

OFFICE OF ENTERPRISE TECHNOLOGY SERVICES

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December 17, 2019

The Honorable Ronald D. Kouchi,
President, and
Members of The Senate
Thirtieth State Legislature
Hawaii State Capitol, Room 409
Honolulu, Hawaii 96813

The Honorable Scott K. Saiki, Speaker, and Members of The House of Representatives Thirtieth State Legislature Hawaii State Capitol, Room 431 Honolulu, Hawaii 96813

Dear 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 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 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 Chief Information Officer State of Hawai'i

Attachment (2)



Hawaii Department of Human Services Systems Modernization Project

Final IV&V Status Report for Reporting Period: November 1 - 30, 2019

Final submitted: December 13, 2019



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
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Executive Summary



At the end of the November reporting period, IV&V received documentation on the proposed "Pivot" to the BES Project. IV&V will review the documentation in the upcoming reporting period, during which time DHS intends to schedule a multi-day working session with its internal and external partners to walk-through the proposed changes prior to executing a contract amendment with the ASI.

IV&V acknowledges that the project is in flux at this time and "Pivot" planning activities are ongoing. Recognizing that several of our existing findings and recommendations may change as a result of the "Pivot", the practice of providing updates and/or criticality ratings on IV&V findings related to the "Pivot" is being held in abeyance pending our review of the "Pivot" documentation and participation in the multi-day working session. IV&V will re-assess this reporting approach in December and adjust as required to provide an objective assessment of the project at that time.

Sep	Oct	Nov	Category	IV&V Observations
Н	H	N/R	Project Management	IV&V has determined that 4 out of 6 findings in the project management category are likely to be significantly impacted by the "Pivot". The remaining two findings are specific to CMS' Project Partnership Understanding (for which IV&V has no material update), and insufficient ASI communications.
M	M	N/R	Configuration and Development	Of the two IV&V findings in the Configuration and Development category, one is likely to be impacted by the "Pivot". The remaining finding is related to DHS releasing an RFP to acquire a preferred platform for portal development, for which IV&V does not have an update during this reporting period.
M	M	N/R	System Design	The lone active finding in this category is likely to be directly impacted by the "Pivot". IV&V will provide updates on the active finding in this category in upcoming reporting periods as appropriate.

Executive Summary (cont.)

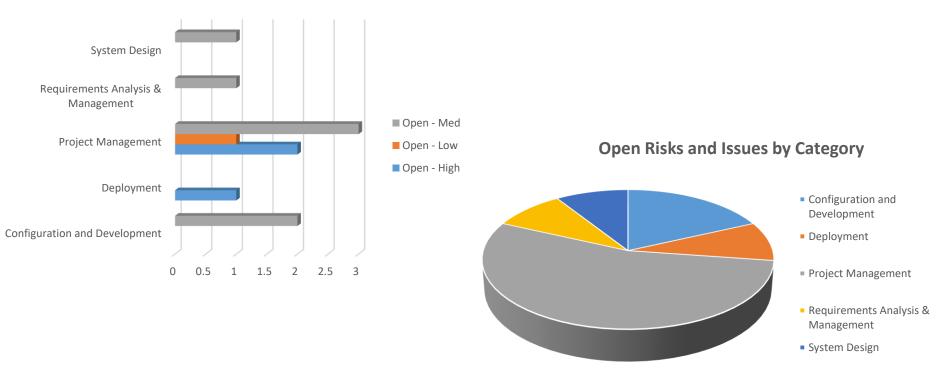


Sep	Oct	Nov	Category	IV&V Observations
M	M	N/R	Deployment	IV&V has suspended the Assessment Category rating for the November reporting period while the project continues to make plans for the "Pivot". IV&V acknowledges that the ASI is working to address challenges with the project's release and deployment practices and will continue to track release and deployment progress in December.
		N/R	Requirements Analysis & Management	IV&V has suspended the Assessment Category rating for the November reporting while the project continues to make plans for the "Pivot". IV&V met with the ASI in November to discuss concerns regarding partially met requirements and has offered to advise the project on improving the current approach to tracking and documenting partially met requirements.
N/R =	N/R = No criticality rating provided			



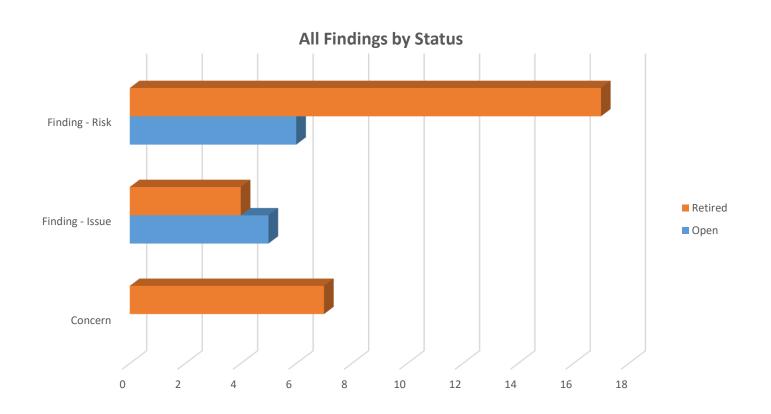
As of the November 2019 reporting period, PCG is tracking 11 open findings (6 risks and 5 issues) and has retired 28 findings and concerns. Of the 11 open findings, 6 are related to Project Management, 2 are related to Configuration and Development, and 1 each in System Design, Deployment, and Requirements Analysis & Management. IV&V did not open any new findings but retired 1 concern during the November reporting period. The following figures provide a breakdown of our open risks and issues by priority and category.







The following figure provides a breakdown of <u>all</u> IV&V findings (risks, issues, concerns) by status (open, retired).





Findings Opened During the Reporting Period

#	Finding	Category
	No findings were opened in the November 2019 reporting period.	



Findings Retired During the Reporting Period

#	Finding	Category
	No findings were retired during the November 2019 reporting period.	



Preliminary Concerns Investigated During the Reporting Period

#	Finding	Category
37	Retired - Due to inconsistent communication about potential project changes between project executives and the CCB, the CCB's ability to conduct a complete impact analysis of proposed changes is limited.	Project Management



#	Key Findings	Criticality Rating
2	Issue – Late Delivery of project deliverables may result in schedule delays. At the end of the November 2019 reporting period, IV&V received supporting documentation on the proposed "Pivot" solution. Based on that information, IVV has decided to retain this finding as active but suspend any updates or ratings until the team is able to thoroughly review the materials and discuss the details of the "Pivot" solution with the project. IVV will reassess this finding during the December 2019 reporting period.	N/R

Recommendations	Progress
IV&V will reassess the standing of this finding upon complete review of "Pivot" documentation and will update recommendations for this finding as appropriate.	In process



#	Key Findings	Criticality Rating
5	Risk – The Project Partnership Understanding (PPU) for the BES Project has not been approved by CMS, which may impact the project schedule and funding. IVV has no material update for the November 2019 reporting period but will continue to discuss and follow up with DHS.	L
	IVV maintains this is a low criticality risk to the project as of the November reporting period.	

Recommendations	Progress
 Continue dialogue with CMS regarding the project's approach to the PPU, IAPDU, and confirm that the MEELC requirements as related to this project. 	In process



#	Key Findings	Criticality Rating
26	Risk – Due to the lack of detail in the baseline schedule, unanticipated schedule delays may occur. At the end of the November 2019 reporting period, IVV received supporting documentation on the proposed "Pivot" solution. Based on that information, IVV has decided to retain this finding as active but suspend any updates or ratings until the team is able to thoroughly review the materials and discuss the details of the "Pivot" solution with the project. IVV will reassess this finding during the December 2019 reporting period.	N/R

Recommendations	Progress
IV&V will reassess the standing of this finding upon complete review of "Pivot" documentation and will update recommendations for this finding as appropriate.	In process



#	Key Findings	Criticality Rating
27	Risk - The baseline schedule lacks proper resource loading which could result in unanticipated schedule delays. At the end of the November 2019 reporting period, IVV received supporting documentation on the proposed "Pivot" solution. Based on that information, IVV has decided to retain this finding as active but suspend any updates or ratings until the team is able to thoroughly review the materials and discuss the details of the "Pivot" solution with the project. IVV will reassess this finding during the December 2019 reporting period.	N/R

Recommendations	Progress
IV&V will reassess the standing of this finding upon complete review of "Pivot" documentation and will update recommendations for this finding as appropriate.	In process



#	Key Findings	Criticality Rating
29	Issue - Uncertainty and/or a lack of communication around long term architecture decisions could lead to unexpected impacts to the project budget, schedule, system design, and planning decisions. At the end of the November 2019 reporting period, IVV received supporting documentation on the proposed "Pivot" solution. Based on that information, IVV has decided to retain this finding as active but suspend any updates or ratings until the team is able to thoroughly review the materials and discuss the details of the "Pivot" solution with the project. IVV will reassess this finding during the December 2019 reporting period.	N/R

Recommendations	Progress
IV&V will reassess the standing of this finding upon complete review of "Pivot" documentation and will update recommendations for this finding as appropriate.	In process



#	Key Findings	Criticality Rating
42	Risk - Insufficient ASI communication with DHS regarding key (urgent/time sensitive) project information could lead to project delays and disrupt DHS operations. The ASI has stated that updates to the project's Communication Plan are likely to be made in an effort to respond to recent communication gaps with DHS, which includes developing a list of appropriate stakeholders to be notified when changes occur.	M
	IVV is encouraged by this, however, is not aware of these changes having been made yet. Due to this, IVV maintains this is a medium criticality risk to the project as of the November reporting period.	

Recommendations	Progress
 Request ASI enhance processes and planning for project communications and include key project communications to DHS in the project schedule. 	In process
 ASI establish a single communications channel to manage all ASI to DHS communications and ensure regular communication to DHS. 	In process
Update project communications plan with enhanced communication processes.	In process



Configuration and Development

#	Key Findings	Criticality Rating
12	Issue – Changes in direction regarding the preferred platform for portal development may impact project schedule and cost. IVV has no update on the status of the DHS Portal RFP for the November Reporting period but will continue to monitor in December.	M
	IVV maintains this is a medium criticality risk to the project as of the November reporting period.	

Recommendations	Progress
 Complete the Change Request (CR) process to obtain a Rough Order of Magnitude (ROM) estimate and/or impact analysis as appropriate. 	Closed



Configuration and Development

#	Key Findings	Criticality Rating
16	Issue – Lack of clear understanding of DDI approach may reduce effectiveness of JARs and JADs. At the end of the November 2019 reporting period, IVV received supporting documentation on the proposed "Pivot" solution. Based on that information, IVV has decided to retain this finding as active but suspend any updates or ratings until the team is able to thoroughly review the materials and discuss the details of the "Pivot" solution with the project. IVV will reassess this finding during the December 2019 reporting period.	N/R

Recommendations	Progress
IV&V will reassess the standing of this finding upon complete review of "Pivot" documentation and will update recommendations for this finding as appropriate.	In process



System Design

#	Key Findings	Criticality Rating
38	Risk – Due to the sequencing of JADs addressing Workflow at the end instead of during current JAD sessions, the project could be faced with significant design rework, which may result in schedule delays, and impact the quality of solution design. At the end of the November 2019 reporting period, IVV received supporting documentation on the proposed "Pivot" solution. Based on that information, IVV has decided to retain this finding as active but suspend any updates or ratings until the team is able to thoroughly review the materials and discuss the details of the "Pivot" solution with the project. IVV will reassess this finding during the December 2019 reporting period.	N/R

Recommendations	Progress
IV&V will reassess the standing of this finding upon complete review of "Pivot" documentation and will update recommendations for this finding as appropriate.	In process



Deployment

#	Key Findings	Criticality Rating
40	Issue - Due to inadequate Release Management practices the project may experience delayed or failed releases and/or poor release quality. No substantive changes to DDI release management were observed by IVV during November. IVV acknowledges that the ASI is making progress on its second KOLEA M&O release, which is currently planned for implementation in January 2020.	Н
	IVV maintains this is a high criticality risk to the project as of the November reporting period.	

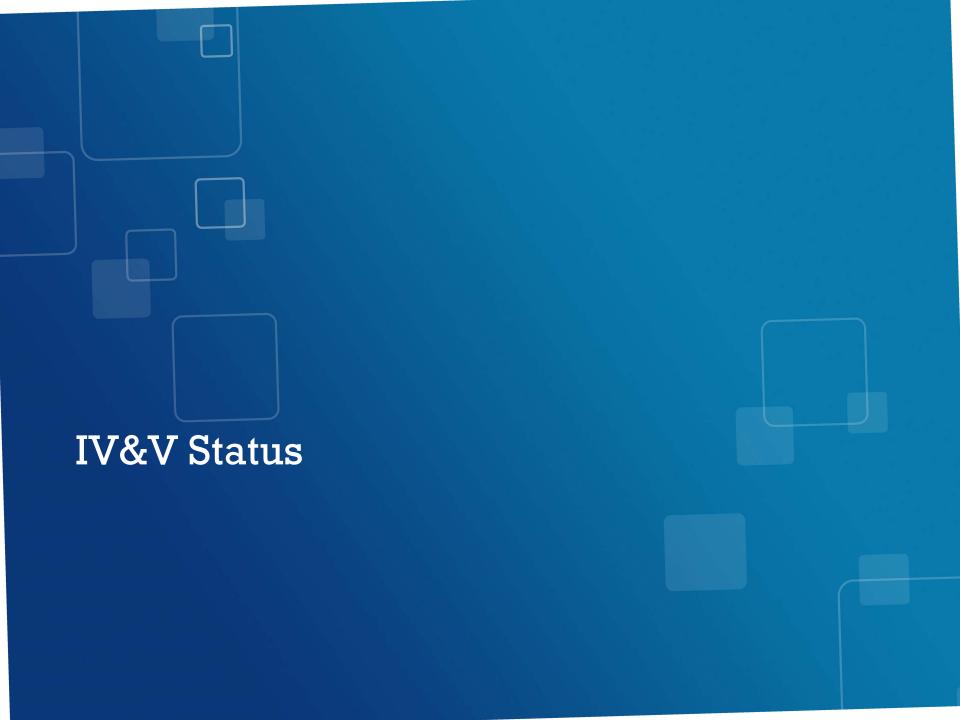
Recommendations	Progress
Assign a Release Manager to manage all details of planned releases.	Complete
 Develop a Release Plan document for each release, that provides details of the planned release and a associated configuration items, clear assignments for all staff involved in all tasks, a schedule for comp all tasks and activities, planned release status communications, and back out procedures should they necessary. 	pletion of



Requirements Analysis & Management

#	Key Findings	Criticality Rating
41	Risk - Due to a lack of clarity regarding "Partially Met" requirements in design artifacts, full traceability of requirements may be hampered, and all requirements may not be fully met. During an ad hoc meeting with IVV on 11/19/2019, the ASI indicated that all requirements will be broken down into singular, traceable, and testable requirements, in an effort to eliminate concerns about partially met requirements. However, the status of this effort is currently unknown, and design artifacts presented to DHS to date (e.g., BI-10 Iteration 1 and Iteration 2) still list partially met requirements that do not adequately state what portions of requirements are met, what portions of requirements are not met, and moreover, where they will be met.	M
	The ASI has also stated that Controlled Correspondence will be used to document requirements changes; DHS' acceptance of this approach is unknown to IVV. IVV has offered to continue to work with ASI and DHS on this matter as requested.	
	IVV maintains this is a medium criticality risk to the project as of the November reporting period.	

Recommendations	Progress
• Determine a requirements management and design artifact that provides full accountability of where every component of a requirement that is listed as 'Partially Met' is satisfied, ensuring that each requirement is Figure 1. Met and can be validated as such.	2



IV&V Engagement Status



IV&V Engagement Area	Sep	Oct	Nov	Comments
IV&V Budget				
IV&V Schedule				
IV&V Deliverables				PCG submitted the final October IV&V Monthly Status Report.
Centers for Medicare and Medicaid Services (CMS) IV&V Progress Reports				The first quarterly CMS Eligibility and Enrollment (E&E) IV&V Progress Report is on hold until IV&V and DHS determine the appropriate time to submit the report.
CMS Milestone Reviews				The first CMS Milestone Review date has not yet been determined.
IV&V Staffing				
IV&V Scope				

	Engagement Rating Legend	
The engagement area is within acceptable parameters.	The engagement area is somewhat outside acceptable parameters.	The engagement area poses a significant risk to the IV&V project quality and requires immediate attention.

IV&V Activities



- IV&V activities in November reporting period:
 - Completed October Monthly Status Report
 - Submitted BI-14 TDD Iteration 1 Oct 2019 Release, BI-10 FSD Iteration 1, BI-16 Data Conversion Plan Deliverable, BI-20 MDM Test Scenarios, Test Cases, and Test Scripts, BI-14 TDD Iteration 1 - Oct 2019 Release, BI-11 ICD Iteration 1 - Oct 2019
 - Ongoing analysis of Medicaid Eligibility and Enrollment Toolkit (MEET) requirements applicable to BES project
 - Ongoing Review Deliverables for BES project
 - Ongoing Attend ASI project meetings, including JADs and Workgroups (see <u>Additional Inputs</u> pages for details)
- Planned IV&V activities for December reporting period:
 - Ongoing Observe BES JAD and Workgroup sessions
 - Ongoing Observe Weekly Project Status meetings
 - Ongoing Observe bi-weekly BES Project Risk and Issue meetings
 - Ongoing Monthly IV&V findings meetings with Unisys
 - Ongoing Participate in weekly DHS and IV&V Touch Base meetings
 - Ongoing Review BES artifacts and deliverables
 - Review project "Pivot" solution documentation

Deliverables Reviewed



Deliverable Name	Deliverable Date	Version
BI-02 Project Status Report Deliverable	Weekly	N/A
BI-05 Project Schedule Deliverable –Baseline	191101 191108 191115 191122	N/A
BI-10 Functional and System Design Document Iteration 1 Resubmittal	11/05/2019	V1.2
BI-10 Functional and System Design Document Iteration 1 Resubmittal DM01a Client Search Use Case	11/05/2019	V1.6
BI-10 Functional and System Design Document Iteration 1 Resubmittal DM01a Client Search FDD	11/05/2019	V1.6
BI-10 Functional and System Design Document Iteration 1 Resubmittal DM01b Create or Update Client Use Case	11/05/2019	V1.7
BI-10 Functional and System Design Document Iteration 1 Resubmittal DM01b Create or Update Client FDD	11/05/2019	V1.7
BI-10 10 Functional and System Design Document Iteration 1 DM02 Get Cross Reference ID's Use Case	11/05/2019	V1.0
BI-10 10 Functional and System Design Document Iteration 1 DM02 Get Cross Reference ID's FDD	11/05/2019	V1.0
BI-10 Functional and System Design Document Iteration 1 Resubmittal DM03 Cleanse Client Address Use Case	11/05/2019	V1.7
BI-10 Functional and System Design Document Iteration 1 Resubmittal DM03 Cleanse Client Address FDD	11/05/2019	V1.7
BI-10 Functional and System Design Document Iteration 1 Resubmittal DM06 Manage Master Person Index Use Case	11/05/2019	V1.6

Deliverables Reviewed



Deliverable Name	Deliverable Date	Version
BI-10 Functional and System Design Document Iteration 1 Resubmittal DM06 Manage Master Person Index FDD	11/05/2019	V1.6
BI-10 Functional and System Design Document Iteration 2 Resubmittal CF01a Automatically Schedule an Appointment Use Case	11/18/2019	V1.1
BI-10 Functional and System Design Document Iteration 2 Resubmittal CF01a Automatically Schedule an Appointment FDD	11/18/2019	V1.4
BI-10 Functional and System Design Document Iteration 2 Resubmittal CF01b Manually Schedule an Appointment Use Case	11/18/2019	V1.3
BI-10 Functional and System Design Document Iteration 2 Resubmittal CF01b Manually Schedule an Appointment Use Case	11/18/2019	V1.5
BI-10 Functional and System Design Document Iteration 2 Resubmittal CF02 View Appointments Use Case	11/18/2019	V1.1
BI-10 Functional and System Design Document Iteration 2 Resubmittal CF02 View Appointments FDD	11/18/2019	V1.4
BI-10 Functional and System Design Document Iteration 2 Resubmittal CF03 Manage Appointment Schedules Use Case	11/18/2019	V1.3
BI-10 Functional and System Design Document Iteration 2 Resubmittal CF03 Manage Appointment Schedules FDD	11/18/2019	V1.5
BI-10 Functional and System Design Document Iteration 2 Resubmittal PR02 SNAP Eligibility PL	11/18/2019	V1.3
BI-10 Functional and System Design Document Iteration 2 Resubmittal PR03 Expedited SNAP PL	11/18/2019	V1.3
BI-10 Functional and System Design Document Iteration 2 Resubmittal PR04 SNAP Household Composition PL	11/18/2019	V1.1

Deliverables Reviewed



Deliverable Name	Deliverable Date	Version
BI-10 Functional and System Design Document Iteration 2 Resubmittal PR05 SNAP Household Income PL	11/18/2019	V1.3
BI-10 Functional and System Design Document Iteration 2 Resubmittal PR06 SNAP Resources PL	11/18/2019	V1.4
BI-10 Functional and System Design Document Iteration 2 Resubmittal PR07 SNAP Work Requirements PL	11/18/2019	V1.3
BI-10 Functional and System Design Document Iteration 2 Resubmittal PR08 SNAP Expenses and Deductions PL	11/18/2019	V1.3
BI-10 Functional and System Design Document Iteration 2 Resubmittal PR09 SNAP Application Processing PL	11/18/2019	V1.3
BI-10 Functional and System Design Document Iteration 2 Resubmittal PR10 SNAP Change Reporting PL	11/18/2019	V1.0
BI-10 Functional and System Design Document Iteration 2 Resubmittal PR11 SNAP Benefit Amount PL	11/18/2019	V1.2
BI-11 Data Integration and Interface Control Document Iteration 1 Resubmittal	11/13/2019	V1.7
BI-11 Data Integration and Interface Control Document Iteration 1 Resubmittal IF02 HAWI – MDM Batch Use Case	11/14/2019	V1.9
BI-11 Data Integration and Interface Control Document Iteration 1 Resubmittal IF03_KOLEA – MDM Real-Time Use Case	11/13/2019	V1.6
BI-16 Data Conversion Plan Resubmittal	11/01/2019	V1.6
BI-20 MDM Test Scenarios, Test Cases, Test Scripts Resubmittal	10/23/2019	V1.3

Additional Inputs – Artifacts



Deliverable Name	Deliverable Date	Version
Pivot Communications Documents		
Pivot Details and Planning Documents		
Decision Log	11/6/2019 11/13/2019 11/20/2019	N/A
Functional Design Action Item Process	11/7/2019 11/21/2019	N/A
BES Risk and Issue Log (Excel)	11/6/2019 11/13/2019 11/20/2019	
JAD Calendar	11/4/2019 11/11/2019 11/18/2019 11/25/2019	N/A
BES RFP and Unisys BAFO	11/5/2019 11/14/2019	

Additional Inputs



Meetings and/or Sessions Attended/Observed:

- Project Status Meetings x3 (11/06/2019, 11/13/2019, 11/20/2019)
- BESSD PMO, IV&V Weekly Meeting x3 (11/06/2019, 11/13/2019, 11/20/2019)
- PCG Internal Meeting x9 (11/04/2019, 11/05/2019, 11/11/2019, 11/13/2019, 11/14/2019, 11/14/2019, 11/18/2019, 11/25/2019, 11/27/2019)
- Change Control Board Meeting x2 (11/06/2019, 11/20/2019)
- Project Schedule Review Meeting (11/05/2019)
- Monthly Stakeholder IV&V Report Review Meeting (11/12/2019)
- Data Conversion Meeting (11/04/2019)
- Self Service Portal JAD (11/05/2019)
- CORE JAD x3 (11/12/2019, 11/19/2019, 11/20/2019)
- BI-20 Test Scripts, Test Scenarios, Test Cases Review Meeting (11/05/2019)
- Partially Met Requirements Meeting (11/19/2019)
- Monthly Findings Review with Unisys (11/20/2019)
- BI-10 / BI-12 Design and Architecture/Big Picture Review Meeting (11/22/2019)





Appendix A – IV&V Criticality Ratings

Criticality Rating	Definition
Н	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

- Security and Privacy
- Testing
- OCM and Knowledge Transfer
- Pilot Test Deployment
- Deployment



Solutions that Matter

FINAL BES Project IVV Findings Log - November 2019

Find	8 Title Ow	mer finding	Identified Date	Category	Observation	Significance	Recommendation	Event Horizon	Impact	Probability	Analyst Priorit	Finding Date Ret	sived Status Update	Client Comments	Vendor Comments
43	Haufficient ASI communication with DHS stock flower to project design and disrupt DHS ent- operations.	fors Finding - Blak	10/28/2019	Project Management	IVV has desirant für AG commonation to 1907 signifer für yrigine in Verbausschause in Amerikaanse in Amerikaan	builficient communication can lead to project dislays and may not allow cost sufficient tends to require, project file, or just his recovers for time recovers the size and the sufficient control of the recovers of the size and the sufficient of the special copies and can be formed on the recovers the size allowing of or beyond copies part and between copies particle middless, designed on the sufficient control of the special copies and the second of the special copies and the s	 Request AS enhance processes and planning for project communications and include tay project communications to 60% in the project schedule. For additional communications office it is made and ASI to 10% communications and single communications office it is made and ASI to 10% communications and some register communication to 10%. Tuglished project communications plan with reflected communication processes. 	ASAP	4	4	Med	Open	11/20/223: The AS has stand that updates to the project i Communication Rise are likely to be made in an electric reproduct source (communication gap with DM, which includes developing a second or served to the communication gap with DM, which includes developing a DM is increasing the communication of the DM in conceptibly the November specific and DM is increasing this increase. In set seare of these changes having them makes set. Determined to NV in management of the November reporting panels.		13/18/09 St. The ASI would like to clarify the global relative of this new term related by NoV. This communication was of related to the Challer follower with the manufacture which included continues, and not the text being of playped relative with Challer followers. A second of the continues of the Challer followers are common of a communication which were self-continued and of the histogram play to the text as making of excurrences and the data second of the text of the Challer followers are common of a communication which were an address of the communication and the communication of the communication and the communication and the Challer followers and the communication of the communication and the Challer followers are lated three standards provided.
4:	Due to a lack of Garley regarding "Pertially MAC regimenters in Group serflicks, full consciously of regiments may be a consciously of regiments may be a full confidence of the confidence of t	Finding - Bisk	9/23/2019	Requirements Analysis & Management	Requirements are listed in Design artifacts as 'Partially Met', With hundreds			Q4 2019	4	4	Med	Open	12,00,000 Code Office of the control of the code Office Of		12/26/23 Sib The AD appreciation INSV durifying that foll had noted the concess while make pather than INS. The AD does not see any sciences are such as the particular of the proper purposes to the result has appealing the particular of the proper purposes to the INSV AD AD and the Concess of the proper purposes to the INSV AD AD and the Concess of the INSV AD
40	Our to independ whose management particles the proper may experience delived to refuse, por refuse quality, or failed. Do refuses	Finding - Issue	9/23/2019	Deployment	Relitate glainning down ret appear to be sufficient to meet the result of the term of the result of the term of the result of the term of the result of the to manage the first release for COLSA-EV disserved that there was a link of timely release planning for the IOLSA Release, and that communication required the release was reconstant, revenitions, in accountable EV and analysis of the Reliance of the IOLSA Reliance, and Teleconomic properties of the Reliance of the IOLSA Reliance and Evenition details of the release, reclaiming timing of administ table and activities, decimentation update, or profession than regulation communication update, or reliance to responsibilities of all resources involved from the IOL and Tels.	Insufficient release management processes can had to implementation schedule delays and poor release quality frost managed properly insufficient release management processes and also led to configeration to the configeration of the configer	Augn a Noteau Manager to manage all distals of planned releases. Develop a Noteau Manager to manage all distals of planned releases. Develop a Noteau Noteau Order of the control of the c	OCT 2019	4	4	High	Open	11/30/2013 - The substantion changes to DOT riskses mesagement were diseased by DV during Nomerhan (VV actional-legis) that the Dot is making progress on its second DOL MADO visions, November (VV actional-legis) that the Dot is making progress on the Southern Pool (VV actional-legis) and produced on the Southern Pool (VV actional-legis) and produced on the Southern Pool (VV actional-legis) and southern Southern Visional-legis produced on the Southern Pool (VV actional-legis) and southern Visional-legis produced on the Southern Visional-legis and visional-legis and VV actional-legis and VV actional-legislational and		13/13/19 has 500 disposed to him mer called as it states in the Manager for the Outboard States. There was no credition. The Manager for the Outboard States are distincted or forestered to the January reference and the Country of the Outboard States are distincted or forestered to the January reference and the Country of the Outboard selected to the Country of the Outboard selected to the Country of the Outboard States are desired to the Country of the Outboard States are desired to the Country of the Outboard States are desired to the Country of the Outboard States are desired to the Country of the Outboard States are desired to the Outboard States are desired and the Outboard States are desired as the Out
38	Due to the sequencing of JADs addressing Workflow at the red instead of during current was a second of the second of the second significant design resuch, which may result in schedule delays, and impact the quality of solution design	iors Finding - Risk	8/29/2019	System Design	All led ISD assistes, or convently delided up the functional areas Plantial, Admin Agenda, Core, Francisci, (et.) and have been organize gain approximately March 2019. Workform/has AGO 1 have yet to large approximately March 2019. Workform/has AGO 1 have yet to large approximately	Suppose for parties on half deeps and process flow discussions during the parties of the partie	-AS work quickly to define how the workflow/yeak functionality will work, then the waveness teach -introduced MVC to workflow/yeak functionality and energine in the system longue.	ASAP	4	4	N/R	Open	13(9)(2)(2). At the end of the Number in 2013 requiring points, 67 is stronged appearing disconnectation on the proposal Theorie distance and non-their discounts replaced by the condest to seath that fidentings as the best supposed theorie distance are received and the section as distance through the contract of the		10/02/19 St. The AM means with Inf configure from a sweet and there has been not requested to also the sequence of cogniting existing. 09/22/19 St. The AM will such with OHS in assessing whether to charge the current chiralities for these functional pease.
21	Sharefully palify a hold of immunitation areas of large time subheature declarace, could had be unspected from the project budget, or schedul, system design, and glassing decision.	ion Finding - I have	5/28/2019	Project Management	Some platform and ES system with incluse decisions have yet to be made and statistical to project. For analysis, the old per first have stated and statistical to project. For analysis, the old per first have stated for any platform of the old per first have been proposed by the old per first have been proposed by the old per first have been proposed by the old per first have been throughly varied to the proposed by the old per first have been throughly varied with the old per first have been throughly varied with the old per first have been throughly varied with the old per first have been throughly varied with the old per first have been throughly varied with the old per first have been throughly varied and the old per first have been throughly varied by the old per first have been thro	The current project antihenture and design should be an expresentative and include of an factors flour solding plan as possible, for a marrier, at a planning from the regions of the third planning from the designation of the project man of the date.	- Driff regard. All perform due diligence in any recommendation for foundational emblecture change decisions The project should ver possible architecture change measures in palled my let and 0, MoSc, and 185 systems of the commenceation to code in a measures of possible in Political Commenceation to code in a measures of possible in Political Commenceation to code in a measures of possible in Political Commenceation to code in a measures of possible in Political Commenceation to code in a measure of possible in Political Commenceation of the possibility of a change. For example, if their is not proposed in the political Commenceation of the proposed Commenceation of the political Commenceation of the	ASAF	4	5	N/K	Open	11/10/2013 - All the end of the Nevember 2713 reporting particle, VM restried supporting documentations on the proposed "Port" ordination. Based on that of the Nevember 2714 reporting activate the Nevember 2714 reporting activate the Nevember 2714 reporting activate the Nevember 2714 reporting which was activated to the Nevember 2714 reporting which was activated by the Nevember 2714 reporting which was activated with the Nevember 2714 reporting which was activated by Nevember 2714 rep		20/20/23 Et. The ACL is waiting on the ACLEA specific content of the 32 and this have relayed to DM. ORALL 20/20/20 Et al. (1996) ORALL 20/20/20/20/20/20/20/20/20/20/20/20/20/2
21	The baseline schedule but by proper recourse basing with could result in unembolated. On a children of strings.	rron Finding - Rosk	5/28/2019	Project Management	The drift baseline schedule does not include all resource assignments, and constitutions. The left and the Adj preparal bett requires a flarly resource baside proport schedule. A fit land proport affer and constitutions the resource baside proport schedule. A fit land proport still are all constitutions requires the fit bridge as III for last still, which definitions requires price and the foreign and the fit last still, which definitions recognized. — "Outcome proport soft fit last still, which definitions recognized prices and resource and res	The project sability is understand which sall we earlying on "hast project tasks in clienters" Such extreme convolutions of missions can result in suppressed schools affect an understander laws after these and enhancements of the same	It is recommended that the All perform, at a maximum, the following - Add all prefor resources to the project shoulder. A valge all preparations to the project shoulder is valge all preparations that which the to see the state of the preparation that analyzes and attainability of the project one year and and contained the project one year and and contained through an additional resource as resolid to meet the schedule.	July 2019	4	3	N/R	Open	11/20/2013 - All the end of the November 2013 reporting particle, MV restried supporting discommission on the response? Twen feed under a death of the November 2013 reporting particle, MV restried to the decided but discommission on the response of the November 2013 reporting particle (MV response of the November 2014 reporting particle (MV respons		20/20/2 St. The ASI did most with 17 and 17 after the Mannifer protice cut for the September report and did with Mannifer moments updates. The ASI will continue the Original Post of the Asia will be finding by bear the Mannifer who have review. OS/12/25 Steven: The ASI will continue to opdate and fined resource allocations.

FINAL BES Project IVV Findings Log - November 2019

Fin No	% Title Ow	ner Finding Identified Date Catego	Observation	Significance	Recommendation	Event Horizon	Impact Pr	robability Analy	yst Priority	Finding Date Ret	ired Status Update	Client Comments	Vendor Comments
:	Our to the look of dead in the baseline whether was a consequent of whether delays may. Our enterer	ren finding, 5724/7539 Manager Balk 5724/7539 Manager	The stades and withfully librard in the project submidied for the next 90 days, have not been decomposed to a food in other scalar progress are uniformly in present of the "Post become passed to all the project librard in a contrast project librard in the project librard in	E all bals and activities are not throughly decompased in a common money using 65 Traject, it is highly list by the ball price recorded any original price in the property of the ball price recorded any original price. They appeared when the recorder is a uniquented activities and property of the price of the price of activities the price of activities of the appropriate recovered to be insided of a safe ball.	AV continues to recommend that all tasks and activities are thoroughly one or the second of the seco	.ady 2019	3	3	N/R	Орич	11/20/2019. A filt word of the Newborks 2019 regarding period, VV washed supporting documentations the Proposed TeVP virtual rate of the Newborks 1/20 regarding period. On the Contract of the Newborks 1/20 regarding period (Newborks 1/20) requires the Newborks 1/20 regarding period. 2017/2019. On the Secondary of the Newborks 1/20 regarding period. 2017/2019. On the Newborks 1/20 regarding per		30/20/25 St. The ASS did meet with 17 and 47 after the Monthly review call to the Suprimbur report and file with through towners as sedime. The ASI reviews to the ASI review to the ASI reviews the ASI reviews to the ASI re
:	Lod of these emberstanding of \$ 500 approach may embase effortissment of John and John	on Product 12277/2023 Configuration Source	Securd DIS stabilishts have commented that the S brings, Development on temperature of the process of the stabilishts can be disarred Suitings between professor of our Schottle, they be not and can be suited to the stabilishts of the sundamentary of the stabilishts of the sundamentary	al project activity objectives may reduce the effectiveness of JAIR and JAD sessions as well as other BES project activities and decisions.	PCG recommends one or more of the following to mitigate the risk: 15 provide an additional DO approach coveries assess the stath-individual and allow for DCA+ 5 provide DO approach documentaries/individual and allow for DCA+ 5 provide DO approach documentaries/individual for size and approach of the state DCA+ 5 provide DO approach documentaries/individual for size and provided as the project administration and make it easily available to all project state-individual and make it easily available to all project state-individuals.	1/21/19	4	3	N/K	Open	Construction of the Constr	17/7/2 hose. During the GS GS 18 [sk] datus meeting, DHS did not decline the other and extensive segments. To my experimentarity, DHS did not decline the other datus segments. The my experimentarity, United Williams and the pro-Alig Quadrate of the National Sequent and for the other datus and the pro-Alig Quadrate and the Management and for more periceptants in the ARIA, segments interestation before the JRD doubt for these new periceptants.	30/20/29 St. DHS has agreed to the upplated BI 20 template which will be reviewed as pair of fereints 1 selfation, the addition, the AD has perioded a significant pair of the produced a significant ship application ship may be produced as the produced as the contract of the contract of the section of the St. The AD of the AD
:	Cange in direction regarding the preferred platform for partial development may impact and proper solvheads and core. [Dathays n. Addres]	on Peding 11/24/2021 Configure Notes Configure	The project intends to utilize Addies at the preferred platform for portal CLL Addies at the preferred platform for portal CLL Addies at the preferred platform, and the present was post intended to the CLL Addies at the control portal platform, and the platform of the present platform of the platform	ms. If Office sections a sharing request to implement Adube as the BS parallel soldiests, there will be a significant impact to the project budge. The ACM has called build first point a platform in an electrical soon the results in achievable. The project platform is not electrical soon their will be achievable to be proposed by the project platform in the control of the results of the project platform in Lindburg until a CE is mended to prove the Adube.	Diff, regular many datash from the ASI is better understand the datash, amount such a high cost to move the one datash based 655 point allertion. Diff or regular move datash from the ASI is better understand the ASI's ungency to their productive move the activities of directly and dataset of datasets and directly and directly activities are related of focusing on other areas of datasets.	G1 2019	4	3	Med	Орич	SETTIFICATION TO A CONTRIBUTION OF THE ACT O		20/20/21 St. The AS would like fin fir if and the special final recomments to exclude the size when their them have been multiple illustrations of Shick Children have been provided to DSIs is address that project needs and budget concerns. The ASIA showed the FMX best with project needs and budget concerns. The ASIA showed the FMX best with project needs and budget concerns the second of the ASIA showed the FMX best with the ASIA showed the ASIA shows the ASIA showed the ASIA shows the ASIA showed the ASIA showed the ASIA shows the ASIA showed the ASIA shows the ASIA showed the ASIA
	The Project Person who condemned up (PP o) for the left Person the sun desero species of the left Person the sun desero species of CAS, which may paped the proper scheduler and handing.	redog 11/8/2018 Nasqer Bik 11/8/2018 Masqer	The CAS Project Personning to descraping (PPG), and failure in several field of the Association of the Section of CAS for this pagins of though is special from CAS. He may require allowing the this Section of the Section Section of the Management of the Section		The State and CAS complete the PPU and the project incorporate all federal. Prior reporting and process requirements into the appropriate project disferrables.	r to functional and Technicisms.	d s	1	Low	Срип	127/20/20/20/20/20/20/20/20/20/20/20/20/20/		

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Findin	t r			Findin	ng Identified Date						Probability Analyst Priority Finding Status		Vendor Comments
2	Later deliver in schedule	my of project didioversibles may n didays.	nsult johene	Findin	™ 11/28/2018 * 11/28/2018	Project Management	White a PAP flor de depts at Projec Management processes, to Project can full or explained consequences in stops, cloude, set, end, end quille, parameters. Whose a shouldn'that proclets for organized level of detail to manage the word, the project is at risk to be succeeded.	schedule to ensure deliverables are provided as planned Review the	780	4	5 N/N Open	1.12/20/2019. A City on and of the Nomewhee 2019/20/20/20/20/20/20/20/20/20/20/20/20/20/	SOCIOTES SE MAN SEL secular year color collaboration with DIGS on the schools and contract secular pollution. The process of the schools and contract secular pollution is supported by the process of the schools and contract secular pollution. The schools of the schools are desired to the schools of the sc