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October 21, 2021

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

The Honorable Scott K. Saiki,  
Speaker, and  
Members of The House of Representatives  
Thirty-First 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 (IV&V) reports to the Legislature within ten days of receiving the report, please find attached the IV&V report the Office of Enterprise Technology Services received for the State of Hawaii Department of Labor & Industrial Relations Hawaii Unemployment Insurance (HUI) 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 (Oct 21, 2021 13:20 PST)

DOUGLAS MURDOCK  
Chief Information Officer  
State of Hawai'i

Attachment (1)



# Hawaii Unemployment Insurance Modernization (HUI Mod) Project

Department of Labor and Industrial Relations (DLIR)

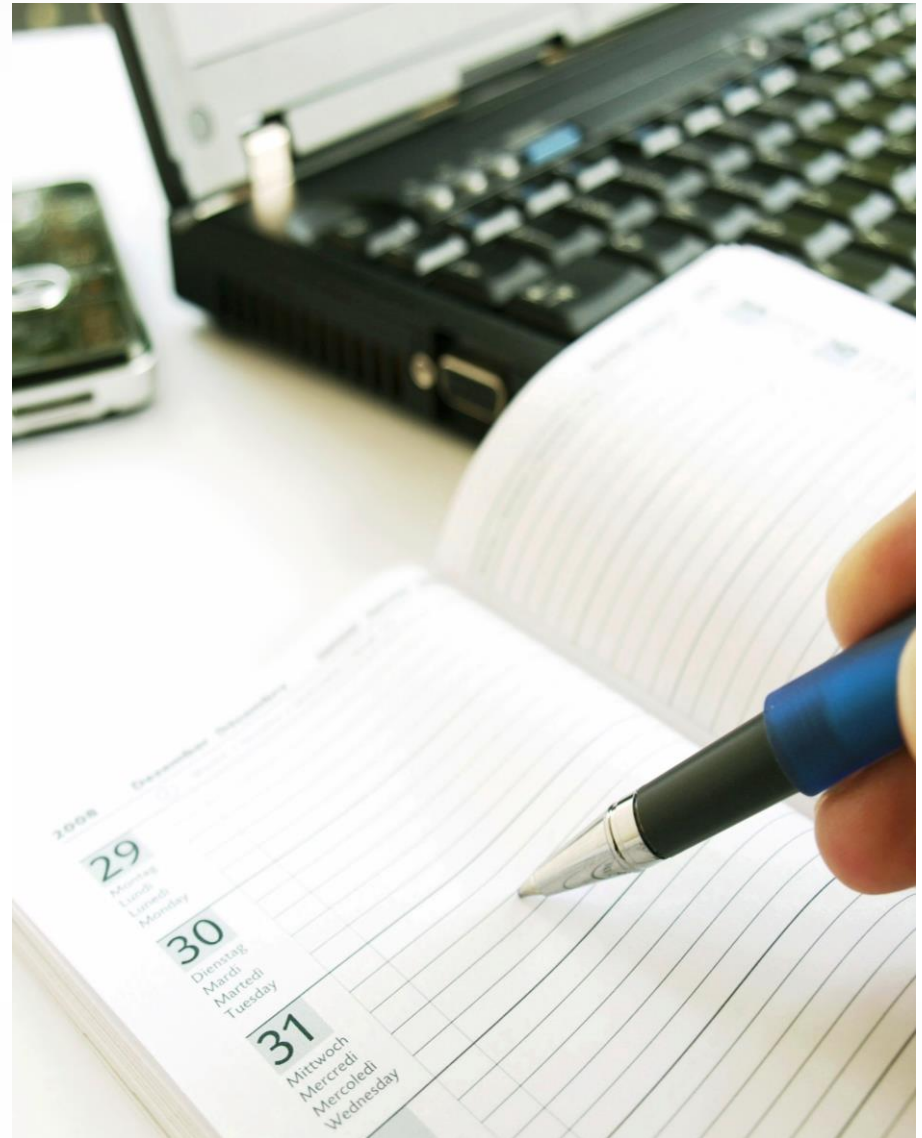
IV&V Monthly Status Report – **Final**  
For Reporting Period: **September 2021**

*Draft Submitted: 10/7/2021*

*Final Submitted: 10/13/2021*

# Overview

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



# Executive Summary

The HUI Mod Project remains on track for go-live in October 2022. This month, the Project completed Sprints 4 – 5 for the Benefits workstream but test activities remain limited and risk is increasing each month the Project waits to get feedback on development activities. However, DLIR testers now have access to the test environment and should be able to provide preliminary feedback on the code quality and fit for purpose in the next reporting period. The Tax and Employer Portal (EP) workstreams remain behind schedule on planning activities and are working to determine a realistic schedule, including updating dependencies in the schedule so that the true critical path can be determined. The EP development Sprints have been able to push forward though and have completed Sprints 1 – 3. Data conversion activities also continue and data validation activities are in progress.

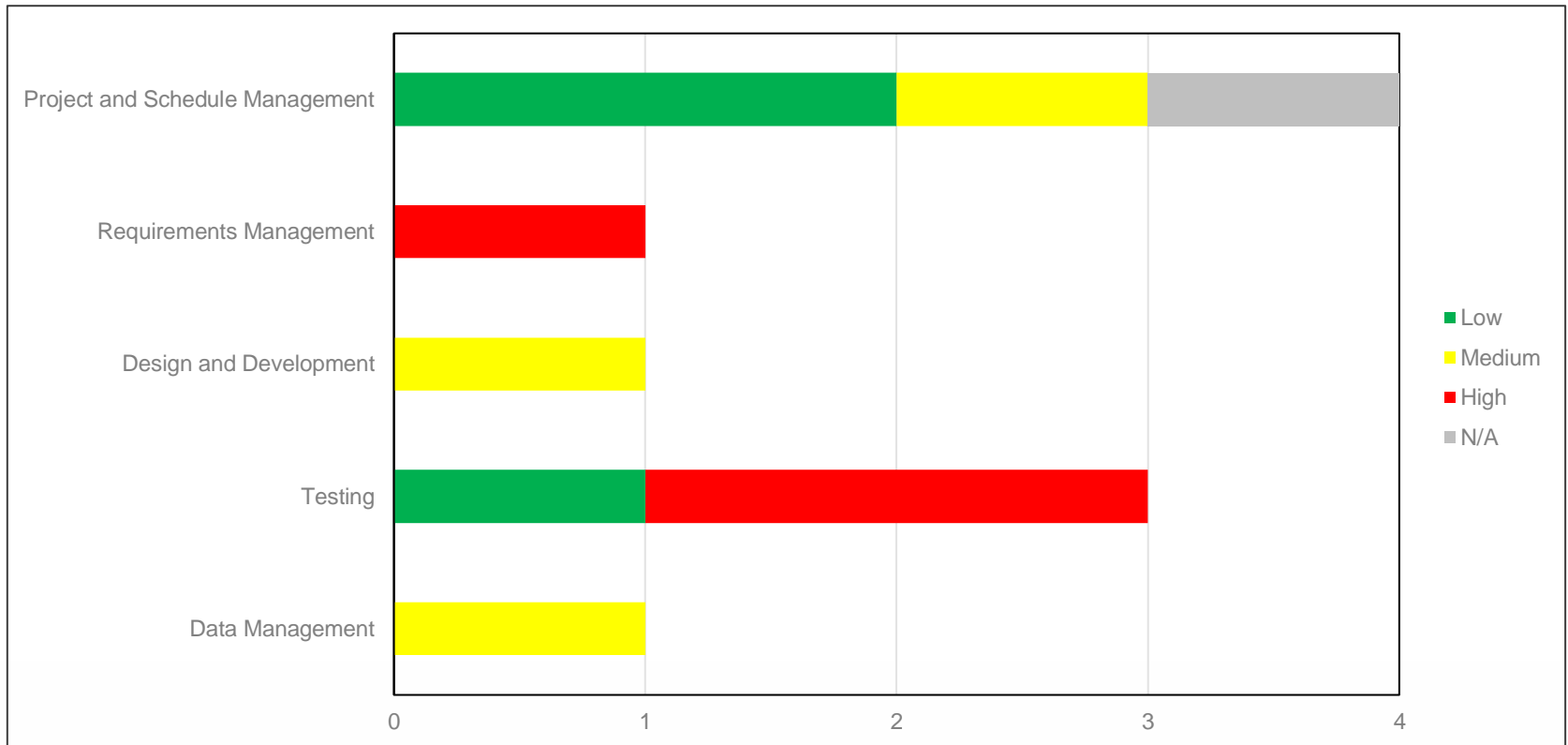
July 2021	Aug 2021	Sept 2021	Category	IV&V Observations
M	M	M	Project and Schedule Management	The Project made good progress in updating the Project Management Plan with key details, improving schedule management processes, and providing missing dates into the project schedule. As a result, two risks were closed ( <b>#2 and #4</b> ) and another was lowered to Low priority ( <b>#7</b> ). Resource Management remains a key risk and the Project continues to identify the right leaders for the Testing, Training, and Data Migration areas. DLIR plans to onboard a Technical Lead in the next reporting period which should help provide direction across a number of those areas.
L	M	H	Requirements Management	The scoping activities for the Tax and EP workstreams remain behind schedule and were not able to meet previously adjusted deadlines, and therefore this area has been escalated to High priority. While the EP development Sprints were able to begin, it is not clear how many user stories were deferred from those Sprints as a result of user stories not being ready, or how the Project will be able to accommodate those user stories in later iterations. The Project has increased the number of Tax scoping sessions to three per week to get back on track. The IV&V team recommends that the Project re-visit the progress on scoping in two weeks to validate these sessions are effective, and to update the schedule with dependencies so that the Sprints appropriately reflect the user stories which are needed for a given Sprint.
M	M	M	Design and Development	Benefits Sprints 4 – 5 completed this period. SSO continues to look at ways to improve Sprint reporting to include additional details which will be more beneficial once the associated testing can begin. This is expected to start in the next reporting period.

# Executive Summary (cont'd)

July 2021	Aug 2021	Sept 2021	Category	IV&V Observations
M	M	H	Testing	DLIR was granted access to the test environment at the end of this period and is working to ensure all expected testers have appropriate access. However, there is now a backlog of tests to execute from Benefits Sprints 1 – 5 which will need to be completed in parallel to the test activities for upcoming Sprints 6 – 7 next month, and the quality of the Sprints delivered to date is still unknown since demos and testing have not occurred. These issues highlight the importance of completing the Test Management Plan (#24) which was expected by 9/15 and has now been delayed to 10/15. The Plan will be a critical asset to describe how testing will be conducted throughout the Project and what resources and preparation are needed.
M	M	M	Data Management	Data Conversion activities continued this month and data validation activities began which is a key step in determining the data quality and effectiveness of the conversion approach. The Project plans to create a dashboard to track conversion and validation activities against the expected total number of tables and data to be converted. This will help identify areas of focus and schedule adjustments that may be needed. The project also continues to draft the Data Migration Plan and expects to have a version available in October.
L	L	L	Security	The Project has identified additional funding opportunities from the USDOL to incorporate an identity verification and fraud prevention solution into the project and is exploring those options. During the September reporting period, demos were conducted by LexisNexis, TransUnion and ID.me to demonstrate each solution's capabilities, ease of use, and viability with integrating with the Project's solution and current State of Hawaii security infrastructure. .
L	L	L	Organizational Change Management	The Project continues to hold weekly working sessions with DLIR stakeholders from all affected program areas which is useful to communicate status, share upcoming processes, and gain buy-in from staff. Staff remain engaged and active participants in these sessions.
L	L	L	Knowledge Transfer	Activities have not yet started but are planned in the project schedule and will be monitored.




# Executive Summary

## Open IV&V Findings by Category and Priority





# IV&V Findings and Recommendations

## Project Schedule and Management

#	Key Findings	Criticality Rating
4	<b>Closed Risk – Baseline Schedule Is Missing Key Milestone Dates:</b> The schedule is missing dates for key milestones including UAT, Training, OCM, Deployment Preparation, Go-Live, Stabilization, and Maintenance and Operations (M&O). This makes it difficult to determine the critical path, accurately report on project progress, and identify downstream dependencies. <ul style="list-style-type: none"><li>09/30: Planned start and finish dates have been added for UAT, Deployment Preparation, Go-Live, Training, Stabilization, M&amp;O, and OCM activities. The risk has been closed.</li></ul>	
13	<b>Risk – Resource Management Needs Clarity:</b> Resource needs for reviews and information gathering has been disjointed, often with a lack of lead time which has resulted in individuals not being available or prepared for meetings and reviews. There is a risk that downstream activities will take longer than expected or end up blocked because resources are not available. <ul style="list-style-type: none"><li>09/30: There have been concerns raised about SMEs being spread thin due to limited availability of DLIR resources to assist with sprint processes, and the lack of lead time available for them to be prepared for meetings, which has caused meetings to be canceled or pushed out. In addition, the DLIR Technical Lead was offboarded this month, which will add to the resource constraint. IV&amp;V understands that DLIR is in the process of hiring both a technical as well as a test lead, with the technical lead expected to join the Project during the week of 10/11.</li></ul>	
7	<b>Lowered Risk – Use of Multiple Schedule Tracking Locations May Lead to Confusion:</b> SSO is tracking project progress in DevOps instead of the Smartsheets tool identified in the Time Management Plan, which has made it difficult for Project leadership to understand project progress and schedule variance at any given point. <ul style="list-style-type: none"><li>09/30: The risk priority has been lowered as both the DLIR and SSO PMs are making updates to the schedule on Smartsheets. IV&amp;V will continue to monitor the effectiveness of this approach.</li></ul>	

# IV&V Findings and Recommendations

## Project Schedule and Management

#	Key Findings	Criticality Rating
2	<b>Closed Risk – Project Management Plan Missing Information:</b> The Project Management Plan contains many of the expected subplans, but would be more useful if additional details/sections were included for Scope, Schedule, Communication, Risk, and Resources. The recommended sections, which are based on IEEE standards, will provide more structure and processes to effectively carry out the project. <ul style="list-style-type: none"><li>09/30: IV&amp;V understands that the DLIR PM Team is working on the different sections of the Project Management Plan in collaboration with the SSO PM. While progress is being made, content needs to be updated for the following sections: Scope, Test, Time and HR Management. The risk has been closed, as there is currently no direct impact to the Project. IV&amp;V will continue to monitor the progress of these activities and review the plans as they are received.</li></ul>	
8	<b>Risk – Vendor Resource Assignments are Unclear:</b> The project schedule has tasks that are not assigned to individual resources, which could lead to misallocation of resources and potential project delays. <ul style="list-style-type: none"><li>09/30: Resource assignments continue to be missing for many tasks, and the Project remains resource constrained.</li></ul>	
25	<b>Risk – Regression Testing Not Accounted for in the Project Schedule:</b> The current Project Schedule does not have time built into it for regression test related activities. Regression testing will be an important mitigation to ensure current development does not impact previous development (see Risk #26), and activities to set up, configure, and manage regression testing may add time to the schedule. <ul style="list-style-type: none"><li>09/30: IV&amp;V understands that the Project plans to conduct regression testing, and details will be included by the SSO team in the Test Management Plan. However, as of the September reporting period, regression testing has not been accounted for in the Project Schedule on Smartsheets.</li></ul>	N/A




# IV&V Findings and Recommendations

## M Project Schedule and Management

Recommendations	Status
<ul style="list-style-type: none"><li>As suggested in the previous reporting period, the Project Schedule should be completely baselined by SSO for all remaining milestones to effectively track the progress of tasks in one location, monitor impacts to the project and ensure variance reporting is accurate.</li></ul>	Complete
<ul style="list-style-type: none"><li>IV&amp;V understands that the plan is to draft individual Project Management plans by section, and to have a single document that will include links to all the plans. The plans are heavily dependent on information from SSO, and the DLIR PM team is in the process of drafting plans and scheduling weekly meetings with the SSO PM, with the aim of completing one plan a week. IV&amp;V will continue to monitor the progress of activities and review the plans as they are received.</li></ul>	Complete
<ul style="list-style-type: none"><li>Resource assignments continue to be missing for Train the Trainer, Deployment Preparation, Go-Live, Stabilization, Maintenance &amp; Operations. IV&amp;V will continue to monitor the Project Schedule to ensure resources are assigned. The Project should assign individual resources to all tasks to ensure there is clarity of ownership.</li></ul>	In Progress
<ul style="list-style-type: none"><li>The Project should actively monitor activities typically conducted by the technical lead, who was offboarded during the September reporting period, to ensure no bottlenecks start to form, and there are no impacts to future activities. IV&amp;V understands that the DLIR Project Management team is utilizing a RACI chart to ensure effective communication and required information is shared ahead of time. IV&amp;V will continue to monitor this risk.</li></ul>	In Progress
<ul style="list-style-type: none"><li>The Project should consider adding slack to the Project Schedule to account for regression test related activities. Regression tests can help validate the quality of the application, provide a feedback cycle for newly developed features, and identify any adverse effects and mitigate them at the earliest.</li></ul>	Not Started

# IV&V Findings and Recommendations


## Requirements Management

#	Key Findings	Criticality Rating
12	<p><b>Increased Risk – Delay in Employer Portal and Tax activities:</b> The Tax and Employer Portal modules are large scope activities that have not been incorporated into the Project Schedule. The IV&amp;V team understands that the initial plan was for activities to occur in parallel for both Benefits and Tax modules. Associated sprint activities were planned to start in July 2021 for EP but have been pushed out to August 2021, and Tax will start in October 2021. There is a risk that there is insufficient time to complete these activities prior to go-live.</p> <ul style="list-style-type: none"><li>09/30: The risk has now been escalated to High as the Project has not been able to meet the revised timelines identified in the schedule for Tax and Employer Portal, with projected new finish dates being pushed out further for user story authoring activities, which could significantly delay both development and testing. While Sprints 1, 2 and 3 for Employer Portal have been closed in the project schedule on Smartsheets, there is an additional concern associated with user stories being deferred to future sprints, that is not reflected in the schedule. There is also a need for the Project to align on a plan to ensure there is no overlap between user stories in Tax and Employer Portal, as this could lead to duplication of efforts and cause further delays in the project schedule.</li></ul>	

Recommendations	Status
<ul style="list-style-type: none"><li>The Project should complete all scoping activities for Tax and Employer Portal to meet the revised timelines identified in the schedule. The Project should also re-evaluate the schedule in two weeks to validate the effectiveness of the Tax DevOps sessions and identify additional corrective measures if needed, to ensure there are no further delays to Tax and Employer Portal development activities. There is a need for the Project to have dependencies built in the schedule, where development sprints are tied to the scoping of user stories.</li></ul>	In Progress

# IV&V Findings and Recommendations



## Design and Development

#	Key Findings	Criticality Rating
21	<p><b>Risk – Limited clarity on user stories completed in each Sprint:</b> The progress of user stories completed in each sprint is not clearly discussed during PM meetings and reports, and it is uncertain which stories were completed vs deferred in a given sprint. For example, during the sprint planning sessions on 07/27, there were discussions around potentially moving two user stories from Sprint 1 to Sprint 2, but it was not clear on which stories or what their complexity was.</p> <ul style="list-style-type: none"><li>09/30: Sprints 1-5 for (out of a total of 26) for Benefits, and Sprints 1-3 for Employer Portal have been completed, but testing at the end of each sprint has not taken place. While SSO is making progress in providing updates on user stories deferred in Smartsheets, the process is not consistent across sprints for Benefits and Employer Portal. There is also a concern associated with user stories in subsequent sprints being dependent on the completion of the ones that have been deferred, which could cause further delays in the project schedule.</li></ul>	

Recommendations	Status
<ul style="list-style-type: none"><li>As suggested in the previous reporting period, the Project should follow a documented process to share the status and updates on user stories that have been completed and deferred to future sprints, and the complexity of those user stories. As testing activities begin, it is recommended that SSO also share details on pass/fail rate, number of defects generated, and mitigation strategies with a revised due date. The Project should track the progress of user stories in one location, and a periodic snapshot with updates after every sprint can help provide better visibility to the management team. This can also help the Project monitor and track the progress of user stories, and ensure future plans are realistic. It can also help avoid a common trap where complex user stories are deferred to the final sprints and the Project is not able to maintain the same user story completion velocity which could lead to downstream delays.</li></ul>	In Progress


# IV&V Findings and Recommendations

## Testing

#	Key Findings	Criticality Rating
15	<p><b>Increased Risk – Development Environment Lacks Stability for Benefits:</b> The Benefits development environment has faced availability issues preventing testing from occurring. While the issue does not block development, screen changes cannot be shown to DLIR and testing activities may be delayed.</p> <ul style="list-style-type: none"> <li>09/30: DLIR Basic Functionality Testing for Benefits was scheduled to start on 09/22. However, configurations and permissions related issues caused a delay in SMEs getting access to the STG environment for testing. While the DLIR PM received access to the environment on 09/28, not all SMEs have received credentials required to start testing. The Project should re-evaluate the schedule in two weeks to validate progress on testing activities, as it is anticipated that meaningful progress can be observed only after all SMEs receive access and start testing in the environment.</li> </ul>	
24	<p><b>Increased Risk – Test Management Plan Needs to be Defined:</b> There is limited clarity on the testing approach and process, including how it is incorporated into sprint development, what types of testing will be conducted at which stages of the project (e.g., SIT, UAT, Performance, ADA compliance, Security, etc.), what tools will be used, what data will be required, and who has responsibility for test script creation and execution. Without these details, it will be difficult for the Project to appropriately prepare resources, and critical test elements may be overlooked, resulting in an unstable system.</p> <ul style="list-style-type: none"> <li>09/30: While the Project understands the usefulness of the Test Management Plan, the risk has now been escalated to High as the Plan was not completed to meet the target date of 09/15, and a revised date for completion of 10/15 has been identified. IV&amp;V understands that the DLIR and SSO PMs will work on their respective sections of the Plan and share an update on the progress made on a weekly basis. There is a risk that downstream testing activities will get delayed or end up blocked if resources are not informed or prepared. Test dates have been updated on SmartSheets, to reflect a more realistic testing cycle for Benefits, Tax and Employer Portal. It would be imperative for the Project to share the Test Management Plan and start testing at the earliest as five sprints for Benefits and three sprints for Employer Portal are now complete, and to meet the revised testing timelines to prevent further project delays.</li> </ul>	

# IV&V Findings and Recommendations

## Testing

#	Key Findings	Criticality Rating
26	<p><b>Risk – Lack of Regression Testing could Lead to Defects in Previously Completed Code:</b> The Project is not conducting regression testing which could lead to code in the current sprint breaking code developed in previous sprints without the Project's knowledge.</p> <ul style="list-style-type: none"><li>09/30: The Project understands the effectiveness of Regression Testing, and will incorporate details of the process in the Test Management Plan. There is a need to ensure both Netacent and SSO align on a plan to conduct regression test activities.</li></ul>	

Recommendations	Status
<ul style="list-style-type: none"><li>The Project should expedite the environment access and data refresh process to ensure data validation and testing can occur, and for any bugs encountered in the process to be reported and resolved in a timely manner. The IV&amp;V team will continue to monitor this risk as further delays could affect testing and other activities in the project schedule.</li></ul>	In Progress
<ul style="list-style-type: none"><li>The Project should create a comprehensive Test Management Plan which provides clarity on the process for testing across all testing phases. Testing at the end of each sprint is integral to the agile process to provide an ongoing feedback loop into the development process, and to determine the success rate for each of the sprints.</li></ul>	In Progress
<ul style="list-style-type: none"><li>The Project should begin regression testing and look to automate those tests as they are refined. This will help maintain code quality and functionality without putting a resource strain on testers.</li></ul>	Not Started




# IV&V Findings and Recommendations

## M Data Management

#	Key Findings	Criticality Rating
6	<p><b>Risk – Lack of a Data Conversion and Migration Strategy:</b> There is no Data Migration Plan, leading to confusion about which information and resources are needed at any given time. This could cause activities to be delayed and important information to be overlooked, especially if the right subject matter experts (both technical and business) are not engaged at the right time.</p> <ul style="list-style-type: none"> <li>09/30: Sprints 1-3 for Data Conversion have been completed. The testing methods, including dates, have been identified and documented in the Project Schedule. Testing methods for Data Conversion include Comparing reports, Screen to Screen Comparisons, and Comparing File Output activities. Screen to Screen validation activities are on track and Data Conversion scrum meetings are leveraged to discuss any issues encountered during validation. The DLIR PM team is actively working on the Data Migration plan with input from SSO, and the plan is to complete a draft by October.</li> </ul>	M
Recommendations		Status
<ul style="list-style-type: none"> <li>It is recommended that as validation activities progress, SSO also share details on tables converted, including table counts, control totals, conversion accuracy and skipped record counts. The Project should also track the progress of data conversion in one location, and a periodic snapshot with updates can help provide better visibility to the project management team, to ensure future plans are realistic.</li> </ul>		In Progress
<ul style="list-style-type: none"> <li>As a best practice, the IV&amp;V team recommends that the Data Migration Plan includes the following information: Data Migration objectives and scope, Data Conversion methodology, Data extraction, Data Profiling, Data cleansing, Data security, and the Testing approach for Data Conversion.</li> </ul>		In Progress
<ul style="list-style-type: none"> <li>The Project should encourage regular meeting attendance and engagement by related SMEs and stakeholders to ensure information is provided and decisions are made in a more timely manner. This should include employing meeting best practices such as providing agendas in advance, notifying participants of what information is expected of them so they can be prepared, and capturing action items and due dates.</li> </ul>		Complete

# Appendix A – IV&V Criticality Ratings

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 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 – IV&V Standard Inputs

## Meetings attended during the reporting period:

1. M/W/F Project Management meetings	9. DLIR/SSO VPN connection meeting – 09/21
2. Data Conversion Scrum meetings	10. TransUnion demo – 09/23
3. Working Group meetings	11. ID.me demo – 09/23
4. Tax DevOps meetings	12. Q&A – Lexus Nexus integration with Data Station meeting – 09/24
5. HUI Mod Notifications meetings	13. Stage Environment Connectivity meeting – 09/24
6. VPN site-to-site meeting – 09/07	14. DLIR Backlog Grooming – 09/28
7. ESC meeting – 09/09	15. DLIR Benefits Testing walkthrough – 09/28
8. IV&V Report Review meeting - 09/15	16. DLIR Benefits User story review and acceptance – 09/30



# Appendix B – IV&V Standard Inputs

Artifacts reviewed during the reporting period:	
1. Project Management plan (including subplans)	
2. SSO Weekly Status Reports	

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

- Attends the project meetings
- Reviews the project documentation
- 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.





**Solutions that Matter**