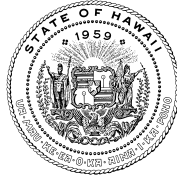


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DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES | KA 'OIHANA LOIHELU A LAWELAWE LAULĀ
OFFICE OF ENTERPRISE TECHNOLOGY SERVICES | KE'ENA HO'OLANA 'ENEHANA
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

October 17, 2024

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

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

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

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

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

Sincerely,

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: September 1 – 30, 2024

Submitted: October 15, 2024

Overview

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



Solutions that Matter

The background is a solid blue color. It features several decorative elements: a cluster of overlapping squares and rounded rectangles in various shades of blue (light, medium, and dark) in the upper-left quadrant; a single large, light-blue rounded rectangle in the lower-left quadrant; and a few more squares and rounded rectangles scattered in the lower-right quadrant, some connected by thin white lines.

Executive Summary



The BES project officially postponed the Pilot and subsequent Statewide Go-live. The ASI and DHS are evaluating options to refine the scope and schedule for the Pilot and Statewide rollout. One option supported by IV&V is to plan for all contract requirements with some change requests to be included in the Pilot implementation. This approach offers the opportunity for the ASI and DHS to conduct full integration testing, minimizes rework and workarounds, and allows for streamlined user and stakeholder training since it will include all required functionality for the Integrated Eligibility and Enrollment solution.

Work continued during this replanning effort, including:

- Final Acceptance Testing (FAT) and related defect resolution, with high fail rates continuing for both real time and time travel environments (21% and 48% respectively).
- New quality improvement standards are being implemented for all ASI developers to address the poor code quality that is contributing to high defect rates during testing. This is causing developers to be frequently reassigned from the BES 1.1 solution to focus on defect resolution.
- Development of the overdue final Requirements Traceability Matrix (RTM) report deliverable, which will now need to include scope for both BES releases and change requests (including additional requirements update); adding additional effort needed to complete.
- ASI and DHS security teams addressing issues from third-party and Social Security Administration (SSA) assessments, including launch of SSA required security awareness training (an issue since the 2021 SSA assessment).
- The project team agreed to put FAT on hold for two weeks (starting September 30th), allowing the ASI time to address the large number of open defects (1 critical, 104 high, 191 medium severity as of 9/24).

A revised schedule, incorporating the development of the remaining contract requirements, is anticipated in early October. Should the project team modify its approach to project completion, IV&V recommends that ASI provide clear communication on the changes and establish a forum for the project team to discuss the updates and adjust based on team feedback.

In addition to the actions described above, IV&V acknowledges and appreciates DHS and the ASI addressing team morale to include demonstrating executive support. This was a challenging month for the project, IV&V commends the project team in making this difficult decision and will continue to support the project through statewide implementation.

Executive Summary



Jul	Aug	Sept	Category	IV&V Observations
			Project Management	The ASI and DHS PMO teams focused on a reset of the project direction, agreeing to combine BES 1.0 and 1.1 into one release. No schedules were published in the reporting period, as the ASI focused on rebuilding a new schedule to incorporate the scope of 1) combined releases, 2) change requests from DHS, 3) crucial functionality list from DHS.
			System Design	The ASI made progress on several delayed infrastructure items this reporting period, improving overall preparation for Pilot go live.
			Configuration and Development	To address recognized code quality issues the ASI has added senior staff to drive a new quality initiative, focused on defining specific steps for all developers to follow to improve the quality of BES solution.
			Integration and Interface Management	Seven of the nineteen required interfaces for the revised implementation plan, a combined release for BES 1.0 and 1.1, have completed physical and technical testing in preparation for the Pilot go live.
			Testing	Due to the continued high level of defects in FAT, the project team will put the formal FAT on hold for two weeks beginning on September 30 th , allowing them to focus on defect resolution of existing defects.
			Security and Privacy	The ASI completed the updates to the System Security Plan (SSP) Appendix A, related to Secure Enclave and IRS Federal Tax Information requirements. Additionally, required Social Security Administration (SSA) security awareness training started for impacted staff.
			Requirements Analysis & Management	The ASI demonstrated progress in finalizing the BES contract deliverable BI-21 Requirements Traceability Matrix (RTM) extract report in the reporting period, but a date for completion has not been provided. DHS will need an RTM that covers all BES requirements, with the decision to combine releases being agreed to.

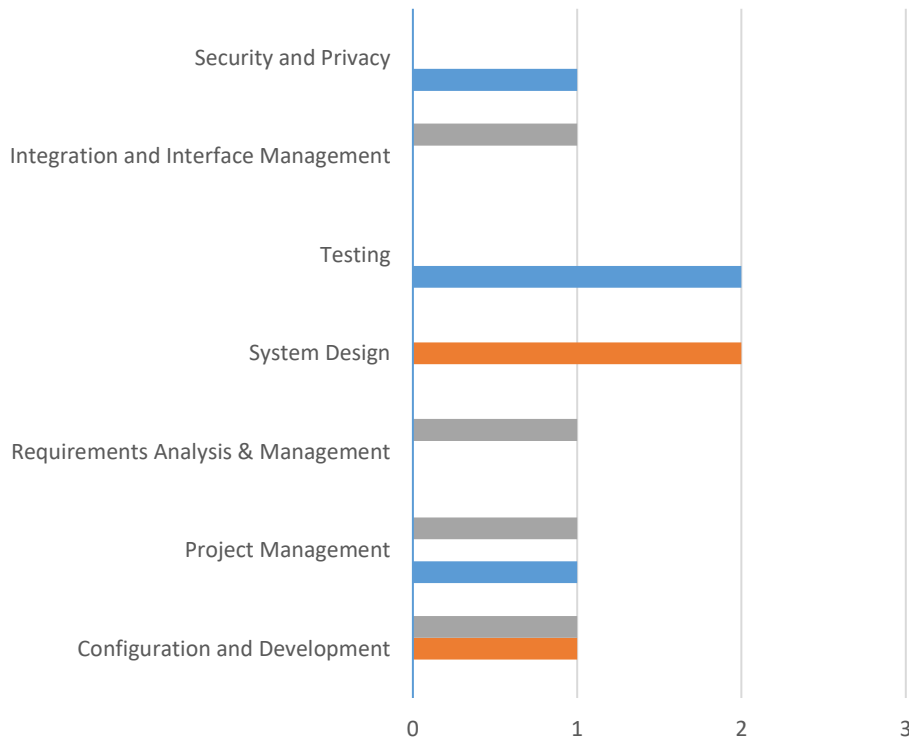
IV&V Findings and Recommendations

IV&V Findings and Recommendations



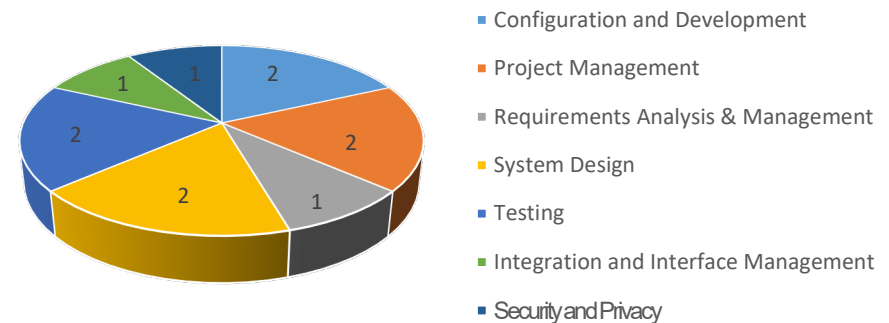
As of the September 2024 reporting period, PCG is tracking 11 open findings (5 risks, 6 issues) and has retired a total of 76 findings. Of the 11 open findings, 4 are High, 4 are Medium, and 3 are Low.

Open Risks & Issues



- Open - Med
- Open - Low
- Open - High

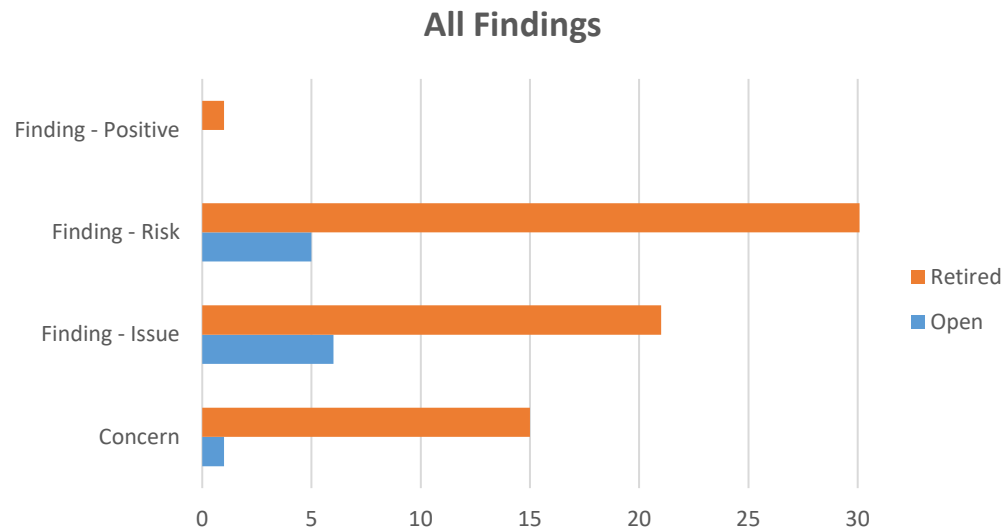
Open Risks & Issues by Category



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 Retired During the Reporting Period

#	Finding	Category
	None	

IV&V Findings and Recommendations



Preliminary Concerns Investigated During the Reporting Period

#	Finding	Category
98	<p>Delays in providing the required deliverables to FNS could extend the review time needed and delay FNS's concurrence to start the pilot.</p> <p>The status of this preliminary concern will be reevaluated by the IV&V team after the project team determines the approach, requirements/functionality and schedule for the Pilot and Statewide rollout.</p>	Project Management

IV&V Findings and Recommendations



Findings Opened During the Reporting Period

#	Finding	Category
	None	

IV&V Findings and Recommendations



Project Management

#	Key Findings	Criticality Rating
74	<p>Issue – A BES Project schedule based on inaccurate estimations diminishes effective planning and resource management, which could result in late deliverables, cost increases, and a late go-live.</p> <p>The project 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 (combining releases) and including the scope for change requests and a crucial functionality list from DHS. Per prior recommendations, the ASI and DHS should conduct a root cause analysis and incorporate the results in the new schedule.</p>	

Recommendations	Progress
<ul style="list-style-type: none">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
<ul style="list-style-type: none">The ASI conduct a root cause analysis of the delays and share with DHS to provide them not only the RCA results but what changes the ASI will implement to avoid continued or further project delays.	Completed

IV&V Findings and Recommendations



Project Management

#	Key Findings	Criticality Rating
88	<p>Risk – Implementing a Core Solution for go-live carries inherent risks that may impact overall Project success and reduce user adoption.</p> <p>Without an RTM, there is ambiguity on the ASI presented enhancements and critical functionality list developed by DHS as compared to the contract requirements. IV&V recognizes the project is almost 6 years old, meaning policy and business operations has changed which may drive the need for enhancements. However, these lists should be validated and negotiated by DHS and ASI to ensure DHS does not pay for functionality twice.</p>	

Recommendations	Progress
<ul style="list-style-type: none"> • Increase OCM efforts to effectively manage user, general public, and legislative expectations for the BES version at go-live. 	In process
<ul style="list-style-type: none"> • Prioritize feedback from users and FNS to ensure the solution meets their core needs and so users are clear on what features they are, and are not, getting. 	In process
<ul style="list-style-type: none"> • Actively monitor, assess, and address potential challenges throughout the development process including code quality, cutting scope to meet development milestones, insufficient user validation of demonstrated functionality, and fully defined workarounds to accommodate for the missing functionality. 	In process
<ul style="list-style-type: none"> • Actively monitor FAT and Pilot feedback and track users' biggest pain points. Pain points can then be prioritized based on negative impact and project leadership can decide if fixing or changing poor designs can be implemented prior to go-live. 	In process

IV&V Findings and Recommendations



System Design

#	Key Findings	Criticality Rating
86	<p>Issue – Limited collaboration between the ASI and DHS in the design process could lead to BES usability issues and functionality gaps in the application and not meeting critical business needs for DHS and State clients.</p> <p>During FAT testing, DHS identified policy-driven gaps in required functionality in the BES application – the focus on this finding – leading to a group of change requests that will need to be added to the overall effort to complete BES development.</p>	

Recommendations	Progress
<ul style="list-style-type: none">Perform Sprint and Epic demos in alignment with development Sprint completion (demo functionality/requirements as they are developed) to get early feedback on work products.	In Process
<ul style="list-style-type: none">Improve rigor in the Design process by verifying all impacted policy and DHS SMEs are involved and approve the design to avoid extensive defects and gaps in functionality that may trigger the need for a change request.	Not Started

IV&V Findings and Recommendations



System Design

#	Key Findings	Criticality Rating
73	<p>Risk – The planned BES infrastructure is complex which could be difficult to implement and maintain and could lead to schedule/cost impacts.</p> <p>The project continues to make progress on its technical debt (infrastructure activities that were put on hold 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 Pilot to reflect these changes/additions.</p>	

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

IV&V Findings and Recommendations



Configuration and Development


#	Key Findings	Criticality Rating
70	<p>Risk – Insufficient configuration management could lead to development confusion and reduce the effectiveness of defect resolution.</p> <p>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.</p>	

Recommendations	Progress
<ul style="list-style-type: none">ASI adhere to plans for configuration management as documented in BI-6 DDI Plan, Section 5.2 and clarify details and/or any changes with DHS.	In process
<ul style="list-style-type: none">ASI validate plans for configuration management with DHS and agree on a meaningful set of configuration items or settings they will track.	In process

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 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 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 to expedite development. The ASI has acknowledged that coding defects have hampered the projects productivity, created project delays, and frustrated the DHS testing team given the volume of defects they needed to report and document. It remains unclear how quickly newly added developers will be able to get up to speed and how quickly they can be productive enough to make a measurable, positive impact on the pace of development. As of the last ASI status report, there are 376 unresolved defects (104 high criticality), despite their best efforts to bring that number down. The ASI will utilize the recently announced 2-week FAT pause to resolve defects.</p>	

Recommendations	Progress
<ul style="list-style-type: none"> ASI effectively track and regularly provide DHS (potentially via the weekly DDI status meeting) with an accurate velocity (e.g., story points per day/week/month) and assure that the current velocity is accurately and consistently reflected in the project schedule. 	In process
<ul style="list-style-type: none"> The ASI should provide DHS with the time needed to effectively evaluate the software demonstrations (demos) and elicit productive design discussions with DHS attendees during each demo. 	In process
<ul style="list-style-type: none"> ASI regularly reports estimated story points for the total remaining project work to reach go-live and presents a dynamic burn-down chart to track the progress. 	In process
<ul style="list-style-type: none"> The ASI should consider enhancing the depth of developer unit testing. 	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>The seven interfaces required in the planned Pilot release, BES1.0, have been completed. Twelve additional interfaces will require the same physical and technical testing in the revised implementation plan, which combines BES 1.0 and 1.1 into a single Pilot and Statewide release. This finding will remain open until testing for all 19 interfaces is completed.</p>	

Recommendations	Progress
<ul style="list-style-type: none">API interfaces should be tested for failure conditions during connection and transfer operations.	In Process
<ul style="list-style-type: none">FTP and file interfaces should be tested for data and file integrity.	In Process
<ul style="list-style-type: none">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>IV&V recognizes the project team's decision to postpone the Pilot and Statewide implementation, and that DHS and ASI are jointly developing a revised approach and schedule. Meanwhile, IV&V's review of testing trends reveals mixed results. Compared to last month, passed test cases increased 22% in the real-time environment (421 to 513) and 309% in the time travel environment (42 to 172). However, failed test cases remained relatively stable in real-time and rose 51% in the time travel environment (106 to 160).</p>	

Recommendations	Progress
<ul style="list-style-type: none">Monitor INT/SIT closely for both breadth and depth of testing to ensure the system is adequately tested.	In Process
<ul style="list-style-type: none">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.	Completed
<ul style="list-style-type: none">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.	In Process

IV&V Findings and Recommendations



Testing

	Key Findings	Criticality Rating
89	<p>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.</p> <p>The project has recently announced additional go-live delays but have yet to provide a revised go-live date. The ASI has stated reasons for the delay include significant volume of defects, code quality issues, development delays, and DHS needing more time to complete their FAT testing. As of the last project status meeting, epics 243, 244, and 286b remain incomplete and the ASI was unable to provide expected completion dates.</p> <p>IV&V remains concerned that the accelerated schedule may adversely impact overall project outcomes, leading to increased risks of quality issues, further schedule delays, and insufficient testing.</p>	

Recommendations	Progress
<ul style="list-style-type: none"> Develop Contingency Plans if the mitigation plan continues to see slippage affecting INT and SIT. 	In process
<ul style="list-style-type: none"> The ASI provides comprehensive INT results and SIT scenarios for incomplete Epics to DHS for review/approval ahead of SIT execution. 	In process
<ul style="list-style-type: none"> The ASI validates that development and testing resources have sufficient bandwidth to complete overlapping assigned responsibilities 	In process

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>In September, the ASI completed the updates to the System Security Plan (SSP) Appendix A, specific to the Secure Enclave and IRS Federal Tax Information Requirements. A POAM (Plan of Action and Milestone) is used to track updates to the main body of the SSP. The ASI has also stabilized the Tenable Nessus scans, which scan for vulnerabilities and configuration compliance of the servers that host BES. DHS has begun implementing the Social Security Administration (SSA) security awareness training and collecting compliance evidence to submit to the SSA. This remediation of a 2021 SSA POAM is expected to allow BES access to SSA data.</p>	

Recommendations	Progress
<ul style="list-style-type: none"> Determine when documentation will be created, updated, and available for the SSP authors. 	In process
<ul style="list-style-type: none"> Collaborate and communicate with SSP authors about when reliable and correct documentation will be available. 	In process
<ul style="list-style-type: none"> Perform a full review of all 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. 	Completed
<ul style="list-style-type: none"> 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. 	Not Started

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>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.</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



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 August 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 September reporting period:
 - Completed – August 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 October 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
Hypercare Plan	09/23/2024	V1.0

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
FAT Testing Dashboard	N/A	N/A



Meetings and/or Sessions Attended/Observed:




1. IV&V Team Meeting – 9/3/2024, 9/5/2024, 9/9/2024, 9/12/2024, 9/16/2024, 9/19/2024, 9/23/2024, 9/26/2024, 9/30/2024
2. HI DHS BES August Draft IV&V Report Review – 9/13/2024
3. Bi-Weekly DHS and IV&V Touch Base – 9/3/2024
4. Bi-Weekly DHS BES PMO/IV&V Check-in – 9/12/2024, 9/26/2024
5. Weekly BES Infrastructure meeting – 9/6/2024, 9/13/2024, 9/20/2024, 9/27/2024
6. Weekly Client BES 2023 Project Status Meeting – 9/4/2024, 9/11/2024, 9/18/2024, 9/25/2024
7. Security Touchpoint – 9/4/2024, 9/11/2024, 9/18/2024, 9/25/2024
8. (External) Weekly Interfaces Touchpoint – 9/9/2024, 9/16/2024, 9/23/2024, 9/30/2024
9. (External) Readiness - Working Group Meeting – 9/3/2024, 9/10/2024, 9/23/2024
10. (External) Bi-weekly BES CCB Meeting – 9/18/2024
11. (External) BES: FNS Connect – 9/26/2024
12. (External) CIA Current Weekly Checkpoint – 9/3/2024, 9/10/2024, 9/17/2024, 9/24/2024
13. eWorld/IV&V Mid-Month Check-in – 9/20/2024
14. (External) BES M&O Project Status Meeting – 9/9/2024, 9/16/2024, 9/23/2024, 9/30/2024
15. (External) BES Snow Touchpoint – 9/11/2024, 9/18/2024
16. (External) BES FAT Daily Touchpoint – 9/1/2024 – 9/27/2024 (daily call)
17. (External) BES FAT Daily Defect Status Meeting – 9/1/2024 – 9/27/2024 (daily call)



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	Description	Significance	Recommendation	Event Horizon	Impact	Probability	Analyst	Finding Status	Initial Update	Client Comments	Vendor Comments
88	Delays in providing the required deliverables to FNS could extend the review time needed and delay FNS's concurrence to start the pilot.	Molina, Brad	Concern	7/24/2024	Project Management	Not all the documents that FNS is required to review have been provided. In the weekly Readiness meeting on 7/23, it was mentioned that FNS is at its year-end, so its workload is backing up, which might require its document review to take the full 60 days. The longer DHS delays getting deliverables to FNS, the closer it gets to the planned start for Pilot.	The BES pilot cannot start without FNS's concurrence. Therefore, it's critical the project team deliver the required deliverables to FNS as soon as possible so FNS has the necessary time to review and give the go-ahead to start Pilot.		Event row	3	3	High	Open	09/30/2024 - The status of this preliminary concern will be reassessed by the IVV team after the project team determines the approach, requirements/functionality and schedule for the Pilot and Statewide rollout.		
84	The lack of an effective way to validate BES requirements could lead to project delays and a different way to validate BES identifies unmet contractual requirements.	Molina, Brad	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 cases. However, the approved project schedule shows the RTM completed on 6/26/24, which falls after the Core SIT exit decision on 6/10/24. The ASI advised the BI-22a System Integrity Review Tool (SIRT) to DHS on April 28, 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 go-live criteria. This could lead to a Start/Starting Final Acceptance Testing (SAT) 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 Review) Plan, "Map 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	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 did not receive the comprehensive RTM reports 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), only an interim version, prior to the start of FAT testing. DHS needs this finalized RTM to validate all contractual requirements have been included in BES 1.0 as scheduled and successfully tested prior to go live for Pilot. 7/31/2024 - Discussions were held throughout July regarding the format and structure of the Requirements Traceability Matrix (RTM). However, the ASI has not distributed a reformatted BI-21 Requirements Traceability Matrix deliverable for DHS review and approval. IVV remains concerned that the delay in finalizing the RTM may lead to requirements tracing issues, missing required Pilot functionality in BES, testing gaps, and project delays. 6/30/2024 - IVV is reporting positive movement on this risk this month. The ASI delivered a draft BI-21 RTM to DHS and used DHS feedback to revise the RTM's structure to simplify the tracing of requirements, use cases, epics, and tests in a single report. The ASI continues to make additional revisions to further streamline the RTM format and align more closely with the Deliverable Expectations Document. An approved RTM was not delivered by 6/21/2024 per the schedule nor by the end of this reporting period. Until the ASI submits a final RTM for review, the risk remains that all contractual requirements have not been fully validated, which could result in a system with unmet user needs. 5/31/2024 - The 7 interfaces used in the planned Pilot release, BES1.0, have been completed for testing. The other 12 releases related to 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 20 interfaces are completed. 09/27/2024 - 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. 08/28/2024 - 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.		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 eWorx 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 CCM meeting. Draft reports of the BI-21
93	Due to the lack of physical and technical testing of the interfaces and data transfer format, boundaries, and dependencies. These failures may exist with data forms, conditions may exist with data forms, boundaries, and dependencies. These failures may be intermittent and hard-to-isolate problems or errors	Reynolds, Mark	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. TP 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. 5. Remove 2. I/O, no transactional interfaces therefore no race conditions) API interfaces should be tested for race conditions. 5. Inconsistent with API interface records and files should be tested for format, length, or other physical formatting errors.	2024 2nd Qtr	3	2	Low	Open	09/30/2024 - The project has recently announced additional go-live delays but have yet to provide a revised go-live date. The SI has stated reasons for the delay include significant volume of defects, code quality issues, development delays, and DHS needing more time to complete their FAT testing. As of the current project status meeting, epics 243, 244, and 245 remain incomplete and the ASI was unable to provide their FAT testing dates. IVV remains concerned that the accelerated schedule may adversely impact overall project outcomes, leading to increased risks of quality issues, further schedule delays, and insufficient testing. 8/30/2024 - In August, the ASI announced additional delays in delivering several reporting functions planned for phased implementation into FAT. The Epic due dates were pushed further, with Epic 243 due date moved from August 12, 2024 to October 4, 2024 and for Epic 244, the due date was updated from August 23, 2024 to October 4, 2024 which will result in the overlap of SIT, FAT testing support, and BES 1.1 (statewide) development efforts. The development progress for Epic 243 was revised downward from 93% to 85%. IVV remains concerned that these further delays and concurrent activities will introduce increased complexity, making it challenging to manage and coordinate multiple tasks simultaneously. This may compromise the project's ability to complete testing and other essential activities, ultimately impacting the pilot and statewide go-live dates. 7/31/2024 - In July, the ASI delayed the delivery of several reporting functions planned to be phased into FAT. Some of these reports are financial and provide key operational metrics that are complex and take time to validate for accuracy and completeness. The 2-week delay for Epics 288 and 208 and the 5-week delay for Epics 203 and 244 is resulting in the overlap of SIT, FAT testing support, and BES 1.1 (statewide) development efforts. IVV is concerned that the further delays and concurrent activities	06/14/2024 - As mentioned at the pre-meet, a technical interface team plan does exist to address PCS recommendations for this finding.	06/14/2024 - As mentioned at the pre-meet, a technical interface team plan does exist to address PCS recommendations for this finding.
89	The current 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.	Kalis, Neetu	Finding - Issue	12/21/2023	Testing	Ten of the Epics scheduled for completion before Release 1.1.2 SIT will not be ready. To avoid SIT delays, the current approach is to begin SIT without the 10 Epics and test them as they are completed. Additionally, Release 1.1.2 development that was extended two weeks from the scheduled end date has been extended for another two business days.	Overlapping development and testing introduces potential quality issues. Insufficient NIT may create gaps in SIT, leading to further quality issues. This may increase the risk of significant delays or introduce defects into the production environment.	OPEN - The ASI validates that development and testing resources have sufficient bandwidth to complete overlapping assigned responsibilities - Develop Contingency Plans if the mitigation plan continues to see slippage affecting NIT and SIT. The ASI provides comprehensive NIT results and SIT scenarios for incomplete Epics to DHS for review/approval ahead of SIT execution. CLOSED - The plan to complete BES implementation does not include overlapping testing phases (5/24/2024). The ASI should evaluate if Epic entering SIT late might require retesting functionality that had already been tested. (closed 06/01/2024) The ASI release a detailed schedule of events, including development completion, NIT start, and SIT start for each epic covered in the mitigation plan. (closed 06/01/2024) CANCELLED - Develop a Risk Mitigation Plan to address challenges of managing multiple test environments, multiple code bases and versioning within and across Releases.	Now	4	5	High	Open	9/30/2024 - The project has recently announced additional go-live delays but have yet to provide a revised go-live date. The SI has stated reasons for the delay include significant volume of defects, code quality issues, development delays, and DHS needing more time to complete their FAT testing. As of the current project status meeting, epics 243, 244, and 245 remain incomplete and the ASI was unable to provide their FAT testing dates. IVV remains concerned that the accelerated schedule may adversely impact overall project outcomes, leading to increased risks of quality issues, further schedule delays, and insufficient testing. 8/30/2024 - In August, the ASI announced additional delays in delivering several reporting functions planned for phased implementation into FAT. The Epic due dates were pushed further, with Epic 243 due date moved from August 12, 2024 to October 4, 2024 and for Epic 244, the due date was updated from August 23, 2024 to October 4, 2024 which will result in the overlap of SIT, FAT testing support, and BES 1.1 (statewide) development efforts. The development progress for Epic 243 was revised downward from 93% to 85%. IVV remains concerned that these further delays and concurrent activities will introduce increased complexity, making it challenging to manage and coordinate multiple tasks simultaneously. This may compromise the project's ability to complete testing and other essential activities, ultimately impacting the pilot and statewide go-live dates. 7/31/2024 - In July, the ASI delayed the delivery of several reporting functions planned to be phased into FAT. Some of these reports are financial and provide key operational metrics that are complex and take time to validate for accuracy and completeness. The 2-week delay for Epics 288 and 208 and the 5-week delay for Epics 203 and 244 is resulting in the overlap of SIT, FAT testing support, and BES 1.1 (statewide) development efforts. IVV is concerned that the further delays and concurrent activities	06/14/2024 - Why is this still red? This is a high priority item for monitoring after discussions in April (March report). In August, the items listed should be done. All SIT tests have been reviewed and approved by DHS. There is no retesting needed based on the epics being phased in 04/20/2024.	eWorx/ESI used and followed the same SIT entry criteria as documented in the BI-13 for BES 1.0. There were no amendments to the BI-19 needed as a result of the 'go' decision. An exception was made by DHS for
88	Implementing a Core Solution for go-live carries inherent risks that may impact overall project success and reduce user adoption.	Molina, Brad	Finding - Risk	11/30/2023	Project Management	The project has elected to implement a Core Solution to go-live to meet their stated timeline. This version is generally referred to as Agile software development as a Minimum Viable Product (MVP), which is a simplified version of a product that 1) offers functionality that meets the core needs of users, 2) can accelerate the timeline for go-live, and 3) allows the project to get real-world feedback from users to refine future product development.	Going live with a limited version of a software product entails inherent risks, such as potential challenges in securing user buy-in. This can result in limited user adoption, user dissatisfaction, and negative publicity, particularly considering the financial investment made for the delivery of limited functionality. A compressed timeline may compromise the quality of design, user interface sophistication, and lead to an uptick in software bugs and suboptimal code. Further, this approach may expose the project to regulatory compliance risks, such as last-minute objections from regulatory bodies like FNS, which could find certain system elements non-compliant with their standards and delay the go-live date. Misalignment between stakeholder expectations and the Core Solution may lead to dissatisfaction or a lack of support for the project and could negatively impact future project funding requests. Implementing a limited Core Solution typically requires the customer to implement multiple workarounds until automated features can be built into the system. Users could become impatient if these features are further delayed when bug fixes and other features take precedence. Others may lose confidence that the features or system improvements will ever be implemented. Going live with a solution that is missing functionality that stakeholders were expecting typically requires an increase in OCM efforts both by the ASI and DHS staff to temper stakeholders' reactions to a system with limited functionality.	OPEN • Increase OCM efforts to effectively manage user, general public, and Now legislative expectations for the BES version at go-live • Prioritize feedback from users and FNS that ensure the project meets their core needs and so users are clear what features they are, and are not, getting. • Actively monitor, assess, and address potential challenges throughout the development process including code quality, cutting scope to meet development milestones, insufficient user validation of demonstrated functionality, and fully defined workarounds to accommodate for the missing functionality. • Actively monitor FAT and Pilot feedback and track users' biggest pain points. Pain points can then be prioritized based on negative impact and project leadership can decide if fixing or changing poor designs can be implemented prior to live. COMPLETE CLOSED • DHS carefully assess whether the advantages of a timely release outweigh the advantages of going live with a system that provides more comprehensive functionality, requires fewer workarounds, and increases user satisfaction and buy-in. (06/30/2024)	3	3	Med	Open	9/30/2024 - Without an RTM, there is ambiguity on the ASI presented enhancements and critical functionality list developed by DHS as compared to the contract requirements. IVV requires the project is almost 5 years old, meaning policy and business operations has changed which may drive the need for enhancements. However, these lists should be validated and negotiated by DHS and ASI to ensure DHS does not pay for functionality twice. 8/30/2024 - DHS continues to emphasize the need for workbooks to be documented and incorporated into training, with a plan to update documentation as defects are resolved to enable pilot workers to be most effective. 7/31/2024 - DHS and the ASI continue to document and develop workarounds in preparation for Pilot. There are now new workaround areas; 1) known gaps in functionality and 2) defects discovered during testing that will not be addressed prior to Pilot. Additionally, planning is ongoing for incorporating these workarounds into the training process. 6/20/24 - Per DHS's request, the ASI is currently developing a list of workarounds to address known gaps in BES 1.0 functionality. 5/23/24 - No material update. 4/30/2024 - No material update. 03/30/24 - The ASI's Go to Green plan and project schedule were approved by DHS. Per the Go to Green plan, some required BES functionality will be implemented post-Pilot. This may create unplanned workarounds and rework as the full impact of this approach is not understood through testing and training. 02/29/24 - The ASI drafted a Go-to-Green plan that includes an October 2024 Go-Live date, with several features to be released after Pilot: implementing the functionality of a core solution not tested in a real-world Pilot environment may lead to unexpected issues and bugs. IVV remains concerned that user expectations will not be fully met as the go-live system will be missing functionality that could be important to many users. 01/23/21 - The ASI recently transitioned the OCM leadership role to a new resource. OCM activities will be crucial in	04/10/2024 - "Some required BES functionality will be implemented post-Pilot." What does this mean? I think I know the intent and perhaps update as such? "Per the Go to Green plan, the ASI plans to implement required functionality in multiple releases. (Pilot/Statewide/Post Statewide)" 12/15/20 23 - Above already addressed by DHS/IVV Campos. Ensure recommendations reflect "In Progress" or "In Process".		

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ID	Title	Reporter	Finding Type	Identified Date	Category	Description	Significance	Recommendation	Event Horizon	Impact	Probability	Analyst Priority	Finding Status	Initial Update	Final Comments	Vendor Comments		
80	BE Limited collaboration between the ASI and DHS in the design process could lead to BEES usability issues and functionality gaps in the applications, not meeting critical business needs for DHS and State clients.	Molina, Brad	Finding Issue	8/12/2023	System Design	During the UAT process for release 11, there has been a high level of concerns raised by the DHS testers regarding the usability of the BEES system, challenges with the user interface, missing functionality, and basic screen layout issues that would not be expected in a modern application. Based on defect reporting from the UAT process, a large majority of the defects are related to "design errors". Although the release 11 UAT cycle was testing a partially build system, a significant amount of design defects was attributable to functionality developed for Release 11.	A significant amount of money and DHS resource time have been invested in the BEES solution, with the expectation that the new system will at minimum provide all functionality found in current applications - but really should provide additional capabilities, greatly enhanced user interface, and overall improved usability from current systems. Should the solution fall short of expectations, there may be challenges in DHS staff adoption, lack of confidence in the solution providing the accurate information needed to provide benefits to DHS expectations. (closed 3/31/2024) - Include a wide enough audience in all design and demo sessions to validate PHS and DHS functional and technical requirements and system needs. (closed 6/14/2024) - Perform comprehensive (demo all requirements) review during Epic Demos, not just the demo of the system. (closed 6/14/2024) - DHS to provide early feedback on possible issues/gaps that might not be apparent when focusing on specific functionality. (closed 6/14/2024)	OPEN - Perform Sprint and Epic demos in alignment with development sprint completion (demo functionality/requirements as they are developed) to get early feedback on user products - improve rigor in the Design process by verifying all impacted policy and DHS SMEs are involved and approve the design to avoid extensive defects and gaps in functionality that may trigger the need for a change request CLOSED - ASI and DHS to evaluate the effectiveness of the recorded Sprint review process to ensure that designs align with DHS expectations. (closed 3/31/2024) - Include a wide enough audience in all design and demo sessions to validate PHS and DHS functional and technical requirements and system needs. (closed 6/14/2024) - Perform comprehensive (demo all requirements) review during Epic Demos, not just the demo of the system. (closed 6/14/2024) - DHS to provide early feedback on possible issues/gaps that might not be apparent when focusing on specific functionality. (closed 6/14/2024)	Now	2	Low	Open	09/30/2024 - No material update in this reporting period. 8/30/2024 - Design activity was minimal in the reporting period, with DHS reviewing the final Self Service Portal (SSP) design. IVV continues to monitor design activities to ensure continued collaboration between the ASI and DHS. 7/31/2024 - IVV observed positive progress this month with the ASI providing specific actions to address DHS concerns regarding the Main Change Functionality (Epic 209). 6/31/2024 - IVV observed DHS and the ASI working collaboratively in a setting that promoted healthy dialogue on the BEES design work, the criticality rating is updated from a medium to low. 05/30/2024 - The ASI system to continue live Sprint Demos for the remaining Epic design work, providing a venue to increase collaboration with DHS. The SSP development will follow the Waterfall methodology, so no remaining DHS work will occur. 04/30/2024 - IVV comments the ASI and DHS team for demoving to conducting four live sprint demos in support of Epic 209. These proved to enable timely, efficient collaboration. 03/31/2024 - Due to a high number of questions and concerns from DHS during Epic Demo 261 (Approvals and Supervision), the ASI committed to hosting another demo to address all the feedback. Changes saved late in the design process could require code changes, potentially causing schedule delays or the resulting solution not meeting the business need. DHS staff attending Epic demos should be prepared with an understanding of the agreed-upon design and policy requirements relevant to the Epic so that feedback is efficient and on the spot. 02/29/2024 - One demo (Epic Demo 211) was held in February as the ASI focused on developing a Go-to-Green Plan for the Project. DHS also raised concerns in Readiness meetings regarding a gap in design where eligibility is not forced to run when critical benefit data is modified in a case - which could also point to a gap in collaboration on key design decisions. 01/31/2024 - DHS reviewed Sprint demos for Epics 247 and 284 on January 9.	10/11/2023	Jessica - Our SMEs are providing their feedback. This is one of the items that I clarified with IV&V, that there are feedback given, no feedback means design is ok. I rec'd an email back from Joe F. that IV&V wants to meet with our reviewer to validate this.	06/14/2024		
81	Gaps in test coverage and slower than-expected progress in testing and result in schedule delays of subsequent test phases unless a higher volume of defects and user feedback than initially anticipated.	Kalis, Neetu	Finding Issue	6/21/2023	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 SIT 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 coverage, it can result in more defects finding their way into subsequent testing phases, necessitating more extensive and expensive 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 monitor UAT/SIT closely for both breadth and depth of testing to ensure the system is adequately tested - 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 three defects do not recur when FAT resumes, optimizing testing efficiency and reducing potential defect re-detection. NOT COMPLETED - DHS should request that the ASI develop a Corrective Action Plan to address the failure of prior test phases (SIT, INT) to capture defects that rolled into SIT (ON/24/2024) 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. (3/24/2024)	UAT	4	4	High	Open	9/30/2024 - IVV recognizes the project team's decision to postpone the Pilot and the decision to implement a two-week pause in testing and a revised approval and schedule. Meanwhile, IVV's review of testing trends reveals mixed results. Compared to last month, passed test cases increased 22% in the real-time environment (A21 to A31) and 30% in the time travel environment (A42 to A72). However, failed test cases remained relatively stable in real-time and rose 51% in the time travel environment (A6 to A50). As of September 25, 2024, DHS testers identified 148 unique defects, excluding duplications and user errors. Notably, 382 defects (28%) remain open and unresolved, with a concerning severity breakdown consisting of 1 critical (3), 10 high, 187 medium, and 78 low-severity issues. This month marked the first occurrence of critical-severity defects, with 5 emerging in a single day, prompting IVV team concern given the advanced stage of FAT testing. The delayed go-live dates and ongoing testing challenges may compromise project timelines, increase defect resolution efforts, elevate risk levels, and require additional resources. IVV recommends an intensified focus on defect resolution, testing efficiency, and risk mitigation to ensure project success. 8/30/2024 - As of August 29, 2024, 29% of the defects identified during FAT, totaling 113 out of 1056, remain open and unresolved. The breakdown of these unresolved defects by severity is concerning, with 72 high-severity, 150 medium-severity, and 91 low-severity issues. Notably, the number of unresolved defects has increased, and the count of high-severity defects has doubled, with BEI still planned to start next month the IVV team remain concerned about the potential delays in testing and the project schedule. This trend warrants attention to ensure timely resolution of these defects and mitigate any impact on the project timeline. 7/31/2024 - DHS Testers have logged 453 defects (excluding duplications or those determined not to be defects, such as user error) in 06/25/2024 - In September, the ASI completed the updates to the System Security Plan (SSP) Appendix A, specific to the Secure Enclave and IRS Federal Tax Information Requirements (FTR) - POAAM Plan of Action and Milestones) is tracking updates to the main body of the SSP. The ASI has also stabilized the Tenable Nessus scans, which scan for vulnerabilities and configuration compliance of the servers that host BEES. DHS has begun implementing the Social Security Administration (SSA) security awareness training and collecting compliance evidence to submit to the SSA. This remediation of a 2021 SSA POAAM is expected to allow BEES access to SSA data. 8/29/2024 - Through August, the ASI has continued authoring procedure documentation that supports the SSP. FCS completed the independent third-party assessment and delivered a draft report. The assessment found 34 critical, 204 high, 456 moderate, and 78 low findings. DHS and the ASI also responded to requests for evidence from the Social Security Administration (SSA) for their assessment. The SSA is pending evidence of SSA-specific security awareness training. Therefore, the SSA has not yet released its final report. The ASI continued to update IRS-specific controls in Appendix B before the IRS assessment, which is expected near the end of December 2024. Also, the ASI has been deploying scanning agents to system hosts to alleviate vulnerability and compliance scanning issues. 7/25/2024 - The ASI stood up the production environment on July 8th, allowing the BEES Independent Security Assessment penetration testing team to gain access and start the four-week period of testing the BEES system. The ASI participated in interviews with the BEES Independent Security Assessment assessors. Additional interviews will continue into August. The ASI is internally reviewing the Disaster Recovery (DR) plan before delivering it to DHS. However, this DR plan is unavailable for the current security assessment and should be available and tested prior to another assessment.	7/12/2024	As mentioned previously, IVV&D delivered a simplified Epic FAT criteria. IVV is entering into FAT in order to meet the requirements for FAT criteria. In terms of the SRT, this is deliverable is not a criteria for entering into FAT. Please confirm with DHS. 05/24/2024	Why is this still not? It is very clear that we have full coverage of all the functionality and we are going to make it to FAT. This should be in yellow for monitoring. 04/10/2024 - All test scripts for 09/29/2024 SSA accepted DHS plan for training in Sep 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.	
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 draft form. During April, decisions on what topics 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, data flow, 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 and how the control or enhancement has been met.	NEW - 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 POAAM. OPEN - Determine when documentation will be created, updated, and available for the SSP authors. 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 Control Assessment of BEES and submission of the SSP package to federal regulators. This will allow the SSP authors to update controls with changes from Design Through Implementation. (09/26/2024)	Prior to the start of the third party assessment.	4	5	High	Open	9/26/2024 - 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 reduce the development time 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 offshore and some part-time) working on BEES and plan to add 50 more offshore developers at some point in order to expedite development. The ASI has acknowledged that coding defects have hampered the project's productivity, created project delays, and frustrated the DHS testing team given the volume of defects they need to report and document. It remains unclear how quickly newly added developers will be able to get up to speed and how quickly they can be productive enough to make a measurable, positive impact on the pace of development. As of the last ASI status report, there are 376 unresolved defects (104 high criticality), despite their best efforts to bring that number down. The ASI will utilize the recently announced 2-week FAT pause to resolve defects. 08/27/24 - The ASI has initiated a Go-to-Green (G2G) Plan to mitigate project delays, including development delays that could impact go-live milestones. One of the G2G plan action items is to "Staff with additional developers", with the ASI confirming they will be adding 50 additional offshore developers. It remains unclear how quickly newly added developers will be able to get up to speed and how quickly they can be productive enough to make a measurable, positive impact on the pace of development. Additionally, IVV is not aware whether current velocity, capacity, and burndown tracking will allow the project to determine how many additional developers are needed, if any, to avoid further delays. 07/26/24 - The ASI has reported receiving additional development delays that could put go-live milestones at risk. The	06/14/2024	Feedback already provided by David Rallo as May pre-meet. My concern with the Security & Privacy side is that there is no context or privacy.		
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 #81). 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's 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's have presented less than optimal designs and left to DHS who may lack sufficient or UI design expertise to improve, which has contributed to unproductive design sessions (see Finding #81). It remains unclear if scope creep has contributed to these delays.	OPEN - ASI effectively track and regularly provide DHS (potentially via the weekly DRG 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. - The ASI should consider enhancing the depth of developer unit testing. COMPLETE - 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.	Immediate	3	3	Med	Open	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 reduce the development time 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 offshore and some part-time) working on BEES and plan to add 50 more offshore developers at some point in order to expedite development. The ASI has acknowledged that coding defects have hampered the project's productivity, created project delays, and frustrated the DHS testing team given the volume of defects they need to report and document. It remains unclear how quickly newly added developers will be able to get up to speed and how quickly they can be productive enough to make a measurable, positive impact on the pace of development. As of the last ASI status report, there are 376 unresolved defects (104 high criticality), despite their best efforts to bring that number down. 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The	09/09/2024	IVV 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 BEES 1.0 defects. DD work for BEES 1.1 and 1.2 are forthcoming.

ID	Title	Reporter	Finding Type	Identified Date	Category	Description	Significance	Recommendation	Event Horizon	Impact	Probability	Analyst Priority	Finding Status	Initial Update	Client Comments	Vendor Comments
74	ABES 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. 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 provides details on how Velocity measure 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 schedule (Primary and DOI). (6/31/2023 - 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 task estimates if needed. (4/30/2023 - ASI using) Using the available tools, review the current estimates to complete each activity compared to past actual hours (1/31/2023 - new ASI - Not Started) Update as necessary and provide the DHS/ASI Project Managers with reports and data that accurately reflect the DHS/ASI resource needs.	Immediate	3	4	High	Open	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 (combining released) and including the scope for change requests and a crucial functionality list from DHS. Per prior recommendations, the ASI and DHS should conduct a root cause analysis and incorporate the results in the new schedule. (08/20/2024 - Underestimated development work that will coincide with FAT testing and related defect resolution, has created risk for completing Epics in time for comprehensive NT, SIT and FAT testing prior to Pilot. IVV is concerned that Epics might need to enter Pilot without full testing, causing issues for workers completing their required work. DHS has also submitted additional Change Requests that may require the schedule to be delayed. As of the end of the reporting period, the ASI and DHS are talking through a revision of the schedule that will at a minimum push FAT testing out to end of September. 07/31/2024 - The ASI is actively working on defect resolution and new development work for BES 1.1. A few key documents/deliverables, including the Disaster Recovery Plan, Data Conversion Results, and Requirements Traceability, are behind schedule. The ASI is hiring additional resources; however, it is not known if these resources will have a positive impact on the work remaining as defined in the schedule. 06/31/2024 - The Project's ability to perform according to the approved BES Project Schedule continues to be a high risk. The ASI completed their schedule reviews with DHS and IVV, baselining the schedule on 06/19/2024. IVV continues to monitor a schedule that has seen six (6) delays to the Pilot and Sideline Go Live dates since the BES 2023 restart in February. The project (2) eight week delays introduced in March and 9/26/24 - The project continues to make progress on its technical debt categories which were not on the original plan. The project is working on priority items, including improvements to MongoDB, DataDog, and Bloom. The project has initiated the process with Netenra to convert to the new Google Security platform and may add more components/services, including the Consul API Gateway and Private Service Console. The ASI intends to update the BI-12 before go-live to reflect these changes/additions. 8/12/24 - 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. 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 (CCR) 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. 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75	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 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., Netrus). 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 based on the project teams past performance and resources available to do the remaining work. Updates are applied. - The project team work to establish strong governance over the utilization and management of the various system tools/components. - ASI allocate 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	9/26/24 - The project continues to make progress on its technical debt categories which were not on the original plan. The project is working on priority items, including improvements to MongoDB, DataDog, and Bloom. The project has initiated the process with Netenra to convert to the new Google Security platform and may add more components/services, including the Consul API Gateway and Private Service Console. The ASI intends to update the BI-12 before go-live to reflect these changes/additions. 8/12/24 - The ASI continues to make progress in building out the finalized list of infrastructure components into the BES platform. 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76	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 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 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. COMPLETE + DHS and ASI work to clarify/validate 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	9/26/24 - The project continues to make progress on its technical debt categories which were not on the original plan. The project is working on priority items, including improvements to MongoDB, DataDog, and Bloom. The project has initiated the process with Netenra to convert to the new Google Security platform and may add more components/services, including the Consul API Gateway and Private Service Console. 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