

Josh Green, M.D.
GOVERNOR



DEPT. COMM. NO. 16
DOUGLAS MURDOCK
CHIEF INFORMATION
OFFICER

OFFICE OF ENTERPRISE TECHNOLOGY SERVICES

P.O. BOX 119, HONOLULU, HAWAII 96810-0119
Ph: (808) 586-6000 | Fax: (808) 586-1922
ETS.HAWAII.GOV

March 19, 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 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 Human Services, Systems 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 20, 2024 11:01 HST)

Douglas Murdock
Chief Information Officer
State of Hawai'i

Attachments (2)



Hawaii Department of Human Services Systems Modernization Project

Final IV&V Status Report
for Reporting Period: February 1 – 29, 2024

Submitted: March 14, 2024

Overview

- [Executive Summary](#)
- [IV&V Findings and Recommendations](#)
- [IV&V Engagement Status](#)
- [Appendices](#)
 - [A – IV&V Criticality Ratings](#)
 - [B – Risk Identification Report](#)
 - [C – Acronyms and Glossary](#)
 - [D – Background Information](#)



Solutions that Matter

The background is a solid blue color. It features several abstract geometric shapes, including squares and rounded rectangles, in various shades of blue. Some shapes are solid, while others are outlined in white. These shapes are scattered across the page, with a higher concentration on the left side. The text 'Executive Summary' is centered horizontally and positioned in the lower-left quadrant of the page.

Executive Summary



The ASI published a draft “Go-to-Green” Plan this month, which proposed a six-month delay to implement BES. It also documented the root causes of the delay and presented a new approach to complete the Project within the extended timeline. Main points in the draft Go-to-Green Plan include:

- The ASI will assign **more experienced staff** to resolve critical defects (to address code quality issues resulting in defects, schedule delays to conduct the Sprint and Epic demos to DHS, and the completion of Integration Testing).
- The ASI will **add developers** to their team to reduce the development time of integrating Hana/BES (The scope is larger than expected due to the realization that the solution requires integration rather than a data interface as originally planned).
- The ASI also proposed a phased implementation approach that will offer the BES functionality in three major releases:
 - **Phase I** - The Pilot Rollout will contain the revised core BES functionality agreed to by DHS and the ASI. The Phase I Pilot is planned for July 22, 2024, to October 19, 2024, with Go-Live on October 28, 2024.
 - **Phase II** - The Statewide Rollout will add reports and interfaces to the functionality provided in the Pilot Rollout. The Phase II functionality is included in the October 28, 2024, Go-Live.
 - **Phase III** - The Post Statewide Rollout will add the security Enclave and related IRS and SSA interfaces to the Statewide Rollout. The Phase III Go-Live is planned for February 24, 2025.

The phased approach may add complexity to the BES implementation on a project that is realizing disconnects in requirements and design. Additionally, this approach may require additional staff and processes to manage user training, defect identification and resolution, any additional required infrastructure, and communication regarding workarounds. As DHS and the ASI finalize the revisions to the approach and schedule, IV&V will evaluate with the project team new potential risks and/or adjustments to the existing risks and issues.

Executive Summary



Dec	Jan	Feb	Category	IV&V Observations
M	H	H	Project Management	The ASI published a draft Go-to-Green Plan, currently under review by DHS, FNS, and IV&V. The Plan may increase implementation complexity by separating key functionality into three Roll-out Phases.
M	M	M	System Design	The ASI was focused on developing the draft Go-to-Green Plan so there were minimal design activities in this reporting period. However, DHS identified new issues with eligibility design, meaning the ASI should include slack in the schedule to mitigate future delays.
M	M	M	Configuration and Development	The draft Go-to-Green Plan highlighted code quality issues as a root cause of the development and schedule delays. The ASI reported the draft Go-to-Green Plan addresses these issues going forward.
M	H	H	Integration and Interface Management	Issues within the Integration and Interface Management category are causing schedule delays. The ASI and DHS will need to resolve these issues and maintain a high level of visibility into the detailed interface activities to avoid a future schedule or functionality delay.
H	H	H	Testing	Progress continued during the reporting period to complete the Release 0.12 System Integration Testing (SIT) test scripts; a majority of the test scripts remain incomplete. If DHS approves the proposed multiple phases of implementation, the complexity of testing while implementing, along with defect resolution, adds additional coordination to all aspects of this project.
H	H	H	Security and Privacy	The delivery date for the outstanding technical documentation needed for the System Security Plan (SSP) was delayed from the end of February into early March. As the technical documentation and 3rd Party Security Assessment must be completed before the Pilot, the security effort remains a risk.

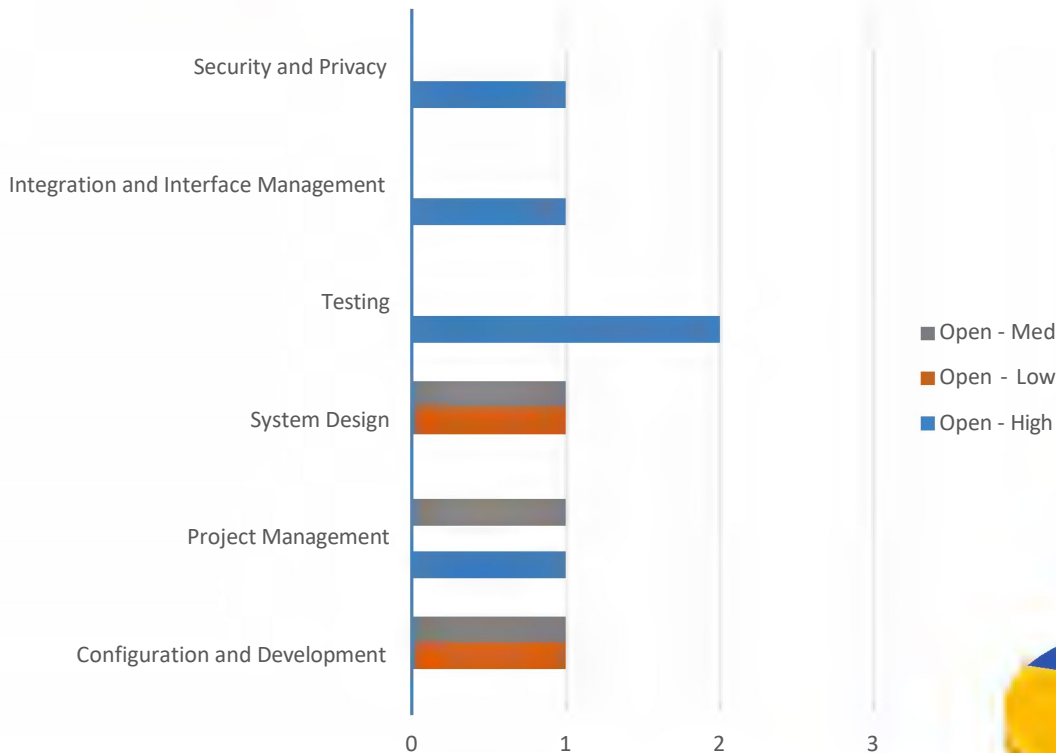
IV&V Findings and Recommendations

IV&V Findings and Recommendations

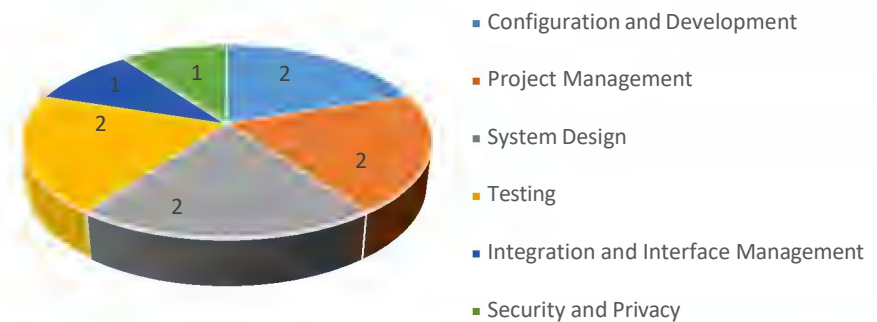


As of the February 2024 reporting period, PCG is tracking 10 open findings (4 risks, 6 issues) and has retired a total of 74 findings. Of the 10 open findings, 5 are High, 3 are Medium, and 2 are Low.

Open Risks & Issues



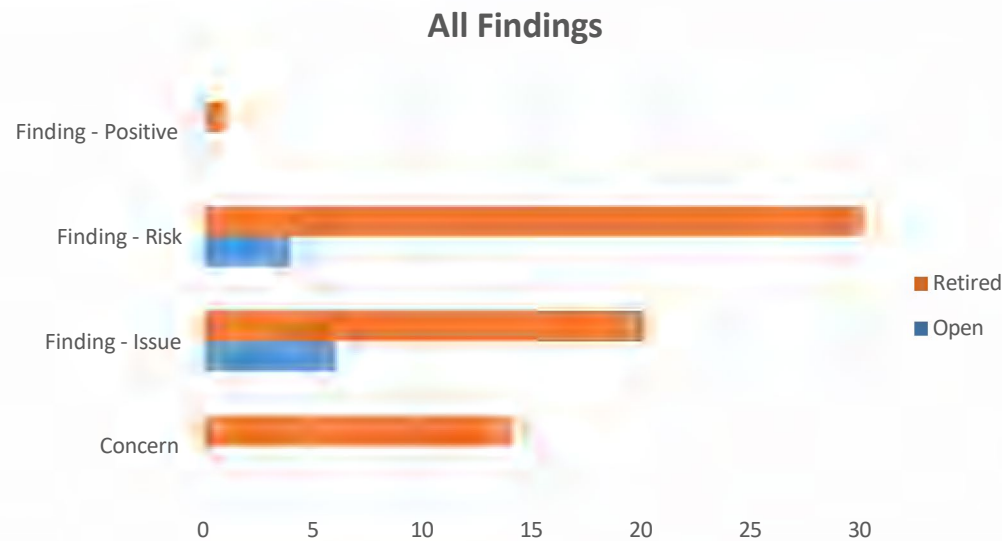
Open Risks & Issues by Category



IV&V Findings and Recommendations



The following figure provides a breakdown of the 84 IV&V findings (positive, risks, issues, concerns) by status (open, retired).



IV&V Findings and Recommendations



Findings Retired During the Reporting Period

#	Finding	Category
90	<p>Risk – Changes required to incorporate the Federal Tax Offset Program (TOP) interface within the Secure Enclave may not occur before the BES Pilot.</p> <p>DHS and the ASI determined that the TOP files do not need to be routed to the Secure Enclave. The TOP address information will be in the Secure Enclave, with the remaining TOP data integrated into BES as designed. In addition, the ASI draft Go-to-Green plan changed the implementation of the interface from the initial pilot to the statewide release, allowing the ASI more time to develop and test this interface, therefore this finding is retired.</p>	Integration and Interface Management

IV&V Findings and Recommendations



Preliminary Concerns Investigated During the Reporting Period

#	Finding	Category
	None	

IV&V Findings and Recommendations



Findings Opened During the Reporting Period

#	Finding	Category
	None	

IV&V Findings and Recommendations



Project Management

#	Key Findings	Criticality Rating
74	<p>Issue – A BES Project schedule based on inaccurate estimations diminishes effective planning and resource management, which could result in late deliverables, cost increases, and a late go-live.</p> <p>The Project has experienced many delays, the most recent of which was a four-week delay announced the end of January with the draft Go-to-Green Plan adding another six months.</p>	

Recommendations	Progress
<ul style="list-style-type: none">Monitor, evaluate and revise scheduling estimates for accuracy.	In Process
<ul style="list-style-type: none">ASI provide details on how Velocity measures were used to develop estimations for development effort in new version of DDI schedule	Incomplete
<ul style="list-style-type: none">ASI conduct a Root Cause Analysis (RCA) with DHS and IV&V to determine why the BES Project Schedule continues to be impacted by unanticipated work.	Not Started
<ul style="list-style-type: none">ASI Project Management work with development teams to confirm the accuracy of Velocity to reduce risk in the new project schedules.	Not Started

IV&V Findings and Recommendations



Project Management


#	Key Findings	Criticality Rating
88	<p>Risk – Implementing a Core Solution for go-live carries inherent risks that may impact overall project success and reduce user adoption.</p> <p>The ASI drafted a Go-to-Green Plan that includes an October 2024 Go-Live date, with several features to be released after the Pilot. Implementing the functionality of a core solution not tested in a real-world Pilot environment may lead to unexpected issues and bugs. IV&V remains concerned that user expectations will not be fully met as the go-live system will be missing functionality that could be important to many users.</p>	M

Recommendations	Progress
<ul style="list-style-type: none">• Increase OCM efforts to effectively manage user, general public, and legislative expectations for BES version at go-live.	In process
<ul style="list-style-type: none">• Prioritize feedback from users and FNS to ensure the solution meets their core needs and so users are clear on what features they are, and are not, getting.	In process
<ul style="list-style-type: none">• Actively monitor, assess, and address potential challenges throughout the development process including code quality, cutting scope to meet development milestones, insufficient user validation of demonstrated functionality, and fully defined workarounds to accommodate for the missing functionality.	In process
<ul style="list-style-type: none">• DHS carefully assesses whether the advantages of a timely release outweigh the advantages of going live with a system that provides more comprehensive functionality, requires fewer workarounds, and increases user satisfaction.	In process

IV&V Findings and Recommendations



Integration and Interface Management

#	Key Findings	Criticality Rating
63	<p>Issue – The lack of early planning and coordination with interface partners may result in schedule delays.</p> <p>The MOU/MOAs were completed and the Interface Control Documents (ICD) are updated. The interface testing team did not produce the Testing Plan on February 16th as specified in the draft Go-to-Green Plan.</p>	

Recommendations	Progress
<ul style="list-style-type: none">Confirm testing dates with interface partners in writing.	In process
<ul style="list-style-type: none">Complete early proof of concept interfaces to avoid unexpected delays due to external organization miscommunications or their own internal delays in assisting the BES project.	Not started

IV&V Findings and Recommendations



Configuration and Development

#	Key Findings	Criticality Rating
70	<p>Risk – Insufficient configuration management could lead to development confusion and reduce the effectiveness of defect resolution.</p> <p>No material update in the reporting period.</p>	

Recommendations	Progress
<ul style="list-style-type: none">• ASI adhere to plans for configuration management as documented in BI-6 DDI Plan, Section 5.2 and clarify details and/or any changes with DHS.	In process
<ul style="list-style-type: none">• ASI validate plans for configuration management with DHS and agree on a meaningful set of configuration items or settings they will track.	In process
<ul style="list-style-type: none">• DHS and ASI work to clarify/solidify plans for the potential use of configuration management tools and DHS work to fund and procure a CM tool, as required, to avoid any negative impacts to the project.	In process

IV&V Findings and Recommendations



Configuration and Development

#	Key Findings	Criticality Rating
80	<p>Issue – Development delays could negatively impact the project schedule and delay go-live.</p> <p>The ASI reported additional delays that will push out Go-Live to October 2024, based on the draft Go-to-Green Plan. The ASI reported the Root Causes of this delay include:</p> <ul style="list-style-type: none">Excessive defectsLack of Code quality with downstream impacts to include additional defects and critical blockers causing delays with Sprint and Epic demos and the completion of Integration TestingNew requirements were identified for both the Hana/BES interface and Secure Enclave. <p>The draft Go-to-Green plan includes reorganizing the development team to have more experienced developers focus on critical defects and consistent enforcement of development standards across all development teams and other process improvements.</p>	M

Recommendations	Progress
<ul style="list-style-type: none">ASI effectively track and regularly provide DHS (potentially via the weekly DDI status meeting) with an accurate velocity (e.g., story points per day/week/month) and assure that the current velocity is accurately and consistently reflected in the project schedule.	In process
<ul style="list-style-type: none">The ASI should provide DHS with the time needed to effectively evaluate the software demonstrations (demos) and elicit productive design discussions with DHS attendees during each demo.	In process
<ul style="list-style-type: none">ASI regularly reports estimated story points for the total remaining project work to reach go-live and presents a dynamic burn-down chart to track the progress.	Not started

IV&V Findings and Recommendations



System Design

#	Key Findings	Criticality Rating
73	<p>Risk – The planned BES infrastructure is complex which could be difficult to implement and maintain and could lead to schedule/cost impacts.</p> <p>No material update in the reporting period.</p>	

Recommendations	Progress
<ul style="list-style-type: none">• ASI develop a process to closely monitor cloud and other product changes (software updates/new releases), manage changes, and regression test once updates are applied.	In process
<ul style="list-style-type: none">• The project team work to establish strong governance over the utilization and maintenance of various tools/components.	In process
<ul style="list-style-type: none">• ASI allot time in the schedule to conduct proof of concepts to assure infrastructure components work as expected.	In process
<ul style="list-style-type: none">• ASI maintain a detailed schedule for DevOps implementation tasks to avoid unexpected delays that could delay project milestones and the critical path.	In process

IV&V Findings and Recommendations



System Design


#	Key Findings	Criticality Rating
86	<p>Issue – Limited collaboration between the ASI and DHS in the design process could lead to BES usability issues and functionality gaps in the application and not meeting critical business needs for DHS and State clients.</p> <p>One demo (Epic Demo 211) was held in February as the ASI focused on developing a Go-to-Green Plan for the Project. DHS also raised concerns in Readiness meetings regarding a gap in design where eligibility is not forced to run when critical benefit data is modified on a case – which could also point to a gap in collaboration on key design decisions.</p>	M

Recommendations	Progress
• Include a wide enough audience in all design and demo sessions to validate FNS and DHS functional and technical requirements and system usability.	In Process
• Perform Sprint and Epic demos in alignment with development Sprint completion (demo functionality/requirements as they are developed) to get early feedback on work products.	Not Started
• Perform comprehensive (demo all requirements) review during Epic demos, not just the items that were added/updated, allowing DHS to provide early feedback on possible issues/gaps that might not be apparent when focusing on specific functionality.	In Process
• ASI and DHS re-evaluate the effectiveness of the recorded Sprint review process to ensure that designs align with DHS expectations.	In Process

IV&V Findings and Recommendations



Testing

#	Key Findings	Criticality Rating
83	<p>Issue – Gaps in test coverage and slower-than-expected progress in testing may result in schedule delays if subsequent test phases uncover a higher volume of defects and user feedback than initially anticipated.</p> <p>Entry into Release 12 SIT is delayed, the ASI is currently rescheduling the start date. A complete Release 12 SIT script package continues to be developed with 301 test scripts approved and ready for SIT and 886 test scripts pending review or in draft status. With a large number of test scripts pending and an undetermined SIT entry date, the risk of further delays remains high. Without the continuation of the comprehensive peer review of SIT test scripts, the risk of testing gaps remains high.</p>	

Recommendations	Progress
<ul style="list-style-type: none">Monitor INT/SIT closely for both breadth and depth of testing to ensure the system is adequately tested.	In process
<ul style="list-style-type: none">The project team reviews the SIT Entry and Exit criteria and revises them as needed to ensure UAT/FAT begins with the best system possible.	In process
<ul style="list-style-type: none">ASI should determine the root cause of the failure to identify simple defects in INT and SIT and implement effective improvement processes to confirm early testing is adequate before entering UAT/FAT	In process

IV&V Findings and Recommendations



Testing

#	Key Findings	Criticality Rating
89	<p>Issue – The current mitigation approach to complete the development of the remaining R0.12 Epics is condensed and aggressive and may increase the likelihood of schedule delays, quality issues, and a higher volume of testing defects.</p> <p>During the February 21, 2024, Weekly Project Status Meeting and February 28, 2024, BES Schedule Review Meeting, the ASI introduced the draft Go-to-Green Plan. However, edits to the Plan continue and final DHS approval is outstanding. The draft Go-to-Green Plan indicates an ongoing overlap of development and testing activities as functionality will be implemented during pilot and statewide rollout. System Development Best Practices recommend against overlapping testing phases because of the amount of rework and instability this causes to the project team and solution.</p>	

Recommendations	Progress
• Develop Contingency Plans if the mitigation plan continues to see slippage affecting INT and SIT.	In process
• The ASI provides comprehensive INT results and SIT scenarios for incomplete Epics to DHS for review/approval ahead of SIT execution.	In process
• The ASI release a detailed schedule of events, including development completion, INT start, SIT start for each epic covered in the mitigation plan.	In process
• The ASI should evaluate if Epics entering SIT late might require retesting functionality that had already been tested	In process
• The plan to complete BES implementation does not include overlapping testing phases	In process

IV&V Findings and Recommendations



Security and Privacy

#	Key Findings	Criticality Rating
82	<p>Risk – The lack of technical documentation may lead to incorrect implementation statements or delay the System Security Plan (SSP).</p> <p>The security staff resolved issues in the Google Assured Workloads services for the Secure Enclave. The ASI continues to remediate findings from the vulnerability and compliance scans on the environment and work through issues related to the Tenable Nessus credentialed scanning. The security team rescheduled the due dates for the supporting security and privacy documentation for the SSP and intends to be completed by March 4th, 2024. Since there is a proposed schedule change in the Project's Go-To-Green Plan, this finding remains a risk instead of being elevated to a realized issue.</p>	

Recommendations	Progress
<ul style="list-style-type: none">Determine when the infrastructure design baseline will be completed.	In process
<ul style="list-style-type: none">Determine when documentation will be created, updated, and available for the SSP authors.	In process
<ul style="list-style-type: none">Collaborate and communicate with SSP authors about when reliable and correct documentation will be available.	In process
<ul style="list-style-type: none">Perform a full review of all SSP controls for content and accuracy that have been written as drafts prior to the start of the Independent Security Controls Assessment of BES and submission of the SSP package to federal regulators. This will allow the SSP authors to update controls with changes from Design through Implementation.	In process



IV&V Status

IV&V Engagement Status



IV&V Engagement Area	Dec	Jan	Feb	Comments
IV&V Budget				
IV&V Schedule				DHS and PCG are discussing the extension of the IV&V contract that currently ends in April 2024.
IV&V Deliverables				PCG submitted the final January IV&V Monthly Status Report.
IV&V Staffing				Erik Torring is departing the IV&V team and Donna Hackett has been presented to DHS as his replacement.
IV&V Scope				

Engagement Status Legend



The engagement area is within acceptable parameters.



The engagement area is somewhat outside acceptable parameters.



The engagement area poses a significant risk to the IV&V project quality and requires immediate attention.



- IV&V activities in the February reporting period:
 - Completed – January Monthly Status Report
 - Ongoing – Review the BES Project Artifacts and Deliverables
 - Ongoing – Attend BES Project meetings, (see [Additional Inputs](#) pages for details)
 - Reviewed available ASI contracts and contract amendments documentation
- Planned IV&V activities for the March reporting period:
 - Ongoing – Observe BES Design and Development sessions as scheduled
 - Ongoing – Observe Bi-Weekly Project Status meetings
 - Ongoing – Observe Weekly Architecture meetings
 - Ongoing – Observe Weekly Security meetings
 - Ongoing – Monthly IV&V findings meetings with the ASI
 - Ongoing – Monthly IV&V Draft Report Review with DHS, ETS and ASI
 - Ongoing – Participate in Bi-Weekly DHS and IV&V Touch Base meetings
 - Ongoing – Review BES artifacts and deliverables

Deliverables Reviewed



Deliverable Name	Deliverable Date	Version
BI-5 Project Schedule - BES 2023 Primary	02/28/2024,	N/A
BI-5 Project Schedule - BES 2023 DDI	02/28/2024	N/A
BM-09 BES M&O Migration Plan	2/12/2024	N/A
BI-29 Roll Out Plan DED	2/9/2024	N/A

Additional Inputs – Artifacts



Artifact Name	Artifact Date	Version
BES 2023 Design Kanban board	N/A	N/A
FNS Handbook 901	01/2020	V2.4
NIST Special Publication 800-53 Security and Privacy Controls for Information Systems and Organizations	12/20/2020	Rev.5
SNAP_System_Integrity_Review_Tool	Sept 2022	N/A
Interface Dashboard – Confluence page	N/A	N/A
BES 2023 Implementation Planning – Confluence page	N/A	N/A
R0.12 Epic Assignment	N/A	N/A
UAT Testing Dashboard	N/A	N/A
R0.12 Epic and Sprint Demo Recordings	N/A	N/A
ADA dashboard	N/A	N/A
Jira Requirements Details	N/A	N/A
Jira Testing Lists	N/A	N/A



Meetings and/or Sessions Attended/Observed:




1. IV&V Team Meeting – 2/1/2024, 2/5/2024, 2/8/2024, 2/12/2024, 2/15/2024, 2/20/2024, 2/22/2024, 2/26/2024, 2/29/2024
2. IV&V September 2023 Pre-Draft MSR Findings Review – 2/6/2024
3. HI DHS BES January Draft IV&V Report Review – 2/13/2024
4. Bi-Weekly DHS and IV&V Touch Base – 2/6/2024, 2/13/2024
5. Weekly BES Infrastructure meeting – 2/2/2024, 2/9/2024, 2/16/2024, 2/23/2024
6. DHS/IV&V Check-in – 2/1/2024, 2/29/2024
7. Weekly Client BES 2023 Project Status Meeting – 2/21/2024, 2/28/2024
8. Security Touchpoint – 2/7/2024, 2/14/2024, 2/21/2024, 2/28/2024
9. Weekly Data Conversion Workgroup – 2/1/2024,
10. PMO End of Day Huddle – 2/1/2024, 2/29/2024
11. (External - Epic demo) Epic 211 Disability and Good Cause– 2/29/2024
12. (External) Weekly Interfaces Touchpoint – 2/5/2024, 2/12/2024, 2/26/2024
13. (External) Readiness - Working Group Meeting – 2/6/2024, 2/13/2024, 2/20/2024, 2/27/2024
14. (External) Bi-Weekly Client BES 2023 Schedule Review/Status – 2/28/2024
15. (External) Bi-weekly BES CCB Meeting – 2/21/2024
16. (External) BES: FNS Connect – 2/1/2024, 2/8/2024, 2/22/2024, 2/29/2024
17. (External) Testing Benefit Files from BES and HAWI– 2/22/2024
18. (External) Review Reports with MSO/R&S– 2/16/2024
19. (External) BM-09 Deliverable Discussion with IV&V– 2/15/2024
20. FAT Touchpoint Meeting with IM – 2/7/2024
21. (External-Epic Demo) Epic 247 Correspondence - Priority 2, Set #2– 2/2/2024
22. (External) Testing DOTAX files and Processing Schedule– 2/12/2024
23. (External) - BI-29 Roll Out Plan DED Deliverable Response Review Meeting– 2/9/2024



Appendices



Appendix A – IV&V Criticality Ratings

Criticality Rating	Definition
	A high rating is assigned if there is a possibility of substantial impact to product quality, scope, cost, or schedule. A major disruption is likely, and the consequences would be unacceptable. A different approach is required. Mitigation strategies should be evaluated and acted upon immediately.
	A medium rating is assigned if there is a possibility of moderate impact to product quality, scope, cost, or schedule. Some disruption is likely, and a different approach may be required. Mitigation strategies should be evaluated and implemented as soon as feasible.
	A low rating is assigned if there is a possibility of slight impact to product quality, scope, cost, or schedule. Minimal disruption is likely, and some oversight is most likely needed to ensure that the risk remains low. Mitigation strategies should be considered for implementation when possible.

Appendix B – Findings Log



- The complete Findings Log for the BES Project is provided in a separate file.

Appendix C – Acronyms and Glossary



Acronym	Definition
APD	Advance Planning Document
ASI	Application System Integrator
BES	Benefits Eligibility Solution
CCWIS	Comprehensive Child Welfare Information System
CM	Configuration Management
CMMI	Capability Maturity Model Integration
CMS	Center for Medicare and Medicaid Services
CR	Change Request
DDI	Design, Development and Implementation
DED	Deliverable Expectation Document
DHS	Hawaii Department of Human Services
DLV	Deliverable
E&E	Eligibility and Enrollment
EA	Enterprise Architecture
ECM	Enterprise Content Management (FileNet and DataCap)
ESI	Enterprise System Integrator (Platform Vendor)
ETS	State of Hawaii Office of Enterprise Technology Services
FIPS	Federal Information Processing Standard
HIPAA	Health Information Portability and Accountability Act of 1996
IDM	Identity and Access Management (from KOLEA to State Hub)
IEEE	Institute of Electrical and Electronics Engineers
IES	Integrated Eligibility Solution
ITIL	Information Technology Infrastructure Library

Appendix C – Acronyms and Glossary



Acronym	Definition
IV&V	Independent Verification and Validation
KOLEA	Kauhale On-Line Eligibility Assistance
M&O	Maintenance & Operations
MEELC	Medicaid Eligibility and Enrollment Life Cycle
MEET	Medicaid Eligibility and Enrollment Toolkit
MOU	Memorandum of Understanding
MQD	Hawaii Department of Human Services MedQuest Division
NIST	National Institute of Standards and Technology
OE	Operating Environment
OIT	Department of Human Services Office of Information Technology
PIP	Performance/Process Improvement Plan
PMBOK®	Project Management Body of Knowledge
PMI	Project Management Institute
PMO	Project/Program Management Office
PMP	Project Management Plan
QA	Quality Assurance
QM	Quality Management
RFP	Request for Proposal
ROM	Rough Order of Magnitude
RMP	Requirements Management Plan
RTM	Requirements Traceability Matrix
SEI	Software Engineering Institute
SLA	Service-Level Agreement
SME	Subject Matter Expert

Appendix C – Acronyms and Glossary



Acronym	Definition
SOA	Service Oriented Architecture
SOW	Statement of Work, Scope of Work
VVP	Software Verification and Validation Plan
XLC	Expedited Life Cycle

Appendix D – Background Information



Systems Modernization Project

The DHS Enterprise Program Roadmap includes contracting with three separate vendors with the following high-level scope:

- ESI or Platform Vendor – responsible for the shared technology and services required for multiple Application vendors to implement and support functionality that leverages the DHS Enterprise Platform.
- ASI or ASI Vendor – responsible for the DDI of the Benefits Eligibility Solution (BES Project) enhancing the currently implemented Medicaid E&E Solution (KOLEA) and providing support for the combined Solutions.
- CCWIS Vendor – responsible for the DDI of the CCWIS Solution to meet the needs of child welfare services and adult protective services (CCWIS Project) and providing support for the Solution.

Systems Modernization IV&V Project

IV&V performs objective assessments of the design, development/configuration and implementation (DDI) of DHS' System Modernization Projects. DHS has identified three high-risk areas where IV&V services are required:

- Transition of M&O from DHS' incumbent vendor to the ESI and ASI vendors
- BES DDI
- CCWIS DDI

On the BES DDI Project, IV&V is responsible for:

- Evaluating efforts performed by the Project (processes, methods, activities) for consistency with federal requirements and industry best practices and standards
- Reviewing or validating the work effort performed and deliverables produced by the ASI vendor as well as that of DHS to ensure alignment with project requirements
- Anticipating project risks, monitoring project issues and risks, and recommending potential risk mitigation strategies and issue resolutions throughout the Project's life cycle
- Developing and providing independent project oversight reports to DHS, ASI vendors, State of Hawaii Office of Enterprise Technology Services (ETS) and DHS' Federal partners

Appendix D – Background Information



What is Independent Verification and Validation (IV&V)?

- Oversight by an independent third party that assesses the Project against industry standards to provide an unbiased view to stakeholders
- The goal of IV&V is to help the State get the solution they want based on requirements and have it built according to best practices
- IV&V helps improve design visibility and traceability and identifies (potential) problems early
- IV&V objectively identifies risks and communicates to project leadership for risk management

PCG's Eclipse IV&V® Technical Assessment Methodology

- Consists of a 4-part process made up of the following areas:
 1. **Discovery** – Discovery consists of reviewing documentation, work products and deliverables, interviewing project team members, and determining applicable standards, best practices and tools.
 2. **Research and Analysis** – Research and analysis is conducted in order to form an objective opinion.
 3. **Clarification** – Clarification from project team members is sought to ensure agreement and concurrence of facts between the State, the Vendor, and PCG.
 4. **Delivery of Findings** – Findings, observations, and risk assessments are documented in this monthly report and the accompanying Findings and Recommendations log. These documents are then shared with project leadership on both the State and Vendor side for them to consider and take appropriate action on.

IV&V Assessment Categories for the BES Project

- Project Management
- Requirements Analysis & Management
- System Design
- Configuration and Development
- Integration and Interface Management
- Security and Privacy
- Testing
- OCM and Knowledge Transfer
- Pilot Test Deployment
- Deployment



Solutions that Matter

ID	Title	Reporting	Category	Priority	Category	Start	End	Duration	Significance	Recommendation	Event Horizon	Impact	Probability	Analyst	Findings	Status Update	Client Comment	Vendor Comments	
89	Current approach to complete development of the remaining 80.12 Epic is confounding and aggressive and may increase the likelihood of schedule delays, quality issues, and higher volume of testing defects.	Torring, Erik	Finding	Issue	Testing	12/21/2023		Testing	Ten of the Epics scheduled for completion before Release 0.12 SIT will not be ready. To avoid SIT delays, the current approach is to begin SIT without the 10 Epics and test them as they are completed. Additionally, Release 0.12 development that was extended two weeks from the scheduled end date has been extended for another ten business days.	<ul style="list-style-type: none"> Develop Contingency Plans if the mitigation plan continues to see slippage affecting INT and SIT. The ASI provides comprehensive INT results and SIT scenarios for incomplete Epics to DHS for review/approval ahead of SIT execution. The ASI release a detailed schedule of events, including development completion, INT start, and SIT start for each Epic covered in the mitigation plan. The ASI should evaluate if Epic entering SIT late might require retesting functionality that had already been tested. The plan to complete BES implementation does not include overlapping testing phases 	Now	4	5	High	Open	2/22/2024 - During the February 21, 2024, Weekly Project Status Meeting and February 28, 2024, BES Schedule Review Meeting, the ASI introduced and detailed the draft Go-to-Green plan. However, edits to the plan continue and final DHS approval is outstanding. The draft Go-to-Green plan indicates an ongoing overlap of development and testing activities as functionality will be phased into pilot and statewide rollout. System Development Best Practices recommend testing phases be overlapped because of the amount of rework and instability this causes to the project team and solution. 1/13/2024 - To mitigate the INT and SIT overlap and incomplete SIT test scripts, the ASI moved the start of SIT to February 2nd, with "Informal" SIT continuing in January. Despite this attempt, continued development delays and code quality issues led to adding 2 mitigation testing sprints, further extending integration testing. Additionally, on January 31, 2024, the ASI announced the delay of the February 2nd SIT entry date and stated that a new mitigation approach to meet the August Go-Live date was under development. IV&V has updated this finding to an "Issue" and the Criticality Rating to "High".			
88	Implementing a Core Solution for go-live carries inherent risks that may impact overall project success and reduce user adoption.	Fors, Michael	Finding	Risk	Project Management	11/30/2023		Project Management	The project has elected to implement a Core Solution to go-live to meet their stated timeline. This version is generally referred to as Agile software development or a Minimum Viable Product (MVP), which is a simplified version of a product that 1) offers functionality that meets the core needs of users, 2) can accelerate the timeline for go-live, and 3) allows the project to get real-world feedback from users to refine future product development.	<ul style="list-style-type: none"> Increase OCM efforts to effectively manage user, general public, and legislative expectations for the Core Solution approach. Prioritize feedback from users and FHS to ensure the Core Solution meets their core needs and issues are clear on what is not getting in the released product. * Actively monitor, assess, and address potential challenges throughout the core solution development process including code quality, coding scope to meet development milestones, insufficient user validation of demonstrated functionality, and fully defined workarounds to accommodate for the missing functionality. - DHS carefully assesses whether the advantages of a timely release outweigh the advantages of going live with a system that provides more comprehensive functionality, requires fewer workarounds, and increases user satisfaction. 	Now	3	3	Med	Open	02/29/24 - The ASI drafted a Go-to-Green plan that includes an October 2024 Go-Live date, with several features to be released after Pilot. Implementing the functionality of a core solution not tested in a real world floor environment may lead to unexpected issues and bugs. IVV remains concerned that user expectations will not be fully met as the go-live system will be missing functionality that could be important to many users. 02/22/23 - The ASI recently transitioned the OCM leadership role to a new resource. OCM activities will be crucial in reducing the risk associated with implementing the Core Solution and effectively managing user, public, and legislative expectations. The ASI has stated they do not expect this transition to negatively impact the project and have noted some potential improvements. 12/18/23 - Delays in some planned activities (e.g., epic demos, interface design) and the development of the secure enclave are causing milestones to be missed. IVV remains concerned about potential quality impacts due to the need to accelerate efforts to compensate for missed milestones. Delay in some planned activities (e.g., epic demos, interface design) and the development of the secure enclave is causing milestones to be missed. IVV remains concerned about potential quality impacts due to the need to accelerate efforts to compensate for missed milestones.	12/15/2023 - Above address by DHS and Campo, Ensure recommendations reflect "In Progress" or "In Process".		
86	Limited collaboration between the ASI and DHS in the design process has led to usability issues and functionality gaps in the applications and not meeting critical business needs for DHS and State staff.	Molina, Brad	Finding	Issue	System Design	8/1/2023		System Design	During the UAT process for release 1.1, there has been a high level of concerns raised by the DHS users regarding the usability of the BES system challenges with the user interface, missing functionality, and basic screen layout issues that would not be expected in a modern application. Based on defect reporting from the UAT process, a large majority of the defects are related to "design errors". Although the Release 1.1 UAT cycle was testing a partially build system, a significant amount of design defects were attributable to functionality developed for Release 1.1.	<ul style="list-style-type: none"> include a wide enough audience in all design and demo sessions to validate now all functionality found in current applications - but really should perform Sprint and Epic demos in alignment with development sprint completion (demo functionality/requirements that are intended) to get early feedback on work products. - Perform comprehensive (demo all requirements) review during Epic demos, not just the items that were added/updated, allowing DHS to provide early feedback on possible issues/gaps that might not be apparent when focusing on specific functionality. - ASI and DHS re-evaluate the effectiveness of the recorded Sprint review process to ensure that designs align with DHS expectations. 	Now	4	3	Med	Open	02/29/2024 - One demo (Epic Demo 211) was held in February as the ASI focused on developing the Project. DHS raised concerns in Remedies meetings regarding a gap in design where eligibility not forced to run when critical benefit data is modified on a case - which could also point to a gap in design. 01/31/2024 - DHS viewed Sprint Demos for Epics 247 and 248 on January 5, 2024, where several concerns/issues were raised, resulting in necessary bug fixes. User experience issues that should have been raised during the sprint demos were brought up during the Epic Demo for Epic 240 (requirement agreement), that the ASI is not considering at this time. As of the end of January, the ASI was developing a Go-to-Green Plan to mitigate several delays, including demos. 12/18/2023 - DHS opened a new high-severity project risk, which then escalated to an issue, on December 4, 2023, since the sprint and epic demo will not be completed by the end of the Release 0.12 OOD phase. IVV shares this concern, as issues discovered during the demos will require additional design, development, and testing of the impacted epic, potentially pushing out the schedule. 11/30/2023 - As the end of November, the ASI has nine Sprint Demos to execute and all 28 Epic Demos. Depending on the outcome, this could cause the ASI to extend development while testing is occurring or delay the functionality to post-Pilot, creating additional unplanned work for DHS. 10/30/2023 - IVV notes positive progress on this month as the DHS SMEs are providing more feedback to the ASI on the BES design. The DHS PM has requested sprint demo process updates to ensure that DHS staff who provided feedback are aware of the resolution of their comments. The ASI has also noted gaps in communication (design misunderstandings) between the ASI Business Analysts and DHS SMEs. DHS SMEs have suggested that communications would be clearer if they were included in live demos. IV&V respectfully	10/11/2023 - Jessica - Our SMEs are providing their feedback. This is one of the items that I clarified with IV&V, that there is no feedback given, so feedback means design is ok. I rec'd an email back from Joe F. that MBV wants to meet with our reviewer to validate this.	10/31/2023 - IVV - Conversations with BES PM about live demos. Will keep as recorded demos, but we need JF - open comments IVV - after demo is complete, feedback and acknowledgement. VC - for the next reporting period. We want to keep the feedback to the SME Policy and Functional SMEs. We are getting off the way comments. Includes finding comments from staff that were not included in detail. 01/12/2023	
83	Gaps in test coverage and lower-than-expected progress in testing may result in schedule delays if subsequent test phases uncover a higher volume of defects and user feedback than initially anticipated.	Torring, Erik	Finding	Issue	Testing	6/2/2023		Testing	After examining the Project's R11 QA Dashboards, R11 Traceability Dashboards, and Test Repository, gaps in testing coverage may exist and the progress of testing might be lagging. Concerning testing coverage, it appears as if there are not all test cases and use cases in R11 have associated test cases or are testing the correct use cases. In terms of progress, some test cases remain unexecuted, and all defects have been resolved as the project commences System Integration Testing (SIT). The ASI has plans to complete the INT exit criteria by June 16, 2023, about 2 weeks after SIT begins.	<ul style="list-style-type: none"> Identifying defects early is vital for effective testing, as it is more efficient and cost-effective to address issues during the early testing stages. If there are more defects linking into subsequent testing phases, necessitating more extensive and rigorous testing efforts. Insufficient testing coverage or slower progress than anticipated throughout the project lifecycle increases the risk of encountering significant delays, extensions, or the introduction of defects into the production environment during the final testing stage, known as Final Acceptance Testing (FAT). 	LAT	4	4	High	Open	2/21/2024 - Entry into Release 12 SIT is delayed. The ASI is currently rescheduling the start date. A complete Release 12 SIT script package continues to be developed with 201 test scripts approved and ready for SIT and 886 test scripts pending review or in draft status. With a large number of test scripts pending and an undetermined SIT entry date, the risk of further delays remains high. Without the continuation of the comprehensive review of SIT test scripts, the risk of testing gaps remains high. 1/31/2024 - Due to development delays and testing defects, entry into SIT has been delayed to an undetermined date. Approved and final SIT test scripts remain incomplete for twenty-five Epics. With the lack of a complete SIT script package before the SIT Go/No-go decision, the risk of introducing gaps in test coverage in SIT remains. 12/21/2023 - The ASI delivered the Bi-20 (Release 0.12 BES Test Scenarios, Cases, and Script) to DHS for review and approval. However, 28 Epics did not include SIT test scripts, which the ASI proposed to provide to continuous updates when the data becomes available. This approach poses a risk to the Project as this deliverable informs DHS' go/no-go decision to start SIT testing. 11/30/2023 - During November, the ASI continued to create and update the SIT test cases. As reported last month, until this is completed DHS cannot evaluate the test cases for full coverage of BES functionality and provide proper sign-off to enter SIT. While these concerns are still present, the peer review process implemented by the ASI has resulted in improved quality and completeness of the test cases. There is additional concern related to the entry criteria for Release 12 SIT. SIT test cases, as part of BIRBS, are scheduled for completion on 12/18 but the schedule reflects a 12/4 start date for SIT. DHS is reviewing SIT scripts as they are written, but the full magnitude of SIT test scripts will be unclear until the delivery of Bi-20 on 12/18. Scope for SIT includes retests of Release 0.11 functionality and defect corrections which is part of 02/29/2024 - The security staff resolved issues in the Google Assured Workspaces Services for the Secure Enclave. The ASI continued to re-evaluate findings from the vulnerability and compliance scans on the environment and work through issues related to the Tanenhaus remediated scanning. The security team rescheduled the due dates for the supporting security and privacy documentation for the SSP and intends to be completed by March 4th, 2024. Since there is a proposed schedule change for the project's "Go-to-Green Plan", this finding remains a risk instead of being elevated to a realized issue. 01/31/2024 - The DHS and ASI security teams continue to work on the secure enclave and documentation that supports the SSP. Documents scheduled for completion by 1/31/24 include the secure enclave SSP additions, Incident Response Plan (IRP), Privacy Impact Analysis (PIA), Configuration Management Plan, and Continuous Monitoring Plan. Other procedural documents will be completed by the end of February 2024. As the Independent Security Controls Assessment is dependent on the completion of some of these documents and artifacts, incomplete documentation may result in assessment findings. Early in January the ASI reported a working production environment would be available on February 5th for the Independent Security Controls Assessment of BES. 12/21/2023 - JF - The ASI received DHS approval for the Bi-13 SSP on December 18. This deliverable is dependent upon draft DHS Policies and planned security controls that may change based on technical designs and documentation being finalized. The Bi-13 was provided to SSA with supporting material to begin the SSA interface certification process. 11/30/2023 - During November, the ASI and DHS security SMEs focused on the design of the secure enclave. The security SMEs have considered the "assured workload" service from Google for applying security controls for the secure enclave. IV&V is concerned about whether the entire system will be built and			
82	The lack of technical documentation may lead to incorrect implementation statements or delay the System Security Plan	Heath, Dustin	Finding	Risk	Security and Privacy	4/27/2023		Security and Privacy	In April, the ASI/DHS system security plan (SSP) authors began writing implementation statements. Currently, the technical documentation supporting the SSP is unavailable, outdated, or in a draft form. During April, decisions on what tools support the SSP controls are still being decided on. The implementation statements are currently being written from the perspective of the system that should be designed from the SSP author's perspective instead of how the system is actually designed. The SSP authors need to know and use documentation such as System Architecture and Design, network topology, dataflow, ports and protocols, tools used for logging, etc.	<ul style="list-style-type: none"> Determine when the infrastructure design baseline will be completed. - Determine when documentation will be created, updated, and available for the third-party assessment. 	Prior to the start of the third-party assessment.	5	4	High	Open	02/29/2024 - The security staff resolved issues in the Google Assured Workspaces Services for the Secure Enclave. The ASI continued to re-evaluate findings from the vulnerability and compliance scans on the environment and work through issues related to the Tanenhaus remediated scanning. The security team rescheduled the due dates for the supporting security and privacy documentation for the SSP and intends to be completed by March 4th, 2024. Since there is a proposed schedule change for the project's "Go-to-Green Plan", this finding remains a risk instead of being elevated to a realized issue. 01/31/2024 - The DHS and ASI security teams continue to work on the secure enclave and documentation that supports the SSP. Documents scheduled for completion by 1/31/24 include the secure enclave SSP additions, Incident Response Plan (IRP), Privacy Impact Analysis (PIA), Configuration Management Plan, and Continuous Monitoring Plan. Other procedural documents will be completed by the end of February 2024. As the Independent Security Controls Assessment is dependent on the completion of some of these documents and artifacts, incomplete documentation may result in assessment findings. Early in January the ASI reported a working production environment would be available on February 5th for the Independent Security Controls Assessment of BES. 12/21/2023 - JF - The ASI received DHS approval for the Bi-13 SSP on December 18. This deliverable is dependent upon draft DHS Policies and planned security controls that may change based on technical designs and documentation being finalized. The Bi-13 was provided to SSA with supporting material to begin the SSA interface certification process. 11/30/2023 - During November, the ASI and DHS security SMEs focused on the design of the secure enclave. The security SMEs have considered the "assured workload" service from Google for applying security controls for the secure enclave. IV&V is concerned about whether the entire system will be built and	1/12/2024 - Progress should reflect this process. David Roffa conducted a high level review of the SSP and identified 61 feedback during the week of December 10 (prior to submitting it to SSA). The implementation status for each control was updated to reflect the current status as of 12/22. This activity should not be confused for a security control assessment, which is an audit/validation of the controls - typically conducted by a third party. As stated before,		

Item #	Title	Reporter	Findings Type	Identified Date	Category	Description	Significance	Recommendation	Event Horizon	Impact	Probability	Analyst	Status	Findings Update	Client Comment	Vendor Comment
80	Development delays could negatively impact the project schedule and delay go-live.	Fors, Michael	Findings Issue	6/30/2022	Configuration and Development	ASi had previously reported development activities have been slowed as they have been unable to achieve and/or maintain their expected development velocity. Previously, the development team was challenged with accurately estimating development task level of effort (i.e., story points) and the project has been challenged with producing a project schedule that accurately reflects realistic timelines (see Finding #74). The ASi continues to be challenged with finding qualified resources in a timely manner.	If the ASi is unable to achieve a velocity that enables them to meet planned milestones, schedule delays may lead to a delayed system go-live date. Failure to achieve a level of accuracy in estimating development tasks could lead to a project schedule that is flawed and unrealistic. Previously, DHS had indicated, and IVV agreed, that some of these delays were due to some ASi BAU lacking the expertise required to create optimal designs and system specifications that developers could consume without requiring extensive clarification from the ASi BAU/SA team. DHS and IVV observed instances where ASi BAU/SA have presented less than optimal designs and left to the DHS who may lack software or UI design expertise to improve, which has contributed to unproductive design sessions (see Finding #61). It remains unclear if scope creep has contributed to these delays.	OPEN - Request the ASi effectively track and regularly provide DMS (potentially via the weekly DDI status meeting) with an accurate velocity (e.g., story points per day/week/month) and assure that the current velocity is accurate and consistently reflects the project's progress. • ASi provide DHS with the time needed to effectively evaluate the software demonstrations (demo) and elicit product design discussions with DMS attendees, during each item. • ASi regularly report DMS velocity story points for the total remaining project work to reach go-live and presents a dynamic burn-down chart to track the progress. COMPLETE - CLOSED - DHS request that the ASi conduct a Root Cause Analysis (RCA) with DHS and IVV to determine why the BES Project Schedule continues to be impacted by unanticipated work. • ASi Project Management work with development teams to confirm the accuracy of Velocity to reduce risk in the new project schedules. COMPLETE DHS and IVV agree to a revised schedule against which project deliverables can be managed. (2/28/2023 - complete) ASi had a weekly meeting with DHS and IVV to review all changes to the project schedules (Primary and DDI). (8/31/2023-completed) CLOSED ASi plan and execute Epic development so that Epic demos can occur earlier in the release schedule and allow time for possible revisions. (12/31/2023 No done) As requested by DHS, add key milestones to the project schedule, such as Sprint and Epic demos, to show key progress toward completion of Epic. (9/29/23 ASi says that they will not do this) Confirm current assumption that a delay with the current go-date will not result in major implications. (5/29/23) Leverage velocity and burn down charts to adjust development tasks estimates if needed. Leverage velocity and burn down charts to adjust development tasks estimates if needed. (4/20/2023 - ASi using Jira) Using the available tools, review the current estimates to complete each activity compared to past actual hours (1/11/2023 - new ASi - Not Started) Update as necessary and provide the DHS/ASi Project Managers with reports and data that accurately reflect the DHS/ASi resource needs along with over/under allocations of staff for the duration of the Project (1/13/2023 - new ASi - Not Started) Develop mitigation and contingency plans that are tracked/managed by DHS/ASi for all tasks that are behind schedule or are at risk of being behind a schedule which includes resource management. (1/29/2023 - new ASi - Not Started)	Immediate	3	3	Med	Open	02/29/24 - The ASi reported additional delays that will push out Go-Live to October 2024, based on the draft Go-to-Green plan. The ASi reported the Root Causes of this delay include: • Excessive defects- Lack of Quality gate with downstream impacts to include additional defects and critical blockers causing delays with Sprint and Epic demos and the completion of Integration Testing. • Development delays with the NetaaS/RES Interface and Secure Enclave. The draft Go-to-Green plan includes reviewing the development team to have more experienced developers focus on critical defects and consistent enforcement of development standards across all development teams and other process improvements. (1/13/24 - Ongoing development activities are still affecting the Project, requiring additional development and SMT sprints and possessing Sprint and Epic demos. To keep the planned go-live date the project selected to overlap INT and SIT. But this subject to the Go-to-Green Plan that the ASi announced at the end of January. 12/13/23 - The ASi reported development delays related to 10 topics but has also produced a mitigation plan to manage these delays and stay on track for go-live. IVV remains concerned that any additional delays might push out the project schedule and implementation milestones. 11/30/23 - The ASi reported delays in interface design and development, and unplanned development effort required to unwind EBT functionality deferred to post-go-live due to a missing requirement for PIN issuance. Additional development sprints were added to address the delays, and these sprints resulted in a planned overlap of development and INT with SIT. IVV remains concerned that additional development delays could require further reduction of scope and system features. 10/25/23 - The ASi has noted gaps in communication (design misunderstandings) between ASi BAs and DHS SMEs. DHS project management is working with the ASi to determine the best way to address this. The DHS SMEs have suggested that design 2/29/2024 - The Project has experienced many delays, the most recent of which was a final delay announcement on the 1st of January and the draft Go-to-Green Plan is adding another 6 months. 1/11/2024 - At the start of January, a 4-week schedule delay to SIT was reported by the ASi to avoid an overlap of INT and SIT on January 11, 2024, which was reported that SIT would not start as planned. The project status report indicated "Red" in most categories and the ASi reported they were developing a Go-to-Green Plan. Further delays may be needed which will compromise the project. IVV has raised the critical rating of this finding to "High". 12/31/23 - With 10 topics for release 0.12 in development, additional development and integration testing sprint was added to the schedule. IVV remains concerned that under-estimated effort and resulting elongation of schedule could impact implementation milestones. 11/30/2023 - Additional development and testing sprints were added to the schedule, supporting IVV's concern that the effort required for completing the core solution for BES continues to be under-estimated, potentially resulting in missed implementation milestones. The additional development sprints for interfaces will overlap with Integration Testing (INT) and the start of SIT in order to meet the Pilot and Go-Live dates. 10/31/2023 - The BES project schedule continues to have significant revisions after being re-baselined, including delays to tasks in a training task was delayed over a hundred days due to schedule revisions. IVV continues to monitor the schedule for possible estimation issues that could introduce risk in meeting key milestones of the project. 9/13/2023 - The ASi re-baselined both the Primary and DDI BES implementation schedules, adding 8 weeks to release 0.12 and addressing DHS and IVV's concerns that the prior schedules were under-estimating the effort required to complete the remainder of the Project. As the ASi requested to shift the Portal Functionality after statewide implementation, IVV remains 2/29/24 - No material update in this reporting period. 1/23/24 - No material update in this reporting period. IVV continues to monitor this finding. 1/17/23 - No material update in this reporting period. IVV continues to monitor this finding. 11/30/23 - Some components of the BES system infrastructure have yet to be finalized and tested. It remains unclear how or if the added complexity will impact project schedules and budget going forward. The ASi has reported they are close to finalizing the Secure Enclave Infrastructure to house FTE data. The ASi appears to be making progress on DR plans and designs. 10/2/23 - The ASi continues to have productive discussions with DHS during their weekly Architecture calls. The ASi has yet to finalize their plans and technical architecture for conducting Disaster Recovery (DR). The cloud technology being implemented offers some benefit and can simplify some elements of DR. However, it remains unclear if the complex infrastructure (with the multitude of components being employed) will impact their ability to test and perform DR. 9/28/23 - The ASi has experienced turnover of their Enterprise Architect position; this does not appear to have had a material impact on the overall infrastructure build. The ASi continues to make progress in the build-out of their infrastructure and is confident that the automation they've implemented will simplify many maintenance tasks. Given that, they remain confident they will be able to meet infrastructure milestones without hindering development. The ASi has also stated that maintaining the system post-go-live will not require excessive effort and that achieving the SLAs will be possible. IVV remains concerned that some planned elements of the infrastructure have yet to be thoroughly architected, documented, and/or conceptually tested via proof of concept (e.g., the secure enclave and disaster recovery environment). 8/31/23 - The ASi has reported progress in the build out of Chronicle, their event logging tool. The weekly 2/29/24 - No material update in this reporting period. 1/23/24 - No material update in this reporting period. 1/23/23 - The project will utilize the DHS contractor currently assisting with security activities to update the Configuration Management Plan (CMP). The scope of work that the DHS contractor is responsible for is unclear to IVV. 11/20/23 - The ASi has yet to provide a detailed list of configuration items to DHS and IVV. IVV has related this request to the ASi so that the level of detail is clear. 10/24/23 - The ASi provided broad information on the configuration items being tracked but have yet to provide detailed configuration items for IVV review. The ASi has deprioritized some configuration management activities, which intends to perform in preparation for Maintenance and Operations (M and O). 9/28/23 - The ASi gained DHS' approval on the items that will be tracked and monitored as part of configuration management. IVV requested the last month and is waiting on the ASi to respond. 8/31/23 - No material update. 7/31/23 - No material update. 6/30/23 - No material update. 5/31/2023 - The ASi continues to make progress with its utilization of the ServiceNow Configuration Management (CM) tool. They have recently performed an initial import of Google Cloud Platform server details into the ServiceNow Configuration Management Database. *** Continued work setup in ServiceNow, will be building up instances. Ongoing support and Main. Don't think still a risk, IVV to discuss. 4/30/2023 - The ASi finalized the ServiceNow (SN) modules they will utilize for the project. 3/31/2023 - The ASi is currently evaluating which ServiceNow (SN) modules will be the best fit for the project and for DHS going forward. Details of exactly how they'll be using SN and the level of configuration management they intend to perform has yet to be determined. 2/28/2023 - The new ASi intends to utilize ServiceNow (SN) for most configuration management tracking. Details of exactly how they'll be using SN and its multitude of modules and		
74	ASiES Project schedule based on inaccurate estimatory dimensions effective planning and resource management, which could result in late deliverables, cost increases, and a late go-live.	Molina, Brad	Findings Issue	11/29/2021	Project Management	DHS and the ASi have tried multiple times to rework the schedule with results that have not yielded improvement. Concerns with the structure, estimating practices, and ability to manage to the schedule persist. The use of multiple tools to track resources obfuscate resource management. Previous IVV findings focused on specific schedule components such as resource management and critical path analysis, all of which were addressed and closed.	If estimates for project schedule activities are not accurate, this can lead to constant schedule changes, resources not being available when needed, rushed activities, and general friction which can lead to schedule delays, low quality output, scope changes, and budget issues.	OPEN - Monitor, evaluate and revise scheduling estimates for accuracy. - ASi provide details on how Velocity measures were used to develop estimations for development effort in new version of DDI schedule. - ASi conduct a Root Cause Analysis (RCA) with DHS and IVV to determine why the BES Project Schedule continues to be impacted by unanticipated work. • ASi Project Management work with development teams to confirm the accuracy of Velocity to reduce risk in the new project schedules. COMPLETE DHS and IVV agree to a revised schedule against which project deliverables can be managed. (2/28/2023 - complete) ASi had a weekly meeting with DHS and IVV to review all changes to the project schedules (Primary and DDI). (8/31/2023-completed) CLOSED ASi plan and execute Epic development so that Epic demos can occur earlier in the release schedule and allow time for possible revisions. (12/31/2023 No done) As requested by DHS, add key milestones to the project schedule, such as Sprint and Epic demos, to show key progress toward completion of Epic. (9/29/23 ASi says that they will not do this) Confirm current assumption that a delay with the current go-date will not result in major implications. (5/29/23) Leverage velocity and burn down charts to adjust development tasks estimates if needed. Leverage velocity and burn down charts to adjust development tasks estimates if needed. (4/20/2023 - ASi using Jira) Using the available tools, review the current estimates to complete each activity compared to past actual hours (1/11/2023 - new ASi - Not Started) Update as necessary and provide the DHS/ASi Project Managers with reports and data that accurately reflect the DHS/ASi resource needs along with over/under allocations of staff for the duration of the Project (1/13/2023 - new ASi - Not Started) Develop mitigation and contingency plans that are tracked/managed by DHS/ASi for all tasks that are behind schedule or are at risk of being behind a schedule which includes resource management. (1/29/2023 - new ASi - Not Started)	Immediate	3	4	High	Open	2/29/2024 - The Project has experienced many delays, the most recent of which was a final delay announcement on the 1st of January and the draft Go-to-Green Plan is adding another 6 months. 1/11/2024 - At the start of January, a 4-week schedule delay to SIT was reported by the ASi to avoid an overlap of INT and SIT on January 11, 2024, which was reported that SIT would not start as planned. The project status report indicated "Red" in most categories and the ASi reported they were developing a Go-to-Green Plan. Further delays may be needed which will compromise the project. IVV has raised the critical rating of this finding to "High". 12/31/23 - With 10 topics for release 0.12 in development, additional development and integration testing sprint was added to the schedule. IVV remains concerned that under-estimated effort and resulting elongation of schedule could impact implementation milestones. 11/30/2023 - Additional development and testing sprints were added to the schedule, supporting IVV's concern that the effort required for completing the core solution for BES continues to be under-estimated, potentially resulting in missed implementation milestones. The additional development sprints for interfaces will overlap with Integration Testing (INT) and the start of SIT in order to meet the Pilot and Go-Live dates. 10/31/2023 - The BES project schedule continues to have significant revisions after being re-baselined, including delays to tasks in a training task was delayed over a hundred days due to schedule revisions. IVV continues to monitor the schedule for possible estimation issues that could introduce risk in meeting key milestones of the project. 9/13/2023 - The ASi re-baselined both the Primary and DDI BES implementation schedules, adding 8 weeks to release 0.12 and addressing DHS and IVV's concerns that the prior schedules were under-estimating the effort required to complete the remainder of the Project. As the ASi requested to shift the Portal Functionality after statewide implementation, IVV remains 2/29/24 - No material update in this reporting period. 1/23/24 - No material update in this reporting period. IVV continues to monitor this finding. 1/17/23 - No material update in this reporting period. IVV continues to monitor this finding. 11/30/23 - Some components of the BES system infrastructure have yet to be finalized and tested. It remains unclear how or if the added complexity will impact project schedules and budget going forward. The ASi has reported they are close to finalizing the Secure Enclave Infrastructure to house FTE data. The ASi appears to be making progress on DR plans and designs. 10/2/23 - The ASi continues to have productive discussions with DHS during their weekly Architecture calls. The ASi has yet to finalize their plans and technical architecture for conducting Disaster Recovery (DR). The cloud technology being implemented offers some benefit and can simplify some elements of DR. However, it remains unclear if the complex infrastructure (with the multitude of components being employed) will impact their ability to test and perform DR. 9/28/23 - The ASi has experienced turnover of their Enterprise Architect position; this does not appear to have had a material impact on the overall infrastructure build. The ASi continues to make progress in the build-out of their infrastructure and is confident that the automation they've implemented will simplify many maintenance tasks. Given that, they remain confident they will be able to meet infrastructure milestones without hindering development. The ASi has also stated that maintaining the system post-go-live will not require excessive effort and that achieving the SLAs will be possible. IVV remains concerned that some planned elements of the infrastructure have yet to be thoroughly architected, documented, and/or conceptually tested via proof of concept (e.g., the secure enclave and disaster recovery environment). 8/31/23 - The ASi has reported progress in the build out of Chronicle, their event logging tool. The weekly 2/29/24 - No material update in this reporting period. 1/23/24 - No material update in this reporting period. 1/23/23 - The project will utilize the DHS contractor currently assisting with security activities to update the Configuration Management Plan (CMP). The scope of work that the DHS contractor is responsible for is unclear to IVV. 11/20/23 - The ASi has yet to provide a detailed list of configuration items to DHS and IVV. IVV has related this request to the ASi so that the level of detail is clear. 10/24/23 - The ASi provided broad information on the configuration items being tracked but have yet to provide detailed configuration items for IVV review. The ASi has deprioritized some configuration management activities, which intends to perform in preparation for Maintenance and Operations (M and O). 9/28/23 - The ASi gained DHS' approval on the items that will be tracked and monitored as part of configuration management. IVV requested the last month and is waiting on the ASi to respond. 8/31/23 - No material update. 7/31/23 - No material update. 6/30/23 - No material update. 5/31/2023 - The ASi continues to make progress with its utilization of the ServiceNow Configuration Management (CM) tool. They have recently performed an initial import of Google Cloud Platform server details into the ServiceNow Configuration Management Database. *** Continued work setup in ServiceNow, will be building up instances. Ongoing support and Main. Don't think still a risk, IVV to discuss. 4/30/2023 - The ASi finalized the ServiceNow (SN) modules they will utilize for the project. 3/31/2023 - The ASi is currently evaluating which ServiceNow (SN) modules will be the best fit for the project and for DHS going forward. Details of exactly how they'll be using SN and the level of configuration management they intend to perform has yet to be determined. 2/28/2023 - The new ASi intends to utilize ServiceNow (SN) for most configuration management tracking. Details of exactly how they'll be using SN and its multitude of modules and		
73	planned BES infrastructure is complex which could be difficult to implement and leads to schedule cost impacts.	Fors, Michael	Findings Risk	10/28/2021	System Design	Current ASi infrastructure plans include a significant number of sophisticated components that make up a complex cloud infrastructure. Further, the Project Team has yet to finalize components that will make up the BES infrastructure and the additional costs and time to configure, test, and implement the planned complex environment remain unclear.	If the level of effort to implement and manage the complexities of the BES infrastructure is not accurately accounted for and staffed by the ASi, the project could be met with unexpected costs and schedule delays. Delay in finalizing the components being implemented could exacerbate this risk and lead to further delays. Complex platforms often present system maintenance and operations challenges as system changes can add the increased potential for system failure (i.e., due to the significant number of "moving parts") and increase the level of time and effort to resolve infrastructure and application-level bugs. Further, some components remain in an immature state compared to their legacy counterparts. For example, the project recently experienced a system failure because Google Cloud failed to clearly communicate a change that led to failure in another component (i.e., Nexus). Google Cloud is generally viewed as a less mature product offering, compared to their rivals (Amazon Web Services, Microsoft Azure). IVV remains concerned that this could lead to failures at critical points in the project (including post-go live production failures) that could be difficult to resolve and lead to project disruption. If DHS intends to eventually reduce M&O outsourcing costs turning over M&O tasks to State employees, they could face challenges supporting tools they may not be familiar with in a complex infrastructure environment.	Next several months	2	2	Low	Open	2/29/24 - No material update in this reporting period. 1/23/24 - No material update in this reporting period. 1/23/23 - The project will utilize the DHS contractor currently assisting with security activities to update the Configuration Management Plan (CMP). The scope of work that the DHS contractor is responsible for is unclear to IVV. 11/20/23 - The ASi has yet to provide a detailed list of configuration items to DHS and IVV. IVV has related this request to the ASi so that the level of detail is clear. 10/24/23 - The ASi provided broad information on the configuration items being tracked but have yet to provide detailed configuration items for IVV review. The ASi has deprioritized some configuration management activities, which intends to perform in preparation for Maintenance and Operations (M and O). 9/28/23 - The ASi gained DHS' approval on the items that will be tracked and monitored as part of configuration management. IVV requested the last month and is waiting on the ASi to respond. 8/31/23 - No material update. 7/31/23 - No material update. 6/30/23 - No material update. 5/31/2023 - The ASi continues to make progress with its utilization of the ServiceNow Configuration Management (CM) tool. They have recently performed an initial import of Google Cloud Platform server details into the ServiceNow Configuration Management Database. *** Continued work setup in ServiceNow, will be building up instances. Ongoing support and Main. Don't think still a risk, IVV to discuss. 4/30/2023 - The ASi finalized the ServiceNow (SN) modules they will utilize for the project. 3/31/2023 - The ASi is currently evaluating which ServiceNow (SN) modules will be the best fit for the project and for DHS going forward. Details of exactly how they'll be using SN and the level of configuration management they intend to perform has yet to be determined. 2/28/2023 - The new ASi intends to utilize ServiceNow (SN) for most configuration management tracking. Details of exactly how they'll be using SN and its multitude of modules and			
70	Insufficient configuration management could lead to development confusion and reduce the effectiveness of defect resolution	Fors, Michael	Findings Risk	8/23/2021	Configuration and Development	The # 6 DDI Plan Deliverable, Section 5.2 establishes the framework for the Configuration Management Plan. However, it remains unclear if sufficient progress has been made toward establishing CM processes and governance, selecting CM tools (e.g., CMDB), and building out the CM infrastructure. The project's Security Plan has yet to be finalized which may include additional requirements or decisions that could impact CM. The project currently relies on GitHub for tracking of some configurations.	Configuration Management is a set of processes and procedures that ensures the BES is understood and works correctly. The BES solution includes tools that may provide a level of automation for Configuration Management that may reduce errors and should provide the project team with accurate, dynamic and timely information on some of the configuration items. However, it is critical that DHS/ASi agree to the full list of items that are included in the configuration plan along with the details regarding the management of the configuration items, reporting and audit features.	ASAP	2	2	Low	Open	2/29/24 - No material update in this reporting period. 1/23/24 - No material update in this reporting period. 1/23/23 - The project will utilize the DHS contractor currently assisting with security activities to update the Configuration Management Plan (CMP). The scope of work that the DHS contractor is responsible for is unclear to IVV. 11/20/23 - The ASi has yet to provide a detailed list of configuration items to DHS and IVV. IVV has related this request to the ASi so that the level of detail is clear. 10/24/23 - The ASi provided broad information on the configuration items being tracked but have yet to provide detailed configuration items for IVV review. The ASi has deprioritized some configuration management activities, which intends to perform in preparation for Maintenance and Operations (M and O). 9/28/23 - The ASi gained DHS' approval on the items that will be tracked and monitored as part of configuration management. IVV requested the last month and is waiting on the ASi to respond. 8/31/23 - No material update. 7/31/23 - No material update. 6/30/23 - No material update. 5/31/2023 - The ASi continues to make progress with its utilization of the ServiceNow Configuration Management (CM) tool. They have recently performed an initial import of Google Cloud Platform server details into the ServiceNow Configuration Management Database. *** Continued work setup in ServiceNow, will be building up instances. Ongoing support and Main. Don't think still a risk, IVV to discuss. 4/30/2023 - The ASi finalized the ServiceNow (SN) modules they will utilize for the project. 3/31/2023 - The ASi is currently evaluating which ServiceNow (SN) modules will be the best fit for the project and for DHS going forward. Details of exactly how they'll be using SN and the level of configuration management they intend to perform has yet to be determined. 2/28/2023 - The new ASi intends to utilize ServiceNow (SN) for most configuration management tracking. Details of exactly how they'll be using SN and its multitude of modules and			

ID	Title	Reporter	Finding Type	Identified Date	Category	Description	Significance	Recommendation	Event Horizon	Impact	Probability	Analyst Priority	Finding Status	Status Update	Client Comments	Vendor Comments		
63	The lack of early planning and coordination with interface partners may result in schedule delay.	Reynolds, Mark	Finding Issue	1/21/2021	Integration and Interface Management	The following planning and execution items have not yet been addressed and documented by the ASI: Connectivity is planned to utilize a presently undefined ETS API gateway; however, there is no evidence that details have been determined or documented in this regard. There is little evidence of active and sufficient communication with interface partners for coordination, design, and testing activities (Unit Test, SIT, UAT). Interface planning and execution tasks and activities, including those for interface partners, are neither resident nor managed within the Project Schedule.	DOI project often underestimate the time needed to effectively manage all the tasks and activities to successfully implement data sharing. A clearly defined communication plan and schedule that includes the coordination, planning, and execution activities along with milestone dates can minimize the risk of potential delays. In addition, after planning has been completed, interface partners will have to be available during interface implementation to ensure that the interface is properly developed and tested before deploying the system to production.	OPEN 6. Confirm testing dates with interface partners in writing. 7. Complete early proof of concept interfaces to avoid unexpected delays due to external organization miscommunications or their own internal delays in assisting the BES project. CLOSE 8. AG and DHS conduct a root cause analysis to determine the reason FDDs were changed without DHS knowledge. COMPLETE 1. Etablish a communication plan for each interface partner for the duration of the BES DOI activities. COMPLETE 10/29/22 2. Identify and document all interface partners' contacts. COMPLETE 3/31/2022 3. Define a release schedule for each interface to include milestone dates, coordination, and execution and share with the interface partners. COMPLETE 01/04/24 4. Determine which deliverable will include the details associated with the planned connectivity and detailed technical designs of all interfaces. COMPLETE 01/04/24 5. Complete all MDAs and obtain formal approvals. COMPLETE 01/31/2024	Prior to FAT	5	4	High	Open	02-29-2024 - The MOU/MDAs were completed and the Interface Control Documents (ICD) are updated. The interface testing team did not produce the testing plan on February 16th as specified in the draft Go-to-Live plan, 01-31-2024. The first two MOU/MDAs were signed. Interface development is behind schedule and will require workarounds when FAT begins. The ASI faces challenges with interface partners that lack test environments. The interface testing team has not scheduled meetings, nor published test plans and schedules to coordinate with the interface partners. 01-04-2024 - Due to the number of open issues that could potentially impact interface development (e.g., incomplete agreements, unavailable test regions, and interface/batch testing schedules yet to be defined) IWV has raised the criticality rating to High. 11-30-2023 - Two of the 23 MOU/MDUs (DLR and DoTAX) are not signed and remain outstanding. DHS continues efforts to complete these agreements to minimize further impact on the project. This finding is now an issue due to the realted impact to the project. The SSA interface requires documentation to be submitted 120 days before the pilot's data usage. This SSA documentation is expected to be ready by December 15th, 107 days prior to the pilot's start. Although the SSA has informally stated that they can complete the review within the shorter timeframe, a risk exists to the availability of the SSA data. The interface testing team was organized in November, but planning has not begun and coverages have not commenced. Interface testing remains unscheduled and is a growing concern as the Pilot date approaches. The ASI in internally reviewing the Interface Plan and will share it with DHS in December. 10-26-2023 - Two out of 23 MOU/MDU are outstanding; the ASI is reporting an agreement was reached with DLR and it is ready for signature; the DoTAX MOU does have some challenges and is currently being addressed by the ASI and DHS. The Functional Design of all 23 Interfaces was completed and			10/31/2023 - Good and accurate as of the end of October. Met with DoTAX (Zony) to get aspen details. Sent to Scott M to finalise updates, then send to AG. DoTAX is one of the interfaces that will overlap SIT. They are busy in the tax season.	Vic - Rama has updates. Pubback from DIT about sample files. Rama - set up a batch team for end-to-end coverage. We met with Ryan S. and DIT about sample files. We asked for masked PRDD files for ease of use. DIT said no. We are creating a batch