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DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES | KA 'OIHANA LOIHELU A LAWELAWÉ LAULĀ
OFFICE OF ENTERPRISE TECHNOLOGY SERVICES | KE'ENA HO'OLANA 'ENEHANA
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September 19, 2025

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

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

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

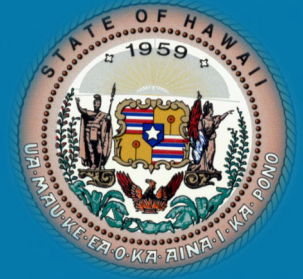
Pursuant to HRS section 27-43.6, which requires the Chief Information Officer to submit applicable independent verification and validation (IV&V) reports to the Legislature within ten days of receiving the report, please find attached the report the Office of Enterprise Technology Services received for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

Christine M. Sakuda
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: August 1 – 31, 2025

Submitted: September 18, 2025

Overview

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- [IV&V Findings and Recommendations](#)
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Solutions that Matter

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Executive Summary



During August, the BES project team concentrated on System Integration Testing (SIT). Concurrently, DHS and the ASI resumed efforts in Organizational Change Management (OCM), Implementation Readiness, and Training to prepare for the Pilot and Statewide go-live. The IV&V team has identified risks and concerns in the areas below and is working with the ASI and DHS to minimize or clarify risks to the project.

Requirements Management:

- The ASI has not yet completed updates to ensure all requirement documentation is current and accurate.
- DHS lacks visibility into which contractual requirements have been implemented and tested.
- The absence of a comprehensive Requirements Traceability Matrix (RTM) poses a risk of securing federal partner approval for initiating User Acceptance Testing (UAT), which would delay the Pilot and overall project schedule.
- IV&V notes that the DHS-approved schedule has the RTM submitted to DHS in December 2025. The project team needs early identification of all requirements required for Pilot to minimize the impact to the schedule, DHS resources (rework), and downstream planned activities (e.g. Reporting, ADA, Disaster Recovery, Service Level Agreement Reporting).



















Testing:

- The ASI initiated execution of end-to-end (E2E) testing. This comprehensive, process-focused testing uses the BES application in a manner more closely aligned with how DHS will use the system.
- Defect discovery continues to outpace resolution, raising concerns that ASI technical resources may not be adequate. However, the team has made meaningful progress, resolving approximately 78% of the defects reported in August.

IV&V and DHS have concerns that the project's federal partner has indicated that new legislation (OBBBA) is likely to require the project to implement additional system requirements. Adding these requirements during the late stages of the software development lifecycle could lead to increased cost and/or delay go-live.

Executive Summary



Jun	Jul	Aug	Category	IV&V Observations
			System Design	Communication between the DHS shared platform and BES teams has improved, lowering the risk of unexpected integration issues, while the project has introduced a new AI tool to enhance user support. Differences in operational processes identified during Maintenance and Operations planning — particularly in Security and Incident Management—may complicate implementation timelines and support planning.
			Configuration and Development	The ASI has additional development work for recently identified change requests. With SIT underway, and the possibility of development not being completed prior to start of UAT, IV&V is concerned that this late-stage development work might delay the Project.
			Integration and Interface Management	Delays initiating physical/technical interface test execution are compressing the System Integration Testing (SIT) timeline, reducing the amount of time the project team must complete testing, analyze and resolve defects, and conduct retesting. This late start increases the risk of unresolved defects/issues impacting User Acceptance Testing (UAT) and subsequent project phases.
			Testing	The ASI continued addressing defects, with approximately 73% of all high-severity and high priority defects being resolved by month end.
			Security and Privacy	The ASI plans to have the new baseline SSP authored and published by the end of September 2025.
			Requirements Analysis & Management	DHS and ASI conducted four sessions to finalize the mapping of all contract requirements, ensuring accurate traceability in JIRA for the RTM deliverable. This effort is critical to confirm that all BES functionality has been properly developed and validated, minimizing the risk of rework or delays; the RTM is scheduled for delivery on 12/23/25.

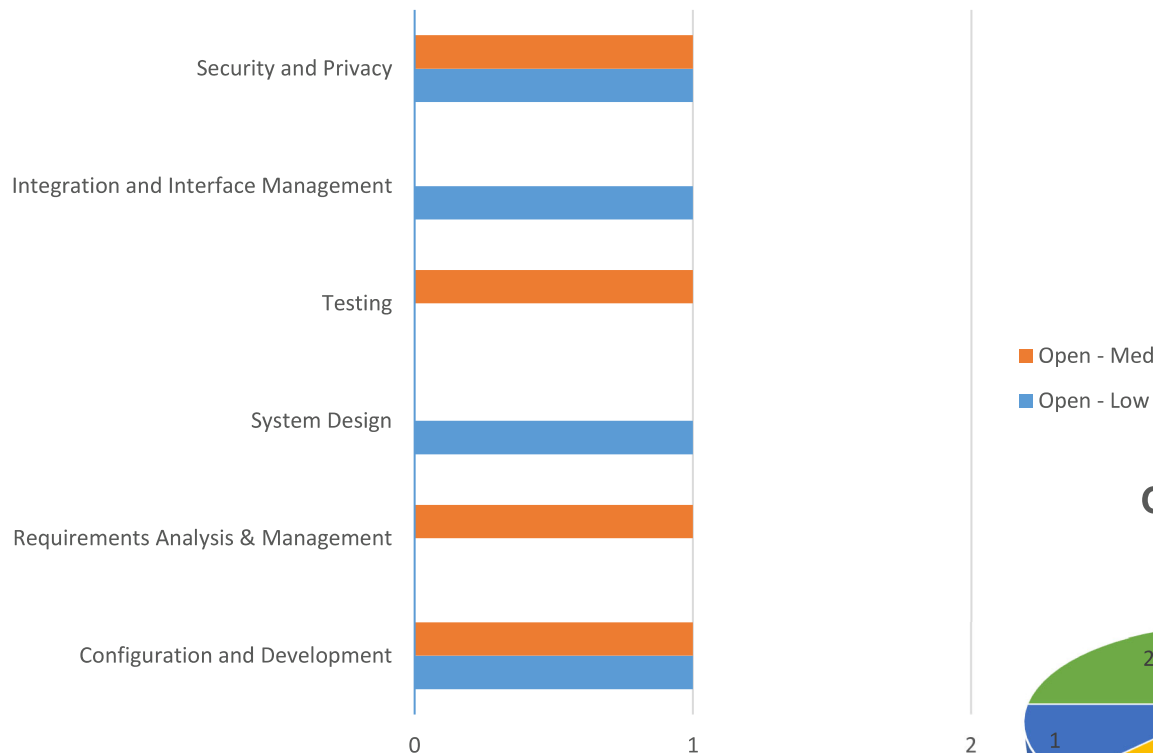
IV&V Findings and Recommendations

IV&V Findings and Recommendations

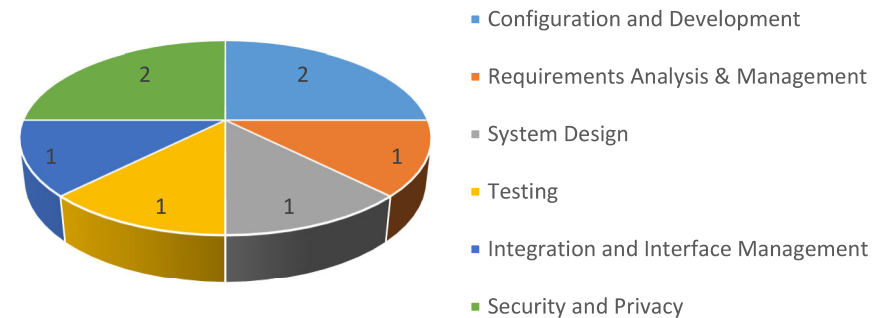


As of the August 2025 reporting period, PCG is tracking 8 open findings (5 risks, 3 issues) and has retired 83 findings. Of the 8 open findings, 4 are Medium, and 4 are Low.

Open Risks & Issues



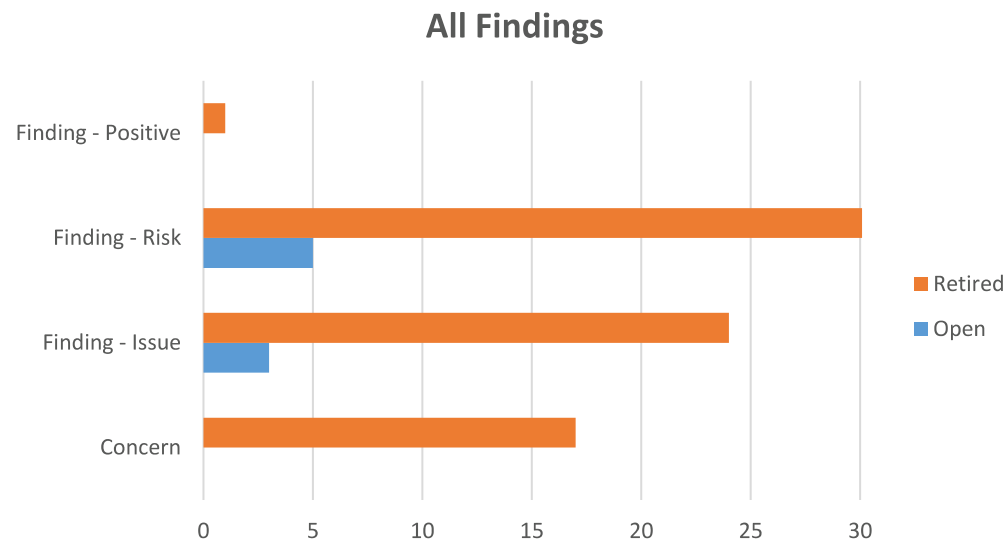
Open Risks & Issues by Category



IV&V Findings and Recommendations



The following figure provides a breakdown of the 91 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
	None	

IV&V Findings and Recommendations



Preliminary Concerns Investigated During the Reporting Period

#	Finding	Category
108	<p>Preliminary Concern</p> <p>Unplanned federally mandated system requirements could lead to project delays and increase the project budget.</p> <p>Observation</p> <p>As part of the OBBBA, there are several new SNAP requirements of which some are awaiting FNS implementation guidance. Examples include; new conditions for work requirements, prior ABAWD waivers, new exemption classes, and standard utility deductions. The project is currently in the Systems Integration Test (SIT) phase, and the new requirements have yet to be fully defined, developed, and tested.</p>	Requirements Analysis & Management

IV&V Findings and Recommendations




Preliminary Concerns Investigated During the Reporting Period (cont.)

#	Finding	Category
108	<p>Preliminary Concern (Continued)</p> <p>Unplanned federally mandated system requirements could lead to project delays and increase the project budget</p> <p>Significance</p> <p>In 2024, DHS and the ASI agreed to transition from an “Agile” to a “Waterfall” software development life cycle to reduce the risk of future schedule delays. The Waterfall approach requires all requirements to move through the development as a single set of program code, processes, and procedures, ensuring that functionality is tested holistically. Once testing is complete, DHS can be confident that the base system is stable, performs as intended, and that functional interactions operate correctly.</p> <p>As the BES system is currently in the testing phase, introducing new requirements at this stage could create several challenges for the BES Pilot Release:</p> <ul style="list-style-type: none">• Rework – Functionality previously tested may need to be retested as new code is introduced. Training materials, content, and operational processes may also require updates to reflect the changes.• Schedule Delays – If new requirements are added, the project team may defer testing of existing functionality until the new functionality is developed and ready, potentially delaying the Pilot and Statewide Implementation start dates.• Resources – Additional effort may be required to define, develop, and test new requirements. This could necessitate more ASI and DHS staff support, as well as technical adjustments (e.g., keeping development environments active longer than originally planned).	Requirements Analysis & Management

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>The ASI indicated that communication between the DHS shared platform team and the BES project has improved, reducing the likelihood of unforeseen or unexpected issues arising from the shared platform moving forward. The project elected to add a new AI tool to its suite of tools to assist users with online help and user guides. During recent Maintenance and Operations (M&O) planning sessions, the project team identified areas such as Security and Incident Management where BES infrastructure operational processes may differ from those used in the legacy systems. How this added complexity will impact implementation schedules and the scope of M&O planning and support, is not yet known.</p>	

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 in this reporting period.	

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

IV&V Findings and Recommendations



Configuration and Development


#	Key Findings	Criticality Rating
80	<p>Issue – Development delays have negatively impacted the project schedule and delayed go-live.</p> <p>The ASI is reporting System Integration Testing (SIT) is progressing as planned. IV&V continues to monitor for potential development delays and/or code quality issues that may impact the effectiveness and timely completion of the SIT phase. The project team indicated they plan to introduce new functionality during UAT which may slow defect repairs, rework and add additional complexity for developers to manage resulting in the least impact to the project and project team.</p>	

Recommendations	Progress
<ul style="list-style-type: none">ASI provides 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">IV&V recommends the project closely monitor progress on the customer correspondence CR and create a mitigation strategy to avoid delays.	In Process

IV&V Findings and Recommendations



Integration and Interface Management

#	Key Findings	Criticality Rating
93	<p>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.</p> <p>Jira tickets are actively being created to define the specific tests required for each interface. As in the previous testing cycle, these tickets outline test objectives and predefined scenarios rather than detailed, step-by-step scripts. Delays initiating test execution are reducing the available time within the SIT window to complete testing, analyze defects, resolve issues, and conduct retesting. The late start further constrains efforts to address defects before UAT, increasing the risk that unresolved defects/issues may impact downstream phases of the project.</p>	

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	<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>SIT testing continues to progress. While execution of E2E tests is underway, a substantial portion remains outstanding while blocking defects are being addressed. Timely execution of these tests will enable prompt detection of critical integration issues, validate system stability, and reinforce stakeholder confidence. Recent trends indicate that while the weekly rate of defect discovery remains higher than the rate of resolution, steady progress is observed, with approximately 60% of all high-severity and high-priority defects being resolved by month end.</p> <p>To date in the SIT phase, the highest defect volumes have been found in the following areas, with solid progress made toward resolving them in each:</p> <ul style="list-style-type: none">• Eligibility• Batches• ADA• Interview <p>Data conversion validation testing is underway to proactively mitigate potential UAT issues. Adjustments are ongoing, and BES-conversion defects are being actively resolved.</p>	

Recommendations	Progress
<ul style="list-style-type: none">• 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
<ul style="list-style-type: none">• ASI test team provide a visual of progress of test case execution compared to current testing schedule.	New

IV&V Findings and Recommendations



Security and Privacy


#	Key Findings	Criticality Rating
82	<p>Issue – The lack of technical documentation may lead to incorrect implementation statements or delay the System Security Plan (SSP).</p> <p>The ASI completed a security impact analysis (SIA) procedure for changes that are introduced to the BES system to prevent changes that might cause a compromised component of BES. The SIA is currently in a review and comment period, which will conclude on August 29, 2025. The ASI began testing the IRS Computer Security Evaluation Matrix (SCSEM) by loading the SCSEM profiles in Tenable Nessus to scan BES servers and other devices. Scanning the BES systems with the IRS SCSEMS will identify where a computing device is not compliant with the IRS requirements. The ASI is completing the updates to the System Security Plan (SSP) to ensure accuracy of the implementation statements. The ASI plans to have the new baseline SSP authored and published by the end of September 2025.</p>	

Recommendations	Progress
<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">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.	Closed

IV&V Findings and Recommendations



Security and Privacy


#	Key Findings	Criticality Rating
106	<p>Risk – Critical and high vulnerability and configuration scan findings are not remediated within the documented timeframes, potentially impacting the project schedule and causing delays.</p> <p>As of August 27, 2025, BES had 28 critical findings in an open state outside the 15-day remediation timeframe, and 3 critical findings were within the timeframe. BES had 52 high-rated findings in an open state outside the 30-day remediation timeframe, and 42 high-rated findings were within the timeframe. 10 critical findings and 30 high findings are part of the Oracle Cloud Infrastructure, which Oracle is supposed to patch quarterly.</p>	

Recommendations	Progress
<ul style="list-style-type: none">Implement an escalation process to involve senior leadership if deadlines are missed.	In Progress

IV&V Findings and Recommendations



Requirements Analysis & Management

#	Key Findings	Criticality Rating
94	<p>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.</p> <p>DHS and the ASI held four working sessions to continue to review and agree upon the remaining deferred, obsolete and in/out of scope contract requirements to ensure all requirements for the project are mapped correctly. This will help to verify the complete and accurate traceability of the contract requirements in the JIRA tool that is being used to generate the Requirements Traceability Matrix (RTM) Deliverable. A finalized set of mapped requirements must be established to be able to confirm that all necessary BES functionality and supporting components have been developed and have been validated during past, current and future testing phases. Missed or misunderstood requirements may lead to rework, new development and/or project schedule delays. The RTM is currently scheduled to be delivered by the ASI to DHS on 12/23/25.</p>	

Recommendations	Progress
<ul style="list-style-type: none">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
<ul style="list-style-type: none">Ensure test scripts thoroughly and comprehensively test the system to assure each requirement has been fully met.	In Process
<ul style="list-style-type: none">Develop a deliverable that provides an audit trail for changes to the requirements from the contract such as obsoleted requirements, when that decision was made, and the change requests.	In Process
<ul style="list-style-type: none">Provide weekly updates about the clean-up efforts in JIRA regarding incorrect statuses of epics, use case, and requirements.	In Process




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IV&V Status

IV&V Engagement Status



IV&V Engagement Area	Jun	Jul	Aug	Comments
IV&V Budget				
IV&V Schedule				
IV&V Deliverables				PCG submitted the final July 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 in the August reporting period:
 - Completed – July 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 September 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-05 Project Schedule	08/06/2025, 08/12/2025, 08/20/2025, 08/26/2025	N/A
BI-02 Project Status Report	08/06/2025, 08/12/2025, 08/20/2025, 08/26/2025	N/A
BES Procedure for Conducting Security Impact Analysis (SIA)	8/13/2025	N/A

Additional Inputs – Artifacts



Artifact Name	Artifact Date	Version
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
R0.13 SIT Defect Dashboard	N/A	N/A
Interface Dashboard – Confluence page	N/A	N/A
Jira Requirements Details	N/A	N/A
Jira Testing Lists	N/A	N/A
BES R0.13 System Testing Results - CRs and Pending Epics	N/A	N/A
BES R0.13 System Testing Results - Core	N/A	N/A



Meetings and/or Sessions Attended/Observed:




1. IV&V Team Meeting – 8/4/2025, 8/11/2025, 8/18/2025, 8/25/2025
2. IV&V/ASI June Pre-draft Review – 8/6/2025
3. HI DHS BES June Draft IV&V Report Review – 8/13/2025
4. Bi-Weekly DHS BES PMO/IV&V Check-in – 8/28/2025
5. Bi-Weekly DHS and IV&V Touch Base – 8/5/2025, 8/19/2025
6. Weekly BES Infrastructure meeting – 8/1/2025, 8/8/2025, 8/22/2025, 8/29/2025
7. Weekly Client BES 2023 Project Status Meeting – 8/6/2025, 8/13/2025, 8/20/2025, 8/27/2025
8. Security Touchpoint – 8/6/2025, 8/13/2025, 8/20/2025, 8/27/2025
9. (External) Weekly Interfaces Touchpoint – 8/4/2025, 8/18/2025, 8/25/2025
10. (External) Bi-weekly BES CCB Meeting – 8/6/2025, 8/13/2025, 8/20/2025, 8/27/2025
11. (External) BES 1.0 Release Deliverables Response – 8/19/2025, 8/22/2025
12. (External) CIA Current Monthly Checkpoint – 8/5/2025
13. (External) BES M&O Working Group – 8/6/2025, 8/20/2025, 8/27/2025
14. (External) Weekly BES Testing Workgroup Meeting – 8/7/2025, 8/14/2025, 8/21/2025, 8/28/2025
15. (External) BES Readiness/BI-29 Updates – 8/25/2025
16. eWorld/IV&V Mid-Month Check-in – 8/26/2025
17. (External) BES: FNS Connect – 8/7/2025
18. (External) BES: OCM and Communications – 8/11/2025, 8/25/2025
19. (External) BES Data Conversion - DC Validation Issue Huddle – 8/12/2025, 8/19/2025

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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 | • Security and Privacy |
| • Requirements Analysis & Management | • Testing |
| • System Design | • OCM and Knowledge Transfer |
| • Configuration and Development | • Pilot Test Deployment |
| • Integration and Interface Management | • Deployment |
| • Data Management and Conversion | |

Ending Slide



Solutions that Matter

Recommendation

ID	Issue	Reporter	Finding Type	Identified Date	Criticality	Description	Significance	Recommendation	Event Horizon	Impact	Probability	Priority	Analyst	Finding Status	Client Comments	Vendor Comments	
81	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.	Heath, Dustin	Finding - Issue	6/22/2023	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 epic 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 NIT exit criteria by June 30, 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 test team provide a visual of progress of test case execution compared to current testing schedule. CLOSED - 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. - The ASI should determine the root cause of the failure to identify simple defects in NIT and SIT and implement effective improvement processes to confirm early testing is adequate before entering UAT/FAT (Closed 10/30/2024) - ASI monitor SIT/FAT 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 the system is ready for UAT/FAT testing. - The project team, optimizing testing efficiency and reducing potential defect rediscovers. (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 (CAP) to address the failure of prior test phases (Unit, NIT) to capture defects that rolled into SIT (09/26/2024)	UAT		4	4	Med	Open	8/31/25 - SIT testing continues to progress. While execution of E2E tests is underway, a substantial portion remains outstanding while blocking defects are being addressed. Timely execution of these tests will enable prompt detection of critical integration issues, validate system stability, and reinforce stakeholder confidence. Recent trends indicate that while the weekly rate of defect discovery remains higher than the rate of resolution, steady progress is observed, with approximately 60% of all high-severity and high-priority defects being resolved by month end. To date in the SIT phase, the highest defect volumes have been found in the following areas, with solid progress made toward resolving them in each: • Fluggility - Batches • ADA - Interview Data conversion validation testing is underway to proactively mitigate potential UAT issues. Adjustments are ongoing, and BES conversion defects are being actively resolved. - 7/30/25 - In mid-July, the final set of 22 end-to-end (E2E) tests were approved for the ongoing SIT phase. As these tests were developed after SIT started and diverted ASI testing resources, timely execution will enable prompt detection of critical integration issues, validate system stability, and reinforce stakeholder confidence. Recent trends indicate that while the weekly rate of defect discovery remains higher than the rate of resolution, steady progress is evident, with approximately 50% of high-severity and high priority defects being resolved each week. This pattern is influenced in part by the first full execution of end-to-end SIT, as well as the recent shift from twice weekly to weekly deployments. - IVV will continue to monitor test execution progress and areas with high defect volumes as potential indicators of inadequate test coverage, system instability, or the need for root cause analysis (RCA) activities. - 6/30/2025 On June 20, 2025, DHS provided the go decision for R0.3.3 to move to the SIT phase, which officially began on June 20, 2025. A contingency reserved the ASI to review a subset of DHS-identified defects.		
82	The lack of technical documentation may lead to inconsistent 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.	In Progress - Collaborate and communicate with SSP authors about when reliable and correct documentation will be available. - CLOSED - Include the Secure Enclave within the work breakdown structure along with the known tasks related to the ITS Assessment to continue receiving P71 in BES. 7/13/2025 - COMPLETED - 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 (ISC) submission of the SSP and the DHS Security teams to inform each other of progress and updates made against each PGM. (10/31/2024) - CLOSED - Moved to Risk #106: IV&V recommends prioritizing the SC Critical and High finding PGMs 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.	Prior to the start of the third-party assessment.	2	2	Low	Open	8/28/2025 - The ASI completed a security impact analysis (SIA) procedure for changes that are introduced to the BES system to prevent changes that might impact the completion of the BES system. The SIA is currently in a review and comment period, which will conclude on August 29, 2025. The ASI began testing the IRS Computer Security Evaluation Matrix (CSEM) by loading the SCSEM profiles in Tenable Nessus to scan BES servers and other devices. Scanning the BES systems with the IRS SCSEMS will identify where a computing device is not compliant with the IRS requirements. - The ASI is completing the updates to the System Security Plan (SSP) to ensure accuracy of the implementation statements. The ASI plans to have the new baseline SSP authored and published by the end of September 2025. - 7/31/2025 - The ASI continued updating the SSP with information obtained during the SSP Control implementation validation effort completed last month. The ASI also performed Tenable Nessus integration with ServiceNow. The ASI has continued work on the Secure Enclave and has been reviewing options for a Data Loss Prevention (DLP) solution as required by Internal Revenue Service (IRS) Publication 1075. - 6/30/2025 - The ASI completed all draft system-level policies and gave them to DHS. DHS and the ASI are currently progressing using the process created in April to review and prepare the policies for final signature. The ASI Security Team completed the SSP Control implementation validation with DevOps at the end of June. The ASI will utilize the information gathered during the validation initiative to update the SSP, commencing in July. Additionally, the ASI denied the Secure Enclave to DHS on June 17th. - 5/29/2025 - Throughout May, the ASI's Security Team continued performing SSP Control implementation validation with the DevOps Team. They have completed validation against the deployed system for six out of twenty control families. The ASI has submitted fourteen policies to DHS for approval. Four policies are currently in progress. - 8/31/2025 - The ASI is reporting System Integration Testing (SIT) is progressing as planned. - IVV continues to monitor for potential development delays and/or create quality issues that may impact the effectiveness and timely completion of the SIT phase. The project team indicated they plan to introduce new functionality during UAT which may slow defect repairs, research and add additional complexity for developers to manage resulting in the least impact to the project and project team. - 7/30/2025 - The ASI appears to be making good progress with System Integration Testing (SIT). It remains unclear whether development delays will impact the successful completion of SIT. 6/30/2025 - It remains unclear to IVV whether there has been meaningful improvement in ASI's code quality. While the ASI stated that unresolved defect counts were low enough to meet the criteria (below 20% of all reported defects) for entering SIT, IVV raised questions regarding the inclusion of defects that existed prior to NIT that were not answered by the end of June. The level of defects could skew development and system stability risks, which could lead to slowed development and unexpected project delays. - 5/31/2025 - DHS stated that the ASI had not accounted for the conversion of data for one legacy system (HARS) for Pilot and the new scope of work will need to be added to the baselined schedule. It remains unclear whether this scope of work will impact the critical path given previous challenges with development velocity. - 4/30/2025 - The ASI reported they continue to address previous development challenges and improve their development velocity. However, now that the project has switched to a Waterfall methodology, the ASI has limited system demos just prior to the start of integration and System Integration Testing (SIT) testing. This can limit visibility into development progress and productivity, potentially leading to unexpected project delays if productivity and system demo issues are realized. - 3/31/2025 - The ASI completed the IAD sessions			
80	Development delays have negatively impacted 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 BA/SA 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 BA/SA 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 provides DHS with the time needed to effectively evaluate the software demonstrations (demos) and elicit productive design discussions with DHS attendees during each demo. • The project closely monitor progress on development efforts that are complex and/or require a substantial level of effort and create a mitigation strategy to avoid delays. COMPLETE - CLOSED - ASI regularly report metrics that accurately track the total amount of remaining work to reach go-live and present a dynamic burn-down chart to clearly display progress to stakeholders. (closed 3/31/2025) • ASI effectively track and regularly provide DHS (potentially via the weekly DO 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 (closed 2/28/2025) • DHS request that 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 fast 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	8/31/2025 - The ASI is reporting System Integration Testing (SIT) is progressing as planned. - IVV continues to monitor for potential development delays and/or create quality issues that may impact the effectiveness and timely completion of the SIT phase. The project team indicated they plan to introduce new functionality during UAT which may slow defect repairs, research and add additional complexity for developers to manage resulting in the least impact to the project and project team. - 7/30/2025 - The ASI appears to be making good progress with System Integration Testing (SIT). It remains unclear whether development delays will impact the successful completion of SIT. 6/30/2025 - It remains unclear to IVV whether there has been meaningful improvement in ASI's code quality. While the ASI stated that unresolved defect counts were low enough to meet the criteria (below 20% of all reported defects) for entering SIT, IVV raised questions regarding the inclusion of defects that existed prior to NIT that were not answered by the end of June. The level of defects could skew development and system stability risks, which could lead to slowed development and unexpected project delays. - 5/31/2025 - DHS stated that the ASI had not accounted for the conversion of data for one legacy system (HARS) for Pilot and the new scope of work will need to be added to the baselined schedule. It remains unclear whether this scope of work will impact the critical path given previous challenges with development velocity. - 4/30/2025 - The ASI reported they continue to address previous development challenges and improve their development velocity. However, now that the project has switched to a Waterfall methodology, the ASI has limited system demos just prior to the start of integration and System Integration Testing (SIT) testing. This can limit visibility into development progress and productivity, potentially leading to unexpected project delays if productivity and system demo issues are realized. - 3/31/2025 - The ASI completed the IAD sessions			
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 of 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 risk 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. - 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 months before the updates are applied to the production environment. - The project team and ASI establish strong governance over the utilization and maintenance of the various system tools/components. • ASI allot time in the schedule to be able 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	8/31/2025 - The ASI indicated that communication between the DHS shared platform team and the BES project has improved, reducing the likelihood of unforeseen or unexpected issues arising from the shared platform moving forward. The project elected to add a new AI tool to its suite of tools to assist users with online help and user guides. During recent Maintenance and Operations (M&O) planning sessions, the project team identified areas such as Security and Incident Management where BES infrastructure operational processes may differ from those used in the legacy systems. How this added complexity will impact implementation schedules and the scope of M&O planning and support, is not yet known. - 7/30/2025 - The project appears to be making efforts to improve communications between the shared platform team and the BES project. - IVV remains concerned that changes to the DHS shared services platform could negatively impact the project schedule and budget. - 6/30/2025 - IVV remains concerned that changes to the DHS shared services platform could negatively impact the BES project schedule. Governance over the platform has yet to be formalized. The project team has stated concerns about the recent lack of effective communication around the recent changes shared services. - 5/31/2025 - The BES system currently relies on services provided by a shared DHS platform. Any changes to these services could increase the complexity of the overall infrastructure and require changes to the BES system, which could negatively impact the BES project schedule. The shared platform vendor has notified the project that they will be replacing both the identity management shared service (IDCS) as well as the postal address verification service (Liqonix) which will require BES system changes. It remains unclear whether this will impact the project critical path. - 4/30/2025 - The ASI is reporting they are on schedule to complete the infrastructure activities and tasks. - 3/31/2025 - No material update.			

ID	Title	Reporter	Finding Type	Identified Date	Category	Description	Significance	Recommendation	Event Horizon	Impact	Probability	Severity	Analyst	Finding Status	Status Update	Client Comments	Vendor Comments	
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 DOI 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.	OPEN • ASI adhere to plans for configuration management as documented in BI-6 DOI 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	8/31/2025 - No material update. 7/30/2025 - No material update. 6/30/2025 - The ASI continues to make progress in building out its Configuration Management, including leveraging Serviceflow to automate some processes to streamline deployments. However, it remains unclear if the configuration management database will be robust enough to offer developers clear root cause traceability to correlate bugs to system or infrastructure configuration changes. This could hinder defect tracing and delay repair efforts and lead to project delays. 5/31/2025 - No material update. 4/30/2025 - IVV continues to await receipt of the Configuration Management Plan from the ASI. 3/31/2025 - The ASI has reported progress in updating the project Configuration Management Plan (CMP). 2/28/2025 - The ASI has reported progress in constructing their configuration management database within Serviceflow, having recently imported multiple configuration items (CIs). 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 re-planning 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 9/2024 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		7/10/2025	It does not appear our feedback was addressed. We mentioned at our last meeting that configuration management is in place, and we are currently working on leveraging Serviceflow to automate the related processes. So, the statement that configuration management is not in place prior to SIT is not accurate.	5/6/2025 Work hand in hand with M&O and CMDB work. Good progress