

DAVID Y. IGE
GOVERNOR



TODD NACAPUY
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 14, 2018

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

The Honorable Scott K. Saiki,
Speaker, and
Members of The House of Representatives
Twenty-Ninth 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 (ETS) received for the State of Hawaii Department of Accounting and General Services (DAGS) and ETS' HawaiiPay Project Independent Verification and Validation (IV&V) report.

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

Sincerely,

TODD NACAPUY
Chief Information Officer
State of Hawai'i

Attachment (2)



HawaiiPay Project

Department of General Services (DAGS)

IV&V Monthly Status Report - Final
For Reporting Period: August 1 – 31, 2018

Draft submitted: September 4, 2018
Final submitted: September 7, 2018

Overview

- Executive Summary
- IV&V Findings and Recommendations
- IV&V Status
- Appendices
 - A – IV&V Findings Log & Priority Ratings
 - B – Standard IV&V Inputs
 - C – IV&V Details

Executive Summary

Group 2 clean-up activities are progressing and the project increased its efforts to assist Group 3 departments to stay on schedule, including embedding SI technical staff at DOE/UH. However, the planned November go-live for Group 3 is not likely feasible due to DOE's challenges to comply with project directives and meet testing milestones. Contingency planning is in progress. IV&V is currently tracking 4 Quality Management risks. For instance, a number of quality management problems are currently corrected through manual processes and the large volume of employees being added to the system in Group 3 will impact the project's ability to continue to address data quality issues in this way. IV&V's overall project rating for this reporting period remains Red in light of the continued collaboration issues with Group 3 departments as well as risks related to data quality, missed testing milestones, and a revised approach and schedule.

Jun	Jul	Aug	Category	IV&V Observations
			Communications Management	Without active participation in department communications the project is limited in its ability to ensure accurate communications prior to go-live and to effectively address issues stemming from dissemination of inaccurate communications by the departments. Though the project demonstrates mature communication management and best practices, this category rating remains Medium since the project has less quality control over Group 3 communications. IV&V recommends the project insist departments forward all of their HawaiiPay related communications to HawaiiPay for review prior to sending.
			Contract Management	The DAGS contract office is responsible for actively tracking all contract requirements. IV&V recommends that the state update its tracking spreadsheet to be current through Group 2, and include non-functional or technical requirements as well, so that remaining scope is clearly understood by both the state and the vendor prior to the implementation of Group 3. IV&V also recommends the DAGS contract office begin preparing for a potential contract amendment to help mitigate the risk that Group 3 may not be ready to implement with the current contract period.
			Cost and Schedule Management	DOE's challenges to comply with project directives has resulted in missed schedule milestones and may have precipitated an extensive schedule delay. The project must renegotiate the terms of their SI's contract and shift funding and resources to accommodate the schedule revision resulting in reduced post implementation contingency and production support. Re-planning complexities have introduced additional coordination and planning risks. Moving activities into the future will likely put an unexpected strain on both project and departmental resources/budgets, and thereby negatively impact other high-priority DAGS projects.

Executive Summary (cont'd)

Jun	July	Aug	Category	IV&V Observations
M	L	L	Human Resources Management	IV&V continues to monitor overtaxed resource effectiveness as well as over reliance on 3-4 key project resources. Payroll errors are relatively infrequent but have periodically occurred, in part due to overtaxed mainframe resources. The project is initiating plans to add additional help desk resources in support of Group 3 rollout and executing their staffing plan for long-term HIP M&O support. IV&V will continue to monitor progress on succession planning, knowledge transfer, and knowledge management planning.
L	L	M	Knowledge Transfer	IV&V continues to monitor risks related to the lack of a detailed turnover and M&O planning. A recent production problem was traced back to insufficient turnover planning for important M&O activities. IV&V cautions that more incidents like this may occur as full system turnover draws near and when key SI resources roll off. The project is currently reliant on 4-5 SI resources that have deep knowledge of the system; critical problems have been averted in large part due to their efforts. IV&V has elevated this category to a Medium. Lack of good turnover planning for knowledge transfer from these and other SI resources could lead to significant payroll disruptions once they are no longer actively involved in HIP system operations.
L	L	L	Operational Preparedness	IV&V noted that the number of defects/issues, requiring a manual resolution, discovered during Group 3 Parallel Testing may be significantly increasing. Due to concerns that the number of these activities may have a negative effect on the cutover timeline, IV&V has escalated a Preliminary Concern to a Medium Risk #18. The user population of Group 3 go live is substantially larger than the previous go live and the project may not be able to facilitate the increased number of manual processes during the planned cutover period. IV&V continues to recommend that, where possible, defects are resolved with an automated and predictable solution. These solutions should be clearly defined, scoped, and resourced in the project's cutover plan. This will help to ensure that all activities can and will be completed within the cutover timeframe.

Executive Summary (cont'd)

Jun	July	Aug	Category	IV&V Observations
M	L	L	Organizational Change Management	IV&V is currently tracking Risk #27 related to the ineffectual communications with external partners. While the project has provided extensive, quality OCM materials to departments, it has little control over the effectiveness of their OCM efforts. Ineffective execution of OCM by departments could lead to customer/employee frustration and reflect negatively on the project.
M	L	M	Project Management and Organizational	The rating for this category has increased to Medium since, due to the delays in parallel testing activities, the project is preparing to initiate a contingency approach for Group 3 implementation. Conducting the risk, resource, contract, schedule, communication, and implementation analysis to ensure the revised approach is viable is an extensive activity that will need to be performed by project resources who are already fully allocated. IV&V opened new finding #29, <i>Expedited Contingency Planning</i> , to address this risk. Also, IV&V opened new finding #30, <i>Data Management Strategy not Finalized</i> , to address the risk that data policies and inter-agency agreements may not be adequate without an over-arching strategy in place for governing data.
L	M	M	Quality Management	IV&V observed that the processes related to the development and testing of interfaces have improved. However, key interfaces from Group 3 departments are requiring additional and unplanned effort to complete. The project has deployed additional resources to assist these departments, but it is unclear if the interfaces will be completed in time to test thoroughly prior to the cutover. IV&V recommends that additional validation efforts be developed and executed to help ensure interface data does not cause unexpected results during Payroll execution and to ensure the quality and completeness of the interfaces.

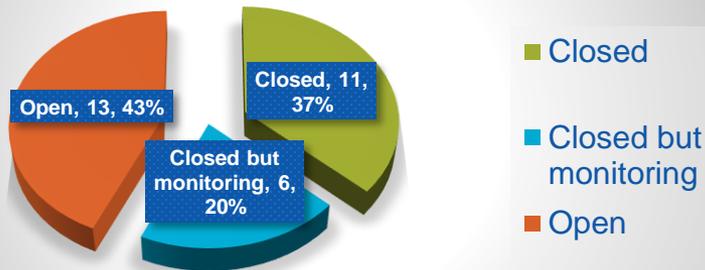
Executive Summary (cont'd)

Jun	July	Aug	Category	IV&V Observations
L	L	L	Requirements Management	This category currently has no open findings, however, IV&V continues to track a related Risk #2 that address concerns around tracking of non-functional requirements. IV&V will continue to monitor requirements management processes and the project's use of the SI's proprietary ALM tool. Budget risks related to out-of-scope requirements are currently being mitigated as the SI continues to process them as \$0 change orders.
L	L	L	Risk Management	The project continues to actively mitigate risks identified across project implementation process areas. For example, the SI assigned two developers to work onsite directly with Group 3 department IT staff to streamline the resolution of issues related to the interfaces files which has resulted in expedited coordination and progress. IV&V recommends a targeted risk brainstorming session when a revised schedule is proposed for Group 3 implementation.
L	L	L	Systems Architecture and Design	IV&V noted a delay in the resolution of a critical infrastructure issue that resulted in unplanned downtime for PeopleSoft users. The Managed Services team may have required help from the HawaiiPay project team to help resolve the issues. This raises concerns regarding the knowledge transfer that should occur to help ensure that the Managed Services team is as knowledgeable as possible regarding the HIP PeopleSoft configuration and network requirements. IV&V did not note any key support issues that were unresolved during this reporting period.

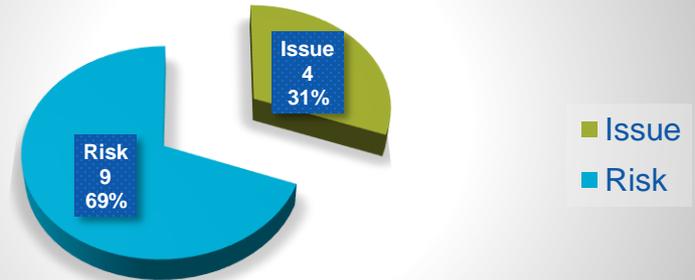
IV&V Findings and Recommendations

As of this reporting period, PCG has identified a total of 13 open findings (4 issues, 9 risks). Of the open findings, 4 are related to Quality Management and 1 high risk is related to Cost/Schedule Management. Two new findings were recorded. For the risk status, we've added a "Closed but monitoring" status to highlight findings that, though closed for the time being, IV&V is still monitoring it closely. The following graphs breakdown the risks by status, priority, and category.

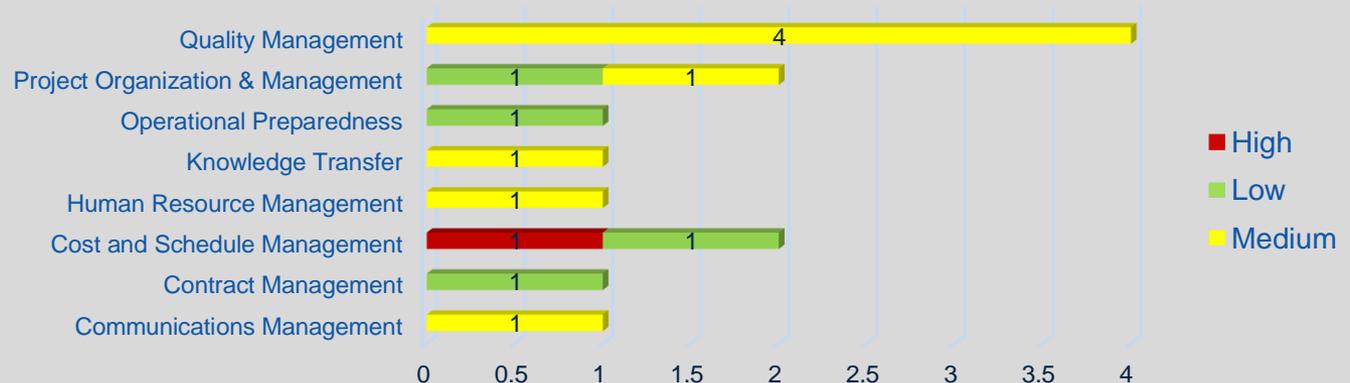
Risk Status Summary



Open Risks/Issues by Finding Type



Open Risks/Issues by Category/Priority



IV&V Findings and Recommendations (cont'd)

#	New Findings	Category
29	Issue - Expedited Contingency Planning: Insufficient time and resources to analyze the revised contingency approach for Group 3 may result in planning gaps and missed requirements that could cause further implementation delays.	Project Organization & Management
30	Risk - Strategy for Data Management not Finalized: Without a finalized data management strategy, data policies and inter-agency agreements may not adequately address the needs of all entities with responsibilities for governing data which may result in ineffective data management and remediation processes.	Project Organization & Management

IV&V Findings and Recommendations (cont'd)

Summary of IV&V Open Risks/Issues Criticality

Category		Finding Title	Criticality
Communications	Risk	27 – Communications to external entities may be ineffectual	Med
Contract	Risk	2 - Non-functional contract requirements not tracked	Low
Cost & Schedule	Risk	22 – Lack of departmental readiness could impact project budget/schedule	High
	Risk	4 - Group 2 and 3 planning and execution activities overlap	Low
Human Resource	Risk	28 - Lack of sufficient resources	Med
Knowledge Transfer	Issue	23 - Lack of detailed turnover plan	Med
Knowledge Transfer	Issue	7 - High volume of manual processes at cutover	Low
Quality Management	Risk	18 - Increasing parallel testing defect resolution scope	Med
	Risk	19 - Inadequate interface development and testing coordination	Med
	Issue	25 - Insufficient data validation, checks and balances	Med
	Risk	26 - DHRD users' access to shared tables could result in corrupt payroll data	Med
Project Organization & Management	Issue	29 – Expedited Contingency Planning	Med
	Risk	30 - Strategy for data management not finalized	Low

IV&V Findings and Recommendations (cont'd)

Communications Management



#	Key Findings	Criticality Rating
27	Risk - Communications to external entities may be ineffectual: While IV&V has observed good efforts by the project to provide reasonable levels of communications to external entities (departments, TPA, banks, etc.), some communication have been misinterpreted or mishandled and have not produced their intended result.	Medium

Recommendations	Progress
<ul style="list-style-type: none"> Enact overt and persistent efforts to address communications that have proven to be ineffective and with organizations that have known communication challenges. 	In progress
<ul style="list-style-type: none"> Over-communicate important messages as well as messages that are likely to be missed. For example, multiple emails can be sent to reiterate important messages or restate them in increasingly simple or overt terms. 	In progress
<ul style="list-style-type: none"> Reassess existing communications and provide further clarification to external entities to ensure clear understanding and provide guidance on future communications. 	In progress
<ul style="list-style-type: none"> Request external entities forward all of their HawaiiPay related state employee communications to HawaiiPay for review prior to sending. 	In progress

IV&V Findings and Recommendations (cont'd)

Contracts Management



#	Key Findings	Criticality Rating
2	Risk - Non-functional contract requirements not tracked: When non-functional requirements are not proactively monitored as the project progresses, there is increased potential that contract performance gaps may be identified too late in the project's timeline resulting in schedule delays or unmet contract requirements. The Requirements Traceability Matrix (RTM) does not include non-functional requirements and the project does not regularly report on contract performance metrics.	Low

Recommendations	Progress
<ul style="list-style-type: none">Create a checklist of non-functional contract requirements to be satisfied in order to actively monitor and measure progress, and close-out the contract	Not started

IV&V Findings and Recommendations (cont'd)

Cost and Schedule Management



#	Key Findings	Criticality Rating
4	Risk - Group 2 and 3 planning and execution activities overlap: Concurrently planning and executing tasks for both Groups 2 and 3, which are running in parallel, may result in less efficient use of project resources and cause an overall delay if new tasks are introduced later in the project.	Low
22	Risk - Lack of departmental readiness could impact project budget/schedule: Departments transitioning to the Hawaii Information Portal (HIP) as part of the HawaiiPay project are expected to perform readiness activities and meet specified milestone deadlines. If any department does not transition to HIP by their designated rollout date, the HawaiiPay project schedule and budget could be negatively impacted.	High

Recommendations	Progress
• Ensure readiness deadlines/milestones are clearly communicated to appropriate stakeholders on a regular basis.	In progress
• Document missed readiness deadlines, communicate the possible consequences of missed deadlines clearly to department leaders in a timely manner to help ensure leadership is not surprised and has ample opportunity to respond and manage the risks.	In progress
• Consider implementing a strategy of over-communication for departments that may have communication challenges.	In progress
• Coordinate regular readiness discussions between HawaiiPay and departments that may have readiness challenges.	In progress
• Request the SI offer departments that are struggling to provide prerequisite files for UAT/Parallel testing a technical resource to offer in-person guidance and assistance to their technical staff.	Completed

IV&V Findings and Recommendations (cont'd)

Human Resource Management

#	Key Findings	Criticality Rating
28	Risk – Lack of sufficient resources: The project does not have dedicated Leads filling key roles needed during the implementation phase, resulting in existing resources serving multiple roles which may impact their overall effectiveness or timely execution of tasks. Current designated Leads often focus on execution and rely on the Project Management team to support strategy and management activities.	Medium

Recommendations	Progress
<ul style="list-style-type: none">Engage in succession planning and identify near-term knowledge transfer activities.	In progress
<ul style="list-style-type: none">Develop a Knowledge Management strategy to help ensure project knowledge (tacit and otherwise) is not lost when staff leave the project or state employment	Not started
<ul style="list-style-type: none">Evaluate which project resources are needed to allow for dedicated strategic leadership in key project areas and to alleviate project resources with multiple responsibilities	In progress

IV&V Findings and Recommendations (cont'd)

Knowledge Transfer



#	Key Findings	Criticality Rating
23	Issue - Lack of detailed turnover plan: The lack of a transition plan can lead to poor transition planning, important turnover activities can get missed, and can lead to stakeholder confusion since they are left ill-equipped to effectively maintain the system once the vendor has left the project.	Medium

Recommendations	Progress
<ul style="list-style-type: none"> Request the SI utilize detailed checklists for turnover to ensure an effective turnover to the state and that nothing is overlooked. 	Not started
<ul style="list-style-type: none"> The state immediately draft and take ownership of a turnover plan and request the SI review and offer guidance. 	Not started
<ul style="list-style-type: none"> Assign turnover tasks to individuals and require task signoff by task owners once they validate tasks have been effectively completed. 	In progress
<ul style="list-style-type: none"> Utilize readiness checkpoints and key performance indicators (KPI's) to monitor readiness effectiveness and report to project leadership. KPI's can be utilized to assure a timely and effective system turnover as well as provide project leadership an opportunity to shore up efforts when turnover efforts are not achieving expected results. 	Not started
<ul style="list-style-type: none"> Request the SI update relevant documents to ensure an effective turnover to the state for M&O. 	In progress

IV&V Findings and Recommendations (cont'd)

Operational Preparedness



#	Key Findings	Criticality Rating
7	Risk - High volume of manual processes at cutover: The number of manual processes that need to be executed during the cutover window and post implementation for future Group deployments may grow to a level of effort that cannot be accomplished during the designated timeframes thereby causing a delay in the implementation schedule. The project is reaching out to Agencies 60 days before go live and providing them instructions for required data cleanup prior to go live (e.g., social security number mismatches in Central Payroll). It is unknown if the time provided will be enough for all Agencies to complete within the implementation schedule.	Low

Recommendations	Progress
<ul style="list-style-type: none">Append the cutover checklist with detailed descriptions of how to execute the task (as if for a back-up resource) and ensure that all dependencies between cutover tasks are identified and have designated contacts	Not started

IV&V Findings and Recommendations (cont'd)

Project Management & Organization



#	Key Findings	Criticality Rating
29	Risk - Expedited Contingency Planning: Insufficient time and resources to analyze the revised contingency approach for Group 3 may result in planning gaps and missed requirements that could cause further implementation delays.	Medium
30	Risk - Strategy for data management not finalized: Without a finalized data management strategy, data policies and inter-agency agreements may not adequately address the needs of all entities with responsibilities for governing data which may result in ineffective data management and remediation processes.	Low

Recommendations	Progress
<ul style="list-style-type: none"> Conduct a specialized risk identification and analysis session to fully analyze and mitigate the approved contingency approach 	Not started
<ul style="list-style-type: none"> Develop new milestones specifically targeting contingency-related activities to ensure the new approach is effective 	Not started
<ul style="list-style-type: none"> 'Work with appropriate DAGS governance processes to develop an over-arching strategy for data management across the departments 	Not started
<ul style="list-style-type: none"> Work with impacted departments to codevelop and implement data management policies in support of the HawaiiPay solution. 	Not started

IV&V Findings and Recommendations (cont'd)

Quality Management



#	Key Findings	Criticality Rating
18	Risk - Increasing parallel testing defect resolution scope: An increasing number of manual workarounds to resolve defects discovered during parallel testing may cause delays during the production cutover or confusion for end users who require supplemental training regarding work around functionality. It is unclear if all the workarounds are documented in the cutover plan and schedule.	Medium
19	Risk - Inadequate interface development and testing coordination: The lack of a functioning process and signoff to coordinate both parties regarding the development and comprehensive end to end testing of interfaces may cause unnecessary risk. IV&V has observed many process improvements for coordinating and tracking interfaces in Group 2.	Medium
25	Issue - Insufficient data validation, checks and balances: Data validation processes and procedures to ensure data accuracy are insufficient and have resulted in data errors during payroll processing.	Medium
26	Risk - DHRD users' access to shared tables could result in corrupt payroll data: Inadequate controls to manage access to update payroll data by both DHRD and Payroll Division users could result in payroll data corruption.	Medium
Recommendations		Progress
<ul style="list-style-type: none"> Establish a communications plan and signoff procedure that ensure all parties clearly understand interface testing expectations and signoff that they have the capacity to complete the testing, document defects, re-test and signoff that the interface is fully functional. 		In progress
<ul style="list-style-type: none"> Establish enhanced validation processes to ensure interface updates are thoroughly validated prior to applying updates to production system data. Validations could include queries to validate all the business rules have been met, i.e. all key data is present, all required dependent data elements are present and contain valid values, etc. 		In progress
<ul style="list-style-type: none"> Explore methods to secure critical payroll data that DHRD does not need permissions to edit. 		In progress
<ul style="list-style-type: none"> Where possible, add automated resolutions to defects/issues discovered during Parallel Testing. Ensure any additional manual resolutions steps are documented in the cutover plan and assessed for expected level of effort, dependencies and overall effect on the cutover timeline. 		In progress

IV&V Status

The activities that PCG performed to inform the IV&V report for the current period are listed below. Upcoming activities are also included. For specifics, see Appendix B – IV&V Standard Inputs.

- IV&V Project Milestones

Milestone / Deliverable Description	Baseline Due Date	Draft Submitted	Final Submitted	Approvals / Notes
IV&V Management Plan (IVVP)	04/06/18	03/18/18	03/29/18	Approved
IV&V Work Plan (Schedule)	04/06/18	03/18/18	03/29/18	Approved
Initial IV&V Assessment	05/09/18	05/18/18	06/08/18	Approved
June IV&V Monthly Status Report (MSR)	05/30/18	07/10/18	7/31/18	Initial assessment delay pushed monthly report to next period
Deployment Audit Report – Grp 2	07/20/18	8/5/18	8/23/18	PCG onsite week of July 16
IV&V Management Plan (IVVP) Update (v. 3.0)	n/a	8/15/18	8/22/18	Approved
July IV&V Monthly Status Report (MSR)	08/10/18	8/17/18	9/4/18	
End of Go Live Implementation Milestone Report – Grp 2	08/24/18			PCG onsite week of Aug 13
Deployment Audit Report – Grp 3	10/19/18			
End of Go Live Implementation Milestone Report - Grp 3	11/23/18			
Deployment Audit Report – Grp 4	01/18/19			
Final IV&V Monthly Status Report	02/19/19			

IV&V Status (cont'd)

- **IV&V activities performed during the reporting period:**
 - Reviewed the Group 1 Parallel testing results and Group 2 Parallel testing components
 - Attended Parallel Round 2 Results meeting
 - Attended Group 2 Cutover Plan Review meeting
 - Attended DOE User Acceptance Testing session
 - Provide briefing for Monthly Executive meeting
 - Attended Monthly Payroll & TLM Modernization Project Executive meeting
 - Attended PCAB meeting
 - Attended Daily Scrums
 - Attended RIO-D meeting
 - Attended Project Schedule meeting
 - Attended HawaiiPay State/CRT Project meeting
 - Interviewed key team members for Group 2 Deployment Audit Report Assessment
- **IV&V next steps in the coming reporting period:**
 - Go Live Implementation Report – Group 2
 - IV&V Monthly Status Report – August 2018

Appendix A – IV&V Criticality Ratings

This appendix provides the details of each finding and recommendation identified by IV&V. Project stakeholders are encouraged to review the findings and recommendations log details as needed.

See definitions of Criticality Ratings below:

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 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 – IV&V Standard Inputs

This appendix identifies the artifacts and activities that serve as the basis for the IV&V observations.

To keep abreast of status throughout the HawaiiPay project, IV&V regularly:

- **Attends the following meetings**
 - Weekly Project Schedule (State) Meeting
 - Weekly State/CRT (Joint) Project Meeting
 - Weekly Risks-Issues-Opportunities-Decisions (RIOD) Meeting
 - Bi-Weekly Project Change Advisory Board (PCAB)
 - Monthly Payroll & TLM Modernization Project Executive Meeting
- **Reviews the following documentation**
 - HawaiiPay - Executive Committee Agendas
 - State/CRT (Joint) Meeting Notes
 - State Project Schedule (in Smartsheet)
 - Risks-Issues-Opportunities-Decisions (RIOD) Workbook
 - CherryRoad BAFO and Contract
- **Utilizes Eclipse IV&V® Base Standards and Checklists**



PCG Eclipse IVV
Checklists

Appendix C – IV&V Details

- 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 IV&V 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.

Note: This report is a point-in-time document with findings accurate as of the last day in the reporting period.



Id	Identified Date	Title / Summary	Finding Description	Analysis and Significance	Recommendation	Updates	Category	Type	Priority	Status
2	5/17/2018	Non-functional contract requirements not tracked	If CherryRoad's contract is not actively monitored and tracked, specifically for non-functional requirements, as the project progresses, contract performance gaps may be identified too late in the project's timeline which could result in a schedule delay or unmet contract requirements.	The Requirements Traceability Matrix (RTM) does not include non-functional requirements and the project does not have a separate mechanism for tracking contract performance. The project processes \$0 change orders and, therefore, relies on the Change Advisory Board (CAB) to monitor changes to functional requirements. It is unclear how and when non-functional requirements are being met.	<ul style="list-style-type: none"> • Create a checklist of non-functional contract requirements that CherryRoad must satisfy in order to close-out the contract and actively monitor progress - perhaps begin with the SI's Attachment 8 - Technical Requirements to identify those non-functional requirements to be validated by the state outside of the project's Implementation Tracker. 	<p>8/31/18 - IV&V met with the DAGS Contract Lead in August and the project provided IV&V with a spreadsheet created by DAGS contract unit in May 2018 entitled "PR T18 compare to P03 final - incl R5R6R7" which demonstrates the state's efforts in tracking and validating contract requirements separate from the project's design, development, and implementation teams. However, this spreadsheet has not been updated since May 2018 and appears to only include reporting requirements. It is unclear if any of these reporting requirements are considered non-functional. IV&V is awaiting a response from DAGS contracts office.</p> <p>8/9/18 - While initially the SI reported that non-functional requirement were being carefully tracked by the DAGS contracts office, IV&V has not been provided evidence that this is happening. IV&V is awaiting response from DAGS contracts office.</p> <p>7/26/18 - CRT provided Attachment 8 - Responses to Technical Requirements - Oracle Confidential file to demonstrate their tracking for non-functional requirements which are not included in the Implementation Tracker.</p> <p>6/8/18 - IV&V has not observed progress towards mitigating this risk.</p>	Contract Management	Risk	Low	Open
4	5/17/2018	Concurrent execution and production support activities for Group Implementations	Executing implementation and support tasks for multiple deployment Groups running in parallel may result in less efficient use of project resources and cause an overall delay if new tasks are introduced later in the project.	Concurrently planning and executing tasks for both Groups 2 and 3, which are running in parallel, may result in less efficient use of project resources and cause an overall delay if new tasks are introduced later in the project. For example, IV&V observed confusion regarding whose responsibility it was/is to monitor production logs. An error occurred and was eventually resolved but project resources had to react and divert time to research and remediate the production issue.	<ul style="list-style-type: none"> • Update the schedules Group 3 with tasks and lessons identified from the Groups 1 and 2 implementations • Finalize new baseline schedule for Group 3 which confirms that all the tasks and deliverables are achievable in prescribed timeframes • Identify which tasks are production vs. project and determine the resources and processes needed to address each • Begin developing the procedures that are needed to support production operations and finalize the M&O Plan 	<p>8/31/18 - In response to instances of insufficient coordination and validation with production payroll processing (for Groups 1 and 2) which caused errors in paychecks that needed to be corrected in future payroll runs, IV&V has observed the project narrowing its focus on defining the resources and processes needed to support production operations. The project has initiated discussions with the DAGS and ETS leadership to develop the strategy which will guide the succession planning of roles and responsibilities from project to operations resources. This risk is related to IV&V risk #23 regarding a Turnover Plan.</p> <p>8/14/18 - DAGS continues strategize to mitigate this risk.</p> <p>7/31/18 - DAGS met with DOE on July 31 and Parallel Testing for Group 3 has been pushed out (yet to be rescheduled) until after Group 2 Payroll is complete (Friday, August 3) due to concerns and constraints that a key resources would become overwhelmed.</p> <p>6/8/18 - Development tasks are ongoing and the team continues to identify requirements and/or processes through UAT and OCM activities which need to be re-reviewed or re-addressed. Further Group 2 training begins next week concurrent to Round 2 Parallel testing.</p>	Cost and Schedule Management	Risk	Low	Open
7	5/17/2018	High volume of manual processes at cutover	The number of manual processes that need to be executed during the cutover window and post implementation for future Group deployments may grow to a level of effort that cannot be accomplished during the designated timeframes thereby causing a delay in the implementation schedule.	During the cutover and post implementation a number of manual processes are executed to produce the appropriate conversion and configuration of data needed to operate the system. While avoiding manual processes is unavoidable, since some are needed to ensure the proper sequencing of activities and to avoid post implementation pre-notes and paper checks, the timeframes for manual processing are constrained to data conversion dependencies. During Group 1 deployment, the pilot and smallest of the three deployments, these processes were able to be executed in a timely manner. However, new data and functional anomalies were identified during Group 1 deployment and additional manual processes have been added to the rollout schedules for future Groups 2 and 3. It is unknown at this time since these groups involve much larger end user communities, whether, in the aggregate, all manual processes will be able to be executed during the cutover and post implementation windows. Further, the project is strategically reaching out to Agencies less than 60 days in advance of go live and providing them instructions for required data cleanup prior to go live (e.g., social security number mismatches in Central Payroll). These pre-go-live activities are not directly under the control of the project since they need to be performed by external project stakeholders and it is unknown if the time provided will be enough for all Agencies to complete within the implementation schedule.	N/A	<p>8/31/18 - Until parallel testing has been completed for Group 3 departments, the project is unable to evaluate the known scope of manual processing that may be required to complete cutover activities. IV&V will continue to monitor progress of cutover planning for Group 3.</p> <p>7/31/18 - IV&V observed the number of manual processes increase during the cutover period for Group 2. Recent UPA deduction interface errors have triggered new manual processes for validation.</p> <p>6/8/18 - Though the project focuses on identifying and sequencing the cutover tasks appropriately, IV&V has not observed progress towards mitigating the risk of cutover tasks not being able to complete during the timeframe.</p>	Operational Preparedness	Issue	Low	Open

Id	Identified Date	Title / Summary	Finding Description	Analysis and Significance	Recommendation	Updates	Category	Type	Priority	Status
18	5/17/2018	Increasing parallel testing defect resolution scope	An increasing number of manual workarounds to resolve defects discovered during parallel testing may cause delays during the production cutover or confusion for end users who require supplemental training regarding work around functionality.	A continuing number of defects discovered during Parallel testing are being rectified with manual workaround. It is unclear if all the workarounds are documented in the cutover plan and schedule. The project should plan to ensure that all defect resolutions are prioritized and tracked in the cutover plan and that manual workarounds are resourced with appropriate staff. Further, as function work arounds are identified for end users, they may or may not be receiving supplemental training in a timely manner.	N/A	<p>8/31/18 IV&V noted that the number of issues discovered during Parallel Testing that require manual resolution may be increasing as the population for each go live group increases. The effort required to resolve these issues during the go live cutover may cause unnecessary risk to the timeline. This Preliminary Concern is being upgraded to a risk.</p> <p>7/31/18 - IV&V observed the project successfully manage the testing defect resolution scope for Group 2; however, the number of potential defects that require manual resolution is not yet known for Group 3. The total scope of manual activities may still become too time consuming for the cutover timeframe.</p> <p>6/8/18 - The Cutover Planning is very detailed for steps and workarounds identified during parallel.</p>	Quality Management	Risk	Medium	Open
19	5/17/2018	Inadequate interface development and testing coordination	The lack of a functioning process and signoff to coordinate both parties regarding the development and comprehensive end to end testing of interfaces may cause unnecessary risk.	It is unclear if each party responsible for the complete end to end testing of an interface has the capacity and capability to complete detailed testing. There does not appear to be any method for the project to get assurance that the testing is planned and executed as needed. To date, there seems to be a low volume of feedback from TPAs and approval of TPA readiness lacks rigorous evaluation from the project. For example, contacts for interfaces need to be confirmed as having the appropriate IT skills and availability to perform the required tasks in the project's timeline.	<ul style="list-style-type: none"> Establish a communications plan and signoff procedure that ensure all parties clearly understand the expectation related to interface testing and signoff that they have the capacity to complete the testing, document defects, re-test and signoff that the interface is fully functional. Establish enhanced validation processes to ensure interface updates are thoroughly validated prior to applying updates to production system data. 	<p>8/31/18 - IV&V noted that additional resources have been assigned to assist with interface development and testing for DOE and UH. The deployment of these resources appears to have had a positive effect on the process, but it remains unclear if the interfaces can be completed in time to ensure through testing prior to Group 3 go live.</p> <p>7/31/18 - Although IV&V observed significant improvement in interface development and testing procedures, a number of errors were reported in the UPA interface. These issues may have been caused by a lack of clear and comprehensive documentation regarding the operational processes required to generate the correct interface data. When relying on human interaction, documented procedures can help mitigate the possibility of human error. Best practice is to have documented procedures and a thorough validation process for each interface prior to updating production data. Stakeholder confidence in the HawaiiPay project's ability to consistently deliver accurate payroll processing for their constituents may have been diminished as a result of these processing errors. IV&V will update this risk priority/severity to Medium during the next reporting period.</p> <p>6/25/18 - IV&V is reducing severity from Medium to Low. Since Group 1 - lots of process improvements; moved responsibilities from Technical to PMO tracts to craft clear communication and guidance for TPAs for testing and cutover; Jen put together a process that tracks testing activity of TPAs more accurately - when file received and reviewed (from CRT) before sending to TPAs' IT contact with instructions for FTP site, credentials, reporting issues, testing, etc.; get technical and functional sign off (b/c lesson learned from P1 where functions didn't work but technically it processed); 60% are complete and remainder are Mainframe-to-mainframe jobs and are tricky b/c ETS needs to participate in testing and requires coordination; sign-off is in the form of email (P/F) from various levels of the TPA org).</p> <p>6/8/18 - IV&V has not observed progress towards mitigating this risk.</p>	Quality Management	Risk	Medium	Open

Id	Identified Date	Title / Summary	Finding Description	Analysis and Significance	Recommendation	Updates	Category	Type	Priority	Status
22	6/15/2018	Lack of departmental readiness could impact project budget/schedule	Departments transitioning to the Hawaii Information Portal (HIP) as part of the HawaiiPay project are expected to perform readiness activities and meet specified milestone deadlines. If any department does not transition to HIP by their designated rollout date, the HawaiiPay project schedule and budget could be negatively impacted.	<p>Departments transitioning to HawaiiPay have each been assigned to one of three rollout groups and the project's budget and planned coordination activities allow for little to no flexibility in group rollout dates. The HawaiiPay project contract and budget is currently limited to the three rollout groups, departments who have not transitioned by the final rollout group will need to find alternative means for producing payroll outside of HIP.</p> <p>While details of the impact of any department not transitioning to HawaiiPay in their planned group is unclear, there will likely be a negative impact to DAGS and the HawaiiPay project schedule and budget.</p> <p>Any department unable to transition to HIP would likely either request extended use of the existing DAGS mainframe or seek non-DAGS payroll alternatives. If departments are allowed to continue on the mainframe payroll system, the planned benefits of moving off this antiquated and problematic system may not be fully realized. DAGS would then be faced with having to plan for and acquire additional resources for maintaining two payroll systems (HIP and the mainframe system). Departments that opt out of DAGS payroll services altogether would have little time to plan for, procure and implement their own payroll system. Further, DAGS, and/or the HawaiiPay project team, will likely have limited time and resources to assist departments with any alternative as they will be in the midst of HawaiiPay group implementation. IV&V was informed that additional funding for the project will likely not be approved by the state legislature, therefore expansion of HawaiiPay contract scope to accommodate departments that are unable to meet readiness deadlines may not be possible.</p>	<ul style="list-style-type: none"> • Ensure readiness deadlines/milestones are clearly communicated to department leaders. • Provide clear expectations regarding readiness activity deadlines and important milestones to each department. • Document missed readiness deadlines, communicate the possible consequences of missed deadlines clearly to department leaders in a timely manner to help ensure leadership is not surprised and has ample opportunity to respond and manage the risks. • Consider implementing a strategy of over-communication for departments that may have communication challenges. • Coordinate regular readiness discussions between HawaiiPay and departments that may have readiness challenges. • Request the SI offer departments that are struggling to provide prerequisite files for UAT/Parallel testing a technical resource to offer in-person guidance and assistance to their technical staff. 	<p>8/29/18 - The project has informed IV&V that due to delays in DOE/UH activities and other issues, DOE round 2 parallel test and UH round 1 parallel have been delayed. Hence, a November Group 3 rollout is at risk and will be difficult to achieve. Contingency plans are being developed in parallel for a possible January Group 3 rollout.</p> <p>8/21/18 - DOE has required that project communications be funneled through a single point of contact (their PM). Communications that have gone through this individual have often been misinterpreted or misconstrued; communications often seem unnecessarily debated and unproductive. IV&V has observed several instances of DOE's persistent contentious debates with HawaiiPay leadership, often rehashing the same issues, refusing to accept HawaiiPay's response. DOE has maintained that they are pushing back because the project is unwilling to accommodate requests that are important to them and that some project expectations are unreasonable. However, IV&V has observed HawaiiPay attempts to engage in productive dialog with DOE met with angry outbursts. IV&V recommends HawaiiPay insist DOE remove all impediments to productive communications and focus on completing only necessary/critical tasks for go-live.</p> <p>8/20/18 - CRT has committed to imbedding 2 of their developers onsite at DOE and UH for the next 2 weeks to resolve any interface and communication issues as well as other blocks as a way to accelerate activities and make up for missed milestone deadlines.</p> <p>8/14/18 - IV&V attended a HawaiiPay/UH conference call where they addressed project concerns, clarified some miscommunications, and informed UH they have missed the Group 3 round 1 parallel test. UH seemed unclear on the consequences of missing round 1 or of missing group 3 go-live. HawaiiPay/UH lack of communication seemed evident from what appeared to be serious fundamental misunderstandings by UH of interface file expectations. Communication failures may also be why these misunderstandings were being addressed this late in the game, that is, only after they had already missed round 1 parallel testing. Ultimately both parties agreed on a plan to accelerate pre-go-live activities to include UH in Group 3 go-live but the project will also draft contingency plans. IV&V recommends the project document a detailed plan, schedule, clear description of risks and detailed risk mitigation strategy for State CIO and Executive Sponsor approval. Suggest obtaining written commitment from UH leadership for important milestones, key activities and communications.</p> <p>8/9/18 - IV&V was informed that UH has failed to provide the project with essential files and the project has stated they will likely not be included in the group 3 rollout. The project has reported that HawaiiPay leadership, the State CIO, and DAGS leadership have made multiple attempts to reach out to UH leadership to resolve any barriers to delivery of UH payroll files. Reportedly, UH leadership appears to be largely unresponsive to project requests for status updates and has offered little in the way of explanation of why they are unable to provide required prerequisite conversion</p>	Cost and Schedule Management	Risk	High	Open

Id	Identified Date	Title / Summary	Finding Description	Analysis and Significance	Recommendation	Updates	Category	Type	Priority	Status
23	6/15/2018	Lack of detailed turnover plan	The lack of a detailed turnover plan may lead to insufficient planning and execution of important turnover activities which could lead to stakeholder confusion and cause a delay in project closure or transitioning of system support responsibilities to appropriate state staff.	<p>Turnover plans typically describe the detailed activities involved in transitioning a new system to the new owners, usually in the form of detailed checklists that assign accountability to individuals responsible for ensuring activities get done and are validated. Turnover plans are typically utilized to ensure that important transition details are not overlooked and are effectively coordinated. Turnover plans can also be used an effective communication tool to stakeholders to ensure there is full understanding of turnover activities, roles, and responsibilities. Proper awareness of turnover plans and activities provided early on to stakeholders can go a long way toward managing stakeholder expectations and triggering important discussions, help manage expectations and support effective resource planning.</p> <p>Commonly reported system turnover challenges include stakeholders being caught unaware of activities, roles, and responsibilities they were expected to perform. Typically, turnover activities involve a multitude of activities carried out by multiple groups and stakeholders. Coordination of these activities can be a significant challenge; ensuring turnover effectiveness can be even more challenging. Ensuring proper understanding by state personnel of each process the SI has been performing for the past several months/years requires careful planning. Ensuring they are fully equipped to not only maintain and enhance the system but are also fully able to troubleshoot problems when critical system incidents occur (e.g. when the system goes down) can be even more challenging without a detailed plan.</p> <p>The SI is typically responsible for producing a transition plan deliverable, however, this deliverable was not a contractual deliverable for HawaiiPay.</p> <p>A project turnover phase typically has a limited budget and has limited timeframes to ensure turnover success. Organizations that fail to effectively turnover systems during this phase can be left ill-equipped to effectively maintain the system once the SI contract has closed out and they have left the project. Leadership can be left scrambling to acquire/procure the</p>	<ul style="list-style-type: none"> Request the SI utilize detailed checklists for turnover to ensure an effective turnover to the state and that nothing is overlooked. The state immediately draft and take ownership of a turnover plan and request the SI review and offer guidance. Assign turnover tasks to individuals and require task signoff by task owners once they validate tasks have been effectively completed. Utilize readiness checkpoints and key performance indicators (KPI's) to monitor readiness effectiveness and report to project leadership. KPI's can be utilized to assure a timely and effective system turnover as well as provide project leadership an opportunity to shore up efforts when turnover efforts are not achieving expected results. Request the SI update relevant documents to ensure an effective turnover to the state for M&O. 	<p>8/31/18 - The project seems to be realizing more and more that details of M&O activities still need to be worked out. Recently, the project was faced with a production defect that could have been avoided had someone been assigned to monitor the batch file logs and if measures had been in place to ensure batch processes are run in the proper order. The project will address this gap at the next RIOD meeting to clarify this role and define this operational process in more detail to ensure, for example, log files are checked and batch files are run in the appropriate order. IV&V will continue to recommend documenting these processes in detail as part of a turnover plan document created by the state and request the SI include them as updates to the M&O plan deliverable.</p> <p>8/29/18 - The SI has indicated that key SI resources may no longer be available to the state HIP M&O team. Instead the state will have to rely on CRT Managed Services for tier 3 support once Phase 1 development is complete. IV&V is concerned that several critical problems have been averted in large part due to intervention by these 4-5 CRT individuals. CRT Managed Services struggled to resolve a recent production bug because they lacked knowledge of the HIP system details and had to rely on these individuals to troubleshoot. Lack of good turnover planning for knowledge transfer from these and other SI resources could lead to significant payroll disruptions once they are no longer actively monitoring HIP system operations.</p> <p>8/14/18 - CRT is working on providing further documentation to assist turnover to state M&O team.</p> <p>7/31/18 - A recent production problem (unable to access paystub from mobile device) highlighted the fact that SI lacks a consolidated detailed architecture/infrastructure maps to support troubleshooting. DAGS also noted that the SI Managed Services had difficulty resolving this ticket due to their lack of understanding of the state's infrastructure. Seems the SI Managed Services team currently relies on a few SI HawaiiPay project onsite resources to provide these details and the state CIO has expressed sustainability concerns (i.e. "what will happen when the project is complete and these resources leave?"). In response, state CIO has requested SI (alongside state technical staff) produce consolidated, detailed architecture/infrastructure maps. The incident highlights the risk of the lack of a detailed turnover and transition plan which would typically include activities to</p>	Knowledge Transfer	Issue	Medium	Open
25	7/27/2018	Insufficient data validation, checks and balances	Data validation processes and procedures to ensure data accuracy are insufficient and have resulted in data errors during payroll processing.	<p>Insufficient data validation processes and procedures resulted in system errors including inaccurate paychecks and reports.</p> <p>Recently HawaiiPay ran (legacy) payroll for two pay periods in a row that included a significant number of incorrect deductions for UH employees. The state reported that already constrained HawaiiPay mainframe IT staff were in the midst of preparations for a major software release when the Janus supreme court ruling came down with no allowable timeframe to implement system changes, requiring an immediate update, creating additional activities to make the next payroll run. Errors may have been avoided if proper data validation processes and procedures (checks and balances) had been in place that could have caught the errors prior to the payroll run. Extensive efforts were required to manage and resolve the errors and reimburse affected employees.</p> <p>Many validation activities are performed manually with limited or no automated support. Overreliance on manual validation processes not only increase error rates but also increase the risk associated with over-allocating key resources (see risk #5, "Impact of project resource attrition"), risk #4, "Group 2 and 3 planning and execution activities overlap", and risk #6, "Insufficient project resources").</p>	<ul style="list-style-type: none"> Revisit existing data validation processes and procedures (automated and otherwise) to identify which should be implemented/enhanced and prioritized based on criticality and impact to payroll processing and stakeholder confidence. Once identified, an implementation plan can be created and implemented based on available resources to mitigate this risk. Automated data validation support can not only increase data accuracy but also reduce the level of effort of manual processes for already constrained project resources. Explore the feasibility of having the agencies and TPA's to validate the final payroll run data before payroll is run. 	<p>8/31/18 - Seems like several recent defects identified this month could have been either prevented or identified early enough in the process through the use of validation techniques (user input validation, onscreen user interface instructions, or validation queries) to minimized negative effects as well as minimize level of effort to correct errors.</p> <p>7/31/18 - Opened as a new issue. To mitigate future UPA interface errors, the project has implemented a manual validation process that must be performed every pay period. This is intended to in place until all employees are migrated off the mainframe (i.e., Group 3 deployment).</p>	Quality Management	Issue	Medium	Open