked well in other projects as standing meeting to discuss different technical issues or topics. Recurring risk meetings promote regular and focused discussion of risks and mitigation strategies.	2022.08.005.R1 – Implement recurring meetings. •Ensure meetings are productive and fosters open and safe communication. •Adjust the cadence as needed depending on the needs and activities of the project.	Closed	09/30/22: Weekly project manager and team meetings were implemented. DCCA also plans to kickoff recurring technical meetings in October 2022. Risks will be discussed in the weekly team meetings. The need for separate risk-focused meetings will be reassessed later.	09/30/22	Closed as the Project established a plan for recurring meetings and began to implement meetings.

Appendix D: Comment Log on Draft Report

Comment Log on Draft Report

BRM Project: IV&V Document Comment Log				

ID #	Page #	Comment	Commenter's Organization	Accuity Resolution
1	9	Feel Severity for Observation # 2023.02.001 should be 1 (High) vice 2 (Medium) as issues discovered impact upon project schedule and funding especially being unreported until the later stages of the project.	DCCA	IV&V did initially consider having Observation # 2023.02.001 as High but decided on a Moderate severity level as the project improved its reporting and communication of risks before the end of the February reporting period (2/28/23). Additional improvements are still needed but it appeared that the project team was more proactively identifying, logging, and discussing risks, enough to warrant a rating of Moderate. IV&V will continue to monitor this risk and assess the severity level.
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