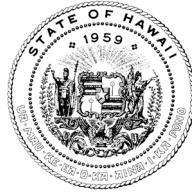


Josh Green, M.D.  
GOVERNOR



DOUGLAS MURDOCK  
CHIEF INFORMATION  
OFFICER

## OFFICE OF ENTERPRISE TECHNOLOGY SERVICES

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

September 20, 2023

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


The Honorable Scott K. Saiki  
Speaker and Members of the  
House of Representatives  
Thirty-Second State Legislature  
State Capitol, Room 431  
Honolulu, Hawaii'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 Hawaii'i, Department of Human Services, Systems Modernization Project.

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

Sincerely,

  
Douglas Murdock (sep 21, 2023 15:01 HST)

Douglas Murdock  
Chief Information Officer  
State of Hawaii'i

Attachments (2)



# Hawaii Department of Human Services Systems Modernization Project

Final IV&V Status Report  
for Reporting Period: July 1 – 31, 2023

*Submitted: August 15, 2023*

# Overview

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- [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) on the left side; a single large, light blue rounded rectangle in the center-left; and a few more squares and rounded rectangles on the right side, some connected by thin white lines.

# Executive Summary

# Executive Summary



July was a consequential month on the BES Project. While Release 11 User Acceptance Testing (UAT) provided DHS first-hand access to BES functionality developed to date, much of it could not be tested due to dependencies on features yet to be developed. Although the BES application should be fully developed by October 20, 2023, escalations to this month's IV&V risks/issues may be an early indication of the Project veering off track. IV&V's visibility into the ASI's corrective actions has been limited. Specific areas that should be addressed include:

- Usability – system navigation of the BES application emulates that of an old legacy system versus a modern one – limiting DHS' ability to realize planned efficiencies
- No revised schedule – the BES project schedules reflecting changes to Release 12 were still under revision.
- Quality of ASI Integration Testing (INT) and System Integration Testing (SIT) – the DHS User Acceptance Testers are creating grammar/spelling defects that are diverting their ability to test functionality from a user perspective which may lead to more defects during the pilot and statewide implementation.

IV&V and DHS, through feedback in meetings, emails, and findings have made it clear that the ASI needs to act on recommendations that have been suggested to have a better outcome with Release 12 than was witnessed in Releases 11 and 11.1; continuing the same path could put the overall project success at risk.

May	Jun	Jul	Category	IV&V Observations
M	M	M	Project Management	The BES project schedule is still under revision. The ASI's reasoning for reducing development and testing efforts in Release 12 has not been provided to DHS and IV&V.

# Executive Summary



May	Jun	Jul	Category	IV&V Observations
M	L	M	System Design	IV&V has opened a new finding related to the BES application design. While the Project reached a Go decision for exiting Release 11 UAT, a high number of design-related defects were discovered in UAT, possibly indicating issues with the current design and testing processes.
L	L	M	Configuration and Development	Development delays for Release 11.1 have delayed UAT, which could impact the overall schedule. The ASI is assessing the impact but has not yet shared any results.
L	L	M	Integration and Interface Management	As the project moves closer to Pilot, having all the interfaces in place and tested could become a critical dependency to implementation.
M	M	H	Testing	While the Project reached a Go decision for exiting Release 11 UAT, multiple issues with testing raised by DHS and IV&V need to be addressed to avoid impacting the quality of the final BES application. IV&V has raised the Criticality Rating of our related finding to "High".
M	M	M	Security and Privacy	Progress on the System Security Plan (SSP) was impacted by a replacement of the ASI Enterprise Architect, further tightening the ability to meet key milestones for completion of the SSP as required by DHS and Federal partners.

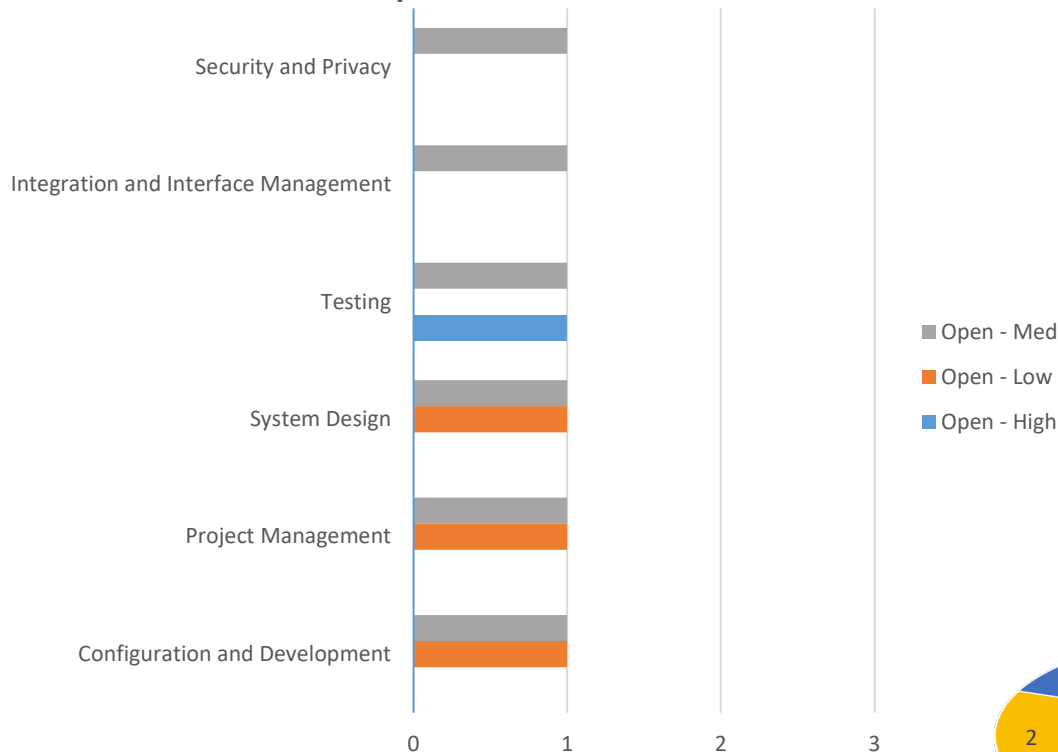
# IV&V Findings and Recommendations

# IV&V Findings and Recommendations

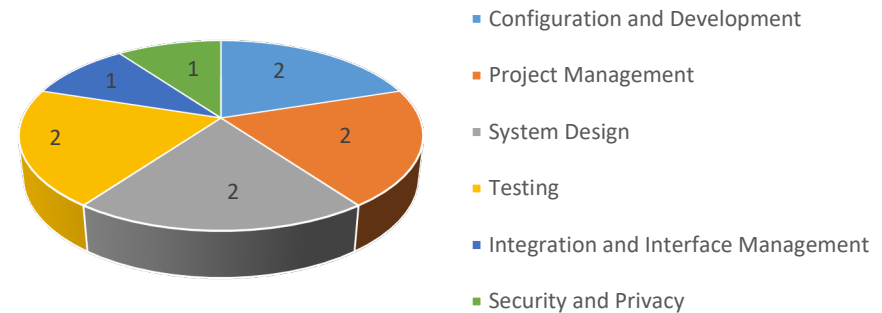


As of the July 2023 reporting period, PCG is tracking 10 open findings (6 risks, 4 issues) and has retired a total of 68 findings. Of the 10 open findings, 1 are High, 6 are Medium, and 3 are Low.

## Open Risks & Issues



## Open Risks & Issues by Category

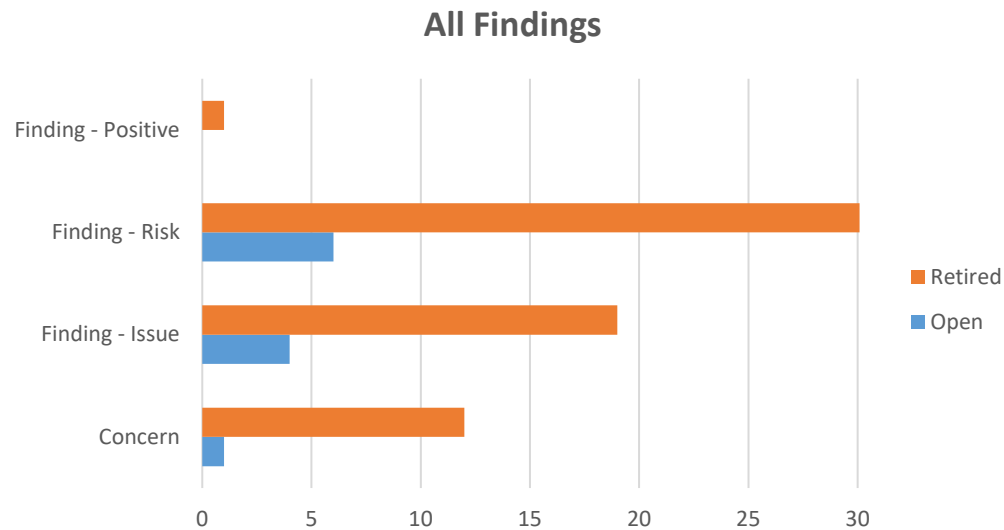




# IV&V Findings and Recommendations



The following figure provides a breakdown of the 79 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
84	<p><b>Preliminary Concern – The current UAT approach and planning may not be complete, which increases the likelihood of missing UAT timelines.</b></p> <p>Release 11 UAT was completed, and currently, the Project is conducting informal Release 11.1 UAT ad hoc testing. Throughout Release 11 UAT, the Project made significant refinements and changes to the originally planned UAT approach based on lessons learned. For example, the Project decided to discontinue the use of a separate MS Teams Issue Tracker as it failed to provide the expected value.</p> <p>While UAT resources had many questions and spent time discussing testing processes and procedures, defect documentation, severity assignments, and retesting, they did not have a significant volume of tests to execute. As a result, they were able to complete their tests timely. If the Project does not learn from the UAT experience and incorporate these into FAT where the entire application will be tested, IV&amp;V remains concerned FAT may experience unanticipated delays and inefficiencies.</p>	Testing

Recommendations	Progress
<ul style="list-style-type: none"><li>• Conduct lessons learned session to incorporate into FAT, including updates of all processes, procedures, roles and responsibilities</li></ul>	Not Started
<ul style="list-style-type: none"><li>• Train testing resources early before FAT begins and walk through end-to-end scenarios.</li></ul>	Not Started
<ul style="list-style-type: none"><li>• Develop contingency plans if Release 11.1 UAT does not proceed as planned.</li></ul>	Not Started

# IV&V Findings and Recommendations



## Findings Opened During the Reporting Period

#	Finding	Category
86	<p><b>Issue - Limited collaboration between the ASI and DHS in the design process could lead to BES and BES-SSP usability issues and functionality gaps in the applications, and not meeting critical business needs for DHS and State clients – Medium Criticality</b></p> <p><b>Observation:</b> During the UAT process for Release 11 DHS testers raised concerns about system usability, the user interface, missing functionality, and screen layouts. Most of the defects found in Release 11 UAT are classified as “design errors”. Although Release 11 represents a partial development of the full system, the discovered design issues may impact the project if not addressed.</p> <p><b>Significance:</b> A significant amount of money and DHS resource time have been invested in the BES 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; a lack of confidence in the solution providing the accurate information needed to provide benefits to HI citizens, and a reduction in the ability of DHS to provide the same level of needed services to clients</p>	System Design

Recommendations	Progress
<ul style="list-style-type: none"> <li>• Include a wide enough audience in all design and demo sessions to validate FNS and DHS functional and technical requirements and system usability.</li> </ul>	Not Started
<ul style="list-style-type: none"> <li>• 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.</li> </ul>	Not Started
<ul style="list-style-type: none"> <li>• Perform comprehensive (demo all requirements) review during Epic demos, not just the items that were added/updated, allowing DHS to provide early feedback on possible issues/gaps that might not be apparent when focusing on specific functionality.</li> </ul>	Not Started

# IV&V Findings and Recommendations



## Project Management

#	Key Findings	Criticality Rating
29	<p><b>Issue – Uncertainty and/or a lack of communication around long-term architecture decisions could impact the project budget, schedule, system design, and planning decisions.</b></p> <p>The project considered changing correspondence tools from Inspire to Google AODocs but recently decided to stay with Inspire. IV&amp;V will continue to monitor for broad communication of architectural/tool decisions to relevant stakeholders. The Project is making progress in clarifying key architecture decisions.</p>	

Recommendations	Progress
<ul style="list-style-type: none"><li>The ASI should continue to update the BI-12 System Architecture Deliverable with additional details as they become available and with any finalized architectural changes.</li></ul>	In process
<ul style="list-style-type: none"><li>DHS should continue to ask the ASI to perform due diligence in any recommendation for foundational architecture change decisions and continue to review with appropriate DHS stakeholders (e.g., KOLEA) to assure a common understanding of the implications of these decisions.</li></ul>	In process
<ul style="list-style-type: none"><li>The Project should continue to ensure communication between development leads and architecture leads to assure optimal collaboration on possible architecture changes that could impact decisions in each area.</li></ul>	In process

# IV&V Findings and Recommendations



## Project Management

#	Key Findings	Criticality Rating
74	<p><b>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.</b></p> <p>The ASI has not provided justification for reducing development and testing efforts in the schedule for Release 12 as requested by DHS and IV&amp;V. In early July, the ASI informed the Project that changes to the schedule were needed for release 12. IV&amp;V is concerned about the delay in obtaining the revised project schedule. IV&amp;V will continue to monitor the schedule for any risks that might impact the Project’s ability to plan and execute upcoming work..</p>	

Recommendations	Progress
<ul style="list-style-type: none"> <li>Monitor, evaluate and revise scheduling estimates for accuracy.</li> </ul>	In process
<ul style="list-style-type: none"> <li>Add key milestones to the project schedule, such as Sprint and Epic demos, to show key progress towards completion of Epics.</li> </ul>	Not Started
<ul style="list-style-type: none"> <li>ASI plan and execute Epic development so that Epic demos can occur earlier in the release schedule and allow time for possible revisions.</li> </ul>	In process
<ul style="list-style-type: none"> <li>ASI hosts a weekly meeting with DHS and IV&amp;V to review all changes to the project schedules (Primary and DDI).</li> </ul>	Not started

# IV&V Findings and Recommendations



## Integration and Interface Management

#	Key Findings	Criticality Rating
63	<p><b>Risk – The lack of early planning and coordination with interface partners may result in schedule delays.</b></p> <p>The ASI and DHS are working to complete the remaining two interface agreements (DLIR and DoTAX). Work is proceeding to review and update all 22 Interface Control Documents (ICDs). None of these interfaces have been fully reviewed and updated. Furthermore, none of the interface technical design documents have been completed. IV&amp;V will continue to monitor the ASI efforts toward addressing our recommendations. Release 12 development ends on October 5, 2023; there is little time left to complete the outstanding work. IV&amp;V has raised the Criticality Rating to “Medium”.</p>	

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

# IV&V Findings and Recommendations



## Configuration and Development

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

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



# IV&V Findings and Recommendations



## Configuration and Development

#	Key Findings	Criticality Rating
80	<p><b>Risk – Development delays could negatively impact the project schedule and delay go-live.</b></p> <p>The Project recently elected to not move forward with their planned Release 11.1 incremental UAT testing and instead opted to only perform ad-hoc (instead of scripted) testing. The ASI stated the primary reason for not being ready for UAT was they were unable to complete the mapping of portal benefit application fields to the BES system. The ASI is assessing potential impacts on the schedule. Given the uncertainty regarding the probability of delays, IV&amp;V has raised the Criticality Rating to “Medium”.</p>	

Recommendations	Progress
<ul style="list-style-type: none"> <li>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.</li> </ul>	In process
<ul style="list-style-type: none"> <li>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.</li> </ul>	In process
<ul style="list-style-type: none"> <li>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.</li> </ul>	In process
<ul style="list-style-type: none"> <li>ASI reviews the development process and identifies and mitigates the challenges preventing them from incorporating Epic demo activities into the project schedule.</li> </ul>	Not started

# IV&V Findings and Recommendations



## System Design

#	Key Findings	Criticality Rating
73	<p><b>Risk – The planned BES infrastructure is complex which could be difficult to implement and maintain and could lead to schedule/cost impacts.</b></p> <p>The project recently onboarded a new ASI Enterprise Architect. As this is a key role on the ASI team a candidate and resume were presented to and approved by DHS.</p>	

Recommendations	Progress
<ul style="list-style-type: none"><li>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.</li></ul>	In process
<ul style="list-style-type: none"><li>The project team work to establish strong governance over the utilization and maintenance of various tools/components.</li></ul>	In process
<ul style="list-style-type: none"><li>ASI allot time in the schedule to conduct proof of concepts to assure infrastructure components work as expected.</li></ul>	In process
<ul style="list-style-type: none"><li>ASI maintain a detailed schedule for DevOps implementation tasks to avoid unexpected delays that could delay project milestones and the critical path.</li></ul>	In process

# IV&V Findings and Recommendations



## Testing


#	Key Findings	Criticality Rating
67	<p><b>Risk - The Americans With Disabilities Act (ADA) Section 508 compliance tool has not been installed for the Project, which may cause significant rework.</b></p> <p>According to the ASI, the automated tool has been configured and set up, but it is not ready for testing until the User Journeys/Tests to execute are defined. Despite the ASI's previous report of conducting an assessment in June and identifying 28 defects, those assessments were merely trial runs and did not provide any significant value.</p> <p>The ASI plans to commence formal ADA testing in October 2023. They plan to conduct automated testing at an earlier stage to address any issues before formal testing begins. Until then, the ASI will incorporate accessibility guidelines into their design/development activities and conduct manual testing.</p>	

Recommendations	Progress
• The ADA tool meets contractual and project requirements.	In process
• The ASI communicates a plan for ADA test execution.	In process
• The ASI communicates how the tool will be used to report compliance and non-compliance and how non-compliance will be addressed/corrected	In process
• The ASI provides DHS/IV&V reports from the ADA tool execution and explain how to interpret the results.	Not started

# IV&V Findings and Recommendations



## Testing

#	Key Findings	Criticality Rating
83	<p><b>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.</b></p> <p>The Project met Release 11 UAT entry and exit criteria. However, ASI's INT and SIT processes and efforts missed easily identifiable defects that were introduced into subsequent test phases. For instance, defects like UAT-503, 340, 343, 347, 350, and 353 were discovered during UAT and should have been caught during INT or SIT using basic testing. In UAT-350, the UAT tester was unable to edit a date field that should have been editable. In UAT-340, the UAT tester selected and saved some options, but the options were not displayed or saved properly. DHS UAT resources are spending time documenting typos, grammar, and visual design aspects (e.g., alignment, font size, etc.). Uncovering such defects during UAT is time-consuming and shifts the focus away from user acceptance testing to quality assurance testing. If INT and SIT continue to release defects into subsequent phases, the effectiveness of FAT may be reduced, leading to project delays or defects being released into the production environment.</p>	

Recommendations	Progress
<ul style="list-style-type: none"> <li>Monitor SIT closely for both breadth and depth of testing to ensure the system is adequately tested.</li> </ul>	Not Started
<ul style="list-style-type: none"> <li>The project team reviews the SIT exit criteria and revises them as needed to ensure UAT begins with the best system possible.</li> </ul>	In process
<ul style="list-style-type: none"> <li>ASI and DHS spot-check Integration Tests during Release 12 to confirm early testing is adequate before entering FAT.</li> </ul>	Not Started

# IV&V Findings and Recommendations



## Security and Privacy

#	Key Findings	Criticality Rating
82	<p><b>Risk – The lack of technical documentation may lead to incorrect implementation statements or delay the System Security Plan (SSP).</b></p> <p>The SSP Authors have almost completed the initial set of controls for the base system security plan. While this activity appears slightly behind schedule due to staff availability, it should not have an impact on the overall schedule at this time. The ASI is reviewing the existing implementation statements and tracking the controls that may need additional information before submission to DHS and Federal regulators. This month, the ASI replaced its Enterprise Architect. This change in resources caused a pause in the development of technical documentation. There are less than two months remaining to complete the SSP for submission to DHS for approval on September 18th, 2023, and submission to Federal partners by October 2nd, 2023.</p>	M

Recommendations	Progress
<ul style="list-style-type: none"><li>Determine when the infrastructure design baseline will be completed.</li></ul>	In process
<ul style="list-style-type: none"><li>Determine when documentation will be created, updated, and available for the SSP authors.</li></ul>	Not Started
<ul style="list-style-type: none"><li>Collaborate and communicate with SSP authors about when reliable and correct documentation will be available.</li></ul>	Not Started



# IV&V Status

# IV&V Engagement Status



IV&V Engagement Area	May	Jun	Jul	Comments
IV&V Budget				
IV&V Schedule				
IV&V Deliverables				PCG submitted the final June 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 July reporting period:
  - Completed – June Monthly Status Report
  - Ongoing – Review the BES Project Artifacts and Deliverables
  - Ongoing – Attend BES Project meetings, (see [Additional Inputs](#) pages for details)
  - Reviewed available ASI contracts and contract amendments documentation
- Planned IV&V activities for the August reporting period:
  - Ongoing – Observe BES Design and Development sessions as scheduled
  - Ongoing – Observe Bi-Weekly Project Status meetings
  - Ongoing – Observe Weekly Architecture meetings
  - Ongoing – Observe Weekly Security meetings
  - Ongoing – Monthly IV&V findings meetings with the ASI
  - Ongoing – Monthly IV&V Draft Report Review with DHS, ETS and ASI
  - Ongoing – Participate in Bi-Weekly DHS and IV&V Touch Base meetings
  - Ongoing – Review BES artifacts and deliverables



# Deliverables Reviewed



Deliverable Name	Deliverable Date	Version
BI-5 Project Schedule - BES 2023 Primary	07/11/2023 07/01/2023	N/A
BI-5 Project Schedule - BES 2023 DDI	07/11/2023 07/01/2023	N/A
Disaster Recovery Plan DED	7/19/2023	N/A

# Additional Inputs – Artifacts



Artifact Name	Artifact Date	Version
BES 2023 Design Kanban board	N/A	N/A
R0.11 Epic Assignment	N/A	N/A
FNS Handbook 901	01/2020	V2.4
NIST Special Publication 800-53 Security and Privacy Controls for Information Systems and Organizations	12/20/2020	Rev.5
SNAP_System_Integrity_Review_Tool	Sept 2022	N/A
Interface Dashboard – Confluence page	N/A	N/A
BES 2023 Implementation Planning – Confluence page	N/A	N/A
R0.12 Epic Assignment	N/A	N/A
UAT Testing Dashboard	N/A	N/A



## Meetings and/or Sessions Attended/Observed:




1. IV&V Team Meeting – 7/3/2023, 7/6/2023, 7/10/2023, 7/13/2023, 7/17/2023, 7/20/2023, 7/24/2023, 7/27/2023, 7/31/2023
2. IV&V July 2023 Pre-Draft MSR Findings Review – 7/28/2023
3. HI DHS BES June Draft IV&V Report Review – 7/13/2023
4. Bi-Weekly DHS and IV&V Touch Base – 7/11/2023, 7/25/2023
5. Weekly BES Infrastructure meeting – 7/7/2023, 7/14/2023, 7/21/2023, 7/28/2023
6. DHS/IV&V Check-in – 7/6/2023, 7/20/2023
7. Bi-Weekly Client BES 2023 Project Status Meeting – 7/12/2023, 7/26/2023
8. Security Touchpoint – 7/5/2023, 7/12/2023, 7/19/2023, 7/26/2023
9. (External) Epic 211 – Disability Processing Design Session 7/3/2023, 7/27/2023
10. (External) Weekly Interfaces Touchpoint 7/3/2023, 7/10/2023, 7/17/2023, 7/24/2023, 7/31/2023
11. (External) UAT Go-No-Go Meeting (SIT Exit criteria) – 7/5/2023
12. (External) UI Standards Monthly Review – 7/5/2023
13. (External) Security Touchpoint – 7/5/2023, 7/12/2023
14. (External) R0.11 Daily UAT Huddle - 7/6/2023 (Daily through July including 11.1)
15. (External) R0.11 Daily UAT Triage - 7/6/2023 (Daily through July including 11.1)
16. (External – Sprint Demo) Epic 186 – BES Portal Print Application – 7/11/2023
17. (External) BES System Security Plan – Controls - 7/11/2023, 7/18/2023, 7/25/2023
18. (External) Readiness and OCM General Meeting - 7/12/2023
19. (External) Bi-weekly BES CCB Meeting - 7/19/2023
20. (External) R0.11 UAT Go-No-Go - 7/24/2023
21. (External – Epic Demo) 184 Initial Application & 183 Print Application – 7/24/2023
22. (External) IV&V Report Remediation of Open Findings – 7/26/2023
23. (External) Go/No-Go for R0.11 and R0.11.1 Updates) – 7/31/2023

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# 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

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

# Appendix C – Acronyms and Glossary



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

# Appendix C – Acronyms and Glossary



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



# Appendix C – Acronyms and Glossary



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

# Appendix D – Background Information



## Systems Modernization Project

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

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

## Systems Modernization IV&V Project

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

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

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

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

# Appendix D – Background Information



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

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

## PCG's Eclipse IV&V® Technical Assessment Methodology

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

## IV&V Assessment Categories for the BES Project

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

Ending Slide



**Solutions that Matter**

ID	Title	Reporter	Finding Type	Identified Date	Category	Description	Significance	Recommendation	Event Horizon	Impact	Probability	Analyst Priority	Finding Status	Status Update	Client Comments	Vendor Comments
85	Limited collaboration between the ASI and DHS in the design process could lead to BES and BES-SP usability issues and functional gaps in the applications, and not meeting critical business needs for DHS and State clients.	Molina, Brad	Finding - Issue	8/2/2023	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 BES system, challenges with the user interface, missing functionality, and basic screen layout issues that would not be expected in a modern application. Based on defect reporting from the UAT process, a large majority of the defects are related to "design errors". Although the Release 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 BES 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 HI clients; reduction in ability for DHS to provide the same level of needed services to clients, resulting in bad publicity for DHS and the state.	include a wide enough audience in all design and demo sessions to validate FMS and DHS functional and technical requirements and system usability. Perform Sprint and Epic demos in alignment with development sprint completion (demo functional requirements as they are developed) to get early feedback on work products. Perform comprehensive (demo all requirements) review during epic demos, not just the items that were added/updated, allowing DHS to provide early feedback on possible issues/apps that might not be apparent when focusing on specific functionality.	Now	4	2	Med	Open			08/10/2023 - As mentioned, Release 11 was just a partial development of the BES System as we continue to evolve the application with Release 12. There were a number of issues/defects that were not part of R0.11 but are included in R0.12.
84	The current UAT approach and planning may not be complete, which increases the likelihood of missing UAT timelines.	Tan, Ryan	Concern	6/29/2023	Testing	Although there is an approved UAT plan and an experienced testing team, the Project appears unprepared for Release 11 UAT. For example, new testing processes, including a Teams Issue Tracker, are not fully developed. While basic workflow understanding exists, test team members raised many questions about testing processes, and some scenarios and defect flows remain undefined. The Project team reported they will refine these processes during UAT.	Without a defined and developed UAT approach and resource plan, there is a potential risk of missing UAT timelines. However, the R11 UAT phase does not fall within the critical path of the project, and a delayed completion or incomplete UAT does not directly impact the overall project schedule. While the immediate schedule implications of incomplete or delayed R11 UAT may be limited, it is important to consider the potential long-term consequences regarding project quality, capacity, and resource retention.	Conduct lessons learned sessions to incorporate into Final Acceptance Testing (FAT), including updates of processes, procedures, roles and responsibilities. Train testers early before FAT begins and walk through end-to-end scenarios. Develop contingency plans if Release 11.1 UAT does not proceed as planned.	UAT	3	1	Low	Open	7/31/2023 - Release 11 UAT was completed, and currently, the Project is conducting informal Release 11.1 UAT ad hoc testing. Throughout Release 11 UAT, the Project made significant refinements and changes to the originally planned UAT approach based on lessons learned. For example, the Project decided to discontinue the use of a separate MS Teams Issue Tracker as it failed to provide the expected value. While UAT resources had many questions and spent time discussing testing processes and procedures, defect documentation, severity assignments, and retesting, they were able to complete their tasks timely. If the Project does not learn from the UAT experience and incorporate these into FAT where the entire application will be tested, IVV remains concerned FAT may experience unanticipated delays and inefficiencies.		
83	Gaps in test coverage and slower-than-expected progress in testing may result in schedule delays if subsequent test phases uncover a higher volume of defects and user feedback than initially anticipated.	Tan, Ryan	Finding - Issue	6/2/2023	Testing	After examining the Project's R11 QA Dashboards, R11 Traceability Dashboards, and Test Repository, gaps in testing coverage may exist and the progress of testing might be lagging. Concerning testing coverage, it appears that not all epics and use cases in R11 have associated test cases or are testing the correct use cases. In terms of progress, some test cases remain unexecuted, and not all defects have been resolved as the project commences System Integration Testing (SIT). The ASI has plans to complete the INT exit criteria by June 16, 2023, about 2 weeks after SIT begins.	Identifying defects early is vital for effective testing, as it is more efficient and cost-effective to address issues during the early testing stages. If there is slow progress or incomplete testing in the early stages, it can result in more defects leaking into subsequent testing phases, necessitating more extensive and rigorous testing efforts. Insufficient testing coverage or slower-than-anticipated progress throughout the project lifecycle increases the risk of encountering significant delays, extensions, or the introduction of defects into the production environment during the final testing stage, known as Final Acceptance Testing (FAT).	OPEN - The Project develop root cause analysis to understand why defects are being isolated and implement effective improvement processes. DHS and ASI monitor WJST closely for both breadth and depth of testing to ensure the system is adequately tested. The Project team begins the SIT exit criteria and reviews them as needed to ensure UAT/FAT aligns with the best system possible.	UAT	4	4	High	Open	7/31/2023 - The Project met Release 11 entry and exit criteria. However, the ASI's INT and SIT processes and efforts missed easily identifiable defects that were introduced into subsequent test phases. For instance, defects like UAT-103, 140, 143, 147, 150, and 153 were discovered during UAT and should have been caught during INT or SIT using basic testing. In UAT-150, the UAT tester was unable to edit a date field that should have been editable. In UAT-340, the UAT tester selected and saved some options, but the options were not displayed or saved properly. In addition to finding functional defects, DHS UAT resources are spending time documenting typos, grammar, and visual design aspects (e.g., alignment, font size, etc.). Uncovering such defects during UAT is time-consuming and shifts the focus away from user acceptance testing to quality assurance testing. If INT and SIT continue to release defects into subsequent phases, the effectiveness of FAT may be reduced, leading to project delays or defects being released into the production environment. 6/30/2023 - The ASI addressed some INT testing gaps identified by IVV by developing additional test cases and updating the traceability dashboard. The ASI also improved SIT testing by refining and developing additional test cases based on the INT test cases. However, DHS and IVV are not convinced testing activities are sufficiently testing all functionality which could lead to a larger-than-expected number of defects in future testing phases, potentially pushing out key milestones on the critical path.	08/10/2023 - No mentioned or reference to the decision by R0.11 received by DHS despite the defects being referenced.	
82	The lack of technical documentation may lead to incorrect implementation statements or delay the system security plan.	Heath, Dustin	Finding - Risk	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, firewall, 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 final 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.	- Determine when the infrastructure design baseline will be completed. - Determine when documentation will be created, updated, and available for review by the SSP authors. - Collaborate and communicate with SSP authors about when related and correct documentation will be available.	August 15th, when the full SSP is scheduled for completion and approval prior to sharing with Federal partners.	3	3	Med	Open	07/28/2023 - The SSP Authors have almost completed the initial set of controls for the base system security plan. While this activity appears slightly behind schedule due to staff availability, it should not have an impact on the overall schedule at this time. The ASI is reviewing the existing implementation statements and tracking the controls that may need additional information before submission to DHS and Federal regulators. This month, the ASI replaced its Enterprise Architect. This change in resources caused a pause in the development of technical documentation. There are less than two months remaining to complete the SSP for submission to DHS for approval on September 18th, 2023, and submission to Federal partners by October 2nd, 2023. 06/30/2023 - The SSP Authors have received very little updated, draft, or final technical documentation of the system over the past two months. The SSP Authors have continued writing implementation responses to controls, and many of the control families are nearly complete. However, the responses have been written based on an educated expectation of the system, which could require rework to align the responses with actual system design. 5/31/2023 - The ASI is meeting in early June to develop a plan to complete the recommendations of this finding.		
80	Development delays could negatively impact the project schedule and delay go-live.	Fors, Michael	Finding - Risk	6/10/2022	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 staff 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/SAs have presented less than optimal designs and left it to DHS (who may lack software or UI design expertise) to improve, which has contributed to unproductive design sessions (see Finding #61). It remains unclear if scope creep has contributed to these delays.	OPEN - 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. - Request the ASI effectively track and regularly provide DHS (potentially via the weekly DCU 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 presents a dynamic burn-down chart to track the progress. - ASI provides DHS with the time needed to effectively evaluate the software demonstrations (demo) and elicit productive design discussions with DHS attendees during each demo. - ASI reviews the development process and identifies and mitigates the challenges preventing them from incorporating Epic demo activities into the project schedule.	Immediate	3	3	Med	Open	7/31/23 - The project recently elected to not move forward with their planned Release 11.1 incremental UAT testing and instead opted to only perform ad-hoc (instead of scripted) testing. The ASI stated the primary reason for not being ready for UAT was they were unable to complete the mapping of portal benefit application fields to the BES system. The ASI is assessing potential impacts on the schedule. Given the uncertainty regarding the probability of delays, IVV has raised the Criticality Rating to "Medium". 6/30/23 - DHS and IVV are concerned that most of the demonstrations for Release 11 were delivered at the end of Release 11. This could indicate challenges in the development process, leading to delays in presenting demos to the customer. This hindered DHS's ability to provide productive feedback and has made it difficult for DHS Subject Matter Experts to attend the demos. Additionally, the ASI's refusal to incorporate Epic demo activities for Release 11 and 12 into the project schedule makes it challenging for DHS to coordinate the demo steps with other project activities. 5/31/23 - The ASI is experiencing development delays. Two BES modules that had been completed by the previous ASI need unexpedited rework (e.g., Self-Service Portal (SSP), Administrative Hearings). The ASI also decided to rewrite the SSP rather than upgrade the version of the software used to develop the module, which resulted in an unanticipated level of effort. 4/30/23 - The ASI delayed six planned demonstrations of BES functionality to DHS. Release 0.11 (R11) development work is planned to be completed on June 1, 2023. The ASI should provide DHS with the time needed to effectively evaluate the demonstrations. Additionally, without transparency on the root cause of the delays and lack of accurate velocity reports, there may be downstream impacts. If ASI resources remain allocated to R11 while developing R12, they may experience unexpected delays for R12. 3/31/23 - The ASI is taking multiple actions to mitigate		

ID	Title	Reporter	Finding Type	Identified Date	Category	Description	Significance	Recommendation	Event Horizon	Impact	Probability	Analyst	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 deliveries, 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 dilutes 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. Add key milestones to the project schedule, such as Sprint and Epic demos, to show key progress towards completion of Epics. ASJ plan and execute Epic development so that Epic demos can occur earlier in the release schedule and allow time for possible revisions. ASI host a weekly meeting with DHS and IVV to review all change to the project schedules (Primary and COJ). COMPLETE DHS and the ASI agree to a revised schedule against which project deliverables can be managed. (2/28/2023 - completed). CLOSED Confirm current assumption that a delay with the current go-live date will not result in major implications. (6/29/23) Leverage velocity and burn down charts to adjust development tasks estimates if needed. Leverage velocity and burn down charts to adjust development tasks estimates if needed. (4/30/2023 - ASI using Jira) 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 the schedule to reflect the DHS/ASI Project Managers with reports and data that accurately reflect the DHS/ASI resource needs along with over/under allocations of staff for the duration of the Project (1/31/2023 - new ASI - Started) Develop mitigation and contingency plans that are tracked/managed by DHS/ASI for all tasks that are behind schedule or are at risk of being behind schedule which includes resource management. (1/28/2023 - new ASI) Discuss, validate and address additional concerns within the project processes that may cause the project delays other than inaccurate estimates such as over reliance on POJ, slow design sprints, and cadence of development team. (2/8/2023 - new ASI) The new ASI presents a draft schedule for DHS review/feedback in advance of the project restart kickoff. (1/31/2023 - Not Completed)	Immediate	4	2	Med	Open	7/31/2023 - The ASI has not provided justification for reducing development and testing efforts in the schedule for Release 12 as requested by DHS and IVV. Additionally, IVV is concerned about ASI delays in providing a BES project schedule to DHS that reflects major revisions to Release 12 as reported by the ASI. IVV will continue to monitor the schedule for any risks that might impact the Project's ability to plan and execute upcoming work. (6/30/2023 - ASI updates to the schedule that resulted in a reduction of baseline estimates were applied without DHS awareness. Specifically, two development sprints [1 month in total duration] and three integration testing sprints [1.5 months in total duration] were removed. Yet, a significant amount of the scope of work was moved from Release 11 to Release 12, and work was moved out of Release 12 to post Go-Live. DHS and IVV are uncertain how the ASI determined that they would complete Release 12 scope with the reduced amount of time and have asked the ASI for details about these changes. DHS and IVV are concerned this might exceed the capacity of the development teams, potentially pushing out key milestones on the critical path. 5/31/2023 - The IVV team continues to assess current activities and timing for development and testing, verifying they align with the current schedule. The ASI published a calendar for the remaining Epic demos, as requested by DHS. However, both DHS and IVV remain concerned that most of the demos have been pushed out too late in schedule - which could lead to significant rework and schedule delays. IVV continues to evaluate the schedule and activities, focusing on consistency between these two pagos of the project progress. 4/30/2023 - Late in the month, the ASI committed to providing DHS and IVV a walkthrough of Jira, which is used to manage and report information to track the progress of testing and development work. With this additional knowledge, both DHS and IVV can validate that the schedule(s) accurately reflect the project's	08/10/2023 - Inaccurate statement about project schedule updates not being provided for two weeks. Weekly schedule updates continue to be posted.	
73	The planned BES infrastructure is complex which could be difficult to implement and lead to schedule/cost impacts.	Fors, Michael	Finding Risk	10/28/2021	System Design	Current ASI infrastructure plans include a significant number of sophisticated components that make up a complex cloud infrastructure. Further, the Project Team has yet to finalize components that will make up the BES infrastructure and the additional costs and time to configure, test, and implement the planned complex environment remain unclear.	If the level of effort to implement and manage the complexities of the BES infrastructure is not accurately accounted for and staffed by the ASI, the project could be met with unexpected costs and schedule delays. Delays in finalizing the components being implemented could exacerbate this 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. If DHS intends to eventually reduce M&O outsourcing costs turning over M&O tasks to State employees, they could face challenges supporting tools they may not be familiar with in a complex infrastructure environment.	ASI develop a process to closely monitor cloud and other product changes (software updates/new releases), manage changes, and regression test once updates are applied. - The project team work to establish strong governance over the utilization and maintenance of the various system tools/components. - ASI alter time in the schedule to conduct proof of concepts to assess 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	7/31/23 - The project recently onboarded a new ASI Enterprise Architect. As a result, the team has a candidate and expects to be presented to and approved by DHS. 6/30/23 - The ASI has made progress with key infrastructure components, particularly those related to the loading and masking (using Delphix) of legacy data into the UAT environment. These components play a crucial role in improving the testing process, and this progress improves the ASI's ability to create and maintain the BES environments. 5/31/2023 - The ASI made significant progress in mitigating this risk and has remediated many issues and complexities introduced previously. IVV continues to observe productive discussions and details of architecture progress while participating in the weekly project Architecture meetings. Therefore, IVV has lowered the Criticality Rating from "Medium" to "Low". 4/30/2023 - The ASI reports the Architecture & Infrastructure activities at 10 percent complete. ASI also reported that all the required BES infrastructure components have been acquired or licensed. The ASI carried out Proof of Concepts (POCs) for components such as Big Query and the audit framework. However, it is uncertain whether other POCs will be performed to mitigate the potential complexities of implementing multiple components which may interact with one another. 3/31/2023 - The ASI is making updates to the BI System Architecture deliverables to reflect recent changes and expects more changes soon. The ASI made good progress on the buildout of their DevOps automation scripts that will allow them to manage the cloud environments more easily. Additional BES infrastructure tasks are being added to the project schedule and should be evaluated to determine if they impact the critical path. 2/28/2023 - Though the new ASI intends to simplify the BES infrastructure, it remains unclear whether that will be possible in a timely manner and avoid impacting the critical path. The new ASI also intends to expand on the previous ASI scope. 7/31/23 - No material update. 6/30/23 - No material update. 5/31/2023 - The ASI continues to make progress with its utilization of the ServiceNow Configuration Management (CM) tool. They have recently performed an initial import of Google Cloud Platform server details into the ServiceNow Configuration Management Database. *** Continued work. Setup in ServiceNow will be building up instances. Ongoing support and maintenance. Don't think still a risk, IVV to discuss. 4/30/2023 - The ASI finalized the ServiceNow (SM) modules they will utilize for the project. 3/31/2023 - The ASI is currently evaluating which ServiceNow (SN) modules will be the best fit for the project and for DHS going forward. Details of exactly how they'll be using SN and the level of configuration management they intend to perform has yet to be determined. 2/28/2023 - The new ASI intends to utilize ServiceNow (SN) for most configuration management tracking. Details of exactly how they'll be using SN and its multitude of modules and capabilities remain unclear. 1/31/2023 - Activity in the reporting period concentrated on project restart tasks, and IVV will reassess this finding once related project activity has begun. 12/31/2022 - No material update in the reporting period as the work stoppage continued and the new ASI conducted restart planning. IVV will reassess this finding and our associated recommendations once more is known. 11/30/2022 - No material update in the reporting period as the work stoppage continued and the new ASI conducts restart planning. 10/31/22 - No work has been performed regarding this finding due to the work stoppage and ongoing transition to the new ASI. IVV will reassess our recommendations for this finding once more is known. 09/29/22 - The ASI announced the departure of key resources including their lead CM strategist, which could exacerbate this risk. With the recent work stoppage and planned reassignment, IVV is not aware of the plans to mitigate this risk. 08/30/22 - The ASI updated the		
70	Insufficient configuration management could lead to development confusion and reduce the effectiveness of defect resolution	Fors, Michael	Finding Risk	8/23/2021	Configuration and Development	The BI-6 DDI Plan Deliverable, Section 5.2 establishes the framework for the Configuration Management Plan, however, it remains unclear if sufficient progress has been made toward establishing CM processes and governance, selecting CM tools (e.g., CMDB), and building out the CM infrastructure. The projects Security Plan has yet to be finalized which may include additional requirements or decisions that could impact CM. The project currently relies on GitHub for tracking of some configurations.	Configuration Management is a set of processes and procedures that ensures the BES is understood and works correctly. The BES solution includes tools that may provide a level of automation for Configuration Management that may reduce errors and should provide the project team with accurate, dynamic and timely information on some of the configuration items. However, it is critical that DHS/ASI agree to the full list of items that are included in the configuration plan along with the details regarding the management of the configuration items, reporting and audit features.	OPEN - ASI adhere to plans for configuration management as documented in BI-6 DDI Plan, Section 5.2 and clarify details and/or any changes with DHS. - ASI validate plans for configuration management with DHS and agree on a meaningful set of configuration items or settings they will track. - DHS and IVV work to clarify/validate plans for the potential use of configuration management tools. COMPLETE - 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, and are achieving DHS objectives for CM. 7/31/2022	ASAP	2	2	Low	Open	7/31/23 - No material update. 6/30/23 - No material update. 5/31/2023 - The ASI continues to make progress with its utilization of the ServiceNow Configuration Management (CM) tool. They have recently performed an initial import of Google Cloud Platform server details into the ServiceNow Configuration Management Database. *** Continued work. Setup in ServiceNow will be building up instances. Ongoing support and maintenance. Don't think still a risk, IVV to discuss. 4/30/2023 - The ASI finalized the ServiceNow (SN) modules they will utilize for the project. 3/31/2023 - The ASI is currently evaluating which ServiceNow (SN) modules will be the best fit for the project and for DHS going forward. Details of exactly how they'll be using SN and the level of configuration management they intend to perform has yet to be determined. 2/28/2023 - The new ASI intends to utilize ServiceNow (SN) for most configuration management tracking. Details of exactly how they'll be using SN and its multitude of modules and capabilities remain unclear. 1/31/2023 - Activity in the reporting period concentrated on project restart tasks, and IVV will reassess this finding once related project activity has begun. 12/31/2022 - No material update in the reporting period as the work stoppage continued and the new ASI conducted restart planning. IVV will reassess this finding and our associated recommendations once more is known. 11/30/2022 - No material update in the reporting period as the work stoppage continued and the new ASI conducts restart planning. 10/31/22 - No work has been performed regarding this finding due to the work stoppage and ongoing transition to the new ASI. IVV will reassess our recommendations for this finding once more is known. 09/29/22 - The ASI announced the departure of key resources including their lead CM strategist, which could exacerbate this risk. With the recent work stoppage and planned reassignment, IVV is not aware of the plans to mitigate this risk. 08/30/22 - The ASI updated the	9/9/2021 - RAP: We look forward to receiving specific inquiries from the IV&V team on configuration management and having conversations. We do acknowledge that the plan likely needs to be updated to reflect the processes in place on the project for configuration management.	
67	The Americans With Disabilities Act (ADA) Section 508 compliance tool has not been installed for the Project, which may cause significant rework.	Tan, Ryan	Finding Risk	7/12/2021	Testing	While R0.3 and R0.4 reported that Section 508 compliance had been successfully completed the ASJ confirmed that there is currently no working tool installed and that Section 508 compliance testing has not been performed. This risk has been discussed with the ASJ over the past several months, but there have been evidence of results to date. The ASI did state that they are coding to some of the ADA requirements and are using a desk top tool for ADA compliance as an interim solution. IVV has not received any data to demonstrate the desk top tool results nor if it provides coverage for ADA compliance items.	There is a contractual obligation and requirement for BES to be ADA compliant to obtain State and Federal funds for the development of the BES. The ADA Section 508 intent is to make electronic and information technology accessible to people with disabilities (e.g., color blindness, vision and hearing disabilities), in a way that is comparable to the access available to others. Part of the system acceptance criteria for BES is to meet all applicable State and Federal policies, laws, regulations, and Standards, including without limitation the Electronic and Information Technology Accessibility Standards associated with Section 508 of the Rehabilitation Act, which was verified in the ASJ proposed Technical Requirements Approach that states "The system complies with DHS branding standards as defined by DHS and adheres to W3C level 2 accessibility guidelines, sub-parts of Section 508 of the Americans with Disabilities Act (ADA), nondiscrimination safeguards in 41 CFR 101-11.6, if the Hawaii guidelines (https://www.hawaii.edu/access/uh-guidelines-for-accessibility/) PNS Guidelines from the 90J Handbook, and contractual obligations to adhere to the Section 508 compliance guidelines (https://section508.gov). There may be a significant amount of rework to the solution.	The ADA tool meets contractual and project requirements. - The ASI communicates a plan for ADA test execution. - The ASI communicates how the tool will be used to report compliance and non-compliance and how non-compliance will be addressed/corrected. - The ASI provides DHS/IVV reports from the ADA tool execution and explain how to interpret the results.	As soon as possible	3	3	Med	Open	7/30/2023 - According to the ASI, the automated tool has been configured and set up, but it is not ready for testing until the User Journeys/Tests to execute are defined. Despite the ASI's previous report of conducting an assessment in June and identifying 28 defects, those assessments were merely trial runs and did not provide any significant value. The ASI plans to commence formal ADA testing in October 2023. They plan to conduct automated testing at an earlier stage to address any issues before formal testing begins. Until then, the ASI will incorporate accessibility guidelines into their design/development activities and conduct manual testing. 6/30/2023 - The ASI conducted an assessment using the ADA compliance tool in June and identified 28 defects. However, DHS and the ASI decided to conduct ADA testing officially in Release 12 (moving all related tasks from Release 11 to Release 12 in the schedule) and the ASI stated that publishing the results of ADA compliance is unnecessary at this time. Although the ASI appears to be actively engaged in ADA testing, IVV is concerned with the decision to withhold publishing the ADA tool's results. Enhanced transparency would provide stakeholders with a better understanding of the ADA testing process. 5/31/2023 - The ASI is preparing to assess the BES system using the selected ADA compliance tool and plans to publish the first compliance test results on June 7, 2023. 4/30/2023 - The Project adopted Usability test to perform ADA compliance testing. In addition, the ASI continues to enhance automated compliance testing. 3/31/2023 - The ADA compliance tool currently used within DHS does not work the BES architecture. The ASI is evaluating an ADA Compliance tool and is working with DHS to validate it will meet all requirements. In the interim, the ASI implemented automated testing to check for screen reading compatibility. 2/28/2023 - The Project is evaluating different ADA compliance tools. DHS currently uses Site Imposer in other areas and the ASI is reviewing its	9/9/2021 - RAP: The ASI has invited the IV&V to make contact with the development team to review the results of the desk-top tool to gain insight. To date, the IV&V has not contacted the development lead to have further discussions on this topic.	

ID	Title	Reporter	Finding Type	Identified Date	Criticality	Description	Significance	Recommendation	Event Horizon	Impact	Probability	Priority	Analyst	Finding Status	Client Comments	Vendor Comments
63	The lack of early planning and coordination with interface partners may result in schedule delays.	Reynolds, Mark	Finding Risk	1/23/2023	Integration and Interface Management	The following planning and execution items have not yet been addressed and documented by the ASI. Connectivity is planned to utilize a presently undefined ETS AP Gateway. However, there is no evidence that details have been determined or documented in this regard. There is little evidence of active and sufficient communication with interface partners for coordination, design, and testing activities (Unit Test, SIT, UAT). Interface planning and execution tasks and activities, including those for interface partners, are neither resident nor managed within the Project Schedule.	OCI project often underestimate the time needed to effectively manage all the tasks and activities to successfully implement data sharing. A clearly defined communication plan and schedule that includes the coordination, planning, and execution activities along with milestone dates can minimize the risk of potential delays. In addition, after planning has been completed, interface partners will have to be available during interface implementation to ensure that the interfaces are properly developed and tested before deploying the system to production.	OPEN - Complete all MOAs and obtain formal approvals. 6. Confirm testing dates with interface partners in writing. 7. Complete early proof of concept interfaces to avoid unexpected delays due to external organization miscommunications or their own internal delays in assisting the BES project. COMPLETE 1. Establish a communication plan for each interface partner for the duration of the BES DSI activities. COMPLETE 10/29 2. Identify and document all interface partners' contacts. COMPLETE 3/31/2023 3. Define a release schedule for each interface to include milestone dates, coordination, and execution and share with the interface partners. COMPLETE 04/04 4. Determine which deliverable will include the details associated with the planned connectivity and detailed technical designs of all interfaces. COMPLETE 04/04	Q3 2023	4	2	Med	Open	07/24/2023 - The ASI and DHS are working to complete the remaining two interface agreements (DLR and DoTAX). Work is proceeding to review and update all 22 Interface Control Documents (ICDs). None of these interfaces have been fully reviewed and updated. Furthermore, none of the interface technical design documents have been completed. IVV will continue to monitor the ASI efforts toward addressing our recommendations. Release 12 development ends on October 5, 2023. There is little time left to complete the outstanding work. IVV has raised the Criticality Rating to "Medium". 04/29/2023 - The ASI continues to ramp up interface activities, with most of the effort occurring in Release 12. The two remaining agreements to be completed are DoTax (Department of Taxation) DLR (Department of Labor and Industrial Relations) The ASI is creating the Interface Control Documents (ICD), which includes six in initial draft status, with the remaining ICDs either in process or submitted. IVV will continue to monitor the ASI efforts toward addressing our recommendations. As previously reported, Release 12 development ends on October 5, 2023, and there is little time left to complete the agreements and gain partner input/confirmation on testing and implementation dates. 05/31/2023 - Interface definitions and partner agreements remain incomplete for the following interfaces: NDNI (National Directory of New Hires) DOH (Department of Health) DLIR (Department of Labor and Industrial Relations) HYFC (Hawaii Youth Correctional Facility) DoTax (Department of Taxation) AVS (Asset Verification Services) Hawaii Child Support Enforcement Agency Completing these open items will support the ASI in completing the interface development in Release 12. 04/27/2023 - The ASI took positive action on this risk during this reporting period. The interface dashboard was revised and updated to provide the information necessary to manage this activity. The MOA's continue to be reviewed and updated, if needed. 03/31/2023 - 7/31/23 - The project considered changing correspondence tools from Inspire to Google AdWords but recently decided to stay with Inspire. IVV will continue to monitor for broad communication of architectural/tool decisions to relevant stakeholders. The project is making progress in clarifying key architecture decisions. 6/30/2023 - The project is making progress in clarifying key architecture decisions. One notable decision that has been announced and approved by DHS is the implementation of the two-portal strategy as part of the statewide rollout, rather than including it in the earlier pilot release. 5/31/2023 - Med QUEST Division (MCD) leadership expressed there is ambiguity on the 2-portal scope-of-work and features (e.g., KOLSA integration with BES). The ASI plans to meet with MCD and other stakeholders to resolve any confusion and will include a broader MCD audience in future MCD/Benefit, Employment, and Support Services Division (BESSD) collaboration efforts. 4/28/23 - No material updates in the reporting period. 3/31/2023 - The ASI continues to reevaluate previous infrastructure decisions and is recommending other tools they have deemed a better fit for this project. Uncertainty remains around the use of some tools including ServiceNow (SN), Splunk, and Chronicle. The ASI will go live with their interlinked 2 portals (BES and KOLSA) strategy but may initially go live with less functionality than originally planned and/or communicated. 2/28/2023 - The ASI has made efforts to clarify the scope of BES 2023 in the recent Agile training sessions. There remains some uncertainty around the use of ServiceNow (SN) and the tools that will be utilized for eDRG. 01/31/23 - It remains unclear if the scope of the BES 2023 phase 1 has been clearly communicated to stakeholders. For some, the understanding is that the ASI is developing a lift-and-shift of their existing legacy system (HAWI) with little to no improvements (to avoid scope creep) and have labelled it HAWI 2.0. Others seem to think the ASI will continue the work of the	7/20/23 rap - The ASI team requests that the IVV reassess the severity of this risk in light of the following reasons: a) the ATC schedule extension has made the urgency for lacking these tasks less than it was before that started lessening the schedule risk b) the increase from Medium to High in May was based on a misunderstanding of the current state of the MOA's and contact metrics; c) substantial progress has been made against each of the In Progress recommendations, and it continues to trend in the right direction. In regards to 4/23/21 rap - The ASI and DHS continue to refine the final plan for the two portal vision. We expect that final decisions will likely be made during this reporting period and communicated to the project. The ASI refers the IVV to our February update regarding Recommendation #3. From our perspective all necessary actions are complete. If the IVV does not believe it is complete we request supporting detail. 4/23/21 rap - The ASI and DHS continue to refine the final plan for the two portal vision. We expect that	
29	Uncertainty and/or a lack of communication around long-term architecture decisions could impact the project budget, schedule, system design, and planning decisions.	Fors, Michael	Finding Issue	5/28/2019	Project Management	Throughout the last several year since project initiation, platform and BES system architecture decisions have not always been clearly communicated and socialized to all relevant project stakeholders. For example, the ASI and DHS had not broadly communicated their decision implementing two Sabel instances (one for KOLSA, one for BES) in a timely manner, and the decision was not immediately reflected in the project change log or the project decision log. Further, the details of the rationale for this decision or the plan for integrating the two instances were not immediately and/or broadly communicated.	The current project architecture and design should be as representative and inclusive of all known future solution plans as soon as details become available. These architecture plans and future state designs and capabilities should be thoroughly vetted by a broad base of relevant stakeholders and available experts and broadly communicated to relevant stakeholders as soon as possible. Architecture plans and changes that are not effectively communicated can lead to confusion and rework. For example, if infrastructure tool, governance for these tools, and important capabilities/features of these tools are not clearly communicated to development teams, they may have to rework their designs once they realize more advanced platform capabilities/features are available after development planning has completed.	OPEN - The ASI continue to make updates to the BI-12 System Architecture Deliverable with additional details as they become available and with any finalized architectural changes. DHS should continue to ask the ASI to perform due diligence in any recommendation for foundational architecture change decisions and continue to review with appropriate DHS stakeholders to assure a common understanding of the implications of these decisions. - The Project should continue to ensure communication between development leads and architecture leads to assure optimal collaboration on possible architecture changes that could impact decisions in each area. COMPLETE - DHS should finalize the Portal strategy and implementation details and clearly communicate out to stakeholders and project teams. Complete 3/31 CLOSED - Maintain current communication processes to ensure regular communication between the architecture team and the rest of the project team to assess impacts of architecture decisions to the Project. CLOSED 11/30/2022	ASAP	2	2	Low	Open	06/30/2020 - Combined application is still planned. App still not finalized by DHS. From Arch perspective, we are building in Library. Future integration of the portals is still to be determined, but is not more complex than originally planned for data sharing. If change is made to Adobe, this would require a CR. 4/23/21 rap - The ASI and DHS continue to refine the final plan for the two portal vision. We expect that final decisions will likely be made during this reporting period and communicated to the project. The ASI refers the IVV to our February update regarding Recommendation #3. From our perspective all necessary actions are complete. If the IVV does not believe it is complete we request supporting detail. 4/23/21 rap - The ASI and DHS continue to refine the final plan for the two portal vision. We expect that		