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July 5, 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 Disability Compensation Division's Modernization Project – Electronic Case Management System.

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

Sincerely,

Douglas Murdock (Jul 5, 2022 15:05 HST)

DOUGLAS MURDOCK
Chief Information Officer
State of Hawai'i

Attachment (1)

STATE OF HAWAII
DEPARTMENT OF LABOR &
INDUSTRIAL RELATIONS (DLIR)

# Disability Compensation Division's Modernization Project – Electronic Case Management System (eCMS)

FINAL ON-SITE IV&V REVIEW REPORT

May 31, 2022 | Version 1.1

REPORT FINALIZED

July 6, 2022

ACCUITY

An independent member of bakertilly INTERNATIONAL

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# *Document History*

| DATE | DESCRIPTION | AUTHOR | VERSION |
|---|---|---|---|
| 06/10/22 | Final On-site IV&V Review Report Draft created | Julia Okinaka | 0.0 |
| 07/01/22 | Final On-site IV&V Review Report Final updated to reflect no comments submitted in Appendix F. | Julia Okinaka | 1.0 |
| 07/06/22 | Final On-site IV&V Review Report Final updated to remove inadvertent edits made to the Final On-site IV&V Review Report Draft approved by DLIR. | Julia Okinaka | 1.1 |
| | | | |
| | | | |

# EXECUTIVE SUMMARY

## BACKGROUND

The State of Hawaii (State), Department of Labor and Industrial Relations (DLIR) contracted DataHouse Consulting, Inc. (DataHouse) for the Disability Compensation Division's (DCD) Electronic Case Management System Project (eCMS Project). DLIR contracted Accuity LLP (Accuity) to provide Independent Verification and Validation (IV&V) services for the eCMS Project.

The Initial On-Site IV&V Review Report (IV&V Initial Report) was issued on August 30, 2019 and provided an initial assessment of project health as of June 30, 2019. Refer to the full Initial Report for additional background information on the eCMS Project and IV&V. The Monthly On-Site IV&V Review Reports (IV&V Monthly Reports) built upon the Initial Report to update and continually evaluated project progress and performance. Refer to Appendix E: Prior IV&V Reports for a listing of prior reports. Although the project is not yet complete, this Final On-Site IV&V Review Report summarizes the cumulative project progress and performance and also includes the key lessons learned throughout the project to-date.

The focus of our IV&V activities for this report included an assessment of system development, design, and integration and schedule management. IV&V has limited visibility or access to project activities and documentation that may prevent a complete identification of project risks with regards to DataHouse development, testing, data conversion, security and configuration management, system transition, and M&O activities.

The IV&V Dashboard on the following two pages provides a quick visual and narrative snapshot of both the project status and project assessment as of May 31, 2022. Additional explanation is included in Findings and Recommendations by Assessment Area for new findings and in Appendix D: Prior Findings Log for prior report findings. Refer to Appendix A: IV&V Criticality and Severity Ratings for an explanation of the ratings.

*MOVING FORWARD*

## *PŪPŪKĀHI I HOLOMUA*

*Unite in order to progress.*

*-Hawaiian Proverb*

# PROJECT ASSESSMENT

AS OF MAY 31, 2022

## SUMMARY RATINGS

### OVERALL RATING

R

Significant severe deficiencies were observed requiring immediate remediation or risk mitigation.

PROGRAM GOVERNANCE — Y

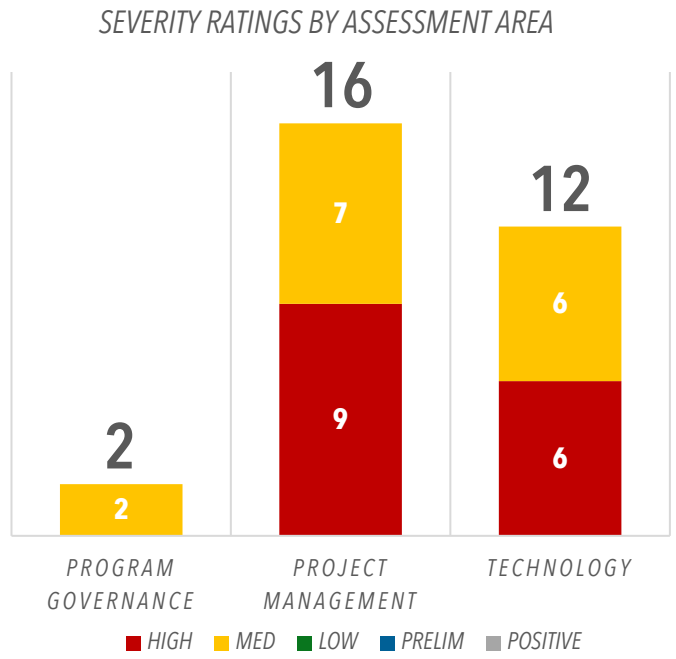
PROJECT MANAGEMENT — R

TECHNOLOGY — R

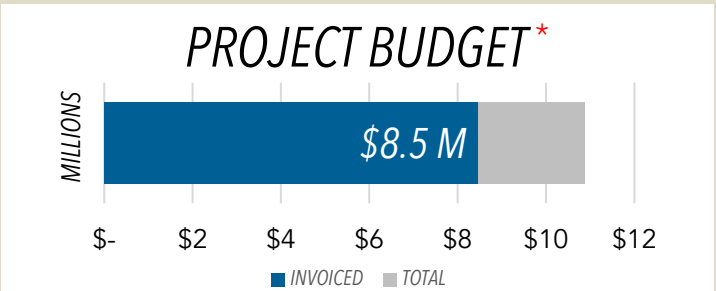
CRITICALITY RATINGS

R HIGH | Y MEDIUM | G LOW | NA N/A

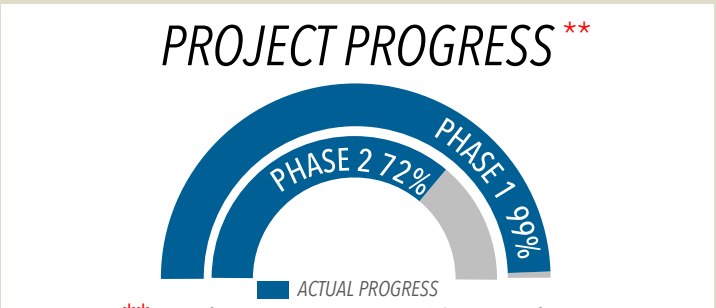
## 30 OPEN FINDINGS




## 55 OPEN RECOMMENDATIONS

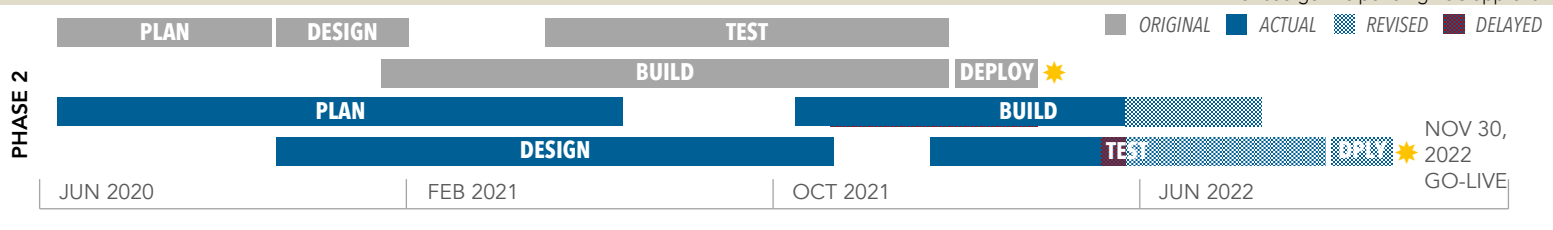


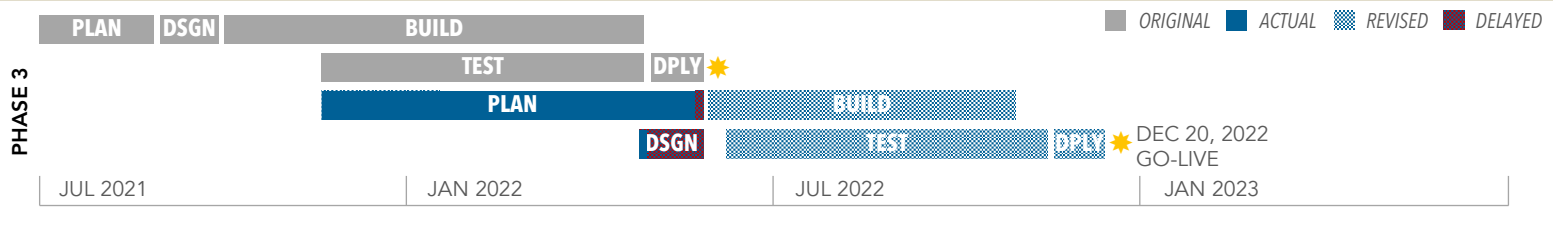

* Only includes contracts. IV&V unable to validate total budget.




** As of 05/24/22. IV&V unable to verify %.

*** Revised go-live pending ESC approval.



# ASSESSMENT AREA & RATINGS SUMMARY

AS OF MAY 31, 2022

| MAR | APR | MAY | IV&V ASSESSMENT AREA | IV&V OBSERVATIONS |
|---|---|---|---|---|
| R | R | R | *Overall* | Although the project schedule was re-baselined last month, Phase 1 Case Management go-live will be deferred again. Incremental progress continues to be made, but has not been enough to break the continuous cycle of delays. Unless DLIR and DataHouse work together to make significant changes, the number of outstanding project risks and issues will continue to impair project performance and may impact DCD operations.<br><br>*Project Schedule*: Phase 1 Case Management go-live will be deferred and there are also some delays in Phase 2 and 3 tasks. Accuity is unable to fully assess schedule variances (refer to finding 2019.07.PM13).<br><br>*Project Costs*: Three additional procurements are expected to be executed in June 2022, including the paper scanning contract that will significantly increase the total cost of the project. DataHouse is prepaid for Phase 1 and 2 but is adjusting Phase 3 invoices under the revised payment schedule. Accuity is unable to fully assess cost variances (refer to finding 2019.07.PM12).<br><br>*Quality*: DLIR and DataHouse continue to address system issues for Phase 1 Content Management and Phase 1 Case Management. More refined quality metrics are needed to better identify root causes, analyze trends, and inform go/no-go decisions (refer to finding 2019.07.IT05). |
| Y | Y | Y | *Program Governance* | The eCMS Project Executive Steering Committee (ESC) continues to meet monthly but needs to play a greater role to drive progress and enforce accountability. Repeated requests for changes to project timelines have been approved without requiring root cause analysis or corrective actions given the project's ongoing delays. |
| R | R | R | *Project Management* | DLIR and DataHouse tentatively agreed to defer the Phase 1 Case Management go-live to June 30, 2022, pending ESC approval. However, there are already signs that this proposed date may still not be sufficient time to complete all planned go-live readiness tasks. Inadequate foundational project management processes have been the primary cause of project delays and issues throughout the eCMS Project to-date. In order to improve project performance, DLIR and DataHouse must make significant changes to all areas of project management (refer to Appendix D: Prior Findings Log), especially for schedule, resource, risk, requirements, and communications management. |
| Y | Y | R | *Technology* | DLIR user acceptance testing (UAT) is a major hurdle for Phase 1 Case Management acceptance and go-live. Only 55% of the test cases passed and there are still unresolved issues and defects. With little time remaining even to the new proposed go-live, it is critical to perform adequate and systematic testing, resolve system and data conversion issues, establish and monitor clear go/no-go criteria, and complete transition checklist tasks in order to minimize operational risk for the Phase 1 Case Management go-live. Four months after the initial Phase 1 Content Management go-live, system issues continue to be addressed but the plan to closeout remaining issues, the root cause of issues, and system maintenance and operation (M&O) roles, procedures, and metrics remain unclear. While Phase 2 development sprints and Phase 3 design activities are in progress, improvements are still needed for many foundational technology processes (refer to Appendix D: Prior Findings Log) to prevent the reoccurrence of the same issues from Phase 1. IV&V has limited visibility in many of the DataHouse technology processes. |

# FINDINGS AND RECOMMENDATIONS BY ASSESSMENT AREA

## OVERALL RATING

The overall rating is assigned based on the criticality ratings of the IV&V Assessment Categories and the severity ratings of the underlying findings (see Appendix A: IV&V Criticality and Severity Ratings). The tables below summarize the criticality ratings for each IV&V Assessment Category in the three major IV&V Assessment Areas. Eleven IV&V Assessment Categories declined from the prior report primarily due to time running out to complete many of the outstanding tasks critical to the Phase 1 Case Management go-live. Additionally, there was already a need to defer the recently re-baselined schedule. Unless DLIR and DataHouse work together to make significant changes, the number of outstanding project risks and issues will continue to impair project performance and may impact DCD operations.

### KEY PROGRESS

Phase 1 Case Management training **COMMENCED**

Phase 2 development sprints **PROGRESSING**

Phase 3 design stage **KICKED OFF**

### KEY RISKS

Case Management **SCHEDULE** and **OPERATIONAL** risk

**INSUFFICIENT** pace of UAT completion

**SIGNIFICANT** changes needed in many areas of the project

| MAR | APR | MAY | PROGRAM GOVERNANCE |
|---|---|---|---|
| Y | Y | Y | Governance Effectiveness |
| Y | Y | Y | Benefits Realization |

| MAR | APR | MAY | TECHNOLOGY |
|---|---|---|---|
| Y | Y | R | System Software, Hardware, and Integrations |
| G | G | Y | Design |
| Y | Y | Y | Data Conversion |
| R | R | R | Quality Management and Testing |
| Y | Y | Y | Configuration Management |
| Y | Y | Y | Security |

| MAR | APR | MAY | PROJECT MANAGEMENT |
|---|---|---|---|
| R | R | R | Project Organization and Management |
| R | R | R | Scope and Requirements Management |
| R | R | R | Cost, Schedule, and Resource Management |
| Y | Y | R | Risk Management |
| Y | Y | R | Communications Management |
| Y | Y | Y | Organizational Change Management (OCM) |
| Y | Y | Y | Business Process Reengineering (BPR) |
| G | Y | Y | Training and Knowledge Transfer |

*PROGRAM GOVERNANCE*

Governance Effectiveness

Benefits Realization

## PROGRAM GOVERNANCE

| MAR | APR | MAY | IV&V ASSESSMENT CATEGORY | IV&V OBSERVATION | FINDINGS | | |
|---|---|---|---|---|---|---|---|
| | | | | | NEW | OPEN | CLOSED |
| Y | Y | Y | Governance Effectiveness | The eCMS Project Executive Steering Committee (ESC) continues to meet monthly but needs to play a greater role to drive progress and enforce accountability. The ESC approved the new timelines last month but Phase 1 Case Management go-live will be deferred again and there are already some delays in Phase 2 and 3 tasks. Throughout the project, repeated requests for changes to project timelines have been approved without requiring root cause analysis or corrective actions. The ESC and DLIR and DataHouse project sponsors need to provide additional support and guidance to help the project break the continuous cycle of delays (2021.05.PG01). | 0 | 1 | 0 |
| Y | Y | Y | Benefits Realization | No significant updates since the prior report. Project success metrics should be reevaluated to take into consideration the current project status and to focus on what can be realistically achieved in the remaining project timeline. DLIR also needs to begin collecting and monitoring success metrics data (2019.07.PG05). | 0 | 1 | 0 |

*PROJECT MANAGEMENT*

Project Organization and Management

Scope and Requirements Management

Cost, Schedule, and Resource Management

Risk Management

Communications Management

Organizational Change Management

Business Process Reengineering

Training and Knowledge Transfer

## R PROJECT MANAGEMENT

| MAR | APR | MAY | IV&V ASSESSMENT CATEGORY | IV&V OBSERVATION | FINDINGS | | |
|---|---|---|---|---|---|---|---|
| | | | | | NEW | OPEN | CLOSED |
| | | R | Project Organization and Management | DLIR and DataHouse do not seem to be on the same page or have a clear understanding of what both parties need to do, especially with regards to the upcoming Phase 1 Case Management go-live. The new project timeline was just approved by the ESC last month and already needs to be changed. DLIR and DataHouse have a new date to propose but there are already signs that this may not be achievable. It is unclear how these proposed plans and dates are determined and reviewed to ensure they are sound. Inadequate foundational project management processes have been the primary cause of project delays and issues throughout the eCMS Project to-date. These issues will continue to impair project performance unless DLIR and DataHouse improve how they work together (2019.07.PM02) and agree on a plan to make significant changes to all areas of project management (2020.07.PM01). Improvements are also still needed for the deliverable review process (2019.07.PM03). | 0 | 3 | 0 |

## *PROJECT MANAGEMENT*

- Project Organization and Management
- Scope and Requirements Management
- Cost, Schedule, and Resource Management
- Risk Management
- Communications Management
- Organizational Change Management
- Business Process Reengineering
- Training and Knowledge Transfer

| MAR | APR | MAY | IV&V ASSESSMENT CATEGORY | IV&V OBSERVATION | FINDING | | |
|---|---|---|---|---|---|---|---|
| | | | | | NEW | OPEN | CLOSED |
| | | | Scope and Requirements Management | Inadequate management of requirements is evidenced by Phase 1 UAT progress, results, and user satisfaction. DLIR's approach to address requirements issues was to develop test cases that would ensure the completeness and traceability of requirements. However, this approach identified missing requirements or issues too late in the process and it is unclear what will be addressed as part of the Phase 1 Case Management go-live.<br><br>Although requirements will continue to be refined during Phase 2 and 3, significant changes in requirements management processes (2019.07.PM10) and traceability (2019.10.PM01) should be immediately implemented to prevent reoccurrence of the same issues from Phase 1. Areas for improvement include collecting and tracking requirements from sessions with end users, updating requirements documentation based on end user sessions and feedback, tracing contract requirements to requirements documentation, reviewing requirements deliverables for completeness and accuracy, and assessing during each development sprint cycle that requirements are preliminarily satisfied. This will help to ensure throughout the process that requirements are properly managed and stakeholder needs will be met. | 0 | 2 | 0 |

## *PROJECT MANAGEMENT*

- Project Organization and Management
- Scope and Requirements Management
- Cost, Schedule, and Resource Management
- Risk Management
- Communications Management
- Organizational Change Management
- Business Process Reengineering
- Training and Knowledge Transfer

| MAR | APR | MAY | IV&V ASSESSMENT CATEGORY | IV&V OBSERVATION | FINDINGS | | |
|---|---|---|---|---|---|---|---|
| | | | | | NEW | OPEN | CLOSED |
| | | | Cost, Schedule, and Resource Management | Although the project schedule was re-baselined last month, Phase 1 Case Management go-live will be deferred again and there are also some delays in Phase 2 and 3 tasks. DLIR and DataHouse tentatively agreed to defer the Phase 1 Case Management go-live to June 30, 2022, pending ESC approval. However, there are already signs that this proposed date may still not be sufficient time to complete all planned go-live readiness tasks. Phase 1 Case Management go-live is already almost two years beyond the original date. It is unclear if Phase 2 and 3 timeline are achievable as many tasks were just compressed or if the schedule mitigation strategies will impact other factors critical to project success. Significant changes in schedule management practices (2019.07.PM13) are needed to prevent reoccurring delays.<br><br>Insufficient project resources (2019.07.PM14) has been the root cause of many issues on the project to-date. Additional project resources are needed for Phase 1 Case Management activities. DLIR procurements of business analyst (BA) and paper scanning resources were approved which will help to add resources to select areas of the project team. However, DLIR must improve resource management strategies (2019.09.PM02) to increase utilization of all existing resources, accountability for task completion, and pace of project work.<br><br>Three additional procurements are expected to be executed in June 2022, including the paper scanning contract that will significantly increase the total cost of the project. DataHouse is prepaid for Phase 1 and 2 but is still within the total contract cost and is adjusting Phase 3 invoices under the revised payment schedule. Improvements in cost management processes (2019.07.PM12) are needed to track and monitor other project costs. | 0 | 4 | 0 |

## *PROJECT MANAGEMENT*

Project Organization and Management

Scope and Requirements Management

Cost, Schedule, and Resource Management

Risk Management

Communications Management

Organizational Change Management

Business Process Reengineering

Training and Knowledge Transfer

| MAR | APR | MAY | IV&V ASSESSMENT CATEGORY | IV&V OBSERVATION | FINDINGS | | |
|---|---|---|---|---|---|---|---|
| | | | | | NEW | OPEN | CLOSED |
| | | R | Risk Management | Throughout the project, risk management processes have been ineffective in identifying and mitigating risks to the project. Risks are typically discussed when the impact is imminent. Despite early warning signs a few weeks out from Phase 1 Case Management go-live and even at the time of ESC approval of the revised timelines, risks were not proactively discussed or addressed. There are also signs of risk with regards to the new proposed Phase 1 Case Management go-live that should be analyzed and the mitigation plan should be included as a part of the presentation to ESC. Improvements in risk management processes (2019.07.PM09) are needed to proactively mitigate risks and minimize impacts to all phases of the project. | 0 | 1 | 0 |
| | Y | R | Communications Management | Although there are regular meetings between DLIR and DataHouse, there is still a lack of mutual understanding between the parties. Ineffective communication within the project team has regularly contributed to misunderstandings, insufficient preparation, and project delays. Open and transparent dialogue with verification of understanding is needed between all DLIR and DataHouse team members (2019.07.PM06) to successfully execute project and go-live tasks.<br><br>Additional communications with internal and external stakeholders (2019.07.PM07) are necessary to prepare stakeholders for go-live. Phase 1 Case Management communication activities with carriers and adjusters have continually been deferred. For Phase 2 and 3, conversations with external stakeholders should begin earlier and regular updates and touchpoints should be established. One of the contracts to be executed in June 2022 is for a BA resource who will be responsible for working with external stakeholders. | 0 | 2 | 0 |

## *PROJECT MANAGEMENT*

Project Organization and Management

Scope and Requirements Management

Cost, Schedule, and Resource Management

Risk Management

Communications Management

Organizational Change Management

Business Process Reengineering

Training and Knowledge Transfer

| MAR | APR | MAY | IV&V ASSESSMENT CATEGORY | IV&V OBSERVATION | FINDINGS | | |
|---|---|---|---|---|---|---|---|
| | | | | | NEW | OPEN | CLOSED |
| | | | Organizational Change Management (OCM) | Project touchpoints with internal users are increasing with the recurring weekly emails and trainings. DLIR also began to administer surveys to collect some OCM relevant data leading up to Phase 1 Case Management go-live. Additional planning is needed for post go-live OCM activities to measure user participation and system utilization and to establish a strong change support network. A structured OCM approach (2019.07.PM08) is critical for enabling change and mitigating resistance. | 0 | 1 | 0 |
| | | | Business Process Reengineering (BPR) | DLIR continues to clarify business processes for Phase 1 Case Management go-live and the complimentary Content Management systems. However, internal and external stakeholders do not appear to have sufficient understanding of what the new business processes will be. It is critical that business processes are clarified (2020.12.PM01) to adequately prepare stakeholders for go-live. For Phase 2 and 3, discussions with stakeholders of business processes around the new system should begin earlier to provide a clearer picture of processes leading into UAT and more runway time prior to go-live. BPR opportunities should also continue to be discussed, prioritized, and analyzed (2021.08.PM01) for Phase 2 and 3. | 0 | 2 | 0 |
| | | | Training and Knowledge Transfer | DLIR commenced Phase 1 Case Management training activities and conducted surveys to collect feedback on training. The timing and format of training do not appear to adequately prepare users given the steep learning curve, unclear business processes, number of work-arounds, and limited hands-on practice. Updates to the training plan (2022.04.PM01) are needed to incorporate training feedback and to provide additional details of training session topics, objectives, and measures of effectiveness and user readiness. | 0 | 1 | 0 |

## R TECHNOLOGY

| MAR | APR | MAY | IV&V ASSESSMENT CATEGORY | IV&V OBSERVATION | FINDINGS | | |
|---|---|---|---|---|---|---|---|
| | | | | | NEW | OPEN | CLOSED |
| Y | Y | R | System Software, Hardware, and Integrations | The planning and execution of Phase 1 system transition activities continues to be a challenge. For the January 2022 Phase 1 Content Management go-live, transition activities were rushed and many tasks were deferred to post go-live in order to meet the timeline. In the following months, technical system issues required users to revert to the legacy system to perform their work. System issues are still being reported and addressed, but the plan to closeout remaining issues, the root causes of issues (2022.02.IT01), and the status of transition checklist tasks deferred to post go-live remain unclear. Similarly, the preparation of the Phase 1 Case Management transition checklist and many transition activities were left to be completed close to go-live due to time and resource constraints. Considering the increased complexity of Phase 1 Case Management, the number of outstanding project risks and issues may have a significant impact on DCD operations if not adequately addressed (2022.04.IT01). In order to minimize operational risk, DLIR and DataHouse must ensure that clear go/no-go criteria are established and satisfied and critical transition checklist tasks are completed prior to acceptance and go-live (2020.09.IT01). As Phase 2 development is already in progress and Phase 3 is to begin shortly, the planning of transition activities and go/no-go criteria should begin earlier to proactively identify and timely execute key transition tasks. System M&O roles, procedures, and metrics (2019.09.IT02) as well as interface solutions (2019.07.IT02) also remain unclear. | 0 | 5 | 0 |

## *TECHNOLOGY*

System Software, Hardware, and Integrations

Design

Data Conversion

Quality Management and Testing

Configuration Management

Security

| MAR | APR | MAY | IV&V ASSESSMENT CATEGORY | IV&V OBSERVATION | FINDINGS | | |
|---|---|---|---|---|---|---|---|
| | | | | | NEW | OPEN | CLOSED |
| G | G | Y | Design | Phase 3 design was scheduled to be completed by the end of May 2022 under the re-baselined schedule. Some design activities did begin but it is unclear what the new expected deliverable completion date is. Further clarification is needed of how BPR opportunities could be addressed through system design (2021.08.PM01) and integration with external systems (2019.07.IT02). | 0 | 0 | 0 |
| Y | Y | Y | Data Conversion | DLIR completed Phase 1 Case Management data conversion validation testing in 2021 but limited testing metrics and inadequate test documentation made it difficult to determine the effectiveness or completeness of testing. As a result, new questions, concerns, and issues for data conversion and cleansing activities are still arising close to go-live. Additionally, as the conversion of paper files into electronic documents is important for the adoption and user experience of the Phase 1 Case Management system, the plans and processes for the paper conversion still need to be clarified (2019.11.IT01). The contract for paper scanning resources is expected to be executed in June 2022 but it is unclear how the timing of those resources will impact the success of upcoming system go-live and user adoption.<br><br>DataHouse's Phase 2 data conversion cycles were scheduled to begin in May 2022 but were pushed back to June 2022. Discussion of Phase 2 data conversion and cleansing activities between DLIR and DataHouse as well as DLIR plans for performing data conversion validation testing should begin earlier to allow for sufficient time to identify potential data conversion issues and adequately plan and perform tasks. | 0 | 1 | 1 |

## *TECHNOLOGY*

System Software, Hardware, and Integrations

Design

Data Conversion

Quality Management and Testing

Configuration Management

Security

| MAR | APR | MAY | IV&V ASSESSMENT CATEGORY | IV&V OBSERVATION | FINDINGS | | |
|---|---|---|---|---|---|---|---|
| | | | | | NEW | OPEN | CLOSED |
| R | R | R | Quality Management and Testing | DLIR UAT is a major hurdle for Phase 1 Case Management acceptance and go-live. Only 55% of the test cases are passed, performance of DLIR end-to-end and regression testing is still pending, and there are a number of unresolved issues and defects. DLIR continues to trend at ~13% test case completion per month. It is unclear how many of the in-progress test cases are pending due to reported issues and defects or due to limited testing resources bandwidth. With up to 45% test cases to be completed, even the new proposed go-live may not be is achievable or realistic. It is critical to perform adequate and systematic testing and resolve critical system issues prior to go-live to minimize the potential impact to operations. Testing activities for Phase 1 Content Management were rushed or deferred to post go-live in order to meet the timeline. This resulted in numerous quality and performance issues that resulted in reverting back to the legacy system (2022.02.IT01). DLIR and DataHouse must work together to prioritize and address UAT execution issues (2020.12.IT01). Additionally, test plans for Phase 1 Case Management UAT, end-to-end, and regression testing need to be updated for the new timeline and for additional details (2019.10.IT01). Phase 2 UAT was scheduled to begin in April 2022 to get an early start on testing. However, with the focus to complete Phase 1 UAT, the testing period was compressed with the start date pushed back to the end of May 2022. DataHouse continues to perform their Phase 1 and 2 system testing. DLIR and DataHouse still do not have formal quality management plans (2019.07.IT05). Quality metrics are critical for identifying root causes, analyzing trends, and informing go/no-go decisions. | 0 | 3 | 0 |

## *TECHNOLOGY*

System Software, Hardware, and Integrations

Design

Data Conversion

Quality Management and Testing

Configuration Management

Security

| MAR | APR | MAY | IV&V ASSESSMENT CATEGORY | IV&V OBSERVATION | FINDINGS | | |
|---|---|---|---|---|---|---|---|
| | | | | | NEW | OPEN | CLOSED |
| Y | Y | Y | Configuration Management | Separate configuration management plans were prepared for the DataHouse Content Management and Case Management development teams, however, a comprehensive configuration management plan (2019.07.IT06) including all DataHouse and DLIR processes, controls, and tools is still needed. | 0 | 1 | 0 |
| Y | Y | Y | Security | DataHouse performed a vulnerability scan and remediation for the Content Management environments. A comprehensive security management plan (2019.07.IT07), formal security policies (2019.10.IT02), and an M&O plan (2019.09.IT02) are needed for both Phase 1 Content Management system operation and the upcoming Phase 1 Case Management go-live. | 0 | 2 | 0 |

# LESSONS LEARNED LOG

A log of key lessons learned is provided below to capture the knowledge and experience gained throughout the eCMS Project. These lessons learned can be utilized and applied to future phases of the eCMS Project or to new initiatives. The log includes the top ten lessons learned and opportunities for improvement with the greatest impact to the overall success of the project.

| ASSESSMENT CATEGORY | LESSONS LEARNED DESCRIPTION | SEVERITY |
|---|---|---|
| Cost, Schedule, and Resource Management | **Assemble and train adequate State project resources:** Inadequate DLIR project resources is the root cause of many project issues and delays. Project resource needs are regularly underestimated and inadequately planned for but are critical for creating a high-performing team and preventing reoccurring schedule delays. *Recommendations:* Carefully scope resource requirements early in the project including standard team member roles and required experience and skill sets. Prepare a resource plan including options for acquiring and backfilling project resources (e.g., procurement or special project exempt employees) to prevent conflict with operational duties and priorities. Provide training to all State project resources on project management and system development processes and terminology at the start of the project. | High |
| Overall | **Create a collaborative project team culture with strong sponsorship:** The lack of team synergy between DLIR and DataHouse and inability to work as one team creates silos, limits mutual understanding, and reduces individual commitment and accountability. Collaborative project team environments result in the free exchange of knowledge, shared ownership and responsibility for outcomes, strong partnership between vendor and client, and transparent discussion of risks and issues. *Recommendations:* Set a collaborative and open team culture at the beginning of the project. Encourage new ideas and honest discussion. Project leadership and governance must continually reinforce culture and provide strong sponsorship. | High |
| Overall | **Leverage collective project knowledge and assets:** The inability to access valuable knowledge and assets from IT modernization projects across the State of Hawaii prevents the leveraging of past project efforts and immediately creating efficiencies. This is especially critical during the project initiation stage for drafting requests for proposals and contract terms that incorporate industry best practices, key deliverables, and clear terms; establishing governance structures; preparing project management plans; and proactively identifying common project risks. *Recommendations:* Compile and share trends in lessons learned across the State. Address common lessons learned as part of project initiation and approval. Share project documentation templates and examples from other projects. | High |

*KEY LESSONS*

**SET THE PROJECT UP FOR SUCCESS** at the start with resources, culture, and knowledge

Establish strong **FOUNDATIONAL** project processes and **CONTINUOUSLY** improve

**SET** metrics and criteria to regularly **MONITOR** performance

| ASSESSMENT CATEGORY | LESSONS LEARNED DESCRIPTION | SEVERITY |
|---|---|---|
| Scope and Requirements Management | **Implement strong requirements management processes and tools:** Poor requirements management practices lead to incomplete or inaccurate requirements documentation, lower user satisfaction, higher number of issues and defects, and additional time for rework. Additionally, cumbersome or manual requirements management tools reduce efficiency, traceability, and transparency. Effective requirements management processes and tools guide the project team from inception, development, testing, and ultimately to successful completion and final acceptance. *Recommendations:* Ensure processes for collecting, tracking, documenting, reviewing, and prioritizing requirements are performed throughout the project by the vendor and client. Invest in tools that automate traceability, provide analytical and reporting features, and support collaboration. | High |
| Quality Management and Testing | **Improve efficiency of State testing processes:** UAT delays impact overall project timelines or creates pressure to compromise quality standards to meet timelines. Insufficient or disengaged testing resources, quality issues with vendor testing and development, and limited vendor support in training also contribute to delays. Adequate and systematic testing ensure user and business needs are met and minimizes issues and defects that may impact operations. *Recommendations:* Develop test plans, draft test cases and scripts, and engage and train testing resources early. Begin test cycles following each development cycle. Invest in testing tools to automate regression tests. Closely monitor testing and quality metrics. | High |
| Project Organization and Management | **Maintain foundational project management processes:** Ineffective or inconsistent foundational project processes lead to greater confusion, inefficiency, disruption, and conflict. Project management and system development require discipline and rigor to successfully coordinate and execute. Individual project management and technology processes, including cost, schedule, resource, risk, communications, OCM, BPR, and training, all play a role in achieving project goals and outcomes. *Recommendations:* Incorporate and tailor industry best practices to the project. Vendor and client should discuss, agree upon, and document processes early in the project. Clarify and assign roles and responsibilities. | High |
| Project Organization and Management | **Practice continuous improvement:** Limited progress to address identified deficiencies hinders project performance and results in reoccurring issues. The eCMS Project has faced many challenges and issues to-date but most can be traced back to key deficiencies. Continuous improvement practices help to correct past problems and adjust to changes going forward. *Recommendations:* Schedule regular project assessments or retrospectives. Prioritize opportunities for improvement. Develop a plan and track tasks to address deficiencies. | High |

| ASSESSMENT CATEGORY | LESSONS LEARNED DESCRIPTION | SEVERITY |
|---|---|---|
| Overall | **Closely monitor success and performance metrics:** Insufficient collection and attention to metrics prevents objective analysis of progress and performance. Meaningful success metrics provide a clear picture of what success looks like and measure progress towards achieving goals. Effective performance metrics help to early detect project performance problems, analyze trends, identify root causes, and measure efficacy. *Recommendations:* Set success metrics prior to the start of the project. Incorporate metrics into project plans to ensure alignment. Regularly report on metrics to project leadership and governance to provide insight on status, identify risks and issues, inform decision making, and set performance expectations. | High |
| System Software, Hardware, and Integrations | **Set clear acceptance and go/no-go criteria:** Unclear acceptance and go/no-go criteria allow development and system go-live to keep move forward without ensuring stakeholder requirements are satisfied, quality standards are met, or critical transition readiness tasks are completed. Early discussions of and checkpoints for acceptance and go/no-go criteria prompt stakeholders to think about and articulate their expectations, garner stakeholder buy-in throughout the project, and objectively make critical decisions. *Recommendations:* Set acceptance criteria prior to the start of the related development cycle to provide greater understanding between stakeholders and the development and quality assurance teams. Discuss and agree upon go/no-go criteria well in advance of the go-live decision. Schedule review sessions for acceptance criteria for each development cycle and go/no-go criteria for go-live countdown checkpoints (e.g., 15, 30, 60, 90 days). | High |
| Overall | **Implement strong vendor management practices:** Ineffective vendor management practices result in prepayment of services, acceptance of deliverables that don't meet the DLIR's needs, swapped or junior resources, unfulfilled contract requirements, and discrepancies between the vendor proposal and the actual implementation. Strong vendor management practices help to keep both the vendor and the client accountable to meeting agreed upon requirements and contract terms. *Recommendations:* Incorporate quality requirements and standards, success and performance metrics, and acceptance criteria in the vendor contract. Clarify and document deliverable expectations early in the project (e.g., deliverable expectation document). Trace requirements documentation prepared during the project to original contract requirements. Review deliverables against quality standards, acceptance criteria, vendor proposal, and contract terms. Review vendor invoices against project status reports and contract terms. | High |

# *Appendix A: IV&V Criticality and Severity Ratings*

## IV&V CRITICALITY AND SEVERITY RATINGS

Criticality and severity ratings provide insight on where significant deficiencies are observed and immediate remediation or risk mitigation is required. Criticality ratings are assigned to the overall project as well as each IV&V Assessment Area and IV&V Assessment Category. Severity ratings are assigned to each risk or issue identified.

*TERMS*

**RISK**
An event that has not happened yet.

**ISSUE**
An event that is already occurring or has already happened.

### Criticality Rating

The criticality ratings are assessed based on consideration of the severity ratings of each related risk and issue within the respective IV&V Assessment Area and IV&V Assessment Category, the overall impact of the related findings to the success of the project, and the urgency of and length of time to implement remediation or risk mitigation strategies. Arrows indicate trends in the project assessment from the prior report and take into consideration areas of increasing risk and approaching timeline. Up arrows indicate adequate improvements or progress made. Down arrows indicate a decline, inadequate progress, or incomplete resolution of previously identified findings. No arrow indicates there was neither improving nor declining progress from the prior report.

A **RED**, high criticality rating is assigned when significant severe deficiencies were observed and immediate remediation or risk mitigation is required.

A **YELLOW**, medium criticality rating is assigned when deficiencies were observed that merit attention. Remediation or risk mitigation should be performed in a timely manner.

A **GREEN**, low criticality rating is assigned when the activity is on track and minimal deficiencies were observed. Some oversight may be needed to ensure the risk stays low and the activity remains on track.

A **GRAY** rating is assigned when the category being assessed has incomplete information available for a conclusive observation and recommendation or is not applicable at the time of the IV&V review.

*TERMS*

**POSITIVE**
Celebrates high performance or project successes.

**PRELIMINARY CONCERN**
Potential risk requiring further analysis.

**Severity Rating**

Once risks are identified and characterized, Accuity will examine project conditions to determine the probability of the risk being identified and the impact to the project, if the risk is realized. We know that a risk is in the future, so we must provide the probability and impact to determine if the risk has a Risk Severity, such as Severity 1 (High), Severity 2 (Moderate), or Severity 3 (Low).

While a risk is an event that has not happened yet, an issue is something that is already occurring or has already happened. Accuity will examine project conditions and business impact to determine if the issue has an Issue Severity, such as Severity 1 (High/Critical Impact/System Down), Severity 2 (Moderate/Significant Impact), or Severity 3 (Low/Normal/Minor Impact/Informational).

Findings that are positive or preliminary concerns are not assigned a severity rating.

**SEVERITY 1:** High/Critical level

**SEVERITY 2:** Moderate level

**SEVERITY 3:** Low level

# *Appendix B: Industry Standards and Best Practices*

| STANDARD | DESCRIPTION |
|---|---|
| ADA | Americans with Disabilities Act |
| ADKAR® | Prosci ADKAR: Awareness, Desire, Knowledge, Ability, and Reinforcement |
| BABOK® v3 | Business Analyst Body of Knowledge |
| DAMA-DMBOK® v2 | DAMA International's Guide to the Data Management Body of Knowledge |
| HIPAA | Health Insurance Portability and Accountability Act of 1996 |
| MARS-E v2.0 | CMS Minimum Acceptable Risk Standards for Exchanges – Exchange Reference Architecture Supplement |
| MITA v3.0 | Medicaid Information Technology Architecture |
| PMBOK® v7 | Project Management Institute (PMI) Project Management Body of Knowledge |
| SWEBOK v3 | Guide to the Software Engineering Body of Knowledge |
| TOGAF® v9.2 | The Open Group Architecture Framework Standard |
| COBIT® 2019 Framework | Control Objectives for Information and Related Technologies Framework |
| IEEE 828-2012 | Institute of Electrical and Electronics Engineers (IEEE) Standard for Configuration Management in Systems and Software Engineering |
| IEEE 1062-2015 | IEEE Recommended Practice for Software Acquisition |
| IEEE 1012-2016 | IEEE Standard for System, Software, and Hardware Verification and Validation |
| IEEE 730-2014 | IEEE Standard for Software Quality Assurance Processes |
| ISO 9001:2015 | International Organization for Standardization (ISO) Quality Management Systems – Requirements |
| ISO/IEC 25010:2011 | ISO/International Electrotechnical Commission (IEC) Systems and Software Engineering – Systems and Software Quality Requirements and Evaluation (SQuaRE) – System and Software Quality Models |
| ISO/IEC 16085:2020 | ISO/IEC Systems and Software Engineering – Life Cycle Processes – Risk Management |

| STANDARD | DESCRIPTION |
|---|---|
| IEEE 16326-2019 | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Life Cycle Processes – Project Management |
| IEEE 29148-2018 | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Life Cycle Processes – Requirements Engineering |
| IEEE 15288-2015 | ISO/IEC/IEEE International Standard – Systems and Software Engineering – System Life Cycle Processes |
| IEEE 12207-2017 | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Software Life Cycle Processes |
| IEEE 24748-1-2018 | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Life Cycle Management – Part 1: Guidelines for Life Cycle Management |
| IEEE 24748-2-2018 | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Life Cycle Management – Part 2: Guidelines for the Application of ISO/IEC/IEEE 15288 (System Life Cycle Processes) |
| IEEE 24748-3-2020 | IEEE Guide: Adoption of ISO/IEC TR 24748-3:2011, Systems and Software Engineering – Life Cycle Management – Part 3: Guide to the Application of ISO/IEC 12207 (Software Life Cycle Processes) |
| IEEE 14764-2021 | ISO/IEC/IEEE International Standard for Software Engineering – Software Life Cycle Processes – Maintenance |
| IEEE 15289-2019 | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Content of Life Cycle Information Items (Documentation) |
| IEEE 24765-2017 | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Vocabulary |
| IEEE 26511-2018 | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Requirements for Managers of Information for Users of Systems, Software, and Services |
| IEEE 23026-2015 | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Engineering and Management of Websites for Systems, Software, and Services Information |
| IEEE 29119-1-2021 | ISO/IEC/IEEE International Standard – Software and Systems Engineering – Software Testing – Part 1: Concepts and Definitions |
| IEEE 29119-2-2021 | ISO/IEC/IEEE International Standard – Software and Systems Engineering – Software Testing – Part 2: Test Processes |
| IEEE 29119-3-2021 | ISO/IEC/IEEE International Standard – Software and Systems Engineering – Software Testing – Part 3: Test Documentation |
| IEEE 29119-4-2021 | ISO/IEC/IEEE International Standard – Software and Systems Engineering – Software Testing – Part 4: Test Techniques |
| IEEE 1484.13.1-2012 | IEEE Standard for Learning Technology – Conceptual Model for Resource Aggregation for Learning, Education, and Training |

| STANDARD | DESCRIPTION |
|---|---|
| ISO/IEC TR 20000-11:2021 | ISO/IEC Information Technology – Service Management – Part 11: Guidance on the Relationship Between ISO/IEC 20000-1:2011 and Service Management Frameworks: ITIL® |
| ISO/IEC 27002:2022 | Information Technology – Security Techniques – Code of Practice for Information Security Controls |
| SAML v2.0 | Security Assertion Markup Language v2.0 |
| SoaML v1.0.1 | Service Oriented Architecture Modeling Language |
| CMMI-DEV v1.3 | Capability Maturity Model Integration for Development |
| FIPS 199 | Federal Information Processing Standard (FIPS) Publication 199, Standards for Security Categorization of Federal Information and Information Systems |
| FIPS 200 | FIPS Publication 200, Minimum Security Requirements for Federal Information and Information Systems |
| NIST 800-53 Rev 5 | National Institute of Standards and Technology (NIST) Security and Privacy Controls for Federal Information Systems and Organizations |
| NIST Cybersecurity Framework v1.1 | NIST Framework for Improving Critical Infrastructure Cybersecurity |
| LSS | Lean Six Sigma |

# *Appendix C: Interviews, Meetings, and Documents*

## INTERVIEWS

| DATE | INTERVIEWEE |
|---|---|
| | None |

## MEETINGS

| DATE | MEETING DESCRIPTION |
|---|---|
| 04/27/22 | IV&V DCD Update Meeting |
| 04/28/22 | Case Management UAT Stand-Up |
| 04/28/22 | eCMS Testing Roundtable |
| 05/02/22 | IV&V DCD Update Meeting |
| 05/02/22 | Risk Meeting |
| 05/02/22 | OCM Touchpoint Meeting |
| 05/03/22 | PM Status Meeting |
| 05/03/22 | Case Management UAT Stand-Up |
| 05/03/22 | eCMS Testing Roundtable |
| 05/04/22 | Phase 2: Sprint 8.2 Review |
| 05/04/22 | IV&V DCD Update Meeting |
| 05/05/22 | PM Status Meeting |
| 05/05/22 | IV&V Report Draft Walkthrough |
| 05/05/22 | Case Management UAT Stand-Up |
| 05/05/22 | eCMS Testing Roundtable |

## MEETINGS (CONTINUED)

| DATE | MEETING DESCRIPTION |
|---|---|
| 05/09/22 | IV&V DCD Update Meeting |
| 05/09/22 | Risk Meeting |
| 05/09/22 | OCM Touchpoint Meeting |
| 05/10/22 | PM Status Meeting |
| 05/10/22 | Case Management UAT Stand-Up |
| 05/10/22 | eCMS Testing Roundtable |
| 05/10/22 | OCM Touchpoint Meeting |
| 05/10/22 | Award Worksheet Session |
| 05/11/22 | Phase 1 DCD Training Session |
| 05/11/22 | Lotus Notes Migration Plan |
| 05/11/22 | IV&V DCD Update Meeting |
| 05/12/22 | PM Status Meeting |
| 05/12/22 | Case Management UAT Stand-Up |
| 05/12/22 | eCMS Testing Roundtable |
| 05/13/22 | Monthly eCMS Steering Committee Meeting |
| 05/13/22 | Phase 1 DCD Training Session |
| 05/16/22 | IV&V DCD Update Meeting |
| 05/16/22 | Risk Meeting |
| 05/16/22 | OCM Touchpoint Meeting |
| 05/16/22 | Phase 1 DCD Training Session |

## MEETINGS (CONTINUED)

| DATE | MEETING DESCRIPTION |
|---|---|
| 05/16/22 | Lotus Notes Migration Plan |
| 05/17/22 | PM Status Meeting |
| 05/17/22 | Case Management UAT Stand-Up |
| 05/17/22 | eCMS Testing Roundtable |
| 05/18/22 | Phase 1 DCD Training Session |
| 05/18/22 | Lotus Notes Migration Plan |
| 05/18/22 | IV&V DCD Update Meeting |
| 05/19/22 | Case Management UAT Stand-Up |
| 05/19/22 | eCMS Testing Roundtable |
| 05/20/22 | Phase 1 DCD Training Session |
| 05/23/22 | IV&V DCD Update Meeting |
| 05/23/22 | Risk Meeting |
| 05/23/22 | OCM Touchpoint Meeting |
| 05/23/22 | Phase 1 DCD Training Session |
| 05/24/22 | PM Status Meeting |
| 05/24/22 | eCMS Testing Roundtable |
| 05/24/22 | Phase 2:  Sprint 8.3 Review |
| 05/25/22 | IV&V DCD Update Meeting |
| 05/26/22 | PM Status Meeting |
| 05/26/22 | eCMS Testing Roundtable |

## MEETINGS (CONTINUED)

| DATE | MEETING DESCRIPTION |
|---|---|
| 05/26/22 | eCMS & IV&V Software Development Discussion |
| 05/27/22 | Phase 2:  Sprint 8.3 Review with Plans for User Feedback |
| 05/31/22 | PM Status Meeting |

## DOCUMENTS

| TYPE | DOCUMENT |
|---|---|
| Request for Proposal | State of Hawaii DLIR DCD RFP No. RFP-17-002-DCD (Release Date 04/12/18) |
| DataHouse Proposal | DataHouse eCMS Best and Final Offer (BAFO) Proposal (Dated 06/20/18) |
| Request for Proposal | State of Hawaii DLIR DCD IV&V RFP No. RFP-18-001-DCD (Release Date 12/28/18) |
| Contract | Contract between State of Hawaii and DataHouse Consulting Inc. (Effective 08/27/18) |
| Costs | DCD eCMS Modernization Project – Services (05/12/22) |
| Design | Case Management Design Version 1.11 (Updated 05/12/22) |
| Design | Content Management Design Version 1.6 (Updated 05/11/22) |
| Development | Case Management Phase 2 Build Burndown (05/05/22, 05/26/22) |
| Development | DataHouse Development Team Status Meeting Minutes (04/27/22, 05/04/22, 05/11/22, 05/18/22, and 05/25/22) |
| Development | Phase 2:  Sprint 8.3 Review - Meeting recording (05/24/22) |
| Development | NCCI Process Meeting Notes (05/03/22) (8 Documents) |
| Development | Award Worksheet Formulas (05/10/22) |
| Development | eCMS Case Management Permission Matrix (05/05/22) |
| Development | Phase 1B - Salesforce Interaction with Notes and DCIS (05/07/22) |

## DOCUMENTS (CONTINUED)

| TYPE | DOCUMENT |
|---|---|
| Development | Phase 2 Epic 8 Sprint 8.2 Review User Stories (05/03/22) |
| Development | Phase 2 Epic 8 Sprint 8.3 Review User Stories (05/24/22) |
| Forms | Design of TDI-62 Form (Revised 05/04/22) |
| Governance | eCMS ESC Meeting Agenda (05/13/22) |
| Governance | eCMS ESC Meeting Minutes (04/08/22) |
| Governance | eCMS ESC Meeting DataHouse Project Dashboard (05/13/22) |
| OCM | Salesforce POC for Each Area (05/17/22) |
| OCM | Modernization Project Survey Results |
| Project Management | DLIR Lessons Learned Log (05/27/22) |
| Procurement | Executed DataHouse Supplemental Contract 1 (Effective 07/01/22) |
| Procurement | Contract between State of Hawaii and Champagne Collaborations, LLC (Effective 04/18/22) |
| Quality | Metrics for Content Management Quality Tracking Log (05/27/22) |
| Quality | Content Management Quality Tracking Log (05/27/22) |
| Requirements | Case Management Requirement Version 1.11 (Updated 05/20/22) |
| Requirements | Requirements Traceability Matrix (RTM) (05/27/22) |
| Risk and Issues | RAID (Risk Action Issue Decision) Log (Dated 05/23/22, updated by DCD Risk Manager) |
| Schedule | eCMS Microsoft Project Plan as of 05/24/22 (MPP file) |
| Schedule | Filtered Project Plans (Late Tasks, Upcoming 4 weeks) (05/03/22, 05/17/22, and 05/24/22) |
| Security | DataHouse Email re: DLIR DCD eCMS UAT and PROD - Quarterly Security Report (05/13/22) |
| Security | AWS Inspector Vulnerability Scan on UAT and PROD as of 05/09/22 (4 files) |

## DOCUMENTS (CONTINUED)

| TYPE | DOCUMENT |
|---|---|
| Testing | Case Management Phase 1B Test Cases (05/27/22) |
| Testing | Case Management Phase 1B Regression Testing (05/27/22) |
| Testing | Case Management UAT Metrics (05/27/22) |
| Testing | Phase 2 Case Management Test Cases (05/09/22) |
| Testing | Phase 3 Case Management Test Cases (05/18/22) |
| Testing | Phase 1 Case Management User Feedback (05/27/22) |
| Testing | Metrics for Phase 1 Case Management User Feedback (05/27/22) |
| Testing | eCMS Testing Roundtable Meeting Recordings (05/27/22) (9 Files) |
| Testing | Testers Plan (05/11/22) |
| Testing | Content Management Test Cases (05/07/22) |
| Training | Case Management Training Guides Version 1.0 (05/12/22) |
| Training | DCD Content Management Training Guides (05/21/22) (4 Documents) |
| Training | Phase 1A and 1B Training Sessions (05/25/22) (14 Files) |
| Training | Training Survey Results (5 files) |
| Transition | Case Management Phase 1B Go Live Checklist (05/27/22) |
| Transition | DCD WC1 Electronic File - Transition - Meeting Recording (05/09/22) |
| Transition | Case Management Phase 1B Go Live Checklist - DH (05/27/22) |

# *Appendix D:  Prior Findings Log*

## *Appendix D: Prior Findings Log*

| ASSESSMENT CATEGORY | FINDING ID | TYPE | ORIGINAL SEVERITY | CURRENT SEVERITY | FINDING | ANALYSIS | RECOMMENDATION ID | RECOMMENDATION | SUPPLEMENTAL RECOMMENDATION | FINDING STATUS | FINDING STATUS UPDATE | CLOSED DATE | CLOSURE REASON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Training and Knowledge Transfer | 2022.04.PM01 | Risk | Moderate | Moderate | Insufficient planning and preparation of training activities may limit the project's deployment timeline and user adoption. | DataHouse completed their training materials deliverable and train-the-trainer sessions. DLIR is responsible for training other users, however, there is no formal training plan or approach. With Phase 1 Case Management go-live quickly approaching, the training program details need to be finalized and executed to allow users sufficient time to learn and familiarize themselves with the new systems. Some DCD users already received training through participation in UAT. The amount of training and supplemental sessions provided to testers for UAT demonstrates the steep learning curve and long runway time needed for users to learn how to use the new system. DLIR intends for these users to be the network that will help provide informal training and support to other users in their areas. However, some areas do not have a representative from their area (e.g., district offices) or the assigned representative did not actively participate in the UAT supplemental training sessions. Providing formal training will help to ensure that everyone receives consistent, baseline training. DLIR continues to update DataHouse provided training materials with additional information learned during UAT. However, these documents are more focused around and organized by system features rather than business processes. | 2022.04.PM01.R1 | Finalize a detailed training schedule. | •Include specific dates, times of sessions, trainers, tasks, attendees, curriculum, and materials. | Open | 05/31/22: DLIR commenced Phase 1 Case Management training activities and conducted surveys to collect feedback on training. Based on the survey results and observing the training sessions, the timing and format of training do not appear to adequately prepare users. Additional training is needed given the steep learning curve, unclear business processes, number of work-arounds, and limited hands-on practice in the current training format. Updates to the training plan are needed to incorporate feedback and to provide additional details of training session topics and objectives. The surveys should also be improved to get better measures of training effectiveness and user readiness.<br><br>A lesson learned from Phase 1 is that more training time is needed to prepare testers and end users to efficiently perform testing and their operational work. With Phase 2 UAT scheduled to begin shortly, DLIR should also begin planning for Phase 2 training for both testers and end users. DLIR should consider separate testing and training sessions for Phase 2 as combining this with the overlapping Phase 1 activities may cause confusion between Phase 1 and 2 functionality. | | |
| | | | | | | | 2022.04.PM01.R2 | Develop standard operating procedures. | •Develop specific standard operating procedures for employees to understand how to perform their work using the current workflows in the new system. | | | | |
| | | | | | | | 2022.04.PM01.R3 | Collect feedback on training. | •Develop surveys to get user feedback to improve future trainings, to measure the effectiveness of training, and to determine the need for additional training activities. | | | | |
| System Software, Hardware, and Integrations | 2022.04.IT01 | Risk | Moderate | High | The number of outstanding project risks and issues may impact DLIR operations if not addressed prior to go-live. | The eCMS Phase 1 Case Management system go-live is just over a month away on June 9, 2022. There is inherent risk involved in the launch of any new system. This risk is typically mitigated through careful planning, thorough quality, testing, and acceptance checks, and post go-live support teams and processes. DLIR and DataHouse continue to make progress to prepare for go-live, but there are still a number of areas that need additional clarification around plans, processes, roles and responsibilities, and metrics. With so many details left to figure out or resolve during production, this may have a significant impact on the continuity and efficiency of DLIR operations. The Phase 1 Content Management system was two months into production before the critical blockers were addressed. During this time, documents had to be scanned into both the legacy and the new system to avoid any major impact on the operations of the limited stakeholder group. There is significantly increased complexity in the Case Management system compared to Content Management and a far greater number of internal and external stakeholders. This raises the inherent risk associated with this next go-live and the need to address previously identified deficiencies. The following project risks and issues (refer to Appendix D: Prior Findings Log) collectively may impact the overall success of the Phase 1 Case Management system launch and potentially the DLIR operations:<br>•Testing and Quality Issues (2020.12.IT01, 2019.10.IT01, and 2019.07.IT05) – ongoing UAT execution issues continue to limit progress to complete UAT. DLIR performance of end-to-end testing and plans for regression testing are also still pending. With limited time remaining to complete testing and without defined quality metrics, DLIR must ensure that adequate testing is performed to minimize issues and defects post go-live.<br>•Unclear Go/No-Go Criteria (2020.09.IT01) – Criteria for the Phase 1 Case Management go-live and acceptance still need to be established to ensure that the project does not move forward without completing all the necessary preparation activities for a successful go-live.<br>•Unclear Business Processes (2020.12.PM01) – Additional clarification of business process changes around the new system is needed to ensure that DCD employees know how to perform their work post go-live to prevent significant impact on operation efficiencies.<br>•Unclear Data Conversion Plans (2019.11.IT01) – The plan for converting existing paper files is still pending. The new QR coded forms require documents to be scanned with the new Case Management system. With some files scanned and some in paper form, this may lead to confusion, work arounds, and slower user adoption.<br>•Lack of Stakeholder Communications Plan (2019.07.PM07) – Communications with external stakeholders have been minimal. Additional communications are needed to prepare stakeholders for substantial changes in key workers compensation forms and those using the new electronic form submission process to prevent significant delays in processing critical employer filings.<br>•Missing OCM Activities (2019.07.PM08) – Specific metrics and surveys for collecting and monitoring change resistance and user adoption still need to be finalized. Identifying OCM issues early will help in timely formulating plans to address the issues (e.g., additional training, reinforcement mechanisms) and increase user adoption.<br>•Lack of Training Plan (2022.04.PM01) – Details of the training dates, format, attendees, trainers, content, etc. are still pending. An effective training program is critical for preparing users for transitioning to the new system.<br>•Other General Findings (2019.09.PM02, 2019.09.IT02, 2019.07.PM02, 2019.07.PM06, 2019.07.PM09, 2019.07.PM10, 2019.07.PM14, and 2019.07.IT07) – Other outstanding risks and issues may also impact the ability of the project team to timely and adequately address issues that arise post go-live.<br><br>In addition to the specific recommendations made as a part of this finding, the IV&V recommendations made at the findings referenced above will also help to address this issue. | 2022.04.IT01.R1 | Perform operations risk and impact assessment. | •Identify areas of operations at greatest risk and assess impact (e.g., operational workloads, compliance, constituents/claimants) of potential technical issues or system down-time.<br>•Consider business processes with high volumes, statutory requirements, or greater external stakeholder involvement. | Open | 05/31/22: Accuity increased the severity rating from Level 2 (Moderate) to Level 1 (High) as not enough progress was made to address the many risks and issues that collectively could have a significant impact on operations. Many transition activities were left to be completed close to go-live due to time and resource constraints. Even with the plan to defer the go-live again, there are already signs that the new proposed date may still not be sufficient time to complete all critical tasks necessary to mitigate the operational risk. DLIR and DataHouse did discuss the post go-live support and DataHouse plans to have some on-site resources. Additional discussions of support processes and DLIR support resources are needed for both internal and external stakeholders. | | |
| | | | | | | | 2022.04.IT01.R2 | Increase post go-live support and resources. | •Assign dedicated DLIR and DataHouse resources for on-site support and troubleshooting.<br>•Create a support plan specific for external stakeholders.<br>•Clarify issue/incident escalation processes and tools.<br>•Consider scheduling standing check-ins with internal and external users for regular Q&A and issue resolution. | | | | |
| | | | | | | | 2022.04.IT01.R3 | Develop a formalized post go-live plan. | •Document functionality, remaining defects, and any open deliverables to be completed post go-live.<br>•Provide detailed dates and resources to address each post go-live delivery. | | | | |

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| System Software, Hardware, and Integrations | 2022.02.IT01 | Issue | Moderate | Moderate | Content Management system and rollout issues resulting in low user adoption. | The eCMS Phase 1 Content Management system went live on January 26, 2022 and was rolled out to a small number of users in one stakeholder group. In the month since go-live, users have encountered a number of technical issues with the system including performance, reliability, functionality, and data. The DataHouse Content Management development team is working closely with DLIR to resolve issues and released several patches and updates. Despite these efforts, user adoption remains low with users reverting to the legacy system to perform their work. The following is a summary of transition risks or issues:<br>•The process for reporting user issues is not consistent with some issues logged in the quality log, DLIR Teams channel, or through email. This makes it difficult to track metrics, status, priority, or resolution of production issues.<br>•While some of the low user adoption is due to the technical issues with the system, it is unclear how much of this is due to user OCM issues (e.g., user resistance or training needs). User adoption blockers need to be identified.<br>•It is not clear what the root cause is for the number of technical issues and user issues encountered in production. Feedback was collected from users in a lessons learned session to identify areas of improvement but further analysis to determine root cause and improvement plans to specifically address these root causes are still needed.<br>•Although DLIR and DataHouse are working hard to address reported issues, it is unclear what the comprehensive plan or timeline is to address both technical and user issues to successfully transition all users onto the new system. | 2022.02.IT01.R1 | Improve production issue/defect processes. | •Reassess issue/defect reporting processes and tools to improve consistency and ensure documentation retention.<br>•Collect and use metrics to help in identifying production issue trends, analyzing system vs. user issues, and investigating root causes. | Open | 03/23/22: Phase 1 Content Management technical system issues continue to be addressed but the complete status of issue resolution, root cause of those issues, status and metrics for user adoption, and plans to address transition issues remain unclear. DLIR plans to restrict access to the legacy system after the last critical technical issue is addressed.<br><br>04/26/22: Phase 1 Content Management technical system issues continue to be addressed. DLIR turned the legacy Content Management system to read-only which should help to improve user adoption.<br><br>05/31/22: Four months after the initial Phase 1 Content Management go-live, system issues are still being reported and addressed. The plan to closeout remaining issues, the root causes of issues, current levels of user adoption, and the status of transition checklist tasks deferred to post go-live remain unclear. DCD end users received training on the Phase 1 Content Management systems as part of the overall Phase 1 Case Management training, but it is not clear when DCD users will actually begin to use the system.<br><br>A lesson learned from the Phase 1 Content Management go-live is that rushing transition activities and deferring transition tasks to post go-live in order to meet the timeline can impact operations. The business reverted back to the legacy system as technical and user issues were addressed. Considering the increased complexity and number of stakeholders for the Phase 1 Case Management system and that the legacy system will not be simultaneously kept up-to-date as it was for Phase 1 Content Management, it is critical that transition risks are adequately assessed and mitigated. The potential impact to DCD operations should be carefully analyzed as part of the decision to go-live. See also finding 2022.04.IT01. | | |
| | | | | | | | 2022.02.IT01.R2 | Develop a comprehensive and prioritized plan to address transition issues. | •DLIR and DataHouse should work together to evaluate and prioritize the transition issues with the greatest impact on user adoption and develop a clear plan and realistic timeline.<br>•Plans should identify and address root causes of technical issues (e.g., ineffective or insufficient system testing or UAT, incomplete requirements, improper configuration or production promotion management) and user issues (e.g., inadequate training, change reinforcement mechanisms, or BPR discussions). | | | | |
| Business Process Reengineering | 2021.08.PM01 | Risk | Moderate | Moderate | Inadequate attention to and framework for BPR may reduce operational performance gains achieved. | In the initial round of Phase 2 design sessions, preliminary design mock-ups were presented and did not seem to completely address the requests and current operational pain points raised by DLIR SMEs during the requirements gathering stage. While some features were presented that will help to improve operational performance, there were missed opportunities to achieve even greater improvements through system automation, integration, and capabilities. Design sessions with SMEs were more focused around technical design aspects while the SMEs sometimes struggled to understand the business context of the design or how the system could help to solve operational challenges. Business process improvement is a key deliverable identified in the RFP and in DataHouse's contract but there are no formal plans or processes for BPR activities. As such, it is difficult to assess the effectiveness and completeness of BPR activities as well as the operational performance gains targeted and achieved. Solutions to address BPR opportunities can continue to be explored in follow-up design sessions as well as during the build stage; however, it is critical to identify and address these early to prevent additional effort to correct later. DLIR plans to meet with SMEs prior to meetings to better prepare them to actively and effectively participate in project activities. DataHouse plans to provide more background and business context during follow-up design sessions.<br><br>Although this finding is reported under the Business Process Reengineering IV&V Assessment Category, this finding also impacts the criticality rating for Design. In addition to the specific recommendation made as a part of this finding, the IV&V recommendation made at finding 2020.12.PM01 will also help to address this issue. | 2021.08.PM01.R1 | Identify and analyze BPR opportunities. | •Consider areas with greatest impact or value due to transaction volume, severity of pain points, or priority within DLIR's operational goals (e.g., WC-3 form processing and reconciliation, insurance plans form processing, employer compliance monitoring, and Special Compensation Fund (SCF) recordkeeping).<br>•Explore possible BPR solutions that include business process changes and/or system functionality.<br>•Increase discussions between DLIR and DataHouse to better connect business processes to system capabilities.<br>•Ensure SMEs understand the importance of BPR and when and how BPR will be discussed throughout the project. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: Some BPR opportunities continue to be discussed in Phase 2 development sprint sessions and Phase 3 requirements gathering. Identification of those BPR opportunities with the greatest impact or value is still needed.<br><br>02/24/22, 03/23/22, and 04/26/22: No updates to report.<br><br>05/31/22: It is still unclear if all critical BPR opportunities are being addressed as part of ongoing Phase 2 development and Phase 3 design.<br><br>A lesson learned from Phase 1 is that more time should be spent considering BPR opportunities early in the design and development process in order to avoid rework. Some BPR opportunities were raised and continue to be raised during Phase 1 Case Management UAT. While DataHouse addressed some of the user feedback, at this point in the development process so close to go-live, these are being put onto the backlog. BPR is occasionally discussed during Phase 2 system demonstrations or Phase 3 design sessions, but these sessions are broken out to focus on specific operational user groups or system features. DLIR should perform an exercise to take a step back to look at the bigger picture of DCD operations and see if all of the major pain points with the greatest impact or value are being addressed as part of system design and development. | | |

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| Governance Effectiveness | 2021.05.PG01 | Issue | Moderate | Moderate | Insufficient support and guidance from project governance may limit the project's ability to overcome current project challenges. | Since December 2020, DLIR and DataHouse have been working to address and analyze various Content Management issues (refer to finding 2021.03.IT01). In March 2021, DataHouse presented three options to the ESC for the Content Management solution. Previous plans and timelines to make a decision regarding the Content Management solution were postponed to allow more time for additional analysis. DLIR and DataHouse recently agreed on a new plan and timeline of tasks to reach a decision regarding the Content Management solution by July 2021. As the Content Management implementation delays are stalling the Phase 1 Case Management and Phase 2 activities and significantly impacting project success, it is critical for project governance to ensure that the project sets and sticks to plans to address this and other high-impact issues (refer to Appendix D: Prior Findings Log). Additional guidance and more active involvement from the ESC and project sponsors are needed to help remove barriers and drive progress. | 2021.05.PG01.R1 | Increase project governance involvement. | •Discuss high-impact barriers/blockers and mitigation plans for critical issues with ESC.<br>•Evaluate how various ESC members can be leveraged to remove barriers and execute mitigation plans.<br>•Consider adding additional ESC meetings until critical issues are resolved.<br>•Consider establishing more frequent touchpoints with DLIR and DataHouse project sponsors to more closely monitor and drive progress of executing mitigation plans for critical issues. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: The DataHouse Project Sponsor significantly increased involvement and committed additional resources which helped the project team to make greater progress towards the Phase 1 Content Management go-live. Program governance is especially critical for guiding the project to the Phase 1 Case Management go-live that is currently at risk.<br><br>02/24/22: DataHouse's additional resources committed during the Content Management go-live for LIRAB are not currently being deployed. It is important for project governance to help guide the project forward in order to avoid recurring schedule delays.<br><br>03/23/22: The eCMS Project Executive Steering Committee (ESC) was not able to meet this month to discuss project updates, risks, and issues. The DataHouse wellness plan is expected to be provided in April 2022.<br><br>04/26/22: The ESC reconvened this month and approved the re-baselined project schedule. The DataHouse wellness plan was delivered as a project status update during the ESC meeting. The ESC needs to play a greater role to drive progress and enforce accountability to prevent the continual cycle of delays.<br><br>05/31/22: Accuity changed this finding from a risk to an issue. The ESC approved the new timelines last month, but Phase 1 Case Management go-live will be deferred again. In the last year alone, the project timelines were re-baselined four times and are expected to be adjusted again in June 2022.<br><br>A lesson learned from the eCMS Project is that governance needs to play a greater role to help the project be successful. Repeated requests for changes to project timelines have been approved by the ESC without requiring root cause analysis or corrective actions which perpetuates the cycle of delays. Phase 1 Content Management went live over two years after the original target date. Phase 1 Case Management is almost two years beyond the original go-live date and it is unclear when this will realistically go live. The ESC also approved other critical project decisions (e.g., AWS, Encapture) with minimal questions or details of plans to support the change which resulted in subsequent issues or delays. The ESC and DLIR and DataHouse project sponsors need to provide additional support and guidance to help the project break the continuous cycle of delays and issues. | | |
| Business Process Reengineering | 2020.12.PM01 | Issue | Moderate | Moderate | Unclear business processes supporting the new system may impact testing and go-live readiness. | Ongoing Phase 1 Content Management UAT is raising questions regarding how the system will be used after interim Content Management go-live as well as the integrated Case Management go-live. The most critical business process in question is the use of the new quick response (QR) coded workers' compensation forms and the related business process for data entry and scanning of these forms during the interim phase. Other examples of business processes that need to be clarified include initial paper conversion scanning, subsequent separation and indexing of files, transferring of cases to LIRAB during the interim, preparing and viewing select documents for hearings, storing/indexing files associated to multiple cases, and acceptable use of annotations in electronic documents. Clarification of business processes is critical to ensure that proper UAT test cases are designed around how the system will be used in the future. Clear understanding of business processes is also important to provide timely communications and necessary training to impacted stakeholders prior to go-live. | 2020.12.PM01.R1 | Clarify redesigned business processes. | •Identify business processes that need to change with the modernized system.<br>•Discuss and evaluate options for redesigning identified business processes considering impacts on stakeholders.<br>•Ensure that communication and training plans are updated for major changes in business processes.<br>•Consider business process improvement performance goals and success metrics.<br>•Consider creating business process flows for the interim Content Management phase.<br>•Consider creating informational flyers/cheat sheets to help internal and external stakeholders understand and prepare for business process changes. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: Business processes continue to be discussed and refined for the limited DLIR stakeholder group in the first rollout of Phase 1 Content Management. Content Management business processes for other stakeholder groups as well as the significantly more complex Phase 1 Case Management business processes still need to be clarified.<br><br>02/24/22: No updates to report.<br><br>03/23/22: Changes to business processes around the new Case Management system need to be clarified in preparation for the upcoming go-live.<br><br>04/26/22: DLIR continues to clarify business processes during UAT. With Phase 1 Case Management go-live quickly approaching, it is critical that business processes are clarified for both the Case Management and the complimentary Content Management systems so that DCD employees know how to perform their work post go-live.<br><br>05/31/22: Accuity changed this finding from a risk to an issue as unclear business processes are impacting the execution and efficiency of UAT. DLIR held recurring sessions in early 2021 to discuss Phase 1 business processes but these were discontinued due to time and resource constraints. As a result, questions about business processes are arising during Phase 1 Case Management UAT which is slowing progress to complete UAT. Additionally, internal and external stakeholders do not appear to have sufficient understanding of what the new business processes will be for the upcoming Phase 1 Case Management go-live. Questions about business processes are also being raised during training as well as by external stakeholders.<br><br>A lesson learned from Phase 1 is that discussions about business processes should begin earlier to provide a clearer picture of processes leading into UAT and more runway time prior to go-live. With Phase 2 UAT scheduled to begin shortly, DLIR should resume recurring sessions to discuss business processes so that these discussions do not impact the efficiency of executing UAT. | | |

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| Quality Management and Testing | 2020.12.IT01 | Issue | High | High | Outstanding project risks are impairing the execution of UAT which may impact quality and project success. | DLIR began UAT of the Phase 1 Content Management solution and is scheduled to complete testing in the first week of January 2021. DLIR was not able to sufficiently prepare test cases prior to UAT kickoff, testing is generally not formally documented, and adequate testing resources were not secured or trained. DLIR and DataHouse did implement a log for tracking UAT feedback and issues as well as daily meetings to discuss and review the latest log entries submitted by DLIR testers. DataHouse is timely responding to log entries but it is unclear what DLIR's process and thresholds are for evaluating and ultimately accepting residual issues in aggregate. Adequate UAT is necessary to ensure quality and overall project success goals are met and that the project is able to move forward. The following project risks and issues (refer to Appendix D: Prior Findings Log) are impairing UAT execution:<br>•Inadequate Resources (2019.07.PM14, 2020.03.PM01) – DLIR does not have adequate testers and key DCD testers still need to get involved in testing activities. Additional DLIR resources are also needed to assist with test case preparation, tester training, and testing oversight.<br>•Inadequate Schedule and Resource Management Processes (2019.07.PM13 and 2019.09.PM02) – Formal tools and processes are not used to manage DLIR testing resources' schedule and tasks.<br>•Incomplete Requirements (2019.07.PM10) – User feedback and technical issues during UAT highlights the lack of adequately documented technical and functional requirements.<br>•Ineffective Communication (2019.07.PM06) – Limited communications occurred between the Content Management development team and DLIR during development. Recent daily meetings have helped to improve communications but additional discussions are needed to increase DLIR's understanding of the technical solution components.<br>•Incomplete DLIR and DataHouse Test Plans (2019.10.IT01, 2020.02.IT01) – DLIR and DataHouse have not yet finalized their test plans. Test scope, test processes, and testing documentation need to be further clarified between DLIR and DataHouse.<br>•Technical Issues – A number of technical issues were encountered during UAT. The slowness of the system has prevented DLIR from bringing on additional testers for UAT. DLIR and DataHouse are in the process of investigating the issues and plan to perform network and application testing in late December 2020.<br>•Unclear Business Processes (2020.12.PM01) – Unclear business processes surrounding the new technical solution creates confusion on testing of how the new system will be used in the future.<br>•Incomplete Quality Management Plan and Go/No-Go Decision Criteria (2019.07.IT05, 2020.09.IT01) – DataHouse and DLIR still need to finalize their quality management plan and define quality metrics and acceptance criteria.<br><br>In addition to the specific recommendations made as a part of this finding, the IV&V recommendations made at the findings referenced above will also help to address this issue. | 2020.12.IT01.R1 | Develop a prioritized plan to address UAT execution issues. | •DLIR and DataHouse should work together to evaluate and prioritize the UAT execution issues with the greatest impact on the Content Management go-live date.<br>•Develop a clear plan and realistic timeline to address UAT execution issues considering availability of DLIR project resources. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: DLIR and DataHouse improved the process for resolving issues/defects for Phase 1 Content Management UAT by prioritizing those required to be addressed prior to go-live and agreeing to address remaining issues/defects by the end of February 2022. As for Phase 1 Case Management UAT, performance metrics show only 1% of test cases have been completed to-date and completion in February 2022 does not appear likely. Insufficient testers and additional training for testers are the two biggest execution issues. DLIR is making some progress to expand the testers by functionality group but progress is slow, resource engagement and ownership remains low, resources need additional system and testing training, and resourcing levels are still below the required number of testers needed. DataHouse committed on-site resources to support DLIR testers for Content Management UAT but it is unclear how these resources will be leveraged for Case Management UAT. DLIR and DataHouse need to work together to prioritize and address UAT execution issues.<br><br>02/24/22: The continuing work from addressing issues identified after Phase 1 Content Management go-live is causing an increase in schedule and resource constraints for other phases. Phase 1 Case Management testing metrics indicate 11.89% of test cases completed while the projected completion by the end of this week is 41.38%. Additional improvements in prioritizing and addressing UAT execution issues are still needed.<br><br>03/23/22: Current performance metrics for Phase 1 Case Management testing indicate a 23.15% of test cases completed which is still below the 78.17% projected completion target. Issues related to permissions settings for DLIR testers largely contributed to the delays. DLIR plans to revise the testing target metrics to align to the new proposed go-live timeline. The recurring Case Management UAT stand-up meetings help to discuss and resolve issues and feedback reported by testers during UAT. Additional improvements in prioritizing and addressing UAT execution issues are still needed.<br><br>04/26/22: 40% of Phase 1 Case Management UAT test cases are completed which is significantly below the percentage completion targets. Issues related to permissions settings for DLIR testers are still contributing to delays. Under the re-baselined schedule, UAT was to be completed by the end of April but is now delayed to mid-May. DLIR has been trending at 13% test case completion per month. With up to 60% test cases to complete in less than 3 weeks, this is an aggressive target. DLIR also needs to complete their end-to-end testing during this time. DLIR and DataHouse must work together to prioritize and address UAT execution issues.<br><br>05/31/22: DLIR UAT is a major hurdle for Phase 1 Case Management acceptance and go-live. Only 55% of the test cases are passed, performance of DLIR end-to-end and regression testing is still pending, and there are a number of unresolved issues and defects. DLIR continues to trend at ~13% test case completion per month. It is unclear how many of the in-progress test cases are pending due to reported issues and defects or due to limited testing resources bandwidth. With up to 45% test cases to be completed, even the new proposed go-live may not be achievable or realistic. Accuity reopened the 2020.12.IT01.R2 recommendation as additional improvement and discussion is needed around the issue/defect resolution process. The regular meetings between DLIR and DataHouse to discuss issue/defect resolution discontinued in the current month but will be resumed in June 2022.<br><br>Lessons learned from Phase 1 are that DLIR testing processes need to be more efficient and UAT execution issues need to be addressed early and aggressively to prevent delays. Phase 2 UAT was scheduled to begin in April 2022 to get an early start on testing, closely following each development cycle. However, with the focus to complete Phase 1 UAT, the testing start date was pushed back to the end of May 2022. In order to keep the same go-live date, the scheduled time for UAT was compressed down to three months. There are significantly more test cases for Phase 2 with ~1,300 test cases compared to ~500 for Phase 1 Case Management. This would require ~400 test cases to be completed each month to achieve the current schedule. As test case completion for Phase 1 Case Management UAT is averaging ~70 test cases per month, the current UAT schedule for Phase 2 already does not appear to be realistic. DLIR and DataHouse should already begin actively discussing Phase 2 UAT execution issues and exploring mitigation strategies including ways to improve UAT efficiency. | | |
| | | | | | | | 2020.12.IT01.R2 | Improve DLIR understanding of issue/defect resolution. | •DataHouse should provide additional clarification and demonstration of the functionality to be provided by the stand-alone Content Management solution and the integrated Case Management solution. This will help DLIR users understand limitations that are only temporary and the additional functionality provided in later phases.<br>•For issues not fixed by DataHouse, DLIR should ensure stakeholders understand options (e.g., work arounds, change requests).<br>•DLIR should assign risk/criticality ratings for each of the unresolved issues to provide quantifiable metrics for system acceptance and the go/no-go decision.<br>•Consider which issues/defects can be addressed after go-live by agreed-upon resolution dates. | | | | |

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| System Software, Hardware, and Integrations | 2020.09.IT01 | Issue | High | High | Unclear go/no-go criteria may impact the orderly completion of all tasks required for system go-live. | The criteria for the go/no-go decision are not completely and clearly defined and agreed upon. The decision to go-live involves many areas and tasks of the project including testing, quality management, security, data conversion, training, communications, and deliverable review, as well as the operational readiness of users. Various project plans often include or establish select criteria; however, some of these related plans pending completion or finalization include the test plans (2020.02.IT01 and 2019.10.IT01), the quality management plan (2019.07.IT05), and security management plan (2019.07.IT07). Additionally, acceptance criteria for requirements (2019.10.PM01) and for deliverables (2019.07.PM03) have not been established.<br><br>The Content Management system is scheduled to go-live on November 25, 2020 and Case Management on June 14, 2021. With the Content Management go-live date quickly approaching, it is important to establish clear criteria for the go/no-go decision. DLIR is planning to draft a go/no-go checklist to summarize all of the criteria and tasks. DataHouse plans to provide a cutover plan to provide additional information about pre and post go-live tasks. | 2020.09.IT01.R1 | Establish complete and clear go/no-go criteria. | •Establish go/no-go criteria in advance of the go-live decision to allow for sufficient time for tasks to be completed and criteria satisfied.<br>•Ensure all parties agree upon go/no-go criteria including impacted stakeholders.<br>•Consider go/no-go criteria such as all requirements meet acceptance criteria and are approved by DLIR, end user training is completed, and critical bugs and issues are identified and resolved.<br>•Consider setting go-live countdown checkpoints (e.g., 15, 30, 60, 90 days) for specific go/no-go criteria or tasks to be reviewed or completed by. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: DLIR and DataHouse established a consolidated go/no-go checklist for the first rollout of Phase 1 Content Management. Checklist items were prioritized between pre and post go-live completion. DLIR and DataHouse agreed that post go-live items will be completed by the end of February 2022. Go/no-go checklists are still needed for the DCD rollout of Phase 1 Content Management planned for February 2022 and Phase 1 Case Management in March 2022. It is critical for the go/no-go checklist and deployment activities to be finalized especially for Phase 1 Case Management due to the significantly increased complexity of the system and higher number of internal and external stakeholders that will require greater coordination and longer lead times.<br><br>02/24/22: The Phase 1 Case Management March 31, 2022 go-live is deferred but the revised schedule is pending. It is critical for the go/no-go checklist and deployment activities to be finalized.<br><br>03/23/22: No updates to report.<br><br>04/26/22: With Phase 1 Case Management go-live six weeks away, the go/no-go criteria and transition checklist must be completed.<br><br>05/31/22: DLIR and DataHouse began to prepare the Phase 1 Case Management transition checklist but some of the completion dates still need to be determined and it is unclear which of the transition tasks are used for the go/no-go decision.<br><br>A lesson learned from Phase 1 Content Management go-live is that transition activities were rushed and many tasks were deferred to post go-live in order to meet the timeline which resulted in users having to revert to the legacy system to perform their work. Go/no-go criteria and transition checklists should be used objectively to make critical go-live decisions. | | |
| Project Organization and Management | 2020.07.PM01 | Issue | High | High | Limited progress to address previously identified deficiencies for foundational project processes may result in reoccurring issues and delays. | IV&V identified a number of risks and issues since the IV&V Initial Report in July 2019 related to foundational project processes. Some of the more critical areas requiring improvements include cost management, schedule management, resource management, requirements management, change management, risk management, and testing as these processes impact many aspects of the project execution and contribute greatly to overall project performance and project success. Identified deficiencies contributed to project delays experienced in Phase 1. For example, a significant amount of time was spent clarifying and refining Case Management user stories due to incomplete and unclear requirements documentation. Additionally, the project was delayed several times for AWS due to unclear requirements, tasks, and resources needed as well as ineffective processes to document and analyze the change and identify and mitigate risks associated to the AWS build.<br><br>Incremental progress was made for many findings but a majority are still open. Progress was limited by availability of project resources and competing organizational and project priorities. With the kick-off of Phase 2 in August, this is a great opportunity to review identified deficiencies, evaluate the effectiveness of current project processes, reflect on lessons learned on the project to-date, and make necessary improvements for upcoming activities. Additionally, addressing deficiencies will better position the project to handle and adjust to changes going forward including potential rapidly evolving circumstances related to the COVID-19 pandemic (refer to finding 2020.03.PM01). | 2020.07.PM01.R1 | Perform a project assessment. | •Consider performing retrospective for project processes.<br>•Consider conducting performance assessments for the project team, individual team members, and governance.<br>•Document lessons learned and necessary actions or follow-up to prevent reoccurrence of similar issues. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: DataHouse assigned a resource to help with closing out prior IV&V findings. DLIR plans to perform a retrospective after the Phase 1 Content Management go-live to review lessons learned and make changes for future phases. Immediate adjustments of foundational project management processes must be made to prevent reoccurring delays and improve project performance, especially for Phase 1 Case Management.<br><br>02/24/22: A lessons learned meeting for Phase 1 Content Management was conducted. Developing and executing a plan to address the deficiencies identified during the lessons learned discussion will better position the project to handle and adjust to changes going into other phases. The wellness plan is still pending.<br><br>03/23/22: The DataHouse wellness plan to address project risks and issues is expected to be provided in April 2022. Addressing these previously identified deficiencies and lessons learned from the Phase 1 Content Management go-live are critical to properly prepare for the upcoming and more complex Phase 1 Case Management go-live.<br><br>04/26/22: The DataHouse wellness plan was delivered as a project status update during the monthly ESC meeting; however, the presentation was high-level and did not address specific open risks and issues. Previously identified deficiencies and lessons learned from the Phase 1 Content Management go-live still need to be addressed.<br><br>05/31/22: Accuity changed this finding from a risk to an issue as failure to address deficiencies has resulted in reoccurring issues. Similar risks and issues from Phase 1 are repeating for Phase 2. DLIR and DataHouse should resume efforts to address identified deficiencies to avoid repeating the same mistakes.<br><br>A lesson learned from the eCMS Project is that identified deficiencies should be addressed more timely and earlier in the project to prevent reoccurring issues. | | |
| | | | | | | | 2020.07.PM01.R2 | Formulate a plan for addressing identified deficiencies. | •Prioritize based on relevance to upcoming activities; consider focusing on requirements management and BPR processes to optimize effectiveness and efficiencies of upcoming requirements gathering sessions.<br>•Develop high-level timeline and tasks for addressing deficiencies and begin tracking progress. | | | | |

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| Data Conversion | 2019.11.IT01 | Issue | Moderate | Moderate | Unclear data conversion plans and processes may reduce DLIR's ability to prepare for proper data conversion. | The Content Management Conversion and Migration (version 1.2 pending DLIR approval) and Case Management Conversion and Migration (version 1.1 pending DLIR approval) describe the data conversion process and roles and responsibilities between DataHouse and DLIR. DLIR is responsible for performing UAT on the data and ultimately signing off on the final reconciliation reports but has not yet formalized plans for these tasks. The data conversion plans do not provide sufficient details and DLIR does not have insight to the DataHouse data conversion teams' activities, tools, reports, risks and issues, and testing. As such, DLIR is unable to properly prepare for their part in the process and will not be able to adjust their data conversion test plans for maximum efficiency. Additionally, DLIR has not finalized plans for scanning current paper files to ensure necessary data quality to support system use at go-live.<br><br>The IV&V recommendations made at 2019.07.PM02.R3 and 2019.07.PM13.R2 regarding DataHouse including DLIR in project activities and adding detailed tasks to the project schedule will also address this finding. Below are additional recommendations to further improve data conversion plans and activities. | 2019.11.IT01.R1 | Improve DLIR understanding of the data conversion process. | •Explain how data conversion tools perform validation and reconciliation steps and share available reports and logs.<br>•Explain the process for how the data conversion plans will be updated for changes in system requirements.<br>•Provide details on timing, number of data extractions and tests to be performed, and necessary remapping of data. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: Procurement of DLIR data conversion resources is in progress to perform conversion of paper files. The procurement covers open cases and closed cases for the last 30 years. The estimated contract start date is early March 2022 and the target completion date is February 2023. It is unclear how the timing of this work will impact the use of the new system or business processes for the Phase 1 Content Management DCD rollout and the Phase 1 Case Management go-live.<br><br>02/24/22, 03/23/22, and 04/26/22: No updates to report.<br><br>05/31/22: Accuity reopened the 2019.11.IT01.R1 and 2019.11.IT01.R2 recommendations as new questions, concerns, and issues about Phase 1 Case Management data conversion are still arising close to go-live. It is also unclear what DLIR's plans are for performing the final migration validation testing. Additionally, as the conversion of paper files into electronic documents is important for the adoption and user experience of the Phase 1 Case Management system, the plans and processes for the paper conversion still need to be clarified. The contract for paper scanning resources is expected to be executed in June 2022. It is unclear how the timing of those resources and scanning activities will be coordinated with other transition activities and how it may impact the success of upcoming system go-live and user adoption.<br><br>A lesson learned from Phase 1 is that discussions and planning of data conversion activities and testing should begin early. Due to insufficient planning, the Phase 1 Case Management data conversion validation testing was unorganized, limited testing metrics were collected, and tests performed and the results were not properly documented. This made it difficult to determine the effectiveness or completeness of testing. DLIR and DataHouse should begin discussing Phase 2 data conversion activities and how the data conversion data can be leveraged for UAT so that the need to manually create test data does not impact the efficiency of executing UAT. DLIR should also begin planning data conversion testing including drafting test cases, creating templates to document testing, scheduling testers, and preparing training materials. | | |
| | | | | | | | 2019.11.IT01.R2 | Formalize DLIR data conversion test plans. | •Focus DLIR tests to address identified data conversion risks and issues.<br>•Estimate data conversion test resource needs and ensure adequate resources are identified, trained, and scheduled (refer to findings 2019.09.PM02 and 2019.07.PM14). | | | | |
| | | | | | | | 2019.11.IT01.R3 | Formalize DLIR Case Management data conversion scanning plans. | •Evaluate the impact on operations and project success of different data conversion scanning approach options.<br>•Estimate scanning time requirements and begin to schedule or acquire necessary resources (refer to findings 2019.09.PM02 and 2019.07.PM14). | | | | |
| Scope and Requirements Management | 2019.10.PM01 | Risk | High | Moderate | The current RTM documentation and tool may hinder traceability, which may impact the ability to ensure the overall eCMS solution fulfills all requirements and provides context and expectations for design, development, and testing. | Added complexity to requirements traceability is due to the current requirements management process. Requirements documentation was developed separate from the DataHouse contract requirements and more detailed requirements were developed by the Content Management and Case Management development teams to use for development. As a result, there is duplication of requirements in the RTM which will likely impede traceability to requirements throughout the life of the project. DataHouse made incremental improvements to the RTM. The requirements documentation were traced to the use cases used by the Content Management development team or user stories used by the Case Management development team. DataHouse contract requirements were also added to the RTM but have not yet been traced to the requirements used for development. Requirements are not currently traced to project objectives and success metrics to ensure requirements add business value or to acceptance criteria to ensure stakeholder satisfaction. Additionally, the RTM is maintained in Microsoft Excel which limits version-control, efficient collaboration and review, and integration with testing. | 2019.10.PM01.R1 | Improve requirements traceability. | •Trace contract requirements to requirements subsets used by the development teams to ensure completeness.<br>•Consider identifying high-level requirements that duplicate more detailed requirements to reduce redundancy in traceability to design and testing.<br>•Trace requirements to the project objectives success metrics (refer to finding 2019.07.PG05) to ensure each approved requirement adds business value.<br>•Add acceptance criteria to the RTM to ensure stakeholder satisfaction.<br>•Consider use of a requirements management tool with greater functionality. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22 and 02/24/22: No updates to report.<br><br>03/23/22: Accuity decreased the severity rating from Level 1 (High) to Level 2 (Moderate) as DLIR improved processes to trace requirements to testing and acceptance. IV&V traced a sample of requirements to their respective test cases to ensure completeness of DLIR's approach which resulted in one exception due to a misclassification of the requirement to a different phase. DLIR plans to rereview the assignment of requirements and related test cases to ensure that they are properly assigned to the correct phase for testing.<br><br>04/26/22: No updates to report.<br><br>05/31/22: DLIR's approach to address requirements traceability was to develop test cases that would provide traceability of requirements from the DataHouse contract, meetings with stakeholders, and other DataHouse deliverables. However, this approach identified missing requirements or issues too late in the process and it is unclear what will be addressed as part of the Phase 1 Case Management go-live.<br><br>Lessons learned from the eCMS Project are that requirements traceability should be done from the start and the use of Excel to manage requirements does not support efficient and transparent traceability of requirements. DLIR should ensure that contract requirements are traced to requirements documentation. DLIR should also explore tools that can automate traceability. | | |

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| Quality Management and Testing | 2019.10.IT01 | Issue | High | High | Lack of approved test plans may impact the execution and quality of test activities and documentation. | According to the Project Management Plan (version 1.3), the DataHouse test plan was scheduled for completion on September 3, 2019. Due to the need to focus resources on the AWS setup and network connections, DataHouse is now targeting to complete the test plan in November 2019. DLIR planned to complete the DLIR test plan in October 2019. Due to resource constraints and the need to work on other DLIR IT initiatives, the DLIR test plan expected completion date was revised to November 2019 and the plan may be combined with the DataHouse test plan.<br><br>As DataHouse test activities are scheduled to begin in November 2019, DLIR needs to understand DataHouse's test strategy and test needs. DLIR also needs to establish their own test strategy as well as identify, train, and schedule DLIR test resources. | 2019.10.IT01.R1 | Finalize the test plan. | •Identify applicable test standards and requirements.<br>•Delineate roles and responsibilities between DataHouse and DLIR (refer to finding 2019.07.PM02).<br>•Estimate test resource needs and ensure adequate resources are identified, trained, and scheduled (refer to findings 2019.09.PM02 and 2019.07.PM14). | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: There are pending issues from Phase 1 Content Management UAT that are to be addressed post go-live. DLIR will continue to perform regression testing with a targeted completion at the end of February 2022. DLIR also plans to conduct performance testing for Content Management post go-live. As for Phase 1 Case Management UAT, performance metrics show only 1% of test cases have been completed to-date and completion in February 2022 does not appear likely. The test plan for Case Management UAT needs to be reassessed and adjusted immediately.<br><br>02/24/22: DLIR significantly increased testing resources and is making progress to start planning and tracking test cases by week. However, the plan for test completion percentage targets may need to be revised as current performance metrics for Phase 1 are below planned metrics.<br><br>03/23/22: DLIR implemented recurring sessions to provide additional training and support for UAT testers. DLIR plans to revise the testing target metrics for Phase 1 Case Management to align to the new proposed go-live timeline as current metrics are below planned metrics.<br><br>04/26/22: Phase 1 Case Management test cases are only 40% complete. DLIR needs to adjust their test completion plan for the new mid-May timeline. DLIR test plans for Phase 1 regression testing as well as Phase 2 UAT need to be detailed out. Phase 2 UAT was scheduled to begin in April 2022 but with the focus to complete Phase 1 testing, it is unclear when these activities will begin.<br><br>05/31/22: Only 55% of the test cases are passed and performance of DLIR end-to-end and regression testing is still pending. Test plans for Phase 1 Case Management UAT, end-to-end, and regression testing need to be updated for the new timeline and for additional details. DLIR continues to trend at ~13% test case completion per month. With up to 45% test cases to be completed, DLIR should update the test plan for what can realistically be achieved based on historical results rather than just updating the test plan to work backwards from the new go-live.<br><br>A lesson learned from Phase 1 is that planning for testing needs to begin earlier to support an efficient execution of testing. With the focus to complete Phase 1 UAT, Phase 2 UAT was compressed down to three months. DLIR should prepare their test plan for Phase 2 to project out the expected test case completion per week and plans to achieve those targets. There are ~1,300 test cases for Phase 2 which would require ~400 test cases to be completed each month to achieve the current schedule. As an average of ~70 test cases were completed per month for Phase 1 Case Management, the test plan needs to plan testing activities to increase the efficiency of test execution. Early tester training (2022.04.PM01), discussions of business processes (2020.12.PM01), preparation of test data (2019.11.IT01), and resource planning (2019.09.PM02) can help to increase the efficiency of testing and should be addressed in the test plan. | | |
| Security | 2019.10.IT02 | Risk | High | High | Lack of formalized security policies and procedures may impact the security and privacy of the data and may lead to project delays. | DLIR currently does not have formal security policies to determine security requirements for the eCMS Project and does not have security procedures in place to adequately protect eCMS Project data. The lack of policies primarily impacts the completion of the AWS setup and the Content Management solution component. Security requirements for the cloud environment must be determined and controls implemented before the AWS environments can be used for planned data conversion and testing activities. The determination of security requirements is critical as data conversion activities are already delayed for the AWS setup and testing activities are to begin in November 2019. The development of formalized policies will also impact the application security management plan and design that DataHouse is responsible for (refer to finding 2019.07.IT07). Security policies and the resulting security requirements should be determined immediately to prevent further delay of the project. | 2019.10.IT02.R1 | Formalize security policies. | •Work with ETS to align DLIR policies with State policies and/or a standard security framework.<br>•Consider prioritizing security policies that are most relevant for use of cloud services and data protection (e.g., security logging and monitoring, MFA, remote access, encryption of data-at-rest and data-in-transit) | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: DLIR clarified some of the security requirements for Phase 1 Content Management with ETS.<br><br>02/24/22, 03/23/22, 04/26/22, and 05/31/22: No updates to report.<br><br>A lesson learned from the eCMS Project is that State security policies and requirements should be in place prior to the start of the project. | | |
| | | | | | | | 2019.10.IT02.R2 | Formalize and implement security procedures. | •Clarify roles and responsibilities for security controls between DLIR and ETS.<br>•Identify specific resources to perform security procedures.<br>•Consider prioritizing security procedures that are necessary for the operation of the AWS environments. | | | | |

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| Cost, Schedule and Resource Management | 2019.09.PM02 | Issue | High | High | Undefined resource management processes and procedures may result in unidentified resource requirements, inadequate resources, or project resources that are not optimally utilized. (Updated) | This was originally reported in the September 2019 IV&V Monthly Report as a preliminary concern but is upgraded to a risk in this report. The Project Management Plan (version 1.3) includes a human resource management section that outlines the high-level roles and responsibilities of various team members but does not define a process for how resources will be managed. This will become more critical for DLIR as the project gears up for more resource demanding activities including data conversion, testing, and sprint reviews. Additionally, DLIR project team resources are not fully dedicated to the project and still perform other job duties. Developing processes and procedures to track and quantify upcoming resource needs, identify available resources, procure or obtain commitments of resources, manage resource schedules, communicate with assigned resources and their supervisors, and train resources for assigned tasks will help to minimize project delays.<br><br>DLIR developed a rough estimate of hours to perform scanning and data entry of Case Management paper files but more precise estimates based on a trial run of sample cases and a decision on what cases must be converted by go-live is needed (refer also to finding 2019.11.IT01). Additionally, DLIR needs to perform an analysis to determine how many resources can be acquired with budgeted funds and whether those acquired resources will be able to complete necessary data conversion activities by the targeted go-live.<br><br>DLIR has not yet completed a test plan (refer to finding 2019.10.IT01), estimated resource requirements for testing, or formalized a plan for scheduling testers.<br><br>The IV&V recommendations made at 2019.07.PM14.R1 and 2019.07.PM14.R2 regarding evaluating resource needs and resource reports will also address this finding. Below are additional recommendations to further improve data conversion plans and activities. | 2019.09.PM02.R1 | Develop procedures to estimate and refine DLIR resource requirements. | •Detail necessary steps and information needed to estimate and refine resources requirements.<br>•Consult DataHouse for input on upcoming activities that require DLIR resources and clarify expectations of resources.<br>•Assign responsibility for and establish target due dates to develop resources estimates for major project activities (e.g., data conversion, testing). | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: Resource management is one of the issues with the greatest impact to overall project performance and success. Resource management strategies should be revisited to improve management and productivity of DLIR resources, especially for Phase 1 Case Management UAT, including how to best leverage the additional DataHouse resources committed to the project.<br><br>02/24/22: DLIR onboarded additional resources for UAT. Test cases are assigned to testers effectively and testing progress is monitored more closely.<br><br>03/23/22: Resource engagement and ownership improved. DLIR implemented recurring sessions to provide additional training and support for UAT testers. This is also helping to keep testers on task and make progress to complete assigned test cases. However, DLIR should continue exploring other resource management strategies to increase pace of work as UAT is still behind schedule.<br><br>04/26/22: No updates to report.<br><br>05/31/22: Accuity changed this finding from a risk to an issue as the ineffective management of project resources is resulting in reoccurring project delays. DLIR did start to schedule breakout sessions with smaller groups of testers to help resources complete assigned test cases. However, despite these efforts, the average test case completion rate for the month did not increase. Additional resource management strategies are needed to increase utilization of all project resources, accountability for task completion, and pace of project work.<br><br>A lesson learned from the eCMS Project is that State resource planning needs to occur prior to the start of the project to set the project up for success. Resource requirements should be carefully scoped to ensure there are adequate resources to perform critical project work. Resource planning should include backfilling project resources to prevent conflict with operational duties and priorities. | | |
| | | | | | | | 2019.09.PM02.R2 | Develop processes to optimize utilization of DLIR project resources. | •Consider working with managers of project resources to reassign team members' other job duties.<br>•Consider periodically reconfirming and renewing resource commitments to the project.<br>•Ensure team members understand their responsibilities (e.g., testing, sprint user story contact, project communications, OCM) and assignments.<br>•Ensure team members are properly trained and prepared to perform their assignments.<br>•Explore use of tools for resource calendars and tracking of team member assignment progress and completion. | | | | |
| System Software, Hardware, and Integrations | 2019.09.IT02 | Risk | Moderate | Moderate | Unclear M&O roles and responsibilities may impact operational readiness after transition. (Updated) | This was originally reported in the September 2019 IV&V Monthly Report as a preliminary concern but is upgraded to a risk in this report. The M&O roles and responsibilities and plans for developing support processes and procedures are currently unclear. DLIR is considering executing a support option in their contract with DataHouse to help with M&O after go-live as it is uncertain if DLIR EDPSO will have adequate resources to perform required M&O. The COVID-19 pandemic (refer to finding 2020.03.PM01) further exacerbates and creates additional uncertainty with regards to DLIR EDPSO and ETS resources. The roles and responsibilities within the DLIR EDPSO team and any shared responsibilities with ETS and DataHouse need to be clarified. This will help to quantify eCMS M&O resource requirements (refer to finding 2019.09.PM02) and either identify resources within the existing DLIR EDPSO team or acquire the necessary resources (2019.07.PM14). This should be done with sufficient time for training and knowledge transfer so that M&O resources are in place at go-live. Clarifying M&O roles and responsibilities will also help to develop the related security management plan (refer to finding 2019.07.IT07). | 2019.09.IT02.RI | Clarify M&O roles and responsibilities. | •Discuss terms of DataHouse support option to understand level of support, cost structure, and timing of transition.<br>•Clarify any shared responsibility with ETS and enterprise tools that can be leveraged. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: DLIR and DataHouse plan to discuss M&O roles and responsibilities post go-live for Phase 1 Content Management.<br><br>02/24/22: No updates to report.<br><br>03/23/22: System M&O roles, procedures, and metrics are still unclear two months post go-live for Phase 1 Content Management. DLIR provided feedback on DataHouse's draft Content Management Operations documentation deliverable that it does not provide the necessary information necessary to perform M&O. DataHouse clarified that they plan to provide another deliverable in April 2022 that will have more detailed M&O information. DLIR also continues to update Phase 1 Content Management and Case Management training materials for system administrators to incorporate information learned during UAT.<br><br>04/26/22: No updates to report.<br><br>05/31/22: The DataHouse deliverable with additional M&O information is still pending. DataHouse did perform an updated vulnerability scan and remediation but it is unclear what other M&O tasks they are performing.<br><br>A lesson learned from the eCMS Project is that the vendor contract should include clear terms about the timing of system turnover and the vendor M&O responsibilities prior to turnover. | | |
| Benefits Realization | 2019.07.PG05 | Risk | Moderate | Moderate | Not defining, tracking, or using clear and measurable goals and success metrics to evaluate project and contractor performance may reduce benefits expected at project completion. | The eCMS Project does not have a project charter that would have helped to formalize the project goals, target benefits, and success metrics at the start of the project. Based on informal recommendations made by Team Accuity during the initial IV&V on-site review, DLIR is in the process of creating a project charter that includes clear goals and success metrics. The lack of clear and measurable goals and success metrics makes it difficult to determine if the project and technical solution will achieve the desired level of improvement or benefits that justify the project's financial investment. Goals and success metrics need to be defined before going any further in the project as they should be guiding all key decisions throughout the entire project. | 2019.07.PG05.R1 | Formalize measurable goals and success metrics in a project charter. | •Consider financial, nonfinancial, tangible, and intangible metrics such as operational Key Performance Indicators (KPIs), customer or employee satisfaction, user adoption, return on investment, or cycle or processing times.<br>•Consider project management, organizational change management, and benefits realization management objectives as well as alignment to DLIR goals. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22, 02/24/22, 03/23/22, and 04/26/22: No updates to report.<br><br>05/31/22: The success metrics prepared earlier in the project still need to be reevaluated to take into consideration the current project status and to focus on what can be realistically achieved in the remaining project timeline. Additionally, as the Phase 1 Case Management system is scheduled to go live soon, DLIR should ensure that baseline data is collected for the success metrics that were drafted.<br><br>A lessons learned from the eCMS Project is that clear goals and metrics should be incorporated into the vendor contract and project plans so that both the vendor and the State have a clear picture of what success looks like. | | |
| | | | | | | | 2019.07.PG05.R2 | Collect baseline and project performance data. | •Consider methods for collecting data such as surveys, queries, observation, open forums, or actual performance testing.<br>•Consider sources of data such as legacy systems, operations, and internal and external stakeholders. | | | | |
| | | | | | | | 2019.07.PG05.R3 | Use performance data to monitor or evaluate project or contractor performance. | | | | | |

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| Project Organization and Management | 2019.07.PM02 | Risk | High | High | The current project management organization may hinder project performance. | The eCMS Project has failed to achieve team synergy between DLIR and DataHouse project team members and appear to work as separate teams instead of one. DataHouse works almost exclusively off-site except for designated meetings, workshops, and design sessions and DLIR is not included in many project design or development activities. The unclear contract terms regarding roles and responsibilities between DLIR and DataHouse (refer to finding 2019.07.PG03), physical separation of the project team, and limited collaboration or DLIR involvement have all contributed to the siloed workstreams. This has also led to ineffective communications within the project team (refer to finding 2019.07.PM06). | 2019.07.PM02.R1 | Clarify roles and responsibilities between DLIR and DataHouse. | •Consider revising project management plans to identify the person responsible and list specific responsibilities for each project management area.<br>•Consider the need to include an outline of DLIR and DataHouse roles and responsibilities in a contract modification (refer to finding 2019.07.PG03). | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: DLIR and DataHouse came together in the final weeks leading up to Phase 1 Content Management go-live to coordinate, prioritize, complete, or mitigate deployment activities to keep the project on track with the scheduled go-live. DataHouse on-site resources worked closely with the DLIR stakeholders in the first rollout of Content Management. Momentum achieved through increased collaboration and coordination during this first major milestone needs to be quickly transitioned to the next rollout.<br><br>02/24/22: The continuing work from Phase 1 Content Management go-live has caused an increase in schedule and resource issues for other phases. DLIR and DataHouse need to maintain their increased collaboration and coordination to avoid further project constraints.<br><br>03/23/22: DLIR and the DataHouse Content Management development team were working closely together to resolve production issues. The recurring stand-up meetings also help to improve collaboration between DLIR and DataHouse for Case Management UAT issue/defect resolution. Additional collaboration and communication is needed around Phase 2 and 3 activities.<br><br>04/26/22: Project organization and management continue to be a challenge. With Phase 1 Case Management go-live quickly approaching, greater clarity is needed around status, plans, schedule, processes, and metrics. DLIR and DataHouse need to improve collaboration and coordination to address delays under the re-baselined schedule that are already occurring.<br><br>05/31/22: DLIR and DataHouse do not seem to be on the same page or have a clear understanding of what both parties need to do, especially with regards to the upcoming Phase 1 Case Management go-live.<br><br>A lesson learned from the eCMS Project is that a collaborative and open project team culture should be created at the start of the project and reinforced by leadership and governance throughout the project. | | |
| | | | | | | | 2019.07.PM02.R2 | The DataHouse Project Manager should work onsite at DLIR through project completion to improve DLIR and DataHouse project team cohesion. | | | | | |
| | | | | | | | 2019.07.PM02.R3 | Include DLIR in project activities and communications to increase DLIR and DataHouse project team cohesion. | | | | | |
| Project Organization and Management | 2019.07.PM03 | Issue | Moderate | Moderate | The current deliverable review and acceptance process has contributed to project delays and resulted in the acceptance of deliverables that do not meet industry standards. | DataHouse prepares project deliverables and submits to DLIR for review. As DLIR has had limited involvement in project activities or the preparation of deliverables (refer to finding 2019.07.PM02), DLIR does not have an understanding of the purpose of the deliverables or the thought process and factors that were considered in developing the deliverables. This has led to protracted review periods and acceptance of deliverables that do not meet industry standards (refer to finding 2019.07.PM10). A lack of a clear deliverable listing or acceptance criteria (refer to finding 2019.07.PG03), a lack of a quality management process and resource to verify deliverables (refer to finding 2019.07.IT05), and over tasked project managers (refer to finding 2019.07.PM14) also contribute to an ineffective deliverable review and acceptance process. The delay in the approval of deliverables has been cited by the eCMS Project team as one of the reasons the Phase 1 go-live dates were extended. Based on informal IV&V recommendations, DataHouse and DLIR started to implement joint deliverable review meetings beginning June 2019. | 2019.07.PM03.R1 | Establish deliverable acceptance criteria. | Consider including acceptance criteria in the quality management plan (refer to finding 2019.07.IT05), in a contract amendment (refer to finding 2019.07.PG03), or in Deliverable Expectation Documents (DED). | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: DLIR signed off on the Phase 1 Content Management system installation and configuration deliverable but it is unclear what the acceptance criteria was and whether the deliverable adequately documents the information DLIR needs in order to perform M&O for the system (refer also to finding 2019.09.IT02). DLIR also signed off on Content Management UAT and final data migration even though there are pending issues that need to be addressed by either DLIR or DataHouse.<br><br>02/24/22 and 03/23/22: DLIR continues to sign off on additional DataHouse deliverables but it is unclear what processes or factors were considered in accepting these deliverables.<br><br>04/26/22 and 05/31/22: No updates to report.<br><br>A lesson learned from the eCMS Project is that DLIR continued to accept and approve deliverables that they were not satisfied with. DLIR should incorporate deliverable acceptance criteria into the vendor contract or clarify and document deliverable expectations early in the project. Additionally, DLIR should review deliverables against quality standards, acceptance criteria, vendor proposal, and contract terms. | | |
| | | | | | | | 2019.07.PM03.R2 | Hold joint DLIR and DataHouse deliverable review meetings to walk through deliverables. | | | | | |
| | | | | | | | 2019.07.PM03.R3 | Implement formal deliverable review and approval processes. | •Include both the scope validation process for acceptance and the quality control process for correctness (refer to finding 2019.07.IT.05).<br>•Include an evaluation of deliverables against acceptance criteria and requirements documentation.<br>•DLIR should understand how each deliverable impacts the project schedule, roles and responsibilities, and ultimately the quality of the technical solution and success of the project. | | | | |
| Communication Management | 2019.07.PM06 | Issue | Moderate | High | DataHouse's ineffective and untimely communications with the DLIR Project Team contributed to DLIR's incomplete understanding of the technical solution, potential risks, and upcoming project activities. | Communication activities listed in the Project Management Plan (version 1.0) did not occur as planned as the weekly project status meetings did not begin until April 2019 and the first progress report was not completed until February 2019. Despite the commencement of regular project communications, misunderstandings and miscommunications between the DataHouse and DLIR project teams continued to occur. DLIR project team members had a piecemeal understanding of the technical solution (refer to finding 2019.07.IT02) and project risks and issues (refer to finding 2019.07.PM09). Additionally, information regarding upcoming project activities was not provided timely. For example, DataHouse did not timely communicate to DLIR what to expect for the design stage sessions (e.g., what would be covered each day, which end users needed to participate). There has also been a lack of communications regarding the upcoming build stage activities (refer to finding 2019.07.PM05).<br><br>The IV&V recommendations made at 2019.07.PM02.R2 and 2019.07.PM02.R3 regarding DataHouse working on-site and including DLIR in project activities will also address this finding. Below are additional recommendations to further improve project team communications. | 2019.07.PM06.R1 | Implement daily touch point meetings between DataHouse and DLIR Project Managers. | | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: Recurring meetings and DataHouse on-site resources allowed for frequent communications between DLIR and DataHouse that were critical for keeping the project on track with the scheduled Phase 1 Content Management go-live. Regular communications and recurring meetings between DLIR and DataHouse are especially needed for Phase 1 Case Management that is currently at risk.<br><br>02/24/22 : DLIR and DataHouse frequently meet to discuss Case Management UAT. Continued open and transparent dialogue between all DLIR and DataHouse team members is critical for smooth and timely project execution.<br><br>03/23/22 and 04/26/22: With greater clarity needed around status, plans, schedule, processes, and metrics particularly for the upcoming Phase 1 Case Management go-live, it is critical that DLIR and DataHouse communicate frequently, openly, and transparently for smooth and timely project execution.<br><br>05/31/22: Accuity increased the severity rating from Level 2 (Moderate) to Level 1 (High). Although there are regular meetings between DLIR and DataHouse, there is still a lack of mutual understanding between the parties. Ineffective communication within the project team has regularly contributed to misunderstandings, insufficient preparation, and project delays. Open and transparent dialogue with verification of understanding is needed between all DLIR and DataHouse team members to successfully execute project and go-live tasks.<br><br>A lesson learned from the eCMS Project is that a collaborative and open project team culture should be created at the start of the project and reinforced by leadership and governance throughout the project. New ideas and honest discussion should be encouraged. | | |

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| Communication Management | 2019.07.PM07 | Issue | Moderate | High | The lack of tailored project communications for all impacted stakeholders may reduce user adoption and stakeholder buy-in. | Communications management is a part of the Project Management Plan developed by DataHouse; however, the plan is not comprehensive and primarily reflects project meetings, status reporting, and issue reporting. The approved Project Management Plan (version 1.2) was updated to include a communication matrix that outlines additional communication activities. While this is an improvement over the previous version, the latest draft plan still does not provide adequate details regarding communication activities as all stakeholders are grouped together for three broad communication methods and activities.<br><br>A formal communication requirements analysis was not conducted to determine the information needs of internal and external project stakeholders. There is not a process to ensure the timely distribution of project information and there is no dedicated role or adequate resources assigned to communications management (refer to finding 2019.07.PM14). As such, communication activities have occurred haphazardly. The limited communication activities is somewhat mitigated as the DLIR Project Manager involves internal stakeholders in project-related meetings and working sessions. However, this informal approach does not include all internal stakeholders or any external stakeholders. | 2019.07.PM07.R1 | Further refine communication management plans. | •Segment stakeholders into groups by communication needs such as by department unit (e.g., Hearings, Enforcement, or Records and Claims), by position (e.g., manager, supervisor), or internal and external (e.g., claimants, insurance agencies).<br>•Consider the list of communication methods listed in DataHouse's BAFO.<br>•Due to limited DLIR resources available for communication activities, the specific groups and communication activities should be prioritized to focus resources most efficiently.<br>•Update the project schedule for communication activities and assigned resources (refer to finding 2019.07.PM14). | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: The communication plan and activities for the DLIR stakeholders in the first rollout of Phase 1 Content Management were finalized and delivered. DLIR also started weekly meetings and email communications to update DCD managers and supervisors on high-level project activities. A communication plan and more specific communications related to the DCD rollout of Content Management as well as for Phase 1 Case Management are still needed.<br><br>02/24/22: Internal communications have improved with weekly stand-ups and regular OCM updates. However, a communications plan with external stakeholders for future phases and rollouts still needs to be developed.<br><br>03/23/22: Internal DLIR communications continue to improve with weekly briefings to communicate project status and upcoming activities. DLIR is in the process of procuring an additional resource that will help to develop a communications plan for external stakeholders, which is also needed for the upcoming Phase 1 Case Management go-live.<br><br>04/26/22: With Phase 1 Case Management go-live quickly approaching, DLIR needs to quickly improve their communications with external stakeholders. DLIR is still in the process of procuring an additional resource that will help to develop a communications plan for external stakeholders.<br><br>05/31/22: Accuity increased the severity rating from Level 2 (Moderate) to Level 1 (High) and changed this finding from a risk to an issue. While DLIR increased communications with internal stakeholders for Phase 1 Case Management, communication activities with carriers and adjusters have continually been deferred limiting their ability to adequately prepare for the change. One of the contracts to be executed in June 2022 is for a BA resource who will be responsible for working with external stakeholders.<br><br>A lesson learned from Phase 1 is that conversations with external stakeholders should begin earlier. For Phase 2 and 3, DLIR should provide regular updates and establish regular touchpoints with external stakeholders. | | |
| Organizational Change Management | 2019.07.PM08 | Risk | Moderate | Moderate | Missing key OCM steps or activities may not identify pockets of resistance or adequately enable individual change. | There is no formal OCM plan or approach. DataHouse's BAFO lists various OCM activities but these were not formalized in a plan or processes. There are no OCM specific tasks or resources assigned for OCM activities in the project schedule (refer to finding 2019.07.PM14). Although there is no formal or coordinated OCM approach, some elements of OCM occur through regular project management communication and training activities. The DLIR Project Manager's inclusive and collaborative approach with internal stakeholders (refer to finding 2019.07.PM01) and the DCD Executive Sponsor's active and visible support of the project (refer to finding 2019.07.PG01) also mitigates the lack of a formal approach.<br><br>Although projects may progress without a formal OCM approach, industry best practices support that a structured OCM approach compliments project management approaches in increasing probability of project success. Performing activities with an OCM focus will help to better prepare, equip, and support individuals throughout the project and to ensure that the solution is ultimately adopted and embraced by employees. | 2019.07.PM08.R1 | Develop and implement a structured OCM approach. | •Collect baseline change awareness and readiness measurements through surveys or interviews.<br>•Create and mobilize a change coalition group of managers, supervisors, and key influencers.<br>•Incorporate and align OCM into communication, business process engineering (BPR), and training activities.<br>•Develop OCM activities to address identified awareness gaps or pockets of resistance.<br>•Implement reinforcement mechanisms to support change and increase adoption. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: DLIR held meetings leading up to go-live to prepare stakeholders in the first rollout of Phase 1 Content Management. DLIR also plans to hold regular post go-live stand-up sessions to provide additional stakeholder support. DataHouse on-site resources will also help to provide users with training and technical support. While some progress to increase participation and engagement from assigned DLIR testers was made, resource engagement and ownership remains low. Additional OCM plans and strategies are needed for the DCD rollout of Content Management as well as for Phase 1 Case Management to increase tester support and confidence in the system.<br><br>02/24/22: DLIR held regular post go-live stand-up sessions to provide additional stakeholder support. OCM updates are regularly emailed to stakeholders on a weekly basis. However, resource engagement and ownership still remains low.<br><br>03/23/22: DLIR began to develop an OCM plan, surveys, and metrics to measure user participation and system utilization. Engagement and ownership from DLIR resources improved. Additional OCM plans and strategies are needed for other phases, including the upcoming Phase 1 Case Management go-live.<br><br>04/26/22: Project updates are sent to all users on a weekly basis instead of having core team representatives distribute them. DLIR is developing an OCM plan, event-driven surveys, and metrics to measure user participation and system utilization.<br><br>05/31/22: Project touchpoints with internal users are increasing with the recurring weekly emails and trainings. DLIR also began to administer surveys to collect some OCM relevant data leading up to Phase 1 Case Management go-live. It is unclear if OCM activities are sufficient to adequately enable and prepare individuals for change. Additional planning is needed for post go-live OCM activities to measure user participation and system utilization and to establish a strong change support network.<br><br>A lesson learned from the eCMS Project is that additional attention to OCM is needed. Low engagement of project resources and SMEs contributed to delays in completing project work. DLIR should include a separate OCM resource in the project team from the start to help build support and engagement early in the project and help with other OCM related activities including communications (2019.07.PM07) and training (2022.04.PM01). | | |

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| Risk Management | 2019.07.PM09 | Issue | Moderate | High | Risks and issues have not been clearly identified, tracked, or reported resulting in the lack of understanding of potential impacts across project team members and there are no mitigation plans to adequately address them. | Only three risks and two issues have been identified by DataHouse on the project to date with no history of any risks being closed. DLIR project team was not tracking any of its own risks or issues related to the project. A risk regarding the delay in the completion of the MOU agreement with DHS (refer to finding 2019.07.PM04 and 20109.07.IT01) was never identified and the risk identified in the Content Management Conversion and Migration (version 0.0) document (refer to finding 2019.07.IT.04) was not included in the risks and issues log, indicating an ineffective risk and issue management process. Based on information IV&V recommendations made during the assessment period, both DLIR and DataHouse have communicated a plan to start identifying and logging risks jointly onto DataHouse's log and reviewing them together weekly. As identification and mitigation of risks and issues are critical to project success, a formal process should be implemented before moving forward in the project. | 2019.07.PM09.R1 | Formalize the Risk and Issue Management process. | •A formalized process should clearly define responsibilities and steps in identification, resolution and action items tracking, and escalation procedures.<br>•The project team must encourage open, transparent discussion about risks and issues. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: Accuity decreased the severity rating from Level 1 (High) to Level 2 (Moderate). DLIR and DataHouse mitigated Phase 1 Content Management go-live risks by limiting rollout to a small number of users, prioritizing issues and tasks that must be completed prior to go-live, and deferring other items to post go-live. This strategy helped to mitigate schedule risks for the Phase 1 Content Management go-live, but also increases risks for other phases due to the deferral of work. Risk mitigation plans for other phases of the project, including the quickly approaching Phase 1 Case Management go-live, need to be developed and implemented<br><br>02/24/22: DLIR and DataHouse are working to address Phase 1 Content Management risks and issues but the time and effort that continues to be spent on Content Management is creating risks and issues for other phases. Risk mitigation plans for other phases of the project need to be developed and implemented.<br><br>03/23/22: With the upcoming Phase 1 Case Management go-live, it is critical that risk mitigation plans are developed and implemented to ensure the project stays on track with the proposed timeline and can successfully deploy the new system.<br><br>04/26/22: DLIR and DataHouse need to actively monitor and aggressively mitigate risks related to the upcoming Phase 1 Case Management go-live. Task delays in the new schedule and the large number of open risks and issues collectively may have a significant impact on DLIR operations if not addressed prior to go-live. Improvements in risk management processes are needed to consistently and proactively mitigate risks.<br><br>05/31/22: Accuity increased the severity rating from Level 2 (Moderate) to Level 1 (High) as ineffective risk management is resulting in reoccurring issues. Despite early warning signs a few weeks out from Phase 1 Case Management go-live and even at the time of ESC approval of the revised timelines, risks were not proactively discussed or addressed. As a result, the go-live is to be deferred again. There are also signs of risk with regards to the new proposed Phase 1 Case Management go-live that should be analyzed and the mitigation plan should be included as a part of the presentation to ESC.<br><br>A lesson learned from the eCMS Project is that ineffective risk management processes will result in reoccurring issues. Risks are typically discussed when the impact is imminent. Effective performance of risk management requires discipline and rigor. Industry best practices should be incorporated and appropriately tailored to the project. Adequate resources from the vendor and the State with the appropriate experience or training should be assigned to perform risk management activities. | | |
| | | | | | | | 2019.07.PM09.R2 | Conduct regular meetings to discuss project risks and issues. | •Include DataHouse and DLIR and, on occasion, the executive steering committee (refer to finding 2019.07.PG02).<br>•Perform a detailed review of new items, status of open items, risk/issue owners, and mitigation plans. | | | | |
| Scope and Requirements Management | 2019.07.PM10 | Issue | High | High | The Content Management and Case Management requirements documentation is incomplete. | The requirements for both Content Management and Case Management have already been approved; however, the requirements are incomplete (e.g. do not incorporate all contract requirements and all three project phases) and the descriptions in the Requirements Traceability Matrix (RTM) lack sufficient detail. The current RTM also does not link operational and project objectives to design artifacts. Furthermore, the RTM does not include non-functional requirements, including compliance with Hawaii Revised Statues, Hawaii Administrative Rules and security requirements.<br><br>Requirements management is a part of the Project Management Plan developed by DataHouse; however, the plan is not comprehensive. The Project Management Plan (version 1.2) was updated to include additional details regarding requirements management. While this is an improvement over the previous version, the latest draft plan still does not provide adequate details regarding the requirements prioritization process, the traceability structure, and how requirements will be reported.<br><br>As requirements are the foundation for proper system design, development, and testing, it is essential that requirements documentation are complete and meet industry standards and best practices. Requirements documentation should be revised and requirements management processes should be improved prior to moving forward in the project. | 2019.07.PM10.R1 | Revise Content Management and Case management requirements documentation and RTM. | •Ensure requirements follow SMART (specific, measurable, actionable, realistic and time bound) guidelines.<br>•Ensure requirements documentation include all requirements listed in the DataHouse contract, all requirements identified during the stakeholder sessions, and for all three phases of the eCMS Project.<br>•Ensure requirements include functional, performance, process, non-functional, security, and interface requirements. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22 and 02/24/22: Requirements continue to be clarified and refined during Phase 1 UAT and Phase 2 development. It is unclear how the feedback from SMEs are used to update requirements documentation.<br><br>03/23/22: Phase 3 requirements gathering is resumed and the requirements deliverable was deferred to the end of March 2022. DLIR is in procurement for a new business analyst contractor that will serve as a liaison to external stakeholders and help to collect external stakeholder requirements for the Phase 3 portal. It is unclear how these requirements will be incorporated into DataHouse's Phase 3 requirements deliverable and development processes.<br><br>04/26/22: The Phase 3 requirements deliverable was provided and is pending DLIR's review and approval. It is still unclear how requirements collected by the new business analyst contractor will be incorporated into the Phase 3 requirements deliverable.<br><br>05/31/22: Inadequate management of requirements is evidenced by Phase 1 UAT progress, results, and user satisfaction. DLIR's approach to ensure the completeness of requirements was to develop test cases to confirm all stakeholder and business needs were met. However, this approach identified missing requirements or issues too late in the process and it is unclear what will be addressed as part of the Phase 1 Case Management go-live.<br><br>A lesson learned from Phase 1 is not to wait until UAT to verify completeness and accuracy of requirements. Significant changes in requirements management processes should be immediately implemented including collecting and tracking requirements from sessions with end users, updating requirements documentation based on end user sessions and feedback, tracing contract requirements to requirements documentation, reviewing requirements deliverables for completeness and accuracy, and assessing during each development sprint cycle that requirements are preliminarily satisfied. | | |
| | | | | | | | 2019.07.PM10.R2 | Improve requirements management processes. | •Ensure that there is a clear understanding between DataHouse and DLIR regarding who is responsible for identifying and tracking different types of requirements.<br>•Develop a process for prioritizing and reporting requirements.<br>•Develop a process for tracing requirements to specific system design elements. | | | | |

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| Cost, Schedule and Resource Management | 2019.07.PM12 | Issue | Moderate | Moderate | Informal cost management practices may lead to unexpected costs or overpayments of contracts. | There is no formal cost management plan. A comprehensive total project budget is not created, tracked, or reported. Currently, payments are tracked for the two main eCMS Project contracts: DataHouse SI contract and the Team Accuity IV&V contract. Other costs for licenses and equipment are tracked informally as these are often paid from DCD's regular or excess funds. With the recent DHS development, costs of all required hardware and software for the alternative solution as well as long-term operational costs need to be properly evaluated and managed (refer to finding 2019.07.IT01). Additionally, total project costs and funding sources are not formally reported.<br><br>The DataHouse contract states that payments are contingent upon receipt of services, deliverables, and reports in accordance to the milestones that meet the expectations of the RFP. DataHouse provided DLIR with a monthly payment schedule and as of June 30, 2019, DLIR has paid DataHouse's invoices through April 2019 (May and June 2019 invoice payments are still pending). Although the project schedule, deliverable timelines, and go-live dates have been pushed back, no adjustments were made to the monthly payment schedule which could result in overpayments. Due to the lack of clear and specific deliverable expectations (refer to finding 2019.07.PG03), incomplete understanding of all the schedule delays (refer to finding 2019.07.PM13), and undefined criteria for revising the payment schedule, Team Accuity is unable to determine if DataHouse payments are appropriately managed. | 2019.07.PM12.R1 | Prepare a comprehensive project budget and a schedule of long-term operational costs (e.g., licenses, subscriptions, maintenance, cloud services). | | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: DLIR is currently procuring or evaluating the need for additional eCMS Project contracts.<br><br>02/24/22: DLIR is procuring two additional eCMS Project contracts. Improvements in cost management processes are needed to track and monitor other project costs.<br><br>03/23/22: Three additional DLIR contracts are currently in procurement. AWS costs do not appear to be actively managed or monitored by DLIR.<br><br>04/26/22: Costs for one of the ongoing procurements, related to data conversion resources for paper files, could significantly impact the total cost of the project. DLIR should perform a cost analysis to determine whether to continue with this procurement or pursue other options including an existing line in the DataHouse contract for migration of paper files or hiring on additional resources under HRS § 78-3.5 Experimental Modernization Projects.<br><br>05/31/22: Three additional procurements are expected to be executed in June 2022, including the paper scanning contract that will significantly increase the total cost of the project. Additionally, Accuity reopened the 2019.07.PM12.R3 recommendation due to the need to clarify the support option and Phase 3 payment terms. DataHouse's latest revised payment schedule shows the support option billing to begin in 2022 which is contradictory to DLIR's belief that this will start at the end of Phase 3. There is also uncertainty regarding the feasibility of the project schedule for Phase 2 and 3. DLIR should look at the payment schedules again to prevent any prepayment for Phase 3. DataHouse was prepaid for Phase 1 and 2 but is adjusting Phase 3 invoices under the revised payment schedule.<br><br>Lessons learned from the eCMS Project are that project budget estimates are regularly underestimated and vendor payments should be closely monitored. Budget constraints early in the project limited options to address project deficiencies which often required additional resources. DLIR processes for preparing the initial project budget should include industry best practices of accounting for contingency and management reserves to allow the project to more timely address and mitigate risks (2019.07.PM09). Additionally, DLIR should review vendor invoices against contract terms as well as project status reports to prevent prepaying the vendor. | | |
| | | | | | | | 2019.07.PM12.R2 | Prepare regular cost reports for management and the executive steering committee. | | | | | |
| | | | | | | | 2019.07.PM12.R3 | Clarify DataHouse payment terms and adjust payment schedules for schedule delays. | | | | | |

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| Cost, Schedule and Resource Management | 2019.07.PM13 | Issue | High | High | Inadequate schedule management practices may lead to project delays, missed project activities, unrealistic schedule forecasts, or unidentified causes for delays. | The Phase 1 go-live dates were delayed a few times since the start of the project with the Content Management go-live delayed five months and the Case Management go-live delayed three months. Reasons for the delay provided by the eCMS Project team included additional time for requirements gathering, some Phase 2 work that was moved up to Phase 1, staff vacations during the holidays, time for the DLIR Project Manager to write the RFP for the IV&V contract, and delayed procurement of the scanners. Although there are reasonable explanations for some of the delays, detailed schedule variance analyses to understand causes and impacts of the delays have not been thoroughly performed, documented, or reported. Decisions or change requests to revise the project schedule are not properly documented or approved in accordance with the Project Management Plan.<br><br>DataHouse has prepared a higher-level project schedule and a more detailed task listing. Although the project schedule will need to be updated due to the recent DHS development and selection of an alternative solution, the following deficiencies were noted in the current project schedule:<br>* Does not include all project tasks such as Build stage sprints, communication, OCM, BPR, and quality assurance (refer to findings 2019.07.PM05, 2019.07.PM07, 2019.07.PM08, 2019.07.PM11, and 2019.07.IT05).<br>* Does not include estimated durations. Durations are only included in the more detailed task listing.<br>* Only includes tasks for Phase 1. The Phase 2 and 3 tasks are only included in the more detailed task listing.<br>* Specific assigned resources are not identified as only a generic DataHouse or DCD designation is used. | 2019.07.PM13.R1 | Document and approve revisions to project schedule deliverables, milestones, and go-live dates in accordance with the Project Management Plan. | | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: Schedule management is one of the issues with the greatest impact to overall project performance and success. The Phase 1 Content Management is set to go-live as scheduled; however, some of the underlying tasks were deferred to be completed post go-live at the end of February 2022. The deferral of work increases schedule issues for other phases, including Phase 1 Case Management which is currently at risk due to significant delays in UAT. It is unclear what the impact of Phase 3 delays are. Improvements in schedule management practices are needed to monitor schedule delays and evaluate root causes.<br><br>02/24/22: The Phase 1 Content Management system went live on January 26, 2022 for a small group of users. The Phase 1 Content Management rollout for DCD users is on track for February 25, 2022. DLIR and DataHouse informed the ESC that the project schedule will require another re-baseline. It is unclear what the new schedule will be. The project team will need to improve their progress on Phase 1 Case Management UAT in order to avoid further schedule delays. DLIR started to monitor testing progress by planning and scheduling out test cases each week. Additional improvements in schedule management practices are needed to monitor schedule delays and evaluate root causes.<br><br>03/23/22: Phase 1 Case Management and Phase 3 tasks are delayed. Phase 2 is generally on track and slightly ahead of schedule. A revised project schedule was developed but is still pending full DLIR and ESC approval. Proposed revisions will defer the Phase 1 Case Management go-live to June 2022, accelerate the Phase 2 go-live to November 2022, and compress the Phase 3 timeline. The Phase 1 Case Management proposed June 2022 go-live is still quickly approaching and it is critical that plans and related tasks are clarified and finalized in order to stay on track with a new schedule. Additionally, the proposed project schedule should be reassessed based on the latest status of underlying tasks to ensure that the proposed schedule is still realistic and achievable.<br><br>04/26/22: The eCMS Project schedule was re-baselined and approved by the ESC. However, Phase 1 Case Management go-live is already experiencing delays of key tasks under the newly re-baselined schedule. Phase 2 and Phase 3 tasks are generally on track with the re-baselined schedule. As the Phase 1 Case Management go-live is quickly approaching, it is critical that plans and related tasks are clarified and finalized in order to stay on track with the new schedule.<br><br>05/31/22: Accuity reopened the 2019.07.PM13.R3 recommendation. Although the project schedule was re-baselined last month, Phase 1 Case Management go-live will be deferred again and there are also some delays in Phase 2 and 3 tasks. DLIR and DataHouse tentatively agreed to defer the Phase 1 Case Management go-live to June 30, 2022, pending ESC approval. However, there are already signs that this proposed date as well as Phase 2 and 3 timelines may not be feasible. Looking at just UAT alone (2019.10.IT01), it would take another three months to complete Phase 1 Case Management UAT and over a year to complete Phase 2 UAT unless significant changes are made to address UAT execution issues or increase the efficiency of UAT. The feasibility of other development and transition tasks also need to be reevaluated.<br><br>A lesson learned from the eCMS Project is that ineffective schedule management processes will result in reoccurring delays. Phase 1 Content Management went live over two years after the original target date. Phase 1 Case Management is almost two years beyond the original go-live date and it is unclear when this will realistically go live. In the last year alone, the project timelines were re-baselined four times and are expected to be adjusted again in June 2022. Effective performance of schedule management requires discipline and rigor. Industry best practices should be incorporated and appropriately tailored to the project. | | |
| | | | | | | | 2019.07.PM13.R2 | Refine the project schedule with details of tasks, durations, phases, and assigned resources. | | | | | |
| | | | | | | | 2019.07.PM13.R3 | Prepare regular schedule reports and schedule variance analyses for management and the executive steering committee. | | | | | |
| | | | | | | | 2019.07.PM13.R4 | Complete assessment and revisions of project schedule. | •Revise tasks, deliverable milestones, and go-live dates for all three phases.<br>•Evaluate whether remaining project work can be accomplished in the remaining period of performance of DataHouse's contract or if the contract needs to be extended.<br>•Set realistic and achievable dates based on availability of DLIR project resources. | | | | |

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| Cost, Schedule and Resource Management | 2019.07.PM14 | Issue | High | High | Inadequate assigned project resources may lead to project delays, reduced project performance, or turnover of project resources. | Team Accuity was unable to evaluate resource workloads based on the project schedule information (refer to finding 2019.07.PM13); however, based on observations of the eCMS Project team, the DataHouse and DLIR Project Managers appear to be over-tasked. The DLIR Project Manager is the only full-time DLIR employee assigned to the eCMS Project and understandably does not have time to perform all of the tasks to properly manage the project or represent DLIR during project activities. DLIR should increase participation in design and development activities (refer to finding 2019.07.PM02) but would not be able to with the current assigned resources.<br><br>Resource management is included in the Project Management Plan and states that "resources will be provided based on project needs. This will be reviewed with DCD on a quarterly basis." The Project Status Reports prepared by DataHouse do not note any resource needs under the Staffing (Needs, Anticipated Changes) section. However, Team Accuity noted that the DataHouse Quality Assurance Lead has not been assigned (refer to finding 2019.07.IT05). DataHouse is also considering adding a project coordinator resource to assist with meeting minutes and getting deliverables out. | 2019.07.PM14.R1 | Reevaluate project resource needs and acquire additional resources. | •Perform project schedule updates for the alternative solution (refer to finding 2019.07.IT01) and missing tasks (refer to finding 2019.07.PM13).<br>•Ensure resource levels and skill sets align to assigned tasks. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: Resource management is one of the issues with the greatest impact to overall project performance and success. DLIR onboarded additional resources for UAT but progress is slow, resource engagement and ownership remains low, and resourcing levels are still below the required numbers needed. DataHouse committed additional project management resources as well as on-site resources to support DLIR testing, troubleshooting, and training. DLIR plans to onboard additional testing resources and is in the process of procuring data conversion resources.<br><br>02/24/22: DLIR onboarded additional resources for UAT and is in the process of procuring additional resources. Resource engagement and ownership remains low. DLIR should continue pursuing resource management strategies.<br><br>03/23/22: Accuity decreased the severity rating from Level 1 (High) to Level 2 (Moderate) as DLIR is in the process of executing three contracts that will provide additional business analyst and data conversion resources.<br><br>04/26/22: The contract status for the business analyst and data conversion resources is still pending.<br><br>05/31/22: Accuity increased the severity rating from Level 2 (Moderate) to Level 1 (High) as additional project resources are needed for Phase 1 Case Management activities. DLIR procurements of BA and paper scanning resources were approved which will help to add resources to select areas of the project team.<br><br>A lesson learned from the eCMS Project is that State resource planning to provide adequate project resources needs to occur prior to the start of the project to set the project up for success. Resource requirements should be carefully scoped to ensure there are adequate resources to perform critical project work. Resource planning should include backfilling project resources to prevent conflict with operational duties and priorities. Assigned project resources should have the required experience and skill sets or receive training to be able to adequately fulfill their respective project roles. | | |
| | | | | | | | 2019.07.PM14.R2 | Prepare regular resource reports for management and the executive steering committee. | •Consider including resource needs for unassigned tasks or roles.<br>•Consider including DLIR resources needed and estimated hours for upcoming project activities (e.g., design sessions, user demonstrations, or user testing). | | | | |
| System Software, Hardware, and Integrations | 2019.07.IT02 | Risk | Moderate | Moderate | An unclear interface solution may impact the design process and require additional effort to correct. | The Content Management Design (version 1.0) document was approved by DLIR on May 6, 2019. Case Management is currently in the design phase and design documents have not been provided. Although the Content Management design document was completed and Case Management design is in progress, the exact interface solution has not been defined. The interfaces between Content and Case Management are integral to the success of the project and should be fully defined in design documents in accordance with industry standards.<br><br>Due to the recent DHS development, the interface options will need to also be researched and analyzed depending on the alternative solution selected. However, even prior to this development, DLIR did not have a clear understanding of the interface solution as well as the complete technical solution. DLIR still had questions about the interface solution regarding the technology, connectivity, batch vs. real-time, security, cost and maintenance of the proposed interface solution between Salesforce and FileNet. The interface solution should be clearly analyzed, documented, mapped to project requirements, and communicated to DLIR. | 2019.07.IT02.R1 | Document the interface solution and analysis. | Documentation should provide a clear understanding on the interface solution including the following:<br>* How Salesforce will query the selected Content Management solution<br>* How files are uploaded to selected Content Management solution from Salesforce<br>* How metadata is uploaded into Salesforce<br>* Who is responsible for setup, configuration, and maintenance and the steps required for implementation<br>* What are the costs associated for development and long-term maintenance | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22, 02/24/22, and 03/23/22: Interface requirements were raised during Phase 2 design sessions but the interface solution is still unclear.<br><br>04/26/22: DLIR and DataHouse met with NCCI to discuss integration options and potential timing of NCCI changes.<br><br>05/31/22: Questions and concerns about the design of the Salesforce to Content Management integration were raised during Phase 1 Case Management UAT. It is unclear how this will be resolved or the additional effort to correct.<br><br>A lesson learned from Phase 1 is that additional time should be spent to ensure that DLIR understands how integrations will work. DLIR should seek additional clarification for Phase 2 integrations, especially with regards to external systems. | | |
| | | | | | | | 2019.07.IT02.R2 | Update the project schedule to define resources assigned to each of the interface-related activities. | | | | | |
| | | | | | | | 2019.07.IT02.R3 | Verify the proposed interface solution will work. | | | | | |
| Quality Management and Testing | 2019.07.IT05 | Issue | High | High | Not having an approved quality management plan and assigned quality assurance resources may impact the quality of project deliverables. | The Quality Management Plan (version 0.1) was drafted by DataHouse on June 23, 2019 but was not yet approved by DLIR. The draft plan did not include quality metrics, quality standards, or quality objectives of the project and does not describe how quality control results will be documented or reported. Additionally, the Quality Assurance Lead identified in DataHouse's BAFO is not assigned to the project team at this time.<br><br>As it is almost eleven months into the eCMS Project and several deliverables were already approved and many are pending approval, it is important for a quality management plan to be formalized and resources assigned to perform quality management activities. | 2019.07.IT05.R1 | Finalize the quality management plan. | •DataHouse and DLIR should collaborate and agree on the quality management processes and metrics that will best serve this project.<br>•Include quality standards or reference to specific criteria (refer to finding 2019.07.PM03).<br>•Update the project schedule to assign quality assurance resources (refer to finding 2019.07.PM14). | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: Critical Phase 1 Content Management UAT issues were addressed for go-live but a number of pending issues are to be addressed post go-live. Quality review processes and quality metric thresholds are still unclear.<br><br>02/24/22: A number of technical issues were encountered post go-live with the Phase 1 Content Management system including performance, reliability, functionality, and data. Quality management processes should be reassessed to help minimize production issues in future phases.<br><br>03/23/22, 04/26/22, and 05/31/22: DLIR and DataHouse still do not have formal quality management plans. Quality metrics are critical for evaluating and monitoring project activities for acceptance and go-live readiness, which is especially critical for the upcoming Phase 1 Case Management go-live to prevent similar production issues experienced with Content Management.<br><br>A lesson learned from Phase 1 Content Management is that the deferral of issue and defect resolution to post go-live to meet the timeline resulted in numerous quality and performance issues and users having to revert to the legacy system to perform their work. Quality metrics should be used objectively to make critical go-live decisions. | | |
| | | | | | | | 2019.07.IT05.R2 | Perform quality management activities on previously approved or submitted deliverables. | | | | | |

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| Configuration Management | 2019.07.IT06 | Risk | Moderate | Moderate | A lack of a configuration management plan may impact the performance and quality of the system if unauthorized or untested changes are promoted between environments. | A configuration management plan has not yet been drafted. DataHouse plans to prepare a configuration management plan by October 11, 2019. Based on the current project plan, the eCMS Project was supposed to begin the Build stage of Phase 1. Although the recent DHS development will likely delay the start of the Build stage, not having a configuration management plan in place increases the concern that changes may not be properly tested, accepted and approved which may impact system performance or quality. | 2019.07.IT06.R1 | Develop a formal configuration management plan. | •Ensure the plan is in accordance with IEEE 828-2012 – Standard for Configuration Management in Systems and Software Engineering and includes the configuration management planning process, configuration identification process, configuration change control process, configuration status accounting process, configuration auditing process, interface control process, and release management process.<br>•DataHouse and DLIR should collaborate and agree on the configuration management plan purposes and processes that will best serve this project. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22, 02/24/22, and 03/23/22: No updates to report.<br><br>04/26/22: DataHouse provided an updated Case Management configuration management document to include the Phase 2 Salesforce environments. Additional details regarding a comprehensive configuration management plan are needed.<br><br>05/31/22: No updates to report.<br><br>A lesson learned from the eCMS Project is to clarify configuration management processes and tools for the vendor and State. Required State configuration management tools should be identified early. DLIR should include a configuration management plan deliverable in the vendor contract and any requirements for specific configuration management tools. | | |
| Security | 2019.07.IT07 | Risk | Moderate | Moderate | Not having an approved security management plan in place may impact the security and privacy of the data. | The Security Management Plan (version 0.0) was prepared by DataHouse on June 3, 2019 but was not yet approved by DLIR. Based on the current project plan, the eCMS Project was supposed to begin the Build stage of Phase 1. Although the recent DHS development will likely delay the start of the Build stage, not having a security management plan in place may result in improperly defined security requirements and may preclude the adequacy of the system to support the data needs of the system.<br>Security controls should be defined in the security management plan and implemented as part of an organization-wide process that manages information security and privacy risk. | 2019.07.IT07.R1 | Ensure the security management plan meets specific standards. | •Consider the industry standards and best practices above.<br>•DataHouse and DLIR should collaborate and agree upon the specific standards that will best serve this project. | Open | Refer to prior IV&V Monthly Report for status updates before January 2022.<br><br>01/25/22: DLIR and DataHouse documented critical security tasks in the go/no-go checklist.<br><br>02/24/22: DataHouse completed the disaster recovery plan pending DLIR's review and approval.<br><br>03/23/22 and 04/26/22: A clear plan for security management is needed especially for ongoing Phase 1 Content Management system operation as well as the upcoming Phase 1 Case Management go-live.<br><br>05/31/22: DataHouse performed a vulnerability scan and remediation for the Content Management environments. It is unclear what the comprehensive security management plan is for the eCMS Project.<br><br>A lesson learned from the eCMS Project is to clarify security management processes and tools for the vendor and State. Required State security management tools should be identified early. DLIR should include a security management plan deliverable in the vendor contract and any requirements for specific security policies and security management tools. DLIR should continue to work closely with the ETS Chief Information Security Officer (CISO). | | |
| | | | | | | | 2019.07.IT07.R2 | Finalize the security management plan. | | | | | |
| Data Conversion | 2019.09.IT03 | Risk | Low | Low | Unsupported IBM Lotus Notes Domino Case Management may impact the execution of data conversion activities. (Updated) | This was originally reported in the September 2019 IV&V Monthly Report as a preliminary concern but is upgraded to a risk in this report. The current case management system, IBM Lotus Notes Domino, is no longer supported. The product was sold by IBM to HCL Technologies, an Indian IT company. DLIR's licenses for the product ended in June 2019 and DLIR is unable to renew the licenses as HCL Technologies is not a State Procurement Office (SPO) compliant vendor. This system will be replaced by the eCMS Case Management solution which was scheduled to go-live in November 2020 but this was tentatively pushed back to June 2021.<br>Any major issues with the current system may impact the data conversion process leading up to the go-live date and potentially the overall system development. | 2019.09.IT03.RI | Explore options for obtaining support. | •Consider working with ETS or other State agencies still using Lotus Notes to get vendor approved and support contract in place. | Closed | Refer to prior IV&V Monthly Report for status updates before October 2021.<br><br>10/26/21, 11/29/21, 12/29/21, 01/25/22, 02/24/22, and 03/23/22: No updates to report.<br><br>04/26/22: DLIR has a resource who supports the IBM Lotus Notes Domino system. | 4/26/2022 | Closed as DLIR accepts the residual risks and they have a resource from the mainland who supports the system. |
| Project Organization and Management | 2019.09.PM01 | Issue | Moderate | Moderate | The documented change management process was not followed as prescribed. | The Project Management Plan (version 1.3) documents the change management process that includes Change Requests, impact assessments, and a Change Log. The change to AWS (refer to finding 2019.07.IT01 in Appendix D) and the revision of the Content Management go-live date were approved by DLIR but not documented in Change Requests or a Change Log. Additionally, the change management process does not have built in mechanisms to ensure that impacted documents are updated for the change and changes are appropriately communicated to impacted stakeholders. | 2019.09.PM01.R1 | Document changes in Change Requests, with an impact assessment, and the Change Log in accordance with the Project Management Plan. | | Closed | Refer to prior IV&V Monthly Report for status updates before April 2021.<br><br>04/27/21 and 05/27/21: No updates to report.<br><br>06/25/21: DLIR plans to combine all the pending Datacap related change requests into one change request related to the new Encapture solution.<br><br>07/27/21: DataHouse drafted the new change request to document the switch from Datacap to Encapture; however, DLIR has not yet approved the change request due to ongoing discussions of the proposed Content Management timeline. DataHouse should also document the resulting project schedule changes for Phase 1B, 2, and 3 in a formal change request as prescribed by the Project Management Plan.<br><br>08/25/21 and 09/28/21: The Content Management change request is pending DLIR approval.<br><br>10/26/21: Accuity decreased the severity rating from Level 1 (High) to Level 2 (Moderate). Although the details of the change request to switch from Datacap to Encapture were not updated, DataHouse did update the Content Management design deliverable to document how the replacement solution will address some of the gaps identified in feedback and issues from the previous Content Management solution UAT. DLIR agreed that this approach would address the lack of details in the change request. Additionally, schedule changes continue to not be documented in formal change requests. However, DLIR and DataHouse do present the high-level timelines to the ESC for approval.<br><br>11/29/21 and 12/29/21: No updates to report.<br><br>01/25/22: As DLIR approved the Phase 1 Content Management replacement solution to move into production, it appears that the change from Datacap to Encapture did address the gaps, feedback, and issues from the previous solution. Additionally, feedback and resulting redevelopment work during Content Management UAT did not result in additional DataHouse change requests. | 1/25/2022 | Although change requests do not document changes in detail and change requests are not used to document major schedule changes, the current change management process appears to work for the project. |
| | | | | | | | 2019.09.PM01.R2 | Refine the change management process for greater clarity and effectiveness. | •Consider setting thresholds or criteria for changes that go through different approval processes.<br>•Define the different approval processes (e.g., project manager, product owners, change control board, steering committee).<br>•Implement additional columns in the Change Log to ensure updates are made to all impacted project plans, documents, or deliverables and changes are communicated to all impacted stakeholders. | | | | |

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| Quality Management and Testing | 2020.02.IT01 | Risk | High | Moderate | The DataHouse Test Plan is incomplete and does not adequately inform DLIR of the testing approach and scope which may impact the execution of testing activities. | DataHouse drafted the Test Plan Version 0.0, pending DLIR review and approval. The test plan does not include or clearly explain the following:<br>•The scope of the test plan is incomplete (e.g., performance, load, volume, AWS environments).<br>•The testing approach differs from DataHouse's Best and Final Offer (BAFO) (e.g., regression testing, test-driven development (TDD)).<br>•The security testing does not address all security requirements outlined in the DataHouse contract or verbally discussed with DataHouse (e.g., AWS vulnerability scan).<br>•Specifics of the test approach are not detailed (e.g., test design techniques for all testing types, automation testing tools, test data requirements, data scrubbing procedures, metrics for test cases and coverage of code).<br>•The test tasks included in the project schedule are incomplete (e.g., security tests, test plan Section 8 tasks).<br>•Incomplete test deliverables and unclear delivery (e.g., missing a test completion report, defect reports not delivered to DLIR, test results delivered through the requirements traceability matrix (RTM)).<br>•There are no defined test management monitoring and control processes.<br>•A naming convention of test documentation files is not established for easy retrieval and location.<br><br>A lack of clarity of DataHouse's testing approach may not allow DLIR to appropriately develop their own test plan or ensure testing activities are adequately performed. Additionally, a lack of mutual understanding and inadequate test management processes could impact the execution of testing activities. | 2020.02.IT01.R1 | Clarify the test approach. | •Perform a deliverable review (refer to finding 2019.07.PM03) to ensure DLIR understands the test plan and scope.<br>•Consider making improvements to the test documentation. | Closed | Refer to prior IV&V Monthly Report for status updates before April 2021.<br><br>04/27/21, 05/27/21, 06/25/21, 07/27/21, 08/25/21, and 09/28/21: No updates to report.<br><br>10/26/21 and 11/29/21: Clarification of the test approach and plans for Phase 1 Content Management performance testing is needed including roles and responsibilities, tasks and dates, and the process for baseline performance metrics collection.<br><br>12/29/21: DataHouse confirmed that they are not responsible for performance, load, stress, or failover/recovery testing. DataHouse also clarified they will only provide test scripts and the pass or fail status of system testing and that their quality testing is a reperformance of select system testing and will be reflected in the same system testing pass or fail status. DataHouse will address any issues encountered during their testing but will not share any issue logs with DLIR. | 12/29/2021 | Closed as DLIR accepted the risk related to DataHouse's clarified scope of their testing and how DataHouse testing results will be provided to DLIR. |
| | | | | | | | 2020.02.IT01.R2 | Develop adequate test management processes and procedures. | •Consider a process for monitoring and reporting test status and results.<br>•Consider a process for authorization of test data. | | | | |
| System Software, Hardware, and Integrations | 2021.03.IT01 | Issue | High | High | Ongoing Content Management technical issues and solution analysis are causing project delays. | Since December 2020, DLIR and DataHouse have been performing various system analysis due to Phase 1 Content Management UAT technical issues and user feedback. In March 2021, DataHouse presented three options to the ESC for the Content Management solution including an option to replace and redevelop the Content Management scanning and data extraction component. DLIR is currently evaluating the options presented by DataHouse. DLIR planned to hold a special ESC meeting on March 25, 2021 to make a decision regarding the Content Management solution but postponed this in order to allow more time for additional analysis. The Content Management go-live was postponed several times due to ongoing analysis and could potentially delay the go-live for several months more. It is critical for DLIR and DataHouse to work together to timely and thoroughly complete analysis and agree upon how to proceed.<br><br>In addition to the specific recommendations made as a part of this finding, the IV&V recommendations made at findings 2020.12.IT01, 2019.07.PM10, and 2019.10.PM01 will also help to address this issue. | 2021.03.IT01.R1 | Identify all major gaps in current solution. | •Review the reported issues/defects in the UAT quality log, close resolved entries, and identify unresolved gaps.<br>•Review other project documentation and perform further system review to identify other major gaps.<br>•Assign risk/criticality ratings for each identified gap. | Closed | 04/27/21: DataHouse is still working to investigate and address ongoing technical issues. DLIR continues to evaluate the options presented by DataHouse and began to review unresolved issues from UAT to perform their gap analysis. DLIR needs to work with DataHouse to swiftly complete the analysis.<br><br>05/27/21: DataHouse is still working to address Datacap issues requiring fixes. DLIR and DataHouse agreed on a tentative plan and timeline of tasks to reach a decision regarding the Content Management solution by July 2021.<br><br>06/25/21: DLIR made the decision to replace and redevelop the Content Management scanning and data extraction component. DLIR is still in the process of gathering additional information to finalize the solution and gap analysis.<br><br>07/27/21, 08/25/21, and 09/28/21: Completion of DLIR's Content Management solution analysis is still pending.<br><br>10/26/21: A solution analysis will not be prepared to formally document how the replacement Content Management system addresses gaps in the prior solution. However, DataHouse did update the Content Management design deliverable to document how the replacement solution will address some of the gaps identified in feedback and issues from the previous Content Management solution UAT. Additionally, a meeting was scheduled for late October 2021 to discuss how technical issues from the prior solution will also be addressed by the replacement solution.<br><br>11/29/21: DataHouse provided an architecture and workflow overview of the Encapture solution and confirmed that DataHouse functional testing verified that the prior Content Management solution issues will be addressed with the replacement solution. DataHouse plans to monitor and test performance of the replacement solution. | 11/29/2021 | DLIR will not be preparing a formal and comprehensive solution analysis; however, this finding is closed as the solution analysis is captured in the ESC presentation, the updated Content Management design deliverable, and the Encapture architecture and workflow overview meeting. The ongoing technical issues related to the Encapture replacement solution are not tracked in an IV&V finding as these are already tracked in the testing logs. |
| | | | | | | | 2021.03.IT01.R2 | Complete the analysis of solution options. | •Evaluate how each option addresses all major gaps.<br>•DataHouse should provide additional clarification and demonstration of the functionality to be provided by each of the options as it relates to the stand-alone Content Management solution and the integrated Case Management solution. This will help DLIR to understand the comprehensive solution and to identify limitations that are only temporary until additional functionality is provided in later phases.<br>•Consider if additional options are needed based on the completed listing of risk/criticality-rated major gaps.<br>•Consider impacts to current phase as well as total solution/project; short-term costs and total cost of ownership (TCO); and impacts to the implementation plan and users. | | | | |

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| Project Organization and Management | 2020.03.PM01 | Issue | High | Moderate | The COVID-19 pandemic is impacting project execution although the extent of the impact to project costs and the project schedule as well as the potential impacts to quality and project success are currently indeterminable. | The COVID-19 pandemic has created uncertainty with respect to the timely completion of the project and its cost. Understandably, DLIR has diverted project resources to the UI Division to respond to the skyrocketing number of unemployment claims. This finding focuses on the impacts of COVID-19 specific to the eCMS Project.<br><br>The following is a summary of the related events and facts:<br>•All eCMS Project meetings were cancelled beginning March 17, 2020 following directives for non-essential state workers to stay home. Subsequent state-wide stay-at-home orders were put into effect through April 30, 2020.<br>•Currently only a few DLIR project resources, including the DCD Executive Sponsor and DLIR Project Manager, are still working in the office or remotely but time dedicated to project work has been drastically reduced due to competing priorities. DLIR ceased actively performing or participating in many key project management activities.<br>•Key DLIR Subject Matter Experts (SME) are currently unavailable to the eCMS Project. The DLIR SMEs are critical to the Case Management system development process due to the valuable knowledge and input of business operations they provide to the development teams to clarify and refine requirements.<br>•Many DLIR SMEs have been temporarily assigned to assist the UI Division's overwhelmed operations and a timeline of when they would return to DCD or eCMS Project work is unknown.<br>•Even when stay-at-home orders are lifted, the mounting DCD operational work will limit DLIR SME capacity to participate in or perform project work.<br>•The Office of Enterprise Technology Services (ETS) and DLIR Electronic Data Processing Systems Office (EDPSO) stakeholders playing an essential role in project governance and project security management activities are busy addressing other pressing department and state IT issues.<br>•DLIR's plans to procure necessary testing, data conversion, and cloud support resources has been put on hold due to COVID-19.<br>•Although a few DataHouse resources were reassigned to assist with higher priority and more urgent UI Division system support, DataHouse continues to move forward with development work. However, DataHouse's progress is partially limited due to dependencies on DLIR's completion of assigned tasks.<br><br>The drastic reduction in already constrained DLIR project resources has almost entirely halted project work on the state side which will impact project costs and schedule and potentially impact quality and project success. Estimates of potential impacts to project costs and schedule have not yet been determined and progress has not been made to develop mitigation plans that would help to reduce or limit the impacts.<br><br>The severity rating and the following IV&V recommendations are based on a project-focused perspective, with an understanding that higher DLIR department level priorities may limit the project's ability to respond effectively and timely. Although this finding is reported under the Project Organization and Management IV&V Assessment Category, this finding also impacts the criticality ratings for the Governance Effectiveness; Cost, Schedule and Resource Management; Risk Management; Communications Management; Data Conversion; Quality Management and Testing; and Security categories. In addition to the specific recommendations made as a part of this finding, the IV&V recommendations made at findings 2019.09.PM02, 2019.07.PM06, 2019.07.PM09, 2019.07.PM12, 2019.07.PM13, and 2019.07.PM14 will also help to address this issue. | 2020.03.PM01.R1 | Explore possible ways to keep the project moving forward with available resources. | •Evaluate DLIR SMEs availability and bandwidth to work on the project.<br>•Consider reshuffling of user stories in current and upcoming sprints and how to best utilize available DLIR SMEs. | Closed | Refer to the June 2020 IV&V Monthly Report for status updates prior to July 2020.<br><br>07/29/20: COVID-19 continues to impact the availability of DLIR project resources. A few of the DLIR project resources, including the DLIR Project Manager, returned to the project on a limited basis and additional DLIR project resources are expected to have some availability in the upcoming months as DCD employees are slowly transitioned back from the UI Division. With recent increases in cases in Hawaii, circumstances could potentially evolve rapidly. While the plan to move forward with Phase 2 work gives DataHouse more options to keep the project moving forward, some level of DLIR project resources will always be needed. Making improvements for identified deficiencies (2020.07.PM01) in a few key foundational project processes including schedule management (2019.07.PM13), resource management (2019.09.PM02), change management (2019.09.PM01), and risk management (2019.07.PM09) will better position the project to handle and adjust to changes going forward.<br><br>08/21/20: DataHouse kicked-off Phase 2 requirements gathering sessions. With Phase 1 activities scheduled to resume simultaneously with ongoing Phase 2 activities, additional clarity is still needed regarding the path forward. Additionally, the worsening COVID-19 situation in Hawaii creates a lot of uncertainty with regards to DLIR project resources and work arrangements. A clear understanding of intended project activities as well as contingency plans for key project resources and possible work-from-home arrangements are essential to minimizing further delays.<br><br>09/28/20, 10/23/20, 11/24/20, 12/23/20, and 01/26/21: No updates to report.<br><br>02/23/21, 03/24/21, 04/27/21, and 05/27/21: DLIR and DataHouse should consider the continuing impacts the COVID-19 pandemic will have on the availability of DLIR project resources as a part of the upcoming Content Management analysis and decision and while reprioritizing project goals and priorities.<br><br>06/25/21: Almost all employees returned to DCD as of June and DLIR is able to make necessary procurements for the eCMS Project. | 6/25/2021 | Although there will continue to be impacts of the pandemic on costs, schedule, and resources, Accuity will continue to monitor these under the other existing findings (2019.09.PM02, 2019.07.PM12, 2019.07.PM.13, and 2019.07.14). |
| | | | | | | | 2020.03.PM01.R2 | Formulate a plan for how to respond to COVID-19 impacts to the project. | •DataHouse and DLIR, with input from the ESC, must come together to decide on how to best proceed.<br>•Carefully assess the situation and individually log all of the specific impacts to the project in the risk register, including direct and indirect impacts.<br>•Evaluate alternative courses of action and contingency plans for each specific impact identified.<br>•Consider adjusting the frequency of communications and reviews of response plans to support the pace of evolving circumstances. | | | | |
| Project Organization and Management | 2020.08.PM01 | Risk | Moderate | Moderate | Inadequate planning and lack of a detailed project schedule for Phase 2 may impact the execution of Phase 2 activities and result in delays. | DataHouse's updated project management plan and project schedule was scheduled for completion in July 2020. The task is not yet completed and there is no estimated timeline for completion. Some of the details of the Phase 2 planning were verbally discussed including DataHouse's deliverables, assigned resources, and general approach; however, additional planning is needed. The current project management plan was last updated in August 2019 and many of the processes are outdated or need improvement (2020.07.PM01). Additionally, the eCMS Project is now operating under completely different circumstances due to the COVID-19 pandemic (2020.03.PM01). The following are some of the project management plan details that are unclear or need improvement:<br>•How Phase 1 and Phase 2 activities will be performed simultaneously with limited DLIR project resources; priority of Phase 1 or Phase 2 tasks; process for resolving scheduling conflicts.<br>•Detailed project schedule with Phase 2 tasks, due dates, and required resources.<br>•Improved process for managing DLIR project resource constraints; contingency plans for DLIR project resources; planning of DLIR project resources ability to work remotely including access, equipment, and technology.<br>•How the Content Management and Case Management components for the Phase 2 will be developed; the number of Content Management forms in scope for Phase 2.<br>•Roles and responsibilities for Phase 2 DataHouse and DLIR project team members.<br>•Updated process for project communications for identification of Phase 2 internal and external stakeholders; alternative communication channels in place of standing project meetings or changes in working arrangements.<br>•Process and metrics for evaluating project progress and performance for timely detection of issues.<br><br>Although significant uncertainty due to the COVID-19 pandemic makes it difficult to know the exact road ahead, proactive planning and contingency planning are critical for anticipating changes and minimizing impacts to the project. | 2020.08.PM01.R1 | Complete Phase 2 planning. | •Ensure mutual understanding of Phase 2 plan and approach between DataHouse and DLIR.<br>•Provide adequate details of Phase 2 in the project schedule.<br>•Consider building contingency plans for COVID-19 into the project management plan and processes. | Closed | 09/28/20: DataHouse updated the project management plan to include some additional details regarding Phase 2 deliverables and several project management processes. Additional clarification of project management processes (e.g., performance metrics, monitoring DLIR project resource workloads, resolving conflicts, or priorities for phases), contingency plans, and the project schedule are still needed.<br><br>10/23/20: DataHouse and DLIR discussed and clarified project management processes. In general, project performance metrics are not collected or monitored. Instead DataHouse primarily uses the project schedule to manage and monitor project performance. DataHouse and DLIR clarified processes for resolving conflicts or changes in resource availability and priorities for phases. DataHouse has not yet added the detailed tasks for Phase 2 beyond the planning stage and plans to add more detailed tasks as more specific project information (e.g., features, number of epics) is determined.<br><br>The Case Management development team also monitors progress with stats on the number of user stories completed in each sprint and the number in the backlog. | 10/23/2020 | Closed as DataHouse and DLIR discussed project management processes. The need for a more detailed Phase 2 project schedule and improvements in project management processes will continue to be monitored under the 2019.07.PM09 Risk Management, 2019.07.PM13 Schedule Management, 2019.07.PM14 Inadequate Resources, and 2019.09.PM02 Resource Management findings. |

| ASSESSMENT CATEGORY | FINDING ID | TYPE | ORIGINAL SEVERITY | CURRENT SEVERITY | FINDING | ANALYSIS | RECOMMENDATION ID | RECOMMENDATION | SUPPLEMENTAL RECOMMENDATION | FINDING STATUS | FINDING STATUS UPDATE | CLOSED DATE | CLOSURE REASON |
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| Project Organization and Management | 2020.02.PM01 | Positive | N/A | N/A | The DataHouse Case Management development team works very collaboratively with DLIR and demonstrates commitment to continuous improvement resulting in smoother project execution and increased transparency. | The Scrum methodology employed by the DataHouse Case Management development team inherently promotes collaboration, open communication, transparency, and process improvement through built in daily stand-up and retrospective meetings. Over and above this, the Case Management development team members don't just go through the exercise of Scrum meetings but really embrace the spirit of the methodology. The Case Management development team members have:<br>•Worked closely with DLIR subject matter experts (SMEs) to ensure user and business needs are thoroughly understood.<br>•Encouraged DLIR SMEs to really explore opportunities for business process improvements.<br>•Openly communicated solution options including rationale for optimal design considerations, limitations, and benefits as well as ways the solution can help to achieve business process improvements for DLIR.<br>•Listened to feedback from DLIR and timely implemented improvements to project processes (e.g., user story approval process).<br>•Demonstrated genuine commitment to the success of the project.<br><br>This approach has helped DLIR team members to build a high level of comfort with and understanding of the Case Management solution and has contributed to a smoother execution of the Case Management part of the project. | N/A | N/A for positive findings. | N/A for positive findings. | Closed | N/A | 3/27/2020 | Closed as this is a positive finding. |
| System Software, Hardware, and Integrations | 2019.09.IT01 | Positive | N/A | N/A | The DataHouse team's swift and adaptive response to issues and risks minimized impact and further delays to project development. | Many members of the DataHouse team have contributed to the following successes:<br>•Secured a replacement Content Management hosting infrastructure solution. This included presenting the replacement solution, facilitating responses from and meetings with AWS, answering the Office of Enterprise Technology Services (ETS) security questions, and updating design documents.<br>•Mitigated or remediated many of the high severity risks and issues from the IV&V Initial Report. The team's efforts to address many risks and issues are summarized in Appendix D. Additionally, DataHouse's willingness to open project team meetings to both DLIR and IV&V and time taken to address DLIR, IV&V, and ETS concerns have greatly contributed to the progress made since the Initial Report.<br>•Demonstrated commitment to DLIR and project success. This includes the Content Management development team's flexibility in performing project work to accommodate the delays in the WC forms and the Case Management development team's openness to work towards a master RTM to facilitate traceability. Team members have demonstrated their commitment to doing what's best for the project and have even proposed ways to further improve the solution leveraging their extensive technical knowledge and experience.<br><br>The DataHouse team's actions have helped to minimize impacts and further delays to the project schedule. They have also built positive momentum in moving the project forward. | N/A | N/A for positive findings. | N/A for positive findings. | Closed | N/A | 10/25/2019 | Closed as this is a positive finding. |
| Governance Effectiveness | 2019.07.PG01 | Positive | N/A | N/A | The DCD Executive Sponsor is highly engaged and plays an active and visible role in guiding, monitoring, and championing the eCMS Project. | The DCD Executive Sponsor's close involvement in the project has provided strong leadership that has, to an extent, compensated for the lack of formal governance (refer to finding 2019.07.PG02) and other project deficiencies noted throughout this report. However, as important as good sponsorship is, this factor alone can not be relied upon to guarantee project success. | N/A | N/A for positive findings. | N/A for positive findings. | Closed | N/A | 9/20/2019 | Closed as this is a positive finding. |
| Governance Effectiveness | 2019.07.PG02 | Risk | Moderate | N/A | The lack of a formal executive steering committee and change control board may limit the effectiveness of project governance. | The DataHouse proposal and Project Management Plan (version 1.2) make references to a steering committee; however, a formal committee was not chartered. Currently, the DCD Executive Sponsor is assigned the authority in the Project Management Plan to approve all project changes. | 2019.07.PG02.R1 | Assemble and formalize an executive steering committee. | •The size and selection of committee members should balance the representation of key stakeholders with the need for efficient decision making.<br>•Formalize the committee mission, responsibilities, and the types and the thresholds of decisions that need committee approval in a steering committee charter.<br>•Consider the need or ease of creating a change control board with a subset of the committee for certain types of decisions. | Closed | 09/20/19: Accuity decreased the severity rating from Level 2 (Moderate) to Level 3 (Low). The eCMS Executive Steering Committee (ESC) was assembled and held its first meeting on September 13, 2019. Members were informed of the committee's purpose, roles, and member tasks; however, the types and thresholds of decisions that need committee approval or attention was not formalized. The next meeting is scheduled for October 11, 2019.<br><br>10/25/19: The October 11, 2019 ESC meeting was effectively run by the DCD Project Sponsor to discuss key risks and issues and to align the eCMS Project direction with DLIR and ETS strategic objectives. The thresholds for decisions that require committee attention were also established. | 10/25/2019 | Closed as the eCMS ESC was formalized. |
| Governance Effectiveness | 2019.07.PG03 | Risk | Moderate | N/A | The unclear DataHouse contract terms may limit objective evaluation of contractor performance and contract fulfillment. | The procurement of the System Integrator (SI) for the eCMS Project was performed by DLIR EDPSO and reviewed by ETS. The RFP and DataHouse contract does not clearly outline expected deliverables, evaluation criteria for accepting deliverables, and clear delineation of roles and responsibilities. There has already been confusion or misunderstandings due to unclear contract terms in the areas of form design, risk and issue tracking (refer to finding 2019.07.PM09), requirements tracking (refer to finding 2019.07.PM10), and communications (refer to finding 2019.07.PM07). Additionally, the lack of specific acceptance criteria has led to approval of deliverables that do not meet industry standards (refer to finding 2019.07.PM.03). DataHouse has already prepared certain management plans and project documents and has been amenable to providing certain additional deliverables even though they were not clearly required to by the RFP or contract. Clear contract terms set expectations for deliverables and will assist DLIR to ensure that contractors fulfill obligations to the standard of quality that is required. | 2019.07.PG03.R1 | Evaluate the need for a contract modification to clarify contract terms. | •Consider including key project documents as deliverables such as a requirements management plan and requirements traceability matrix (RTM) (refer to finding 2019.07.PM10), risk and issue log (refer to finding 2019.07.PM09), and testing documentation.<br>•Consider including acceptance criteria based on industry standards. For example, the acceptance criteria could be compliance with Institute of Electrical and Electronics Engineers (IEEE) 29148-2018 for a requirements traceability matrix or compliance with IEEE 829 for test documentation.<br>•Consider including measurable success metrics (refer to finding 2019.07.PG05).<br>•Consider the need to outline roles and responsibilities between DLIR and DataHouse (refer to finding 2019.07.PM02). | Closed | 09/20/19: DLIR has decided to address this finding through updates of project plans. DataHouse has shown an openness to develop and continuously improve project deliverables including project plans. Roles and responsibilities have been more openly discussed and plan to be incorporated within project plans. Furthermore, success and quality metrics are being drafted which will also be an additional method for evaluating contractor performance and fulfillment. | 9/20/2019 | Closed as DLIR will address through project plan updates. The need for clarification of roles and responsibilities as well as acceptance criteria and success metrics will continue to be monitored under the 2019.07.PG04 Success Metrics, 2019.07.PM02 Project Organization, 2019.07.PM03 Deliverable Review, and 2019.07.IT05 Quality Management findings. |
| Governance Effectiveness | 2019.07.PG04 | Risk | Low | N/A | The lack of guidelines, checklists, and shared project assets may reduce project performance and efficiency. | Large IT projects are not a regular occurrence for many State departments. Often times project resources are assigned from within the departments that have valuable organizational and operational knowledge but do not have the necessary project management experience. Having guidelines and checklists and access to project documents from past State projects would greatly benefit even experienced project teams. ETS, as the State of Hawaii's IT oversight office, is in the best position to gather project assets and put forth guidelines. | 2019.07.PG04.R1 | Initiate conversations with ETS to discuss DLIR IT and project support needs and responsibilities. | •Discuss what resources, guidance, and shared project assets would be most helpful to DLIR.<br>•Discuss what project assets DLIR can provide to contribute to the development of a centralized project management library.<br>•Consider involving the project steering committee to align and clarify ETS vs. steering committee governing roles. | Closed | 09/20/19: ETS began sharing best practices and lessons learned with DLIR including taking the DLIR Project Manager to sprint meetings for another State project. ETS is a member of the newly formed eCMS Executive Steering Committee (ESC) and will use that vehicle to share lessons learned with DLIR. Additionally, DLIR is forming a DLIR IT Steering Committee to provide oversight to all DLIR IT projects. The DCD Executive Sponsor is a member of that DLIR committee and plans to share eCMS lessons learned and project templates with other DLIR IT projects. | 9/20/2019 | Closed as discussions occurred with ETS and the risk is adequately mitigated with the planned course of action. |

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| Benefits Realization | 2019.07.PG06 | Risk | Low | N/A | Failure to align statutes with the eCMS Project modernization objectives may reduce the operational improvements that are achieved. | The eCMS Project's primary modernization objective is to move to a paperless and automated business process. The new system is being designed to allow for electronic filing, routing, and tracking of forms. However, current disability compensation statutes have not been revised to require that these forms are filed electronically by law. As such, manual paper forms may continue to be submitted by external users such as claimants, employers, and insurance companies. As the development of a portal for public filing will not begin until Phase 3, this risk is not as imminent. However, as the evaluation of potential impacts, collection of feedback from stakeholders, and the legislative process to amend statutes is a long process, the initial planning should begin as early as possible so as not to postpone or reduce the realization of the benefits from the new system. | 2019.07.PG06.R1 | Develop a plan and timeline to amend the statutes to align to project and organizational objectives. | | Closed | 09/20/19: In 2016, DLIR convened a Working Group (WG) consisting of representatives from various DCD-related stakeholder groups. The WG provides an avenue for DLIR to understand stakeholders' concerns and a forum for the stakeholders to understand the DLIR's business process improvements including the need for statutorily mandated electronic claim filings.<br><br>DLIR plans to draft statutory changes to mandate electronic filing in FY2022 (effective July 1, 2023). This timeframe was decided on as it allows DLIR to proactively involve stakeholders in testing production and provide stakeholders the appropriate time to ready their systems for electronic filing. | 9/20/2019 | Closed as DLIR has a plan to align statutes with eCMS Project objectives. |
| Project Organization and Management | 2019.07.PM01 | Positive | N/A | N/A | The DLIR Project Manager is a dedicated project lead who works collaboratively with internal stakeholders. | The DLIR Project Manager is hardworking and has continually demonstrated dedication to the project and an eagerness to learn. Additionally, the DLIR Project Manager has some of the necessary leadership qualities that make her a good project manager. Her positive nature and collaborative approach develops trust with and satisfies concerns of many internal stakeholders. This has mitigated some of the communication and OCM risks (refer to findings 2019.07.PM07 and 2019.07.PM08). However, the DLIR Project Manager is the only full-time DLIR employee assigned to the eCMS Project and there is not a sufficient amount of project resources (refer to finding 2019.07.PM14) to properly manage the project. | N/A | N/A for positive findings. | N/A for positive findings. | Closed | N/A | 9/20/2019 | Closed as this is a positive finding. |
| Project Organization and Management | 2019.07.PM04 | Issue | High | N/A | DataHouse proposed a solution on their BAFO without obtaining a written letter of intent between DataHouse and DHS. Furthermore, the eCMS Project advanced for 10 months without a formal MOU between DLIR and DHS and reliance on the DataHouse Project Sponsor to lead the discussions due to her experience with DHS. | The DataHouse BAFO proposed a technical solution that planned to leverage DHS's IBM FileNet environment; however, there was no written agreement between DataHouse and DHS that supported DHS intent to support shared services. Once the eCMS Project was underway, the MOU discussions with DHS were primarily led by the DataHouse Project Sponsor. The eCMS Project advanced for 10 months without finalizing the MOU between DHS and DLIR. As the proposed solution is no longer viable due to the recent DHS development, an alternative solution must be determined (refer to finding 2019.07.IT01) and previously accepted or drafted deliverables may need to be updated. Although the eCMS Project will not be able to utilize DHS's IBM FileNet environment, the project still plans to leverage DHS's enterprise licenses for FileNet and Datacap. Before moving forward in the project, DLIR should finalize all necessary agreements to ensure that the alternative solution is viable and prevent further delays. | 2019.07.PM04.R1 | Finalize the MOU to leverage DHS's enterprise licenses for FileNet and Datacap. | | Closed | 09/20/19: The MOU with DHS for Datacap and FileNet licenses is close to being finalized. DLIR received a draft from DHS on September 1, 2019 and it was sent to the Attorney General's office on September 17, 2019. Accuity has observed that DLIR has led the contract discussions and negotiations with AWS. | 9/20/2019 | Closed as the MOU with DHS is in process to be finalized and DLIR is leading contractor negotiations. The recommendation to identify all critical tasks will continue to be monitored under the 2019.07.PM13 Schedule Management finding. |
| | | | | | | | 2019.07.PM04.R2 | DLIR should lead all discussions and negotiations of vendor contracts or agency agreements. | | | | | |
| | | | | | | | 2019.07.PM04.R3 | Identify and complete all critical tasks prior to moving forward with an alternative solution. | | | | | |
| Project Organization and Management | 2019.07.PM05 | Risk | Moderate | N/A | A lack of clarity on DataHouse's development methodology may not allow or adequately prepare stakeholders to participate readily. | DataHouse is using a modified Agile development methodology that is referred to as "Water-Scrum-Fall". This is a combination of the waterfall and Agile methods that defines the full set of requirements at the beginning but uses Agile user stories and sprints while building the software. Based on the current project plan, the eCMS Project was supposed to begin the Build stage of Phase 1 and transition to the Scrum methodology. Although the recent DHS development will likely delay the kickoff of this stage, there are a number of concerns regarding the transition to the Scrum methodology:<br>•DataHouse has not yet fully determined the number, length, and details of the sprints.<br>•The project schedule also does not yet reflect the agile sprints cycles or identify resources who are expected to participate.<br>•There have not been communications with the DLIR project team and stakeholders regarding the Scrum methodology or the roles and responsibilities they have during this stage of the project.<br>•Many of the DataHouse project team members work remotely and are unable to work on-site. | 2019.07.PM05.R1 | Formalize an approach for executing Scrum phases. | •Consider industry best practices for Agile methodologies such as retrospectives, daily standups, burndown charts, and frequent user demonstrations and feedback.<br>•Establish the backlog preparation and refinement process.<br>•Establish virtual conferencing tools and communication protocols for geographically distributed team members.<br>•Set the number and length of the sprints.<br>•Update the project schedule for sprint activities and assign resources (refer to finding 2019.07.PM14).<br>•Include clear and detailed procedures and roles and responsibilities for Scrum tasks (refer to finding 2019.07.PM02).<br>•DLIR should be included in project team activities (refer to finding 2019.07.PM02). | Closed | 09/20/19: Accuity has kept the severity rating as Level 2 (Moderate). Although DataHouse has incorporated the Case Management sprint schedule into the overall project schedule and provided a high-level overview of the requirements/user stories to be covered by each sprint, roles and responsibilities still need to be clearly defined and communicated. The Case Management development team follows a classic Scrum model and plans to clarify roles and responsibilities of Product Owners and users, how new requirements will be approved and prioritized, and acceptance criteria during the next user review and Epic 2. The Content Management development team follows a semi-agile process and drafted an overview document of the team's change management practices.<br><br>10/25/19: The Case Management development team held a training for the DLIR Product Owners to provide an overview of the Scrum methodology and the Product Owner role and responsibilities. | 10/25/2019 | Closed as the Scrum methodology has been formalized and was communicated to the DLIR eCMS Product Owners. The recommendation to communicate the methodology to all impacted stakeholders will continue to be monitored under the 2019.07.PM07 Stakeholder Communications finding. |
| | | | | | | | 2019.07.PM05.R2 | Communicate the approach for executing Scrum phases to all team members and impacted stakeholders. | | | | | |
| Business Process Reengineering | 2019.07.PM11 | Risk | Moderate | N/A | Not identifying and addressing BPR opportunities prior to system design and development may require additional effort to correct. | There is no formal plan for BPR activities. DataHouse's approach to BPR was to start with the current state process maps, walkthrough the process with stakeholders, and make updates to the processes maps. As a result of this process, DataHouse provided future state process maps. However, Team Accuity was unable to clearly understand how processes were prioritized for change, root causes were addressed, or processes were improved (e.g., elimination of rework loops).<br><br>Business process improvement is a key deliverable identified in the RFP and in DataHouse's contract. The DataHouse contract states that the key deliverable will be manifested through: faster throughput of data into the system; faster response times to requests by users, less errors reported in the system; greater flexibility to make system changes; and online access and input by internal and external users. However, the RFP and contract do not clearly identify how this deliverable will be supported, evaluated, or accepted by DLIR (refer to finding 2019.07.PG03). There should be clear documentation on how the new solution plans on measuring and achieving key business process improvement performance goals.<br><br>The IV&V recommendations made at 2019.07.PG05.R1, 2019.07.PG05.R2, and 2019.07.PG05.R3 regarding clear and measurable goals and success metrics will also address this finding. Below is an additional recommendation to further improve BPR activities. | 2019.07.PM11.R1 | Identify and track BPR opportunities in a log. | This log should be used to plan BPR and design activities and to develop content for communications and training. | Closed | 09/20/19: Accuity has kept the severity rating as Level 2 (Moderate) as a process or tool for tracking BPR changes for future communications and training has not been created.<br><br>10/25/19 and 11/22/19: BPR opportunities continue to be discussed during sprint sessions; however, identified opportunities are not formally tracked.<br><br>12/20/19: The Case Management user story tracker tool identifies which user stories resulted in BPR. | 12/20/2019 | Closed as user stories resulting in significant BPR can be identified for communications and training. |

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| System Software, Hardware, and Integrations | 2019.07.IT01 | Issue | High | N/A | The original solution proposed by DataHouse in their BAFO to leverage the existing DHS FileNet hosting infrastructure is no longer a feasible solution. | There are a number of items in the DataHouse BAFO that are no longer feasible based on the inability to leverage the existing DHS FileNet environment. Under the original solution, DHS would monitor and maintain the enterprise IBM FileNet environment. As DHS will no longer be providing access to their IBM FileNet environment, DLIR will need to identify resources to take on the monitoring and maintenance of the IBM FileNet infrastructure. As DataHouse recommended in the BAFO the on-premise installation for the IBM ECM solution due to the capture volume and higher performance of document file transfers over the LAN and internal State network, DLIR should be provided with a technical analysis of various solution options that includes a comparison of the alternatives on performance.<br><br>Although this issue relates to the proposed hosting infrastructure solution for Content Management, this is an opportunity for both DataHouse and DLIR to reassess the total solution considering all updated technological opportunities available today. DLIR should ensure that DataHouse performs sufficient analysis regarding possible alternative solution options. DLIR should also take the time to perform adequate due diligence before making any decisions. It is important that thorough analysis and adequate due diligence is performed before moving forward in the project in order to avoid further project delays and to ensure that the delivered system will meet operational and stakeholder requirements. | 2019.07.IT01.R1 | Evaluate other total solution alternatives for an alternative solution. | •Consider solutions that could include other technical applications that could utilize a different choice of methodology using different tools, provide a cheaper solution for the longer-term, and faster implementation.<br>•Consider the following website which lists 20 competitive alternatives to IBM FileNet for consideration: www.g2.com/products/ibm-filenet-content-manager/competitors/alternatives. Additional research could result in more extensive choices going forward. | Closed | 09/20/19: In July 2019, DataHouse presented AWS as a potential alternative solution. The proposed AWS solution was compared to another cloud solution, Microsoft Azure, in respects to cost and performance. DataHouse reviewed the listing of content management solutions provided by Accuity and concluded that IBM FileNet was the best solution for this project; however, no formal analysis was prepared. DLIR approved AWS as the replacement hosting infrastructure solution effectively remediating the inability to leverage the DHS FileNet environment issue.<br><br>Accuity had also recommended that a comprehensive technical analysis be prepared on the replacement solution; however, DLIR decided not to formally document the analysis as they are comfortable with the selection based on reading of AWS whitepapers, the information provided by DataHouse, and discussions with ETS and EDPSO. | 9/20/2019 | Closed as a replacement solution was approved by DLIR. As a comprehensive analysis was not prepared and there is still a need for additional clarification regarding certain aspects of the replacement solution, Accuity will continue to monitor plans for AWS security under finding 2019.07.IT07, AWS M&O roles and responsibilities under the new preliminary concern 2019.10.IT02, and AWS costs under finding 2019.07.PM12. |
| | | | | | | | 2019.07.IT01.R2 | Prepare a comprehensive technical analysis of the alternative solution. | •Include the impact of the alternative solution to project cost, schedule, resources, security, maintenance and operations, system software, hardware integration requirements, performance requirements, and required infrastructure to ensure a complete and successful working solution.<br>•Clearly define what needs to be completed, who is responsible, steps for completion, and timing.<br>•Considerations for impact on project cost includes costs related to the following:<br>* Processing, storage and connectivity<br>* Operating system and database management licensing<br>* Interfacing technologies<br>* Maintenance and operations<br>* Data center, collocation facilities and availability requirements<br>* If it is decided that FileNet is the most cost effective and efficient solution, renewal and ongoing costs of FileNet enterprise licensing<br>•Considerations for impact on project schedule, time estimates, and resources include:<br>* Acquisition, installation, and configuration of software and infrastructure<br>* Ongoing maintenance and operations (patching, updates)<br>* Performance of security assessments<br>* Change and configuration management | | | | |
| Design | 2019.07.IT03 | Issue | High | N/A | The Content Management design documents were based on incomplete, inaccurate, and outdated requirements. | Case Management is currently in the design phase and design documents have not been provided. The Content Management Design (version 1.0) approved by DLIR on May 6, 2019. The recent DHS development will require design documents to be updated after an alternative Content Management hosting infrastructure solution is selected. However, even prior to this development, the Content Management design documents were drafted based on requirements documentation that is incomplete (refer to finding 2019.07.PM10). The requirements document deficiencies should be remediated immediately and the design documents updated accordingly. | 2019.07.IT03.R1 | Update the Content Management design documents. | Consider updates for revised requirements documents (refer to finding 2019.07.PM10) and for the alternative Content Management hosting infrastructure solution (refer to finding 2019.07.IT01). | Closed | 09/20/19: Accuity decreased the severity rating from Level 1 (High) to Level 2 (Moderate). DataHouse updated the Content Management Design Document to include additional, more detailed requirements. As noted above at finding 2019.07.PM10, DataHouse is in the process of updating the requirements documentation to include all requirements from the DataHouse contract.<br><br>10/20/19: The Content Management Design Document (version 1.2) was updated to refine or add requirements. | 10/25/2019 | Closed as the Content Management design documents are regularly updated as changes to requirements are made. The completeness of the design with respect to contract requirements will continue to be monitored under the 2019.07.PM10 requirements finding. |
| Data Conversion | 2019.07.IT04 | Risk | Moderate | N/A | A Content Management data conversion plan that is based on incomplete, inaccurate, and outdated requirements may impact the data migration design process and require additional effort to correct. | Case Management is currently in the design phase and data conversion documents have not be drafted. The Content Management Conversion and Migration (version 0.0) document was drafted by DataHouse on June 13, 2019 but was not yet approved by DLIR. The document was drafted based on requirements documentation that is incomplete (refer to finding 2019.07.PM10). Furthermore, the Content Management Conversion and Migration (version 0.0) document included a risk that changes to the requirements after a certain point in the project may cause additional effort to re-factor the migration design process.<br><br>As data conversion is the process of converting data from one source to suit the system requirements of another, it is important that the data conversion plan is based on accurate system requirements. The requirements document deficiencies (refer to finding 2019.07.PM10) should be remediated immediately and the data conversion plan updated accordingly. | 2019.07.IT04.R1 | Update the Content Management data conversion plan. | Consider updates for revised requirements documents (refer to finding 2019.07.PM10). | Closed | 09/20/19: Accuity has kept the severity rating as Level 2 (Moderate). The Content Management Conversion and Migration Plan (version 1.1) was updated on 09/05/19 before the Content Management Design Document (version 1.1) was updated on 09/15/19 to include additional design requirements. Changes to requirements should be evaluated for the impacts on the conversion and migration plans and the detailed taxonomy mapping.<br><br>10/25/19: DataHouse evaluated the new requirements and determined that there is no impact to the high level Content Management conversion requirements included in the Conversion and Migration Plan.<br><br>11/22/19: Accuity reviewed the taxonomy mapping with the primary stakeholder and confirmed that changes in system requirements will not have a significant impact on the Content Management data conversion plan as the legacy system has limited data fields that are currently used. | 11/22/2019 | Closed as changes in system requirements do not appear to significantly impact the Content Management data conversion plan. |

# *Appendix E: Prior IV&V Reports*

| AS OF DATE | DESCRIPTION |
|---|---|
| 06/30/19 | Initial On-Site IV&V Review Report |
| 09/20/19 | Monthly On-Site IV&V Review Report |
| 10/25/19 | Monthly On-Site IV&V Review Report |
| 11/22/19 | Monthly On-Site IV&V Review Report |
| 12/20/19 | Monthly On-Site IV&V Review Report |
| 01/24/20 | Monthly On-Site IV&V Review Report |
| 02/20/20 | Monthly On-Site IV&V Review Report |
| 03/27/20 | Monthly On-Site IV&V Review Report |
| 04/24/20 | Monthly On-Site IV&V Review Report |
| 05/22/20 | Monthly On-Site IV&V Review Report |
| 06/26/20 | Monthly On-Site IV&V Review Report |
| 07/29/20 | Monthly On-Site IV&V Review Report |
| 08/21/20 | Monthly On-Site IV&V Review Report |
| 09/28/20 | Monthly On-Site IV&V Review Report |
| 10/23/20 | Monthly On-Site IV&V Review Report |
| 11/24/20 | Monthly On-Site IV&V Review Report |
| 12/23/20 | Monthly On-Site IV&V Review Report |
| 01/26/21 | Monthly On-Site IV&V Review Report |
| 02/23/21 | Monthly On-Site IV&V Review Report |

| AS OF DATE | DESCRIPTION |
|---|---|
| 03/24/21 | Monthly On-Site IV&V Review Report |
| 04/27/21 | Monthly On-Site IV&V Review Report |
| 05/27/21 | Monthly On-Site IV&V Review Report |
| 06/25/21 | Monthly On-Site IV&V Review Report |
| 07/27/21 | Monthly On-Site IV&V Review Report |
| 08/25/21 | Monthly On-Site IV&V Review Report |
| 09/28/21 | Monthly On-Site IV&V Review Report |
| 10/26/21 | Monthly On-Site IV&V Review Report |
| 11/29/21 | Monthly On-Site IV&V Review Report |
| 12/29/21 | Monthly On-Site IV&V Review Report |
| 01/25/22 | Monthly On-Site IV&V Review Report |
| 02/24/22 | Monthly On-Site IV&V Review Report |
| 03/23/22 | Monthly On-Site IV&V Review Report |
| 04/26/22 | Monthly On-Site IV&V Review Report |

# *Appendix F: Comment Log on Draft Report*

# *Appendix F: Comment Log on Draft Report*

| DLIR DCD eCMS Project: IV&V Document Comment Log | | | | |
|---|---|---|---|---|
| ID # | Page # | Comment | Commenter's Organization | Accuity Resolution |
| 1 | | No DLIR comments. | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |

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