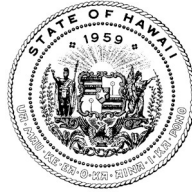


DAVID Y. IGE  
GOVERNOR



DOUGLAS MURDOCK  
CHIEF INFORMATION  
OFFICER

**OFFICE OF ENTERPRISE TECHNOLOGY SERVICES**

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May 23, 2022

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 (May 23, 2022 10:55 HST)

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 Special Assessment Report – Final

*Draft Submitted: 4/20/2022*

*Final Submitted: 4/29/2022*

# HUI Mod Project - Critical Risks and Issues

PCG provides independent verification and validation (IV&V) services for the HUI Mod Project. In this role, we independently assess the Project on a monthly basis across eight (8) key project categories to determine risks and issues as well as recommendations to mitigate those findings. This special assessment focuses on overall project health and identifies the most critical findings to determine project viability. The Project has been challenged by several issues since its inception, and despite attempts by the system integration vendor to overcome these challenges, the Project remains behind schedule. PCG's assessment is that the Project is currently in a **RED** status and requires executive management intervention. Below we have documented the top five (5) critical risk areas to the Project:

## 1) Poor Resource Management and Coordination by the System Integrator

- A lack of coordination between the system integrator Solid State Operations (SSO) and their software vendor, Netacent, has consistently contributed to delays across project activities. This has affected all project workstreams and resulted in an untenable project schedule. While SSO is responsible for Project Management and coordination activities, Netacent is involved in development and testing activities for the Project. To ensure a successful implementation, SSO and Netacent should work in tandem, as there are dependencies between activities to be completed by the two companies.
- Vendor resource management has not been able to meet the Project's needs, with the limited availability of resources from SSO and Netacent having an impact on the project schedule. The system integrator has had to onboard and replace three (3) project managers in less than a year, leading to a lack of understanding and context as well as rework for the Project as each new project manager comes up to speed on activities.
- Resources from Netacent are involved in development and testing activities. However, there is limited clarity to their availability and participation, as they do not participate in project meetings or share status updates on their work.



# HUI Mod Project - Critical Risks and Issues

## 2) Project Requirements are Incomplete and Not Well Managed

- The Project did not identify a clear set of business requirements at the outset of the Project, nor were clear acceptance criteria, tasks, or activities identified in the System Integrator's Statement of Work. This has led to requirements and activities to be defined while the Project is in-flight.
- Gap analysis sessions were conducted in July 2021, during which subject matter experts (SME) from DLIR identified requirements that were met out of the box by the SSO solution, and those that would require configuration/customization, which became the 'gap' requirements.
- Non-gap requirements were discussed but not documented during the gap analysis sessions which has led to an incomplete perspective on what the final system must do to meet DLIR business needs. Without the full set of system requirements, it will not be possible to fully test the system to verify it meets all of DLIR's requirements, resulting in some requirements getting overlooked and not being implemented in the final system released to production, or that the missed requirements will not be discovered until UAT and result in rework or delays.
- A Requirements Traceability Matrix (RTM) has not been developed for the Project, yet design, development, and testing are in progress. An RTM institutes traceability of requirements through all project phases. It helps effectively identify any missing requirements and provides clarity on how user stories progress from scoping into sprint design, development, and eventually into testing.



# HUI Mod Project - Critical Risks and Issues

## 3) Lack of Project Governance and Documentation

SSO is delivering the Project without formalized governance and management plans in place. These plans were not contractually required in DLIR's agreement with SSO; however, it is a best practice for a vendor to manage a project in line with industry standards such as those identified by the Project Management Institute (PMI). These governance plans provide a roadmap for management of a project and help ensure activities are planned for and executed as expected. An initial project schedule was delivered and SSO agreed to document a Test Management Plan and Data Migration Plan, however as of April 2022 these plans have not been finalized.

- Rebaselined Project Schedule – The current schedule is not feasible and go-live will be delayed beyond October 2022. Contributing factors include delays in scoping, development, and testing activities across the Benefits, Tax, and Employer Portal modules as well as discrepancies between the multiple schedule tracking tools. It is likely too late to implement preventative measures to maintain the October 2022 release date. Initial estimates by SSO indicate an April 2023 release date may be possible but the mitigation strategies to date have not been effective and the Project continues to fall further behind schedule.
- Test Management Plan – 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., System Integration Testing (SIT), User Acceptance Testing (UAT), Performance Testing, Americans with Disabilities (ADA) Compliance Testing, Security Testing, 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.
- Data Migration Plan – Data migration activities are scheduled to complete in July 2022, but the final version of the plan and regular updates on conversion activities are not being shared, making it difficult to determine how well the activities are progressing. It is not clear how or when DLIR will have a chance to validate the migrated data.



# HUI Mod Project - Critical Risks and Issues

## 4) Lack of Visibility to Project Status

Delays have been observed across all project activities and there is no visibility to the current project progress, including progress for the different modules.

- Weekly project status meetings are not consistently conducted. There is a need for these weekly meetings with resources from DLIR and SSO present to include reporting on the progress, accomplishments, and roadblocks across the different modules. This will help ensure the various modules are managed consistently, understand any resource constraints, and prevent teams from working in silos. While these are scheduled each week, they are frequently canceled due to lack of availability of vendor staff or lack of updated information.
- The progress of user stories completed in each development sprint is not clearly discussed during management meetings and reports, and it is uncertain which stories were completed vs deferred in a given sprint.
- Reports with details on development progress are not shared by the vendor. Expected details have been identified by the IV&V team and recommended to the vendor to include user stories completed, deferred, and any issues identified in each sprint, testing status, and defect metrics. However, these details remain unavailable.



# HUI Mod Project - Critical Risks and Issues

## 5) Project is Behind Schedule and Lacks Schedule Management

The Project is not on track to meet the October 2022 Go-Live date. The mitigation strategies to date have not been effective and the Project continues to fall further behind schedule.

- Scoping activities for the Tax and Employer Portal (EP) workstreams did not complete as planned in December 2021, and new dates have not yet been identified, leading to delays in development. SSO shared a six-week plan with the DLIR in February 2022 to resolve the delays and ensure scoping could be completed prior to the end of the development phase. However, the dates identified in the plan were not met and remain in progress with no planned completion date.
- The Project should determine the overlap between user stories in Tax and EP, as this could lead to additional scoping and development that should be accounted for in the schedule.
- There is limited clarity on the quality of code as post sprint validation activities have not been taking place as planned due to issues with the staging environment present since February 2022. As a result, testing is behind schedule and no test results have been shared.



# Executive Summary

The following section provides a detailed summary for each of the eight (8) categories assessed by the IV&V team on a monthly basis. These findings are as of the last IV&V monthly report which covered through March 2022.

Jan 2022	Feb 2022	Mar 2022	Category	IV&V Observations
H	H	H	Project and Schedule Management	<p>Activities across all workstreams remain delayed due to several factors including resource constraints (#27) and lack of coordination between SSO and Netacent (#43), lack of planning documents, and unexpected issues causing user stories to get deferred to future Sprints. Together, these create a risk (#28) that the current schedule is not feasible and go-live will be delayed, which has been confirmed by the lack of an accurate schedule and discrepancies between the multiple schedule tracking tools used historically (#7). A new project schedule is currently being developed collaboratively between SSO and DLIR in MS Project. Once the new schedule is baselined, It will be important to implement a process to keep the MS Project schedule synchronized with Azure DevOps. DLIR expected SSO to deliver an updated timeline by 04/01/22, however it was not delivered as planned and is now expected to be complete at the end of April 2022. The mitigation strategies to date have not been effective and the Project continues to fall further behind schedule. Many of the weekly project status meetings were canceled during March 2022 (#44), and it will be important for these to occur regularly moving forward, so the team can collaboratively discuss progress, accomplishments, and roadblocks across modules.</p>





# Executive Summary (cont'd)

Jan 2022	Feb 2022	Mar 2022	Category	IV&V Observations
H	H	H	Requirements Management	The scoping and development activities for the Tax and EP workstreams remain behind schedule, as documented in <b>Risk #12</b> . Tax scoping sessions progress remains behind the anticipated schedule, and this appears to be affecting Tax development activities planned for March, as they are indicated as "not started" in Smartsheets. The EP development was not completed as planned during March. The IV&V team previously identified a risk ( <b>Risk #30</b> ) that a lack of a Requirements Traceability Matrix (RTM) may lead to missed activities, and as anticipated, all the "fit" requirements were not documented during the scoping sessions. SSO did not deliver the RTM during March. SSO is currently working to document an RTM which includes all requirements; however, a new delivery date has not been provided. Development and testing are progressing, without an RTM in place, which could lead to missed activities. To mitigate <b>Risk #38</b> where non-gap requirements are not being tested, a user story scoping and acceptance criteria workshop was held on 03/02/22. During this meeting, analysts from SSO and the SMEs from DLIR agreed on a single process and template for user story authoring, across Benefits, Tax, and Employer Portal workstreams.
H	H	H	Design and Development	Development activities continued this month for all workstreams, although it is unclear what progress was made or what challenges have been encountered during the process as aggregated data has not been shared or reliably tracked by the Project. EP development again missed the planned completion by the end of March 2022. SSO continues to look at ways to improve Sprint reporting ( <b>Risk #21</b> ) to include additional details which will be more beneficial once the associated testing can begin, however weekly reporting that was planned to begin on 02/04/22 did not occur and a new date has not been identified. SSO stated during March 2022 that a project dashboard will be implemented, for tracking of metrics across all modules in one central location, however a completion date for implementation of the dashboard has not been provided.



# Executive Summary (cont'd)

Jan 2022	Feb 2022	Mar 2022	Category	IV&V Observations
H	H	H	Testing	<p>This month SSO shared updated versions of the Test Management Plan. Because this plan has been delivered, <b>Risk #24</b> has been closed. However, gaps remain in the plan in the areas of the benefits workstream, tax workstream, and Data Management - including details on the data that will be present in each test environment, how the data will be created, how often the data will be refreshed, how the data will be protected, and when code will be promoted. Gaps also remain in the areas of associated timelines, entry and exit criteria for each phase, and roles and responsibilities for all testing phases. A new risk (<b>#42</b>) has been created to document these needed updates. The quality of the Sprints delivered to date remains unknown since testing has not occurred by DLIR and no test details have been shared for any of the workstreams (<b>#33</b>). There was no progress on <b>Risk #39</b> regarding a lack of early end-to-end testing, which may disrupt UAT during February 2022. A series of needs assessment meetings to identify a complete list of interface partners began in April 2022, to address the need for testing with interface partners, which could cause delays (<b>#40</b>). These meetings were canceled through the first four weeks of March, due to resource availability. Meetings resumed on 03/31/22. A plan for regressions testing (<b>#26</b>) remains outstanding.</p>
M	M	M	Data Management	<p>Data Conversion activities continued this month but there is still not a final plan guiding the process, and therefore it is difficult to determine how well the activities are progressing. Because a draft plan was delivered and continues to be updated, <b>Risk #6</b> has been closed. The scheduled activities remain a black box which expects to complete in July 2022, and while the Project has stated in meetings that they plan to use a two-phased approach for data conversion, the details have not been shared or documented. Finalization of the plan for data conversion and implementation of that plan will be tracked in <b>Risk #35</b>.</p>



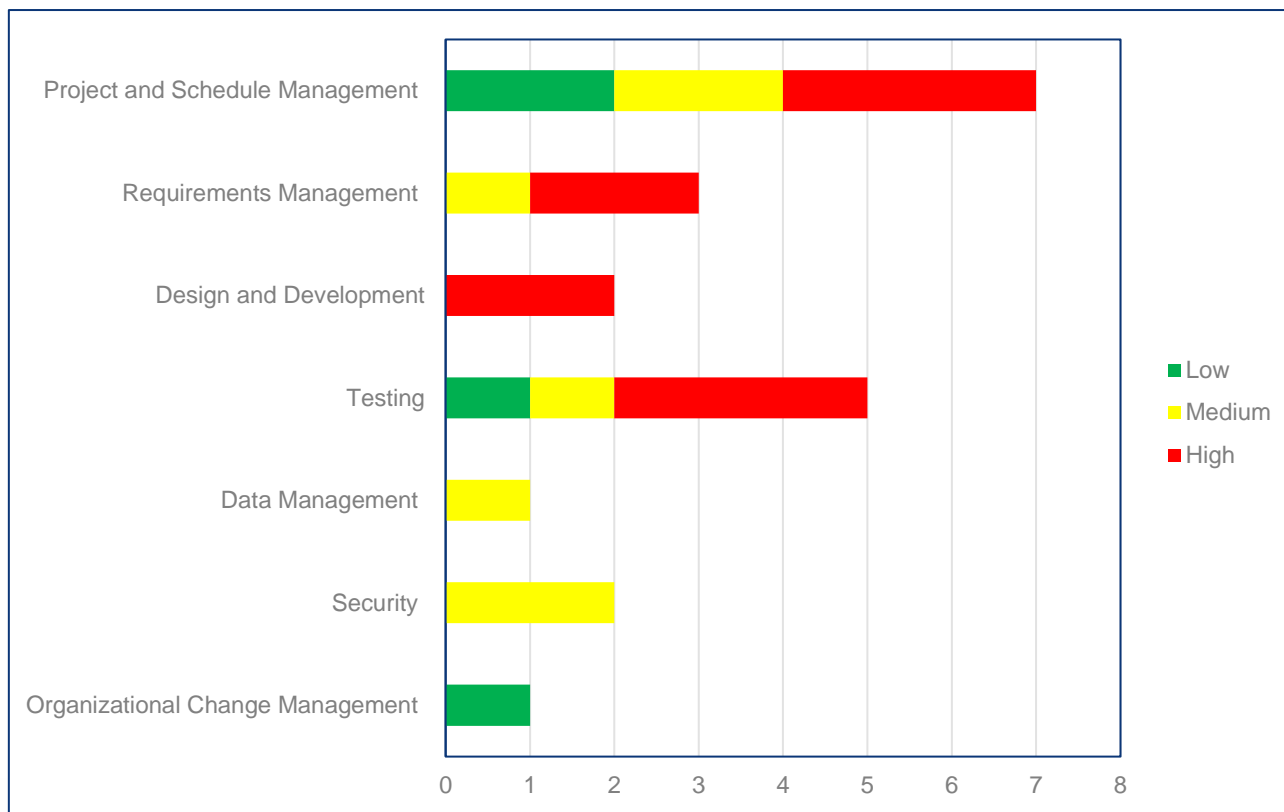
# Executive Summary (cont'd)

Jan 2022	Feb 2022	Mar 2022	Category	IV&V Observations
M	M	M	Security	There have been no significant developments during this period. SSO has stated that they plan to develop and deliver a consolidated system security plan, however a completion date has not been provided. <b>Risk #36</b> remains open concerning the lack of a system security plan which could lead to vulnerabilities in the system. The IV&V team is also unclear how production data is planned to be used in development and test environments, which raises the risk that restricted data will be shared or accessed inappropriately ( <b>#37</b> ).
L	L	L	Organizational Change Management	The Project continues to hold bi-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, however an OCM plan has not been developed. Lack of an OCM plan could create negative impacts, such as schedule slippage, and can reduce end user buy-in and adoption. DLIR and SSO have agreed to work together on the creation of an OCM plan to ensure alignment on the strategy and approach for OCM activities. A date for completion of the plan has not been identified yet. Development and implementation of this plan will be tracked under <b>Risk #41</b> .
L	L	L	Knowledge Transfer	Activities have not yet started but are planned in the project schedule and will be monitored.



# Executive Summary (cont'd)

## Open IV&V Findings by Category and Priority



# HUI Mod Project Options

There are significant concerns about SSO's ability to complete the Project based on the deficiencies presented in this report. PCG recommends that DLIR pursue one of the following options:

- 1. Pause the Project and meet with SSO leadership to request an improvement plan that will provide confidence in SSO's ability to complete the project**
- 2. Terminate the existing agreement with SSO and reprocur a new solution using a more structured RFP**



# Option 1: Pause the Project

**Cease all Project activities and meet with SSO leadership to request a detailed improvement plan, with measurable outcomes and timelines, that will provide confidence in SSO's ability to complete the Project.**

## **Advantages:**

1. Least disruptive to current process as teams are already in place and working.
2. Retains the information and momentum that the Project established in getting to an active project.
3. Continuing with SSO may be the lowest cost option to get a modernized system.
4. The limited functionality that has been developed and demonstrated, which cover the Benefits workstream, seems to match what was designed. However, the developed solution has not been tested yet to verify the quality or that it meets DLIR needs.
5. While there are current issues, they have been identified and mitigation plans discussed. Any other option may come with the same issues that DLIR is experiencing now.

## **Risks:**

1. Any delay will extend the potential go-live date (for at least the length of time of the pause).
2. Increasingly unlikely that SSO can finish the work in the next year, if ever.
3. SSO – Netacent relationship does not seem repairable given that there were already communication issues between the firms prior to a lawsuit being filed, and there has been no visible improvement in the relationship post lawsuit even after the sides committed to working together. Without Netacent cooperation and their Data Station product, the Project will never finish. Any money spent now could be wasted.
4. SSO has not been able to correct identified deficiencies in the past regardless of how much time they have been given. Two weeks likely will not make a difference, and it is difficult to say how much time WOULD make a difference. Any pause could be delaying the inevitable.
5. SSO seems to be facing culture issues and financial instability leading to an inability to retain resources and maintain a high level of product quality. Without the right people, the Project cannot move forward or complete. The staff that SSO has been left with do not appear capable of leading the Project to a successful outcome.
6. The Employer Portal does not seem well understood by SSO, and the Tax module is unproven and not in production in any state yet. Any resulting solution may not meet DLIR needs.

## **Additional recommendations if this option is chosen:**

1. Implement strong project controls to monitor and track project progress and prevent future delays.
2. Establish project governance including project management plans for all areas, and SSO must document plans on how and when it will deliver these plans and adhere to the established processes.
3. Document all project requirements and track through completion.



# Option 2: Terminate SSO Contract and Reprocure

**Terminate the existing agreement with SSO and reprocure a new solution using a more structured RFP.**

## **Advantages:**

1. Allows DLIR to more clearly define what functionality is desired in a modernized solution, which could lead to a solution that better fits DLIR business needs.
2. A comprehensive request for proposal (RFP) and resulting contract/statement of work (SOW) will enable DLIR to include better project controls around governance and project planning, which increases the probability of success and of meeting established timelines.
3. DLIR can use the lessons learned from this iteration and reuse the work products developed to date to create a more robust and complete solution.
4. Prevents spending additional funds on a solution that may never work.
5. USDOL may provide additional funding in the future so that DLIR can get the product and quality they want.

## **Risks:**

1. Will delay modernization by at least 2-3 years, and any advantages gained from a modernized system will be delayed, as well as risks from staying on the legacy system will remain. During the interim period, legally or legislatively required upgrades may be difficult to implement, such as those for additional supported languages.
2. Will likely increase up-front modernization costs \$20M – 40M more than currently budgeted (for design, development, and implementation costs). However, total cost of ownership (TCO) may not be significantly different based on the SSO contract structure which includes a percentage-based operational cost expense that adds considerable unknown cost to the existing contract.
3. DLIR staff may become disengaged or jaded and not eager to participate in future efforts.

## **Additional recommendations if this option is chosen:**

1. Establish a state-led PMO to support the new engagement.
2. Establish project governance requirements in the RFP which the selected vendor must document plans to support. This should also include organizational change management (OCM) considerations to mitigate the impacts to staff engagement identified above.
3. Document comprehensive project requirements for inclusion in RFP and require the selected vendor to maintain a requirement traceability matrix (RTM).
4. Look to leverage completed aspects of the current project such as any documented requirements/RTM, gap analysis results, business process documentation, and user stories developed to date.
5. Consider any modular modernization that can be completed in the interim period prior to a full modernization, such as ID verification and fraud prevention.





**Solutions that Matter**