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

OFFICE OF ENTERPRISE TECHNOLOGY SERVICES | *KEʻENA HOʻOLANA ʻENEHANA*

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

March 4, 2025

The Honorable Ronald D. Kouchi
President of the Senate
and Members of the Senate
Thirty-Third State Legislature
State Capitol, Room 409
Honolulu, Hawaiʻi 96813

The Honorable Nadine K. Nakamura
Speaker and Members of the
House of Representatives
Thirty-Third State Legislature
State Capitol, Room 431
Honolulu, Hawaiʻi 96813

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

Pursuant to HRS section 27-43.6, which requires the Chief Information Officer to submit applicable independent verification and validation (IV&V) reports to the Legislature within ten days of receiving the report, please find attached the report the Office of Enterprise Technology Services received for the State of Hawaiʻi, 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,

Christine M. Sakuda
Chief Information Officer
State of Hawaiʻi

Attachments (2)

Hawaii Department of Human Services Systems Modernization Project

Final IV&V Status Report
for Reporting Period: January 1 – 31, 2025

Submitted: February 14, 2025

PUBLIC CONSULTING GROUP

Solutions that Matter

Overview

PUBLIC CONSULTING GROUP
Solutions that Matter

Executive Summary

Executive Summary

In January, the ASI published and conducted stakeholder reviews of the revised Draft Project Schedule. The schedule continues to be built with high-level activities and tasks that add 18 months to the previously approved schedule. The addition of time to the schedule has an immediate impact on the IV&V findings – specifically, three IV&V Findings and two IV&V Preliminary Concerns were retired. The ASI plans to continue the stakeholder reviews with the goal of finalizing the schedule in February 2025. DHS agreed to change the Software Development Life Cycle (SDLC) from an Agile to Waterfall Methodology. This change may have positive or negative impacts on the project. Waterfall provides a very structured approach to developing a new system whereas Agile allows the project team to 'adjust the design' as it is being developed. DHS will formally approve designs before the ASI starts Development with any subsequent design changes requiring a change order, which may involve additional DHS funds to develop that functionality. Clear communication with the project team will be necessary to avoid unnecessary change requests.

In the Project Reset Kick-off meeting on January 23, 2025, the ASI published a list of process improvements they plan to implement to reduce the risk of future schedule delays. Some examples include onboarding subject matter experts (SMEs) in release management, data conversion, functional development, testing, and solution architecture, creating new technical review boards, and adding quality checks and software to the testing process. The ASI stated they would provide the details of the process improvements at the first Project Status Meeting in February. All these actions represent positive steps. After publication, the project team will verify the changes are included in the revised schedule, ensuring adequate time for thorough and precise reviews, designs, and development activities.

As the project team completes the initial re-start planning activities and implements the process improvements, it will be critical for the team to communicate and execute the plan and schedule while adjusting to achieve the planned outcomes of a quality BES solution. DHS and the ASI have never waivered in their support of this project and demonstrate this once again as the project moves forward with the restart.

Nov	Dec	Jan	Category	IV&V Observations
H	H	H	Project Management	The ASI delivered a draft schedule for DHS and Stakeholder review. The revised schedule adds 18 months, with a Pilot Go-Live planned for 07/13/2026 and is intended to mitigate project risks by allowing the project team more time to complete the work.

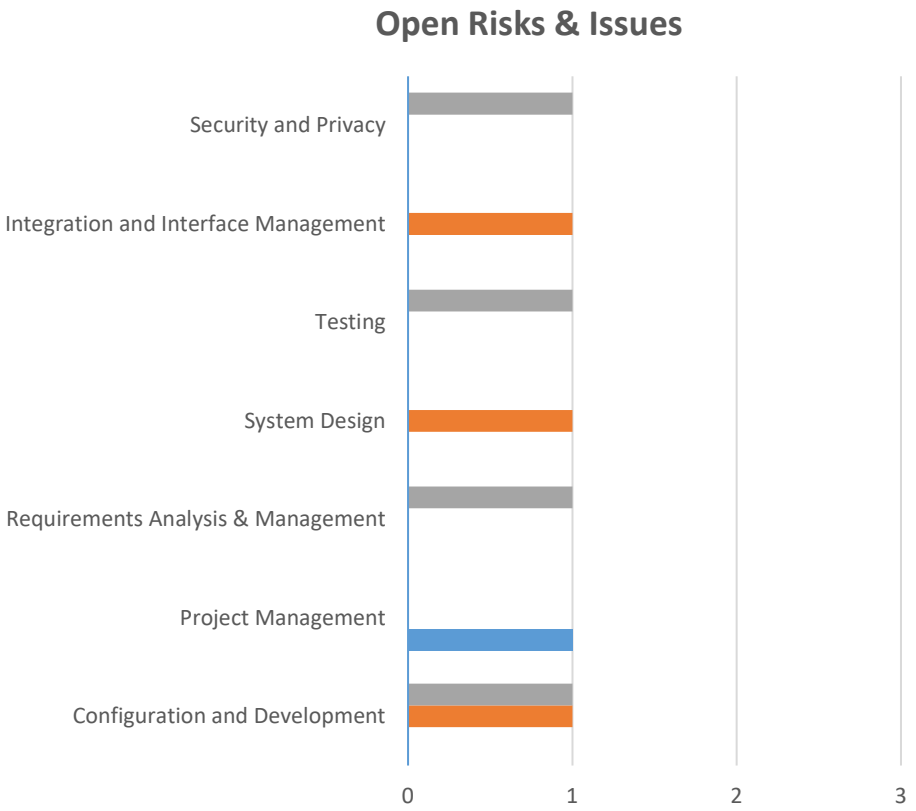
Executive Summary

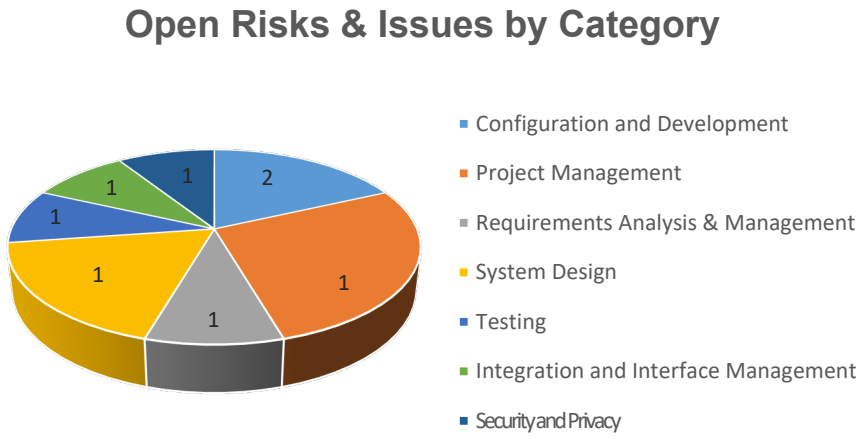
Nov	Dec	Jan	Category	IV&V Observations
L	L	L	System Design	The ASI held 18 JAD sessions in this reporting period, with increased collaboration leading to DHS program and policy SMEs feeling confident in the resulting initial designs (per the DHS PMO). Additionally, with the change to Waterfall SDLC, design session participants have been informed that once designs have been finalized and approved it will require a change request (likely for cost) to modify the designs.
M	M	M	Configuration and Development	The ASI plans to enhance development quality and efficiency by addressing issues like development quality, testing quality, and technical debt. Their strategies include switching from Agile to Waterfall methodologies, improving development discipline, increasing testing comprehensiveness, and onboarding more subject matter experts.
L	L	L	Integration and Interface Management	The ASI and DHS agreed to perform interface technical testing as partner resources become available, during either SIT or UAT, providing validation that all interfaces will be ready for pilot.
H	H	M	Testing	IV&V is awaiting the RCA report and details on the shift from Agile to Waterfall methodologies to understand the testing process implications, with some initial process improvements already started by ASI to improve unit testing.
H	H	M	Security and Privacy	ASI has rewritten most SSP responses to meet NIST 800-53 requirements and developed new security policies for BES. The Security Plan of Action and Milestones (POAM) has 190 open Critical and High-finding, with 82 from Tenable Nessus Configuration scans needing immediate attention.
M	M	M	Requirements Analysis & Management	The ASI is mitigating issues found with requirements in Jira and shared the next steps to resolve them at the last CCB meeting on 1/21/2025. The ASI plans to review a draft set of Requirements Traceability Matrix (RTM) reports at the next CCB meeting on 2/5/2025.

IV&V Findings and Recommendations

IV&V Findings and Recommendations

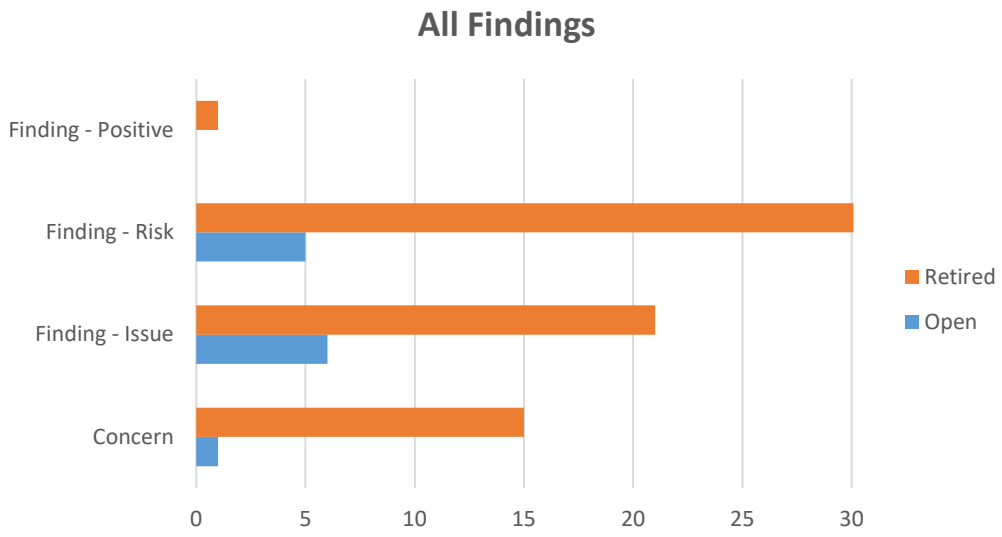
As of the January 2025 reporting period, PCG is tracking 8 open findings (4 risks, 4 issues) and has retired a total of 81 findings. Of the 8 open findings, 1 is High, 4 are Medium, and 3 are Low.





IV&V Findings and Recommendations

The following figure provides a breakdown of the 88 IV&V findings (positive, risks, issues, concerns) by status (open, retired).



IV&V Findings and Recommendations

Findings Opened During the Reporting Period

#	Finding	Category
	None	

IV&V Findings and Recommendations

Findings Retired During the Reporting Period

#	Finding	Category
86	**Issue - Limited collaboration between the ASI and DHS in the design process could lead to BES usability issues and functionality gaps in the applications, not meeting critical business needs for DHS and State clients.** IV&V observed an improved level of collaboration in the JAD sessions held this month, with a more balanced level of participation from both ASI and DHS. With one recommendation being closed due to correlation with Agile SDLC (which will no longer be followed) and the other open recommendation being met, IV&V is retiring this finding.	System Design
89	**Issue—The current mitigation approach to completing the development of the remaining Epics is condensed and aggressive, which may increase the likelihood of schedule delays, quality issues, and a higher volume of testing defects.** At the end of the month, the ASI was working with all stakeholders to finalize and baseline a new project schedule, which will add approximately 18 months to the last approved schedule. The proposed new schedule, which will adhere to a Waterfall SDLC and more rigid sequencing of work (for example, all design completed and signed off before development begins and no changes to designs without a change order), will mitigate the focus of this risk (overlapping development, testing cycles); therefore, IV&V is retiring this finding.	Project Management
88	**Risk – Implementing a Core Solution for go-live carries inherent risks that may impact overall Project success and reduce user adoption.** With the scope of the Pilot and Statewide implementations now planned to include all contract requirements for a fully functional BES solution, not a Minimum Viable Product (MVP), IV&V is retiring this finding as it is no longer a current risk to the BES project.	Project Management

IV&V Findings and Recommendations

Preliminary Concerns Investigated and Retired During the Reporting Period

#	Finding	Category
98	**Delays in providing the required deliverables to FNS could extend the review time needed and delay FNS's concurrence to start the pilot.** At the end of the month, the ASI was working with all stakeholders to finalize and baseline a new project schedule, which will add approximately 18 months to the last approved schedule. With this added time, IV&V is retiring this preliminary concern since additional time was added to the draft schedule with plans to provide DHS and FNS time to review the required project artifacts.	Project Management
103	**The inconsistent Data Conversion status reporting and potential impact of several new Change Requests to Data Conversion may create a risk to the BES Project causing schedule and/or budget challenges.** Due to progress made by ASI regarding data conversion specific to this finding, which has included 1) providing a clear plan for resolving balancing report with stakeholders 2) providing consistent reporting of status for remaining mapping work 3) introducing a comprehensive status page for all data conversion work in the project status meeting on 1/29/2025, IV&V is retiring this preliminary concern.	Data Management and Conversion

IV&V Findings and Recommendations

Project Management

#	Key Findings	Criticality Rating
74	**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.** At the end of the month, the ASI was working with all stakeholders to finalize and baseline a new project schedule. The Draft Schedule published by the ASI includes 18 additional months to complete the project. Once the schedule is finalized, IV&V will monitor the stability of the schedule - looking for any recurrence of task completion being delayed as observed in prior schedules (potentially putting critical project milestones at risk if significant delays). One key aspect of the revised schedule is the identification of the tasks to implement the actions from the Root Cause Analysis to minimize the risk of another future schedule delay. The ASI did publish a high-level report on the Root Cause Analysis. However, it was not clear how these changes were planned in the revised schedule.	H

Recommendations	Progress
• Monitor, evaluate and revise scheduling estimates for accuracy based on the project teams past performance and resources available to do the remaining work.	In Process
• Any work required to address findings from Root Cause Analysis should be included in the revised schedule to validate completion for DHS.	In Process
• Elaborate the schedule to include the detailed work and tasks required behind milestones, allowing better tracking and visibility of possible issues and delays at the task level.	New

IV&V Findings and Recommendations

System Design

#	Key Findings	Criticality Rating
73	**Risk – The planned BES infrastructure is complex which could be difficult to implement and maintain and could lead to schedule/cost impacts.** No material update for this reporting period.	L

Recommendations	Progress
• 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
• The project team work to establish strong governance over the utilization and maintenance of various tools/components.	In Process
• ASI allot time in the schedule to conduct proof of concepts to assure infrastructure components work as expected.	In Process
• 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

Configuration and Development

#	Key Findings	Criticality Rating
70	**Risk – Insufficient configuration management could lead to development confusion and reduce the effectiveness of defect resolution.** No material update for this reporting period.	L

Recommendations	Progress
• 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
• ASI validate plans for configuration management with DHS and agree on a meaningful set of configuration items or settings they will track.	In Process

IV&V Findings and Recommendations

Configuration and Development

#	Key Findings	Criticality Rating
80	**Issue – Development delays have negatively impacted the project schedule and delayed go-live.** The ASI conducted a project restart kickoff on 1/23/2025 where they intend to implement several development (and other) process improvements to increase the quality and efficiency of development. Key issues they intend to address include development quality, testing quality, and accumulated technical debt. Mitigation strategies include implementing switching development methodologies from agile to waterfall, improving development discipline and structure, increasing the comprehensiveness of testing, and bolstering their domain knowledge by onboarding additional subject matter experts.	M

Recommendations	Progress
• 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
• 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
• 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.	In Process
• The ASI should consider enhancing the depth of developer unit testing.	Completed

IV&V Findings and Recommendations

Integration and Interface Management

#	Key Findings	Criticality Rating
93	**Risk – Due to the lack of physical and technical (Transport Layer) testing of the interfaces and data transfer failure, conditions may exist with data format, boundaries, and dependencies. These failures may result in intermittent and hard-to-isolate problems or errors.** Interface technical testing will occur during SIT and UAT, depending on the interface partner's resource availability. Interfaces requiring technical testing during this project phase are EDRS, HYCF, DOH, DPS, PARIS, BEER, IRS, IVR, HANA, DoTax, FNS, ACF, ECF, and EDM. IV&V will continue to monitor them.	L

Recommendations	Progress
• API interfaces should be tested for failure conditions during connection and transfer operations.	In Process
• FTP and file interfaces should be tested for data and file integrity.	In Process
• Test data fields for system impacts resulting from data that is poorly formatted, out of range, or other unexpected data transmission errors.	In Process

IV&V Findings and Recommendations

Testing

#	Key Findings	Criticality Rating
83	**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.** As of January 27, 2025, there are 131 defects ready to be retested from the previous UAT. According to the revised schedule shared by ASI, the next UAT is scheduled to start in mid-January 2026. The priority of this finding has been downgraded from High to Medium. IV&V is still waiting for the Root cause analysis (RCA) report and details of the methodology shift from Agile to Waterfall to fully comprehend the implications for the testing process.	M

Recommendations	Progress
• DHS and ASI revisit the testing approach to prioritize completion of remaining test activities and conduct comprehensive System Integration testing (SIT) to minimize defect leakage to User Acceptance Testing (UAT).	In Progress
• ASI assesses the potential impact of the large number of unresolved defects on future development efforts, ensuring a more robust and efficient development process.	In Progress
• ASI develop and implement a revised testing approach to improve the completeness and thoroughness of future testing cycles.	In Progress

IV&V Findings and Recommendations

Security and Privacy

#	Key Findings	Criticality Rating
82	**Issue – The lack of technical documentation may lead to incorrect implementation statements or delay the System Security Plan (SSP).** The ASI has rewritten most of the System Security Plan (SSP) responses to meet the requirements of NIST 800-53. They also have worked on writing new security policies for BES. Of the 19 policies to be written at the BES Division level, 6 have been turned over to DHS for review and approval, and 7 have been written and go through internal review before submission to DHS. DHS is determining the process to review and approve division-level policies. BES currently has 190 open Critical and High-finding POAMs; 82 are from Tenable Nessus Configuration scans. The 82 critical and high Nessus Configuration findings should be prioritized, reviewed, or implemented immediately. Once the remediations from the configuration scans are implemented, the system may break down and require additional development to run in a more secure environment. Due to the current progress and the schedule sent for review in mid-January, there is significantly more time to complete the remaining task. Therefore, this issue has been lowered to a medium finding.	M

Recommendations	Progress
• Collaborate and communicate with SSP authors about when reliable and correct documentation will be available.	In Process
• Include the Secure Enclave within the work breakdown structure along with the known tasks related to the IRS Assessment to continue receiving FTI in BES.	Not Started

IV&V Findings and Recommendations

Requirements Analysis & Management

#	Key Findings	Criticality Rating
94	**Risk - The lack of an effective way to validate BES requirements could lead to project delays and unfulfilled user needs if DHS later identifies unmet contractual requirements.** At the CCB meeting on 1/21/2025, the ASI shared their progress on addressing issues with the functional requirements in Jira. This effort is a pre-requisite to providing a comprehensive and accurate set of Requirements Traceability Matrix (RTM) reports. The ASI plans to review the current RTM reports at the next CCB meeting on 2/5/2025, which may provide DHS with clarity on requirements coverage per the current BES contract.	M

Recommendations	Progress
• Develop a document that provides DHS with a feasible and effective way to map contract requirements to passed test cases, and, per the BI-19 (Complete and Final Test Plan),"Maps the implementation, functional and technical requirements to the test cases and test scripts".	In Process
• Ensure test scripts thoroughly and comprehensively test the system to assure each requirement has been fully met.	In Process

IV&V Status

IV&V Engagement Status

IV&V Engagement Area	Nov	Dec	Jan	Comments
IV&V Budget				
IV&V Schedule				
IV&V Deliverables				PCG submitted the final December IV&V Monthly Status Report.
IV&V Staffing				
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

- IV&V activities in the January reporting period:
  - Completed – December Monthly Status Report
  - Ongoing – Review the BES Project Artifacts and Deliverables
  - Ongoing – Attend BES Project meetings, (see Additional Inputs pages for details)
  - Ongoing – Review available ASI contracts and contract amendment documentation
- Planned IV&V activities for the February reporting period:
  - Ongoing – Observe BES Design and Development sessions as scheduled
  - Ongoing – Observe Bi-Weekly Project Status meetings
  - Ongoing – Observe Weekly M&O 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-05 Project Schedule	1/10/2025	N/A
CF55a Manage BES-SSP Application TDA – Case Management Module	1/24/2025	V0.2

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
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
UAT Testing Dashboard	N/A	N/A
Waterfall Methodology Plan	N/A	N/A

Additional Inputs

Meetings and/or Sessions Attended/Observed:

1. IV&V Team Meeting – 1/6/2025, 1/9/2025, 1/13/2025, 1/26/2025, 1/21/2025, 1/23/2025, 1/27/2025, 1/30/2025
2. IV&V/ASI December Pre-draft Review – 1/14/2025
3. HI DHS BES December Draft IV&V Report Review – 1/8/2025
4. Bi-Weekly DHS BES PMO/IV&V Check-in – 1/2/2025, 1/16/2025, 1/30/2025
5. Bi-Weekly DHS and IV&V Touch Base – 1/7/2025, 1/21/2025
6. Weekly BES Infrastructure meeting – 1/10/2025, 1/17/2025, 1/24/2025, 1/31/2025
7. Weekly Client BES 2023 Project Status Meeting – 1/8/2025, 1/15/2025, 1/22/2025,1/29/2025
8. Security Touchpoint – 1/8/2025, 1/15/2025, 1/22/2025, 1/29/2025
9. (External) Bi-Weekly Client BES Implementation Schedule Review Meeting – 1/29/2025
10. (Externa(l) Weekly Interfaces Touchpoint – 1/8/2025, 1/13/2025, 1/27/2025
11. (External) Bi-weekly BES CCB Meeting – 1/8/2025, 1/22/2025
12. (External) Readiness - Working Group Meeting - 1/28/2025
13. eWorld/IV&V Mid-Month Check-in – 1/17/2025
14. (External) BES Snow Touchpoint – 1/22/2025
15. (External) Pre-Design CR2024-017 Correspondence Enhancements – 1/6/2025
16. IV&V and DHS PMO Review Findings for December – 2/6/2025
17. (External) Pre-Design CR2024-017 Correspondence Enhancements – 2/6/2025
18. (External) CR2024-024 Interview Enhancement Pre-design JAD meeting - UAT-3105 – 1/7/2025
19. (External) JAD Day 2 CR2024-019 Display Deleted Records – 1/8/2025
20. (External) JAD Day 2 CR2024-024 Interview Enhancements – 1/8/2025
21. (External) JAD Day 1 - CR2024-020 Eligibility Enhancements – 1/9/2025
22. (External) JAD Day 1 CR2024-021 Inquiry Enhancements – 1/9/2025
23. (External) JAD Day 2 CR2024-017 Correspondence Enhancements – 1/10/2025
24. (External) JAD Day 3 CR2024-024 Interview Enhancements – 1/10/2025
25. (External) JAD Day 3 CR2024-019 Display Deleted Records – 1/13/2025
26. (External) JAD Day 2 - CR2024-020 Eligibility Enhancements – 1/13/2025
27. (External) JAD Day 1 CR2024-025 Other Enhancements – 1/17/2025

Additional Inputs (Continued)

Meetings and/or Sessions Attended/Observed:

28. (External) JAD Day 3 CR2024-014 HARI Notices Conversion – 1/21/2025
29. (External) JAD Day 2 CR2024-025 Other Enhancements – 1/21/2025
30. (External) JAD Day 3 CR2024-017 Correspondence Enhancements – 1/23/2025
31. (External) BES Implementation Reset Kickoff Workshop/Meeting – 1/23/2025
32. (External) JAD Day 2 CR2024-016 Application Enhancements – 1/24/2025
33. (External) JAD Day 4 CR2024-017 Correspondence Enhancements – 1/24/2025
34. (External) BI-05 Project Schedule Response Review Meeting – 1/27/2025
35. (External) BES Batch Job Schedule Review – 1/30/2025
36. (External) JAD Day 3 CR2024-025 Other Enhancements – 1/30/2025
37. (External) JAD Day 5 CR2024-017 Correspondence Enhancements – 1/31/2025
38. (External) BI-05 Project Schedule Response Review Meeting - cont'd – 1/31/2025

Appendices

Appendix A – IV&V Criticality Ratings

Criticality Rating	Definition
H	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.
M	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.
L	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
- Data Management and Conversion
- Security and Privacy
- Testing
- OCM and Knowledge Transfer
- Pilot Test Deployment
- Deployment

Ending Slide

Solutions that Matter

ID	Title	Reporter	Finding Type	Identified Date	Category	Observation	Significance	Recommendation	Event Horizon	Impact	Probability	Analyst Priority	Finding Status	Status Update	Client Comments	Vendor Comments
94	The lack of an effective way to validate BES requirements could lead to project delays and unfulfilled user needs if DHS later identifies unmet contractual requirements.	Morrill, Scott	Finding - Risk	4/25/2024	Requirements Analysis & Management	The Requirements Traceability Matrix (RTM) (BI-21) plays a vital role in ensuring the system's compliance with contractual commitments by associating each requirement with passed test case(s). However, the approved project schedule shows the RTM completed on 6/26/24, which falls after the Core SIT exit decision on 5/10/24. The ASI provided the BI-22a System Integrity Review Tool (SIRT) to DHS on April 26, 2024, but withdrew the deliverable due to DHS concerns. This BI-22a deliverable may help DHS validate requirements.	It is unclear to DHS and IVV how the ASI will trace requirement coverage for SIT completion. DHS may be unable to make an informed decision on SIT exit criteria. This could lead to DHS starting Final Acceptance Testing (FAT) and then realizing that not all requirements have been fully met, resulting in delays.	IN PROGRESS • Develop a document that provides DHS with a feasible and effective way to map contract requirements to passed test cases, and, per the BI-19 (Complete and Final Test Plan), "Maps the implementation, functional and technical requirements to the test cases and test scripts". • Ensure test scripts thoroughly and comprehensively test the system to assure each requirement has been fully met.	5/10/2024	3	3	Med	Open	1/31/2025 - At the CCB meeting on 1/21/2025, the ASI shared their progress on addressing issues with the functional requirements in Jira. This effort is a pre-requisite to providing a comprehensive and accurate set of Requirements Traceability Matrix (RTM) reports. The ASI plans to review the current RTM reports at the next CCB meeting on 2/5/2025, which may provide DHS with clarity on requirements coverage per the current BES contract. 12/31/2024 - The ASI hosted a meeting to review usage of the RTM, but all attendees agreed more work was needed to provide a usable report for both the ASI and DHS to validate requirement coverage. The ASI plans to share a revised RTM at the next CCB meeting. 11/30/2024 - Both DHS and IVV share the same concern that the current set of RTM reports does not provide the functionality needed to validate that contractual requirements have been developed and tested in the current BES solution. IVV reached out to the ASI requesting a demonstration of how the RTM validates that contractual requirements have been met. A meeting is scheduled for December 5th with DHS, the ASI, and IVV. 10/31/2024 - This finding will be reevaluated by the IVV team after the project team completes the replanning and determines the approach, requirements/functionality, and schedule for the Pilot and Statewide rollout. 09/30/2024 -The ASI did demonstrate some progress in providing a set of RTM reports that match the approved Deliverable Expectations Document (DED). However, DHS still did not receive a comprehensive report to confirm all expected contractual requirements for approved Epics have been developed and tested successfully. With more scope being added as part of new project direction, it continues to be critical that DHS is provided an RTM to confirm requirements are met. 08/31/2024 - As of the end of the reporting period, the ASI had not provided the comprehensive Requirements Traceability Matrix for BES 1.0 based on the Deliverable Expectation Document (DED),		9/9/2024 Include information on interim version provided prior to FAT. 7/12/2024 I'm not sure if this is worth noting but eWorldES did deliver an "interim" Bi-21 RTM to satisfy the requirement criteria for entering into BES 1.0 FAT. 06/14/2024 The Bi-21 RTM deliverable has been reviewed and discussed multiple times at the bi-weekly CCB meeting. Draft reports of the Bi-21
93	Due to the lack of physical and technical testing of the interfaces and data transfer failure, conditions may exist with data format, boundaries, and dependencies. These failures may result in intermittent and hard-to-isolate problems or errors	Reynolds, Mark Evan	Finding - Risk	4/29/2024	Integration and Interface Management	Aside from the functional testing accomplished during epic testing, specific data flow testing is usually part of an interface definition.	This testing is essential before initial deployment to prevent unexpected and difficult-to-resolve issues, such as scrambled or missing data – or the system may have a fault or exception. Since the Project has not established and tested the fault scenarios, we do not know how the system may react.	In Process 1. API interfaces should be tested for failure conditions during connection and transfer operations. 3. FTP and file interfaces should be tested for data and file integrity. 4. Test data fields for system impacts resulting from data that is poorly formatted, out of range, or other unexpected data transmission errors. Removed 2. (n/a, no transactional interfaces therefore no race conditions] API interfaces should be tested for race conditions. 5. [redundant with #4] Interface records and files should be tested for format, length, or other physical formatting errors.	2024 2nd Qtr	3	2	Low	Open	1/30/2025—Interface technical testing will occur during SIT and UAT, depending on the interface partner's resource availability. Interfaces requiring technical testing during this project phase are EDRS, HYCF, DOH, DPS, PARIS, BEER, IRS, IVR, HANA, DoTax, FNS, ACF, ECF, and EDM. IVV will continue to monitor them. 12/31/2024 The initial set of testing was successful. Test planning and execution for the other interfaces should be integrated into the recast schedule discussions. Successful results, including graceful rejection of invalid interface data (such as misnamed SFTP files or short fields/truncated files), are recommended prior to commencement of SIT testing. 10/31/2024 - This finding will be reevaluated by the IVV team after the project team completes the replanning and determines the approach, requirements/functionality, and schedule for the Pilot and Statewide rollout. 09/30/2024 - The 7 interfaces used in the planned Pilot release, BES1.0, have been completed. However, the other 12 releases required for the statewide release, BES1.1, will be required with the revised approach to merge. This finding is being kept open at a low priority until all 19 interfaces are completed. 08/22/2024 - All tests except those related to the Wells Fargo Lockbox interface have been completed. These seven tests require initiating a new service ticket with Wells Fargo. Tests are expected to be completed before the beginning of the Pilot phase. 06/28/2024 - The ASI has prepared the test scripts for the 12 interfaces included in the Pilot release. This first round of test scripts reside in the Jira tool and are being executed to be complete by mid-July. The Office of Information Technology (OIT) will be required to provide special case file alterations. 05/23/2024 - The ASI and DHS continue to define the interface test approaches. Technical interface testing details, including the Transport Layer, are planned to be discussed in June.		06/14/2024 As mentioned at the May pre-meet, a technical Interface team plan does exist to address PCG's recommendations for this finding.5/11/2024 As mentioned at the pre-meet, a technical Interface team plan does exist to address PCG's recommendations for this finding.
83	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.	Kalsi, Neetu	Finding - Issue	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 that not all epics 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 not 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.	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 is slow progress or incomplete testing in the early stages, it can result in more defects leaking into subsequent testing phases, necessitating more extensive and rigorous testing efforts. Insufficient testing coverage or slower than-anticipated progress 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).	OPEN - DHS and ASI revisit the testing approach to prioritize completion of remaining test activities and conduct comprehensive System Integration testing (SIT) to minimize defect leakage to User Acceptance Testing (UAT). - ASI assesses the potential impact of the large number of unresolved defects on future development efforts, ensuring a more robust and efficient development process - ASI develop and implement a revised testing approach to improve the completeness and thoroughness of future testing cycles. CLOSED - The 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 (Closed 4/30/2024) - DHS and ASI monitor INT/SIT closely for both breadth and depth of testing to ensure the system is adequately tested (Closed 10/30/2024) - ASI utilize the two-week FAT testing pause to address and resolve outstanding SIT defects and apply the fixes in the FAT environment, ensuring that these defects do not recur when FAT resumes, optimizing testing efficiency and reducing potential defect rediscovery. (Closed 10/30/2024) NOT COMPLETED - The Project team reviews the SIT exit criteria and revises them as needed to ensure UAT/FAT begins with the best system possible. (3/31/2024) - DHS should request that the ASI develop a Corrective Action Plan to address the failure of prior test phases (Unit, INT) to capture defects that rolled into SIT (09/26/2024)	UAT	4	4	Med	Open	1/29/2025- As of January 27, 2025, there are 131 defects ready to be retested from the previous UAT. According to the revised schedule shared by ASI, the next UAT is scheduled to start in mid-January 2026. The priority of this finding has been downgraded from High to Medium. IVV is still waiting for the Root cause analysis (RCA) report and details of the methodology shift from Agile to Waterfall to fully comprehend the implications for the testing process. 12/27/2024- The ASI is testing UAT defects that have been resolved, in advance of any DHS testing. IVV awaits the RCA report and the details of the possible Design, Development, and Implementation (DDI) change from Agile to Waterfall to understand the changes to the testing process that the ASI is proposing. 11/26/2024- The recent UAT testing cycle ended, but did not complete, on November 15, 2024, with a total of 95 failed test cases in the real-time environment and 137 failed test cases in the time travel environment. There was a total of 279 unresolved defects, which raised concerns about the overall stability and reliability of the system. The IVV team is concerned that introducing new functionality on top of the current unstable system may lead to project delays or failure. While ASI has committed to resolving the outstanding defects, the IVV team has added a recommendation on the testing approach. 10/31/2024 – As of October 30, 2024, DHS testers identified a total of 1618 defects with 373 defects still unresolved, comprising 123 High Severity, 177 Medium Severity, and 73 low severity defects. The ASI resolved and moved to UAT 175 defects during the two-week UAT testing pause. Despite this progress, significant gaps remain. 20% (137/682) of real-time environment test cases and 49% (205/417) of time travel environment test cases are unresolved. This poses significant risks, potentially compromising system reliability, performance, and quality. Unresolved defects and incomplete testing may lead to undiscovered issues, impacting overall system integrity.		2/13/2025 Per Hemant (eW Test Lead): "... there is no change in the testing process for R0.13 as far as waterfall methodology is concerned." We are notplanning to have any phased in functionalities with R0.13. 12/11/2024 Please revisit the first two recommendations as these should reflect an "In Process" progress status. 11/13/2024 DHS reviews and approves all SIT tests to ensure full coverage of functionality. The
82	The lack of technical documentation may lead to incorrect implementation statements or delay the System Security Plan	Heath, Dustin	Finding - Issue	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. Implementation statements are currently being written from the perspective of how the system 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.	Once the system architecture and design have been completed, the SSP authors may need to edit or rewrite implementation statements. A full draft of the SSP is scheduled to be published August 15th , 2023, and the final SSP (ready for federal partner review) is scheduled for September 15, 2023. The SSP is a large technical document with hundreds of controls and control enhancements, and each one requires an implementation statement of how the control or enhancement has been met.	NEW IV&V recommends prioritizing the 82 Critical and High finding POAMs as a result of the Tenable Nessus Configuration scans. Implementing the security configurations later in development may cause the system to become unfunctional, and require additional development time to fix. NOT STARTED Include the Secure Enclave within the work breakdown structure along with the known tasks related to the IRS Assessment to continue receiving FTI in BES. OPEN - Collaborate and communicate with SSP authors about when reliable and correct documentation will be available. COMPLETE - Determine when the infrastructure design baseline will be completed. (06/30/2024) - Perform a full review of all draft SSP controls for content and accuracy 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. (9/26/2024) - Begin monthly Plan of Action and Milestone update meetings between DHS Security and the ASI Security teams to inform each other of progress and updates made against each POAM. (10/31/2024)	Prior to the start of the third-party assessment.	3	4	Med	Open	1/27/2025 - The ASI has rewritten most of the System Security Plan (SSP) responses to meet the requirements of NIST 800-53. They also have worked on writing new security policies for BES. Of the 19 policies to be written at the BES Division level, 6 have been turned over to DHS for review and approval, and 7 have been written and go through internal review before submission to DHS. DHS is determining the process to review and approve division-level policies. BES currently has 190 open Critical and High-finding POAMs; 82 are from Tenable Nessus Configuration scans. The 82 critical and high Nessus Configuration findings should be prioritized, reviewed, or implemented immediately. Once the remediations from the configuration scans are implemented, the system may break down and require additional development to run in a more secure environment. Due to the current progress and the schedule sent for review in mid-January, there is significantly more time to complete the remaining task. Therefore, this issue has been lowered to a medium finding. 12/31/2024 - The ASI resolved the critical and high POAMs related to patching of "Spring Boot". Additionally, six security policies were completed by the ASI and sent to DHS for final editing and approval. The availability of DHS resources to complete the policy work remains an IVV concern. 11/27/2024—In November, the ASI - Completed three policies for DHS and turned them over to DHS for the editing and approval process. - Continued to update the implementation statements in the main body of the System Security Plan. - Began patching of "Spring Boot" in lower environments. As the patch reaches the production environment, it is expected to remediate many critical and high-finding POAMs. Additionally, DHS received the final report from the SSA on their assessment earlier this year. 10/31/2024 - In October, the ASI continued to work on rewriting the implementation statements for the BES System Security Plan (SSP). The ASI completed rewrites of implementation		09/9/2024 SSA accepted DHS plan for training in Sept 9 meeting, so this should be reflected in September report. Also, need to determine what resources will be used and final process for addressing the missing documentation. Might want to have a risk for gap in Security support from DHS since Jack has left. 06/14/2024 Feedback already provided by David Rolla at May pre-meet. "My concern with the Security & Privacy slide is that there is no context provided

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80	Development delays have negatively impacted the project schedule and delayed go-live.	Fors, Michael	Finding - 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 BAs lacking the expertise required to create optimal designs and system specifications that developers could consume without requiring extensive clarification from the ASI BA/SA team. DHS and IVV observed instances where ASI BAs/SAs have presented less than optimal designs and left it to 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 • 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 • ASI regularly report estimated story points for the total remaining project work to reach go-live and present a dynamic burndown chart to track the progress. COMPLETE CLOSED • DHS request the ASI strategically add the right project team resources to effectively increase velocity. Note that adding additional junior resources may not be as effective as staffing additional expert-level development, analysis, and other resources that can lead and mentor junior resources. • ASI reviews the development process and identifies and mitigates the challenges preventing them from incorporating Epic demo activities into the project schedule. (9/29/23 - ASI will not be doing this, with DHS approval) ASI consider taking steps to increase code quality, including enhancing the depth of developer unit testing, tracking and proactively preventing leakage, and enforcing effective coding standards and good governance. The ASI should consider enhancing the depth of developer unit testing.	Immediate	3	3	Med	Open	1/31/2025 - The ASI conducted a project restart kickoff on 1/23/2025 where they intend to implement several development (and other) process improvements to increase the quality and efficiency of development. Key issues they intend to address include development quality, testing quality, and accumulated technical debt. Mitigation strategies include implementing switching development methodologies from agile to waterfall, improving development discipline and structure, increasing the comprehensiveness of testing, and bolstering their domain knowledge by onboarding additional subject matter experts. 12/31/2024 - The ASI continues to make efforts to enhance development quality and efficiency. They have recently onboarded a senior development manager to help address ongoing development challenges and course-correct where necessary. Additionally, the ASI has reportedly added two new development leads focused on quality assurance, as well as a new release manager. 11/30/2024 - The ASI continues to struggle with a high number of defects, which frustrates and creates more work for DHS UAT testers. Because of this, DHS has elected to closeout UAT testing for the time being. 10/31/24 - With the recent departure of the ASI's recently hired development quality lead, the ASI hired two technical resources to mitigate code quality challenges that have created project delays. 9/26/24 - The ASI has recently taken steps to increase the code quality and productivity of their development team by adding senior development resources including a development quality lead and a new development manager. They hope to refocus the development team to be more disciplined in their coding practices and unit testing so as to reduce coding defects. The ASI has reported they currently have 84 developers (37 off-shore and some part-time) working on BES and plan to add 50 more off-shore developers at some point in order to expedite development. The ASI has acknowledged that coding defects have hampered the projects		2/13/2025 Perhaps for the next MSR we should review the outstanding recommendations to ensure progress status is reflected accurately. 09/09/2024 Vic confirmed that 50 developers have been added to project. 05/11/2024 As discussed at pre-meet, the development team has been primarily focused on fixing BES 1.0 defects. DDI work for BES 1.1 and 1.2 are forthcoming.
74	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.	Molina, Brad	Finding - 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 IV&V 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 frustration which can lead to schedule delays, low quality output, scope changes, and budget issues.	OPEN - Monitor, evaluate and revise scheduling estimates for accuracy based on the project teams past performance and resources available to do the remaining work. - Any work required to address findings from Root Cause Analysis should be included in the revised schedule to validate completion for DHS. - Elaborate the schedule to include the detailed work and tasks required behind milestones, allowing better tracking and visibility of possible issues and delays at the task level. COMPLETE ASI conduct a Root Cause Analysis (RCA) with DHS and IVV to determine why the BES project continues to experience schedule delays. - ASI Project Management works with the development teams to evaluate the accuracy of development velocity and adjust accordingly to reduce risk in the revised BES project schedule. •ASI provides Burndown charts that provide visibility into the remaining work. - ASI provide details on how Velocity measures were used to calculate the remaining development work. -ASI conduct a Root Cause Analysis (RCA) with DHS and IVV to determine why the BES project continues to experience schedule delays. DHS and the ASI agree to a revised schedule against which project deliverables can be managed. (2/28/2023 - complete) ASI host a weekly meeting with DHS and IVV to review all changes to the project schedules (Primary and DDI). (8/31/2023-complete) 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 towards completion of Epics. (9/29/23 ASI says that they will not do this.) Confirm current assumption that a delay with the current go-live date will not result in major implications. (6/29/23) 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. (4/30/2023 - ASI	Immediate	3	4	High	Open	1/31/2025 - At the end of the month, the ASI was working with all stakeholders to finalize and baseline a new project schedule. The Draft Schedule published by the ASI includes 18 additional months to complete the project. Once the schedule is finalized, IVV will monitor the stability of the schedule - looking for any recurrence of task completion being delayed as observed in prior schedules (potentially putting critical project milestones at risk if significant delays). One key aspect of the revised schedule is the identification of the tasks to implement the actions from the Root Cause Analysis to minimize the risk of another future schedule delay. The ASI did publish a high-level report on the Root Cause Analysis. However, it was not clear how these changes were planned in the revised schedule. 12/31/2024 - The ASI has not yet published a draft schedule, nor has the ASI and DHS agreed upon the software development life cycle (Agile vs. Waterfall) that will be used for the duration of the project. It is also unknown to IVV how the ASI estimated the remaining work, not only the development but all remaining deliverables and those that must be revised due to the delay. 11/30/2024—The ASI has indicated that a revised project schedule will be provided to DHS and IVV for review by the second week of December. DHS and the ASI made progress on Change Requests (CRs) that will be included in the BES solution. This CR planning needs to be finalized to complete the schedule. 10/31/2024 - This finding will be reevaluated by the IVV team after the project team completes the replanning and determines the approach, requirements/functionality, and schedule for the Pilot and Statewide rollout 09/30/2024 - The project did not meet the Pilot Go Live date as the schedule was not realistic for the planned work to be performed, and new functionality was requested by DHS via change requests (12 overall). No updated schedules were published in September, as the ASI worked through revising the schedule to align with the new project direction		11/13/2024 I'm not sure the reader will know the "Option 2" reference and I don't see any subsequent references in the finding's details. Consider removing the latter half of the sentence "...to support Option 2." 09/9/2024 Numbr of defects, phased in epics, also outstanding CR. CR pushing schedule out beyond Sept. Phased epics should be in this week. Optimistic for getting defects and epics addressed by end of September. But should include all three of the issues.
73	The planned BES infrastructure is complex which could be difficult to implement and lead to schedule/cost impacts.	Fors, Michael	Finding - 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. Delays in finalizing the components being implemented could exacerbate this risks and lead to further delays. Complex platforms often present system maintenance and operations challenges as system changes can hold 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). IV&V 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.	• ASI develop a process to closely monitor cloud and other product changes (software updates/new releases), manage changes, and regression test once changes/updates are applied. • The project team work to establish strong governance over the utilization and maintenance of the various system tools/components. • ASI allot time in the schedule to conduct proof of concepts to assure infrastructure components work as expected. • ASI maintain a detailed schedule for DevOps implementation tasks to avoid unexpected delays that could delay project milestones and the critical path.	Next several months	2	2	Low	Open	1/31/2025 - No material update. 12/31/2024 - No material update. 11/30/2024 - This finding will be reevaluated by the IVV team after the project team completes the re-planning and determines the approach, requirements/functionality, and schedule for the Pilot and Statewide rollout. 10/31/24 - This finding will be reevaluated by the IVV team after the project team completes the replanning and determines the approach, requirements/functionality, and schedule for the Pilot and Statewide rollout 9/26/24 - The project continues to make progress on its technical debt (infrastructure activities that were put on hold in order to work on priority items), including improvements to MongoDB, DataDog, and Boomi. The project has initiated the process with Netenrich to convert to the new Google SecOps platform and may add more components/services, including the Consul API Gateway and Private Service Connect. The ASI intends to update the BI-12 before go-live to reflect these changes/additions. 8/22/24 - The ASI continues to make progress in building out the finalized list of infrastructure components into the BES platform. The ASI appears to have a structured approach for building out and testing these components and they have reported success with some disaster recovery (DR) tests. 7/26/24 - No material update for this reporting period. 6/20/24 - No material update for this reporting period. 5/31/24 - It remains unclear how infrastructure complexity will impact DR testing and execution. 4/30/24 - No material update in this reporting period. 3/31/24 - During a recent Change Control Board (CCB) meeting the ASI presented DHS with a for-cost change request (CR) to the design of the Secure Enclave (the addition of roles). In the CCB, it was clear that DHS and the ASI were not in agreement regarding the funding of this change request. 2/29/24 - No material update in the reporting period. 1/23/24 - No material update in the reporting period. IVV continues to monitor this finding. 12/31/23 - No material update in the reporting		2/13/2025 Perhaps for the next MSR we should review the outstanding recommendations to ensure progress status is reflected accurately. 11/17/2023 - Again, why is DR being referenced here? Per the current project schedule, the DR plan is scheduled to be submitted at the end of the year. Reminder: Pilot Go-Live is April 2024. 10/31/2023 - Vic - westill do notunderstand why this remains. 10/11/2023
70	Insufficient configuration management could lead to development confusion and reduce the effectiveness of defect resolution	Fors, Michael	Finding - Risk	8/23/2021	Configuration and Development	The BI-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 projects 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.	OPEN • 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. • ASI validate plans for configuration management with DHS and agree on a meaningful set of configuration items or settings they will track. COMPLETED • DHS and ASI work to clarify/solidify plans for the potential use of configuration management tools. • Identify the DHS POC for the Configuration Management Activities that would provide oversight of configuration management activities and assure defined CM steps and plans are being followed, are effective, and are achieving DHS objectives for CM. 7/31/2022	ASAP	2	2	Low	Open	1/31/2025 - No material update. 12/31/2024 - No material update. 11/30/2024 - This finding will be reevaluated by the IVV team after the project team completes the re-planning and determines the approach, requirements/functionality, and schedule for the Pilot and Statewide rollout. 10/31/24 - This finding will be reevaluated by the IVV team after the project team completes the replanning and determines the approach, requirements/functionality, and schedule for the Pilot and Statewide rollout. 9/26/24 - The ASI had recently stated they plan to update their Configuration Management Plan (CMP) list of configuration items (CIs) and CMP procedures by 9/20/24 but has since experienced some delays in completing these activities. 8/22/24 - IVV has yet to receive a detailed, comprehensive list of configuration items the ASI will be tracking. 7/26/24 - No material update for this reporting period. 6/20/24 - No material update for this reporting period. 5/31/24 - IVV has yet to receive a detailed, comprehensive list of configuration items the ASI will be tracking. 4/30/24 - IVV has yet to receive a detailed, comprehensive list of configuration items the ASI will be tracking. 3/31/24 - Responsibility for the Configuration Management Plan (CMP) reverted to the ASI (previously, the DHS Security Contractor was updating the CMP for related security controls). The ASI is resuming this scope of work at a time when its resources are stretched and may lead to CMP and configuration management quality challenges. 2/29/24 - No material update in this reporting period. 1/23/24 - No material update in the reporting period. 12/31/23 - 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. 11/30/23 - The ASI has yet to provide a detailed list of configuration items to DHS and IVV. IVV has restated this request to the ASI so that the level of detail is clear. 10/26/23 -		9/9/2024 Still in progress. Plan to update Configuration Management Plan list of items. Two documents, management plan (end of week), Configuration Management procedures (more detailed). Working with Mark M on what should be included. Trying to work with folks who really understand the details and are available. 10/31/2023 - Vic - We provided a listing, working on a plan to implement.