June 3, 2020

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

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

Dear President Kouchi, Speaker Saiki, and Members of the Legislature:

Pursuant to HRS section 27-43.6, which requires the Chief Information Officer to submit applicable independent verification and validation (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  
Chief Information Officer  
State of Hawai‘i

Attachment (2)
STATE OF HAWAII
DEPARTMENT OF LABOR &
INDUSTRIAL RELATIONS (DLIR)

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

MONTHLY ON-SITE IV&V REVIEW REPORT
April 24, 2020 | Version 1.0

REPORT FINALIZED
May 29, 2020
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<td>Monthly On-site IV&amp;V Review Report updated for grammatical edit on page 9. No comments submitted in Appendix F.</td>
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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) build upon the Initial Report to update and continually evaluate project progress and performance. Refer to Appendix E: Prior IV&V Reports for a listing of prior reports.

The project is currently in Phase 1 developing both the Content Management and Case Management solution components. The focus of our IV&V activities for this report included an evaluation of project organization and management and schedule management.

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 April 24, 2020. Additional explanation is included in the Findings and Recommendations by Assessment Area for new findings and in the 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.

“"If you want to go fast, go alone. If you want to go far, go together.”

- African proverb

WORKING TOGETHER
Deficiencies were observed that merit attention and remediation in a timely manner.

**As of 4/18/20. IV&V unable to verify %.

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

** As of 4/18/20. IV&V unable to verify %.

*** Go-live dates to be revised due to COVID-19.
The COVID-19 pandemic continues to impact project execution and create uncertainty with respect to the project schedule and budget. The high volume of unemployment claims are understandably keeping DLIR’s focus on priorities outside of the eCMS Project. Almost all of the DLIR project resources are either still assigned to the Unemployment Insurance (UI) Division or are busy with DCD’s own mounting operational work. It is currently unknown when these resources would be able to return to the project. Although the DLIR organizational priority to support the community during its greatest time of need is clear and justified, the scope of this assessment is to evaluate the performance and risks specific to the eCMS Project. The eCMS Project is currently at risk due to the unavailability of DLIR project resources and the limited amount of Phase 1 work that DataHouse is able to do with only the few DLIR project resources that are available. DataHouse continues to do what they can but will reach a point within the next month when they will be unable to continue with the current project schedule without key DLIR project resources. DataHouse and DLIR held some preliminary discussions regarding potential options to keep the project moving forward. From a project-focused perspective, it is still critical for DLIR and DataHouse to come together to carefully assess the situation, evaluate alternative courses of action, and agree on how to best proceed. Limited progress was made on this since last month, however, IV&V understands that other DLIR priorities are affecting the project’s ability to respond effectively and timely.

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<th>IV&amp;V ASSESSMENT AREA</th>
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<tr>
<td><strong>Overall</strong></td>
<td>The COVID-19 pandemic continues to impact project execution and create uncertainty with respect to the project schedule and budget. The high volume of unemployment claims are understandably keeping DLIR’s focus on priorities outside of the eCMS Project. Almost all of the DLIR project resources are either still assigned to the Unemployment Insurance (UI) Division or are busy with DCD’s own mounting operational work. It is currently unknown when these resources would be able to return to the project. Although the DLIR organizational priority to support the community during its greatest time of need is clear and justified, the scope of this assessment is to evaluate the performance and risks specific to the eCMS Project. The eCMS Project is currently at risk due to the unavailability of DLIR project resources and the limited amount of Phase 1 work that DataHouse is able to do with only the few DLIR project resources that are available. DataHouse continues to do what they can but will reach a point within the next month when they will be unable to continue with the current project schedule without key DLIR project resources. DataHouse and DLIR held some preliminary discussions regarding potential options to keep the project moving forward. From a project-focused perspective, it is still critical for DLIR and DataHouse to come together to carefully assess the situation, evaluate alternative courses of action, and agree on how to best proceed. Limited progress was made on this since last month, however, IV&amp;V understands that other DLIR priorities are affecting the project’s ability to respond effectively and timely.</td>
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<tr>
<td><strong>Program Governance</strong></td>
<td>The eCMS Project Executive Steering Committee (ESC) did not convene again during the month of April as many members were still busy addressing COVID-19 related issues outside of the eCMS Project. DLIR plans to have a meeting in May 2020.</td>
</tr>
<tr>
<td><strong>Project Management</strong></td>
<td>The DLIR Project Manager is reassigned to support UI Division’s operations and systems. As such, DLIR is still not actively performing or participating in many key project management activities such as risk evaluation and mitigation, resource management, project communications, cost management, and schedule management. Although DataHouse continues to work on the eCMS Project, effective project management requires participation and direction from both DataHouse and DLIR. DataHouse and DLIR need to work together to figure out and agree on how to best proceed considering DLIR project resource constraints. Some preliminary discussions were held and limited progress was made to formulate contingency and mitigation plans and adjust the project schedule and budget for COVID-19 impacts.</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>The Content Management build continues to progress but is delayed for two change requests, two pending IBM issues, and the Amazon Web Services (AWS) environments. For Case Management, some of the sprint meetings resumed with a few DLIR project resources allowing work to begin for Epic 3 Sprint 3. The Scrum methodology employed by the DataHouse Case Management development team requires continuous DLIR collaboration and input. The Case Management development team will be able to complete Epic 3 with limited DLIR project resources. They will not be able to proceed to Epic 4 without the DLIR Subject Matter Experts (SMEs) that are currently unavailable. DLIR project resources are also needed to perform upcoming data conversion, user acceptance testing, and security management activities.</td>
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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. Two IV&V Assessment Categories declined from the prior report. The overall rating primarily reflects the impact of the COVID-19 pandemic on the availability and procurement of DLIR project resources, the limited amount of Phase 1 work that DataHouse is able to do with only the few DLIR project resources that are available, and the need for DLIR and DataHouse to come together to agree on how to best proceed.

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**PROGRAM GOVERNANCE**

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<tr>
<td></td>
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<td>Governance Effectiveness</td>
<td>The eCMS Project Executive Steering Committee (ESC) did not convene again during the month of April as many members were still busy addressing COVID-19 related issues outside of the eCMS Project (2020.03.PM01), however, the DCD Executive Sponsor and DataHouse Project Sponsor discussed potential options to keep the project moving forward. The ESC needs to provide guidance, strategy, and support to the eCMS Project to help with evaluating and deciding on the best course forward considering greater DLIR departmental and State-wide priorities and goals. DLIR plans to have an ESC meeting in May 2020.</td>
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<td>Benefits Realization</td>
<td>Progress on the success metrics stalled due to shifting priorities and changes in DLIR project resources. DLIR still needs to begin collecting and monitoring success metrics data (2019.07.PG05).</td>
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</table>
### PROJECT MANAGEMENT

**Project Organization and Management**

The DLIR Project Manager is temporarily reassigned to support UI Division’s operations and systems. As such, DLIR is still not actively performing or participating in many key project management activities. Weekly project status meetings between DLIR and DataHouse are also still on hold, however, some meetings are tentatively scheduled for May 2020. Although DataHouse continues to work on the eCMS Project, effective project management and organization requires participation and direction from both DataHouse and DLIR. It is crucial for DLIR and DataHouse to come together to carefully assess the situation, evaluate alternative courses of action, and agree on how to best proceed (2020.03.PM01). Improvements are still needed for project organization and collaboration (2019.07.PM02), the deliverable review process (2019.07.PM03), and timely resolution of change requests (2019.09.PM01).

**Scope and Requirements Management**

The DataHouse Case Management development team continues to refine user stories in Epic 3 Sprint 3. DLIR’s review of their third-party vendor’s requirements assessment results are still pending. Documentation of requirements (e.g., security, performance, hardware, AWS, acceptance criteria) is still incomplete (2019.07.PM10) and traceability needs improvement (2019.10.PM01).
### Findings and Recommendations

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<th>IV&amp;V OBSERVATION</th>
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<tr>
<td>Cost, Schedule, and Resource Management</td>
<td>Inadequate project resources (2019.07.PM14) continues to be an issue exacerbated by COVID-19 (2020.03.PM01). Almost all of the DLIR project resources are either still assigned to the Unemployment Insurance (UI) Division or are busy with DCD’s own mounting operational work. Additionally, DLIR is reviewing recent expenditure restrictions and guidance from the State Governor that may impact project spending, including planned procurements of additional project resources. The timing of when DLIR project resources will be available again and additional resources can be procured is unknown. The impact of COVID-19 on the project budget and project schedule is inestimable until key decisions are made about how to proceed. Some tentative updates were made to project schedule dates but no changes were officially approved. Addressing previously identified deficiencies in schedule management (2019.07.PM13), resource management (2019.09.PM02), and cost management (2019.07.PM12) processes will help to minimize further delays and control project costs through the COVID-19 pandemic.</td>
</tr>
<tr>
<td>Risk Management</td>
<td>Discussions of risks were paused as weekly project status and monthly ESC meetings were cancelled since March (2020.03.PM01). DataHouse and DLIR continue to independently log risks and issues, however, DataHouse and DLIR need to work together to properly manage risks. Remediating the risk management process deficiencies (2019.07.PM09) will help to reduce individual threats and overall project risk exposure caused by COVID-19.</td>
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## Findings and Recommendations

### FEB MAR APR IV&V ASSESSMENT CATEGORY IV&V OBSERVATION

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<td>R</td>
<td>R</td>
<td>R</td>
<td>Communications Management</td>
<td>The unavailability of DLIR project resources and cancelling of project meetings due to COVID-19 (2020.03.PM01) continues to impact communications between DLIR and DataHouse (2019.07.PM06) and with stakeholders (2019.07.PM07).</td>
</tr>
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### Organizational Change Management (OCM)

| Y   | Y   | G   | Organizational Change Management (OCM) | OCM was occurring indirectly through DLIR SME participation in project meetings, however, almost all DLIR project resources are now unable to participate in project meetings (2020.03.PM01). A structured OCM approach is still needed (2019.07.PM08). |

### Business Process Reengineering (BPR)

| G   | G   | G   | Business Process Reengineering (BPR) | BPR improvements continue to be delivered through each Case Management development sprint. |

### Training and Knowledge Transfer

| NA  | NA  | NA  | Training and Knowledge Transfer | Significant training and knowledge transfer activities are not occurring at this stage of the project. The Content Management training previously targeted for April 2020 was postponed due to unavailability of DLIR project resources (2020.03.PM01). |

### FINDINGS

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The Content Management build continues to progress with the resolution of one of the pending IBM issues (Issue #7 DataHouse RAID Log September 2019) but is delayed for two change requests, two pending IBM issues (Issues #12 and 15 DataHouse RAID Log February 2020), and the Amazon Web Services (AWS) environments. Accuity is not reporting IV&V findings for the technical issues that DataHouse is already tracking in their RAID log, however, these technical issues are reflected in the criticality rating for this IV&V Assessment Category.

For Case Management, some of the sprint meetings resumed with a few DLIR project resources allowing work to begin for Epic 3 Sprint 3. The Scrum methodology employed by the DataHouse Case Management development team requires continuous DLIR collaboration and input. The Case Management development team will be able to complete Epic 3 with limited DLIR project resources. They will not be able to proceed to Epic 4 without the DLIR SMEs that are currently unavailable. It is unknown when these DLIR SMEs would be able to participate in sprint meetings (2020.03.PM01). DataHouse and DLIR are discussing potential options to keep the Case Management development moving forward.

The interface solution (2019.07.IT02) and the M&O roles and responsibilities (2019.09.IT02) still need further clarification.
### Findings and Recommendations

#### TECHNOLOGY

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<td>G</td>
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<td>Design</td>
<td>The Content Management and Case Management designs continue to be refined during the Build stage. Security design is covered in the Security IV&amp;V Assessment Category.</td>
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<td>Data Conversion</td>
<td>Content Management data conversion activities are still awaiting the DLIR AWS environments. DataHouse continued to perform Case Management data conversion activities exploring options to improve data quality and the data conversion process, however, changes to the data conversion approach should be appropriately approved (2019.09.PM01). DLIR's plan to procure additional resources for data conversion activities is still on hold due to COVID-19 (2020.03.PM01). DLIR also needs to formalize a plan and approach for scanning paper files and testing data conversion and DataHouse needs to clarify the data conversion tools, reports, and processes (2019.11.IT01).</td>
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<td>Y</td>
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<td>Quality Management and Testing</td>
<td>DLIR's plan to procure additional resources to assist with testing activities is also still on hold due to COVID-19 (2020.03.PM01). DLIR continued to make progress drafting the DLIR test plan (2019.10.IT01) but the plan cannot be completed with limited resources. The Content Management test cases and user acceptance testing (UAT) that were scheduled for March and May 2020, respectively, also cannot be completed without adequate DLIR project resources. Additional clarification of DataHouse's test plan is still needed (2020.02.IT01). IV&amp;V does not have visibility to provide a complete assessment of ongoing DataHouse testing activities or test documentation. The DataHouse and DLIR quality management plans have not yet been finalized (2019.07.IT05).</td>
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| IV&V ASSESSMENT      | IV&V OBSERVATION  | FEB | MAR | APR | FINDINGS |
| CATEGORY             |                   |     |     |     |          |
| Configuration        |                   | Y   | Y   | Y   | 0        |
| Management           | No significant updates since the prior report. DataHouse has drafts of the configuration management approaches for the Content Management and Case Management development teams, however, a comprehensive configuration management plan including the DLIR approval process is still pending (2019.07.IT06). | Y   |       |     | 1        |
| Security             |                       | R   | R   | R   | 0        |
|                      | No significant updates since the prior report. Both the review of the draft security policies (2019.10.IT02) and the execution of the short-term AWS security assessment are still on hold due to unavailability of DLIR project resources (2020.03.PM01). Security is still a high criticality area as it will impact when the AWS environments will be approved by DLIR for use for pending data conversion, UAT, and training activities. The Security Management Plan that includes DataHouse’s security documentation is pending and a timeline for completion is still unknown (2019.07.IT07). | R   |       |     | 2        |
|                      |                       |     |     |     | 0        |
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.

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. Up arrows indicate improvements or progress made, down arrows indicate a decline or inadequate progress made in areas of increasing risk or approaching timeline, and 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.
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.
## Appendix B: Industry Standards and Best Practices

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<th>DESCRIPTION</th>
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<td>Prosci ADKAR: Awareness, Desire, Knowledge, Ability, and Reinforcement</td>
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<td>BABOK® v3</td>
<td>Business Analyst Body of Knowledge</td>
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<td>DAMA-DMBOK® v2</td>
<td>DAMA International’s Guide to the Data Management Body of Knowledge</td>
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<td>Health Insurance Portability and Accountability Act of 1996</td>
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<td>CMS Minimum Acceptable Risk Standards for Exchanges – Exchange Reference Architecture Supplement</td>
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<tr>
<td>PMBOK® v6</td>
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<td>SWEBOK v3</td>
<td>Guide to the Software Engineering Body of Knowledge</td>
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<td>TOGAF® v9.2</td>
<td>The Open Group Architecture Framework Standard</td>
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<td>Control Objectives for Information and Related Technologies Framework</td>
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<td>IEEE 828-2012</td>
<td>Institute of Electrical and Electronics Engineers (IEEE) Standard for Configuration Management in Systems and Software Engineering</td>
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<td>IEEE 1062-2015</td>
<td>IEEE Recommended Practice for Software Acquisition</td>
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<td>IEEE 1012-2016</td>
<td>IEEE Standard for System, Software, and Hardware Verification and Validation</td>
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<td>SoaML v1.0.1</td>
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<td>CMMI-DEV v1.3</td>
<td>Capability Maturity Model Integration for Development</td>
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<td>FIPS 200</td>
<td>FIPS Publication 200, Minimum Security Requirements for Federal Information and Information Systems</td>
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<td>NIST 800-53 Rev 4</td>
<td>National Institute of Standards and Technology (NIST) Security and Privacy Controls for Federal Information Systems and Organizations</td>
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<td>NIST Cyber Security Framework v1.1</td>
<td>NIST Framework for Improving Critical Infrastructure Cybersecurity</td>
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Appendix C: Interviews, Meetings, and Documents

### INTERVIEWS

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<thead>
<tr>
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### MEETINGS

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<thead>
<tr>
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<tr>
<td>03/30/20</td>
<td>ETS Meeting</td>
</tr>
<tr>
<td>04/03/20</td>
<td>IV&amp;V DCD Update Meeting</td>
</tr>
<tr>
<td>04/07/20</td>
<td>IV&amp;V DCD Update Meeting</td>
</tr>
<tr>
<td>04/09/20</td>
<td>Case Management Format of IDs Session</td>
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<tr>
<td>04/09/20</td>
<td>Case Management Sprint 3.2 Retrospective Meeting</td>
</tr>
<tr>
<td>04/09/20</td>
<td>IV&amp;V Update and Planning Meeting</td>
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<tr>
<td>04/13/20</td>
<td>ETS Meeting</td>
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<td>04/14/20</td>
<td>Case Management Sprint 3.3 Planning and Refinement Session</td>
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<td>04/15/20</td>
<td>IV&amp;V Report Draft Walkthrough</td>
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<tr>
<td>04/16/20</td>
<td>Case Management Sprint 3.3 Planning and Refinement Session</td>
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<td>04/21/20</td>
<td>Case Management Sprint 3.3 Planning and Refinement Session</td>
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<tr>
<td>04/22/20</td>
<td>IV&amp;V DCD Update Meeting</td>
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<tr>
<td>04/23/20</td>
<td>Case Management Sprint 3.3 Planning and Refinement Session</td>
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<td>04/23/20</td>
<td>IV&amp;V DataHouse Update Meeting</td>
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<tr>
<td>04/24/20</td>
<td>IV&amp;V On-Site Summary Meeting</td>
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### DOCUMENTS

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Request for Proposal</td>
<td>State of Hawaii DLIR DCD RFP No. RFP-17-002-DCD (Release Date 04/12/18)</td>
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<tr>
<td>DataHouse Proposal</td>
<td>DataHouse ECMS Best and Final Offer (BAFO) Proposal (Dated 06/20/18)</td>
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<tr>
<td>Request for Proposal</td>
<td>State of Hawaii DLIR DCD IV&amp;V RFP No. RFP-18-001-DCD (Release Date 12/28/18)</td>
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<td>Contract</td>
<td>Contract between State of Hawaii and DataHouse Consulting Inc. (Effective 08/27/18)</td>
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<td>Project Management</td>
<td>DataHouse Project Management Plan 1.3 (Updated 08/30/19)</td>
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<td>Project Management</td>
<td>DataHouse Project Status Report (Status Date 04/26/20 for reporting period 03/01 – 03/15/20, pending DLIR approval)</td>
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<td>DataHouse Project Status Report (Status Date 04/26/20 for reporting period 03/16 – 03/31/20, pending DLIR approval)</td>
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<td>Project Management</td>
<td>DataHouse Project Status Report (Status Date 03/29/20 for reporting period 02/01 – 02/15/20, finalized 04/07/20)</td>
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<td>Project Management</td>
<td>DataHouse Project Status Report (Status Date 03/29/20 for reporting period 02/16 – 02/29/20, finalized 04/07/20)</td>
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<td>Project Management</td>
<td>Change Log (Updated 04/24/20)</td>
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<td>Project Management</td>
<td>Change Request (CR004) Automate Open Close Appeal</td>
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<td>Project Management</td>
<td>Change Request (CR005) Metadata and Default Behavior</td>
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<td>Risk and Issues</td>
<td>RAID (Risk Action Issue Decision) Log (Updated 04/24/20 by DataHouse Project Manager)</td>
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<td>Risk and Issues</td>
<td>RAID (Risk Action Issue Decision) Log (Updated 04/23/20 by DCD Risk Manager)</td>
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<td>Schedule</td>
<td>eCMS Microsoft Project Plan as of 04/18/20 (MPP file)</td>
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## DOCUMENTS (CONTINUED)

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<tr>
<td>Testing</td>
<td>DLIR Test Plan Working Draft Version 1.0 (Updated 04/03/20)</td>
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<td>Development</td>
<td>DataHouse Development Team Status Meeting Minutes for 04/01/20</td>
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<tr>
<td>Development</td>
<td>DataHouse Development Team Status Meeting Minutes for 04/08/20</td>
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<td>Design</td>
<td>Data Storage Solution for AWS Environments (04/14/20)</td>
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<td>State of Hawaii Fourth Supplementary Emergency Proclamation (03/31/20)</td>
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<td>State of Hawaii EM 20-01 Amendments to Executive Memorandum No. 19-02 Budget Execution Policies and Instructions (04/03/20)</td>
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Appendix D: Prior Findings Log
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<tr>
<th>FINDING</th>
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<tr>
<td>2020.03.PM01</td>
<td>Open</td>
<td>04/24/20</td>
<td></td>
<td></td>
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<tr>
<td>Explore possible ways to keep the project moving forward with available resources.</td>
<td></td>
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<tr>
<td>Evaluate DLIR SMEs availability and bandwidth to work on the project.</td>
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</tr>
<tr>
<td>Consider reshuffling of user stories in current and upcoming sprints and how to best utilize available DLIR SMEs.</td>
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<tr>
<td>2020.03.PM01.R1</td>
<td>Formulate a plan for how to respond to COVID-19 impacts to the project</td>
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<tr>
<td>2020.03.PM01.R2</td>
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The COVID-19 pandemic has impacted project execution, although to date the scale of the impact to project costs and the project schedule as well as the potential for quality and project success is currently indeterminable. The following is a summary of the related events and tasks.

IV&V Project meetings were canceled beginning March 17, 2020. Following directions for non-essential state services to stay home, subsequent in-person day-to-day business activities were put on hold through April 20, 2020.

Currently only a few DLIR project managers, including the IS&O (Business Transformation) and DLIR Project Manager, are still working in the office or working remotely. Prior DLIR project managers have been temporarily assigned to assist the DLIR Project Management Office with work that is only possible in-person.

The COVID-19 pandemic has created uncertainty with respect to the timely completion of the project and its impact on cost, schedule, and DLIR's planned project resources. The 10-day Directed to respond to the unprecedented number of unemployment claims. This finding tracks the impacts of COVID-19 specific to the eCMS Project.

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03/27/20: A meeting was scheduled for early March to discuss and review DataHouse's Test Plan, however, this meeting was cancelled due to COVID-19.

04/24/20: DLIR's review and approval of the DataHouse Test Plan is still pending due to COVID-19.

Accuity will reassess when meetings are held regarding the DataHouse test plan and evaluate any improvements made to test processes.

DataHouse drafted the Test Plan Version 0.0, pending DLIR review and approval. The test plan does not include or clearly explain the following:
- The scope of the test plan is incomplete ...
- A naming convention of test documentation files is not established for easy retrieval and location.
- 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.

Table: ASSESSMENT

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<th>SUPPLEMENTAL RECOMMENDATION</th>
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<tr>
<td>2020.02.IT01.R1</td>
<td>Clarify the test approach.</td>
<td> Perform a deliverable review (refer to finding 2019.07.PM03) to ensure DLIR understands the test plan and scope.</td>
<td>Consider making improvements to the test documentation.</td>
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<tr>
<td>2020.02.IT01.R2</td>
<td>Develop adequate test processes.</td>
<td> Consider a process for authorization of test data.</td>
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The Content Management data conversion plan v1.3 was updated to include a sample report from the data conversion tool. DLIR still needs to understand what the report represents and what steps the data conversion tool is performing to generate the report.

01/24/20: DLIR plans to procure additional resources to support data conversion activities.

02/21/20: DataHouse provided additional details of Case Conversion tasks and dates.

03/27/20: DLIR's plan to procure additional resources for data conversion activities is on hold due to COVID-19.

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.

2019.07.PM14.R3 | Formalize DLIR Case Management data conversion scanning plans. | Consider a process for data conversion validation and reconciliation. | 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). |

Accuity will evaluate the RTM as improvements are made.
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 connection, DataHouse revised their timeline to complete the test plan in November 2019. However, due to the lack of approved test plans, the initial test plan could not be executed. DataHouse concluded that the schedule of the test plan is dependent on the completion of the AWS environment. The test plan expected completion date was revised to November 2019 and the plan may be correlated with the DataHouse IT plan.

As DataHouse test activities are scheduled to begin in November 2019, test needs were identified. This may result in a Change Request. The list of approved Change Requests (Version 3.2) documents the Change Requests as follows:

- 2019.09.PM01 Issue  Moderate  High  Lack of approved test plans may impact test plan expected completion.  The test plan expected completion date was revised to November 2019 and the plan may be correlated with the DataHouse IT plan.

- 2019.10.IT01.R1 Formalize the test plan.  Adequate security and privacy of the data and may lead to potential delays.

Quality Management and Testing

As DataHouse test activities are scheduled to begin in November 2019, the following steps were initiated:

1. 2019.10.IT01.03:  Finalize the test plan.  Identify applicable test standards and procedures.
2. 2019.10.IT01.04:  Gather required resources to perform security procedures.
3. 2019.10.IT01.05:  Consider prioritizing security procedures that are necessary for the operation of the AWS environments.

Project Management Plan

On October 1, 2019, the Change Management Plan Version 3.2 documents the Change Management Plan as follows:

- 2019.07.PM02 Issue  High  High  Lack of formalized security policies and procedures may impact the security and privacy of the data and may lead to potential delays.

- 2019.10.IT02.R1 Formalize security policies.  Work with ETS to align DLIR policies with State policies and/or a combination of best practices.  Identify specific resources to perform security procedures.  Consider prioritizing security procedures that are necessary for the operation of the AWS environments.

- 2019.10.IT02.R2 Formalize and implement security procedures.  Identify specific resources to perform security procedures.  Consider prioritizing security procedures that are necessary for the operation of the AWS environments.

Organization and Management

On October 1, 2019, the Change Management Plan Version 3.2 documents the Change Management Plan as follows:

- 2019.07.PM02 Issue  High  High  Lack of formalized security policies and procedures may impact the security and privacy of the data and may lead to potential delays.  The project management plan includes Change Requests, impact assessment, and procedures.  Change management plan includes Change Requests and Change Log.  Additionally, the change management procedures do not have any draft Change Requests or Change Log.  Critical change requests for changes to the Change management procedures are updated.  The change and change requests are appropriately communicated to impacted stakeholders.

The following steps were initiated:

1. 2019.10.PM01:  Track Change Requests, with an Impact Assessment, and a Change Log in accordance with the Project Management Plan.

- 2019.10.PM02.01:  Track Change Requests with an Impact Assessment, and a Change Log in accordance with the Project Management Plan.

Security Management

The project management plan includes Change Requests, impact assessment, and procedures. On October 1, 2019, the draft Change Requests included in the September 2019 report are still not documented in Change Requests. Additionally, the change management procedures do not have any draft Change Requests or Change Log. Critical change requests for changes to the Change management procedures are updated. The change and change requests are appropriately communicated to impacted stakeholders.

The following steps were initiated:

1. 2019.10.PM01.05:  Update Change Management Plan for greater clarity and consistency.  Consider prioritizing security procedures that are necessary for the operation of the AWS environments.

2. 2019.10.PM02.01:  Track Change Requests with an Impact Assessment, and a Change Log in accordance with the Project Management Plan.
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<tr>
<th>RECOMMENDATION ID</th>
<th>RECOMMENDATION</th>
<th>SUPPLEMENTAL RECOMMENDATION</th>
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<th>STATUS</th>
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<tbody>
<tr>
<td>2019.09.PM02.R1</td>
<td>Develop procedures to estimate and refine DLIR resource requirements.</td>
<td>Consider periodically reconfirming and renewing resource commitments to the project.</td>
<td>For finding 2019.09.PM02, the Project Management Plan (version 1.3) includes a human resource management section that addresses high-level roles and responsibilities, provides a list of all project roles and stakeholders, and describes the process for assigning resources and their availability. The Project Team will ensure that a resource management plan is complete and up-to-date.</td>
<td>Open 10/25/19 and 11/22/19: Accuity will continue to monitor this preliminary concern as the plan for M&amp;O is developed.</td>
<td>02/21/20: DataHouse clarified that the Content Management and Case Management systems will be turned over to DLIR at the go-live in November 2020. Further discussion is needed to clarify interim M&amp;O processes and the knowledge transfer plan to prepare DLIR for turnover.</td>
</tr>
<tr>
<td>2019.09.PM02.R2</td>
<td>Develop processes to optimize utilization of DLIR project resources.</td>
<td>Consider working with managers of project resources to reassign team members' other job duties.</td>
<td>For finding 2019.09.PM02, the Project Management Plan (version 1.3) includes a human resource management section that addresses high-level roles and responsibilities, provides a list of all project roles and stakeholders, and describes the process for assigning resources and their availability. The Project Team will ensure that a resource management plan is complete and up-to-date.</td>
<td>Open 10/25/19, 11/22/19, 12/20/19, 01/24/20, and 02/21/20: DLIR is working with the State of Hawaii State Procurement Office (SPO) and the vendor to get the maintenance service required.</td>
<td>02/21/20: DLIR implemented a new tool to manage resource assignments and deadlines to better utilize and manage existing project resources. DLIR also plans to procure additional resources to support data conversion and testing activities.</td>
</tr>
<tr>
<td>2019.09.PM02.R3</td>
<td>Explore use of tools for resource calendars and tracking of team member assignment progress and completion.</td>
<td>Accuity will continue to monitor this preliminary concern.</td>
<td>For finding 2019.09.PM02, the Project Management Plan (version 1.3) includes a human resource management section that addresses high-level roles and responsibilities, provides a list of all project roles and stakeholders, and describes the process for assigning resources and their availability. The Project Team will ensure that a resource management plan is complete and up-to-date.</td>
<td>03/27/20 and 04/24/20: No updates to report.</td>
<td>03/27/20: No updates to report. 04/24/20: DLIR and DataHouse's evaluation of options for COVID-19 impacts.</td>
</tr>
<tr>
<td>2019.09.PM02.R4</td>
<td>Communicate with managers of project resources for managing human resources, allocate team duties, consider periodically reconfirming and renewing resource commitments to the project, ensure team members understand their responsibilities, ensure managers and supervisors have the necessary data conversion information, and assign resources to projects.</td>
<td>Ensure managers and supervisors have the necessary data conversion information, and assign resources to projects.</td>
<td>For finding 2019.09.PM02, the Project Management Plan (version 1.3) includes a human resource management section that addresses high-level roles and responsibilities, provides a list of all project roles and stakeholders, and describes the process for assigning resources and their availability. The Project Team will ensure that a resource management plan is complete and up-to-date.</td>
<td>02/21/20: DLIR updated risk rating from Level 2 (Moderate) to Level 1 (High) as the need to better estimate resource requirements and optimize utilization of limited DLIR project resources will be critical for making realistic and feasible adjustments to the project schedule to account for COVID-19 impacts.</td>
<td>02/21/20 and 03/25/20: No updates to report. 03/27/20: Accuity increased the severity rating from Level 2 (Moderate) to Level 1 (High) as the need to better estimate resource requirements and optimize utilization of limited DLIR project resources will be critical for making realistic and feasible adjustments to the project schedule to account for COVID-19 impacts.</td>
</tr>
<tr>
<td>2019.09.PM02.R5</td>
<td>Review the project human resource management plan to ensure the right processes are in place to manage the human resource management plan.</td>
<td>Ensure the project human resource management plan is reviewed and updated as needed.</td>
<td>For finding 2019.09.PM02, the Project Management Plan (version 1.3) includes a human resource management section that addresses high-level roles and responsibilities, provides a list of all project roles and stakeholders, and describes the process for assigning resources and their availability. The Project Team will ensure that a resource management plan is complete and up-to-date.</td>
<td>01/24/20: DLIR and DataHouse finalized the preliminary concern as the plan for M&amp;O is developed.</td>
<td>01/24/20, 02/21/20, and 03/27/20: Accuity will continue to monitor this preliminary concern as the plan for M&amp;O is developed.</td>
</tr>
<tr>
<td>2019.09.PM02.R6</td>
<td>Develop a risk management plan for resource management.</td>
<td>Ensure the risk management plan for resource management is developed and implemented.</td>
<td>For finding 2019.09.PM02, the Project Management Plan (version 1.3) includes a human resource management section that addresses high-level roles and responsibilities, provides a list of all project roles and stakeholders, and describes the process for assigning resources and their availability. The Project Team will ensure that a resource management plan is complete and up-to-date.</td>
<td>01/24/20: DLIR and DataHouse finalized the preliminary concern as the plan for M&amp;O is developed.</td>
<td>01/24/20, 02/21/20, and 03/27/20: Accuity will continue to monitor this preliminary concern as the plan for M&amp;O is developed.</td>
</tr>
</tbody>
</table>
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 Leaders during the initial OMS and project reviews, DLIR has taken responsibility for project management and coordination. The lack of clear and measurable goals and success metrics makes it difficult to determine if the project and technical solutions will achieve the desired level of improvement in support of the project's financial and operational goals. 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.

<table>
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<tr>
<th>FINDING</th>
<th>SEVERITY</th>
<th>FINDING ANALYSIS</th>
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</thead>
<tbody>
<tr>
<td>2019.07.PG05.R1</td>
<td>Moderate</td>
<td>Collection and monitoring of success metrics may reduce benefits expected at project completion.</td>
<td>Collect baseline and project performance data. Conduct metrics for collecting data such as surveys, queries, observations, open surveys, and other performance metrics.</td>
<td>2019.07.PG05.R1</td>
<td>Closed</td>
<td>10/25/19</td>
<td>Finalized and communicated to stakeholders in November 2019.</td>
</tr>
<tr>
<td>2019.07.PG05.R2</td>
<td>Moderate</td>
<td>Use performance data to monitor or evaluate project or contractor performance.</td>
<td>Use performance data to monitor or evaluate project or contractor performance.</td>
<td>2019.07.PG05.R2</td>
<td>Closed</td>
<td>01/24/20</td>
<td>Communicate these measures of success and begin collecting data.</td>
</tr>
<tr>
<td>2019.07.PG05.R3</td>
<td>High</td>
<td>Consider the need to include an outline of DLIR and DataHouse roles and responsibilities in a contract modification (refer to finding 2019.07.PG03).</td>
<td>Consider revising project management plans to identify the person responsible for each project management area.</td>
<td>2019.07.PG05.R3</td>
<td>Closed</td>
<td>12/20/19</td>
<td>The Scrum methodology employed for the Case Management development team promotes collaboration, open communication, and transparency between DLIR and DataHouse.</td>
</tr>
<tr>
<td>2019.07.PG05.R4</td>
<td>High</td>
<td>The current project management organization may hinder project performance.</td>
<td>The current project organization is working very well. There is limited visibility and collaboration in other areas of the project which have impacted DLIR's understanding of and ability to properly prepare for upcoming tasks particularly for Content Management.</td>
<td>2019.07.PG05.R4</td>
<td>Closed</td>
<td>04/24/20</td>
<td>As the DLIR Project Manager was temporarily reassigned, weekly project status meetings are still on hold. Some of the Case Management sprint meetings resumed with a few DLIR project team members present; however, the timing may now be impacted by COVID-19.</td>
</tr>
<tr>
<td>2019.07.PG05.R5</td>
<td>High</td>
<td>The project organization of the DataHouse project team is working very well.</td>
<td>The project organization of the Case Management development team is working very well. There is limited visibility and collaboration in other areas of the project which have impacted DLIR's understanding of and ability to properly prepare for upcoming tasks particularly for Content Management.</td>
<td>2019.07.PG05.R5</td>
<td>Closed</td>
<td>03/27/20</td>
<td>No updates to report.</td>
</tr>
<tr>
<td>2019.07.PG05.R6</td>
<td>High</td>
<td>Due to COVID-19, DLIR project resources were unavailable to work on the project and DLIR cancelled all project meetings effective March 18, 2020. DataHouse continues to do what they can, however, project execution is impacted without DLIR participation or collaboration.</td>
<td>As the DLIR Project Manager was temporarily reassigned, weekly project status meetings are still on hold.</td>
<td>2019.07.PG05.R6</td>
<td>Closed</td>
<td>04/24/20</td>
<td>As the DLIR Project Manager was temporarily reassigned, weekly project status meetings are still on hold.</td>
</tr>
</tbody>
</table>
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.PM06), there have been delays in the approval of deliverables. The delay in the approval of deliverables has been cited by the eCMS Project team as one of the reasons for the delay in the project schedule, roles and responsibilities, design, migration, etc. is not consistently clear.

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. This factor is one reason deliverables are not timely reviewed and accepted (refer to finding 2019.07.PM02). A lack of clear deliverable review and acceptance criteria is a cause for concern (refer to finding 2019.07.PM03). Coordination activities listed in the Project Management Plan (version 2019.07.PM03) did not occur as planned as the weekly project status meetings did not begin until April 2019. Despite the commencement of regular project communications, misunderstandings and miscommunications between the DataHouse and DLIR Project Managers have continued to occur. 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. Additionally, information regarding upcoming project activities was not provided timely. For example, DataHouse did not inform DLIR of the intended build stage sessions to which DLIR was expected to participate. There was also a lack of communications between the DataHouse build stage activities (refer to finding 2019.07.PM03).

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.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>FINDING ID</th>
<th>TYPE</th>
<th>SEVERITY</th>
<th>FINDING ANALYSIS</th>
<th>RECOMMENDATION ID</th>
<th>RECOMMENDATION</th>
<th>SUPPLEMENTAL RECOMMENDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORIGINAL</td>
<td>2019.07.PM06</td>
<td>Issue</td>
<td>High</td>
<td>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.</td>
<td>2019.07.PM06.R1</td>
<td>Implement daily touch points between DataHouse and DLIR Project Managers.</td>
<td>Consider including acceptance criteria in the quality management plan.</td>
</tr>
<tr>
<td>CURRENT</td>
<td>2019.07.PM06</td>
<td>Issue</td>
<td>High</td>
<td>The DataHouse and DLIR Project Managers have daily touch points through various methods (in-person meetings, video conferences, phone, email, and Zoom). Further, an updated status of findings 2019.07.PM02.R2 and 2019.07.PM02.R3 regarding DataHouse meeting on-site and including DLIR in project activities will also address this finding. Below are additional recommendations to further improve project team communications.</td>
<td>2019.07.PM06.R2</td>
<td>Increase the number of weekly meetings between DataHouse and DLIR Project Managers.</td>
<td></td>
</tr>
</tbody>
</table>
Open 09/20/19: Accuity decreased the severity rating from Level 2 (Moderate) to Level 3 (Low). DLIR plans to hold two sessions on October 1, 2019 to update the DLIR internal stakeholders (including PUC, OCE, and OCS) on the project status. DLIR plans to update the DLIR website to include project information that is accessible by internal and external stakeholders.

Communications management is a part of the Project Management Plan.

Communications management is the process of planning, organizing, and controlling communications to achieve project objectives.

**2019.07.PM07 Risk Moderate Moderate**

The lack of tailored project communications for all impacted stakeholders may reduce user adoption and stakeholder buy-in.

A formal communications management plan is not in place nor was one developed. Stakeholders have different communication needs and preferences. DLIR plans to develop and implement a structured communications management approach with internal stakeholders (refer to finding 2019.07.PM07.R1). DLIR is not involving all project stakeholders in the communications management approach.

Although project documents are available to internal stakeholders, all impacted stakeholders are not being included or engaged sufficiently. DLIR is not providing feedback on the communications management approach to internal stakeholders.

DLIR has not conducted a formal communications management plan for the project. DLIR plans to develop such a plan and include all stakeholders.

**ASSESSMENT**

**ORIGINAL**

**CURRENT**

**FINDING**

**CATEGORY FINDING ID TYPE**

**SEVERITY FINDING ANALYSIS RECOMMENDATION ID RECOMMENDATION SUPPLEMENTAL RECOMMENDATION**

**STATUS FINDING STATUS UPDATE CLOSED DATE CLOSURE REASON**

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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).

Due to limited resources assigned to communications management, the DLIR is not participating in all impacted stakeholders' change management activities. DLIR plans to develop a structured communications approach with all internal stakeholders.

DLIR is not utilizing the structured communications approach to engage impacted stakeholders. DLIR needs to implement a structured communications approach to effectively communicate with all stakeholders.

Due to limited resources assigned to communications management, the DLIR is not participating in all impacted stakeholders' change management activities. DLIR plans to develop a structured communications approach with all internal stakeholders.

DLIR is not utilizing the structured communications approach to engage impacted stakeholders. DLIR needs to implement a structured communications approach to effectively communicate with all stakeholders.

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10/25/19: Communication activities were executed or are in progress to provide awareness of the upcoming project activities including the DLIR internal stakeholder meeting and DLIR website discussed above at finding 2019.07.PM07. Accuity increased the severity rating from Level 3 (Low) to Level 2 (Moderate) as plans to update the website and send out a letter to carriers regarding upcoming changes were not completed as expected.

11/22/19: The letter to carriers was sent out. However, the website was not yet launched. There is a lack of opportunity to leverage the OCM - IAPP plans to develop and implement a structured communications management approach with all stakeholders.

12/20/19: The project website was launched with high-level background, timeline, and success metrics. DLIR plans to develop videos for project communications. Accuity increased the severity rating from Level 3 (Low) to Level 2 (Moderate). OCM was occurring indirectly through DLIR SME participation in project meetings, however, almost all DLIR SMEs were unable to participate in project meetings. New OCM methods need to be explored for DLIR SMEs as well as all impacted stakeholders.

Accuity will continue to evaluate project communications plans and activities, and update the project schedule for communication activities and assigned resources (refer to finding 2019.07.PM02).

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 to OCM activities, monitoring, communication, involvement, or coordination. DLIR is not utilizing a structured OCM approach to communicate project updates to internal and external stakeholders.

Although project documents are available to internal stakeholders, all impacted stakeholders are not being included or engaged sufficiently. DLIR is not providing feedback on the OCM management approach to internal stakeholders.

Although project documents are available to internal stakeholders, all impacted stakeholders are not being included or engaged sufficiently. DLIR is not providing feedback on the OCM management approach to internal stakeholders.

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11/22/19, 12/20/19, and 01/24/20: OCM activities are not executed continually or consistently to keep stakeholders engaged. DLIR plans to develop a structured OCM approach with all internal stakeholders.

3/27/20: No updates to report.

4/24/20: Accuity increased the severity rating from Level 3 (Low) to Level 2 (Moderate). OCM was occurring indirectly through DLIR SME participation in project meetings, however, almost all DLIR SMEs were unable to participate in project meetings. New OCM methods need to be explored for DLIR SMEs as well as all impacted stakeholders.

Accuity will continue to evaluate project communications plans and activities, and update the project schedule for communication activities and assigned resources.
Only three risks and two issues have been identified by DataHouse on the project. These 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.

**Risk Management 2019.07.PM09**  
Issue: High  
Open: 09/20/19: Accuity decreased the severity rating from Level 1 (High/Critical) to Level 2 (Moderate). A DLIR Risk Manager was assigned in August 2019 and has begun to use mind mapping and a log to identify, track, and report risks. An ITV&V risk management process will be initiated to track and report risks on an ongoing basis. The project team must encourage open, transparent discussion about risks and issues.

**Risks and Issues Management 2019.07.PM10**  
Issue: Moderate  
Scope and Requirements Management  
Open: 10/25/19: Risks were discussed at the weekly status meetings and monthly management process. 11/22/19, 12/20/19, and 01/24/20: No updates to report. 02/21/20: DLIR began to develop mitigation plans for all high IV&V risks and issues. 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 do not meet industry standards. The current RTM does not include operational and project objectives to design artifacts. Furthermore, the RTM does not include functional requirements, including compliance with Human Service Standards, Human Error Standards, and security requirements.

The requirements management is part of the Project Management Process developed by DataHouse. However, the plan is not comprehensive. The Project Management Plan (2019.07) was updated to include additional details regarding requirements management. 02/21/20: Discussions on requirements management are in progress. The latest draft plan does not provide adequate details regarding how requirements prioritization processes are handled, how requirements are changed, and how changes are communicated. The requirements management should be revised and requirements documentation should be complete and meet security standards and best practices. Requirements documentation should be revised and requirements management processes should be improved prior to moving forward in the project.

**Recruitment of Risk and Issue Management process**  
A formalized process around identifying, prioritizing and tracking risks in coordination with visualization and communication is lacking. The project team must encourage open, transparent discussion about risks and issues.

**Recommendations**  
- Conduct regular meetings to review project risks and issues.
- Develop a risk and issue management process.
- Formalize the Risk and Issue Management process.
- Improve requirements documentation and RTM.
- Enhance their RTM to crosswalk and merge all requirements into one master document including all contract requirements. With the staggered development of the Content Management and Case Management phases) and the descriptions in the Requirements Traceability Matrix (RTM

As requirements are the foundation for proper system design, development, and testing, it is essential that requirements documentation are complete and meet security standards and best practices. Requirements documentation should be revised and requirements management processes should be improved prior to moving forward in the project.
## Resource Management

**Finding 2019.07.PM12**

- **Risk:** High
- **Open:** Yes
- **Severity:** High

Accuity has kept the severity rating as Level 1 (High) as a comprehensive project budget and long-term cost schedule have not been created yet. Additionally, regular cost variance reports are not prepared or presented.

**Update:**
- **10/25/19:** Progress has been made to gather cost information and set up budget tracking templates.
- **11/22/19, 12/20/19, and 01/24/20:** No updates to report.
- **02/21/20:** DLIR plans to develop a comprehensive project budget while preparing the 2021-2022 budget.

**ASSESSMENT**

<table>
<thead>
<tr>
<th>CATEGORY FINDING ID</th>
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<th>SEVERITY</th>
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<th>UPDATE</th>
<th>CLOSED DATE</th>
<th>CLOSURE REASON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource Management</td>
<td>2019.07.PM12.R1</td>
<td>Prepare a comprehensive project budget and a schedule of long-term operational costs (e.g., licenses, subscriptions, maintenance, cloud services).</td>
<td>Level 1 (High)</td>
<td>Findings cashiered to management and forwarded to the executive steering committee for further action.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource Management</td>
<td>2019.07.PM12.R2</td>
<td>Prepare regular cost reports for management and the executive steering committee.</td>
<td>Level 1 (High)</td>
<td>Findings cashiered to management and forwarded to the executive steering committee for further action.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Resource Management</td>
<td>2019.07.PM12.R3</td>
<td>Clarify DataHouse payment terms and schedule payment schedules for the schedule delays.</td>
<td>Level 1 (High)</td>
<td>Findings cashiered to management and forwarded to the executive steering committee for further action.</td>
<td></td>
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</tbody>
</table>

## Schedule Management

**Finding 2019.07.PM13**

- **Risk:** High
- **Open:** Yes
- **Severity:** High

Accuity will continue to monitor project costs including new AWS costs (from the State Governor that may impact project spending, including planned procurements of additional project resources. Evaluation and discussion of the impact of COVID-19 to the DataHouse contract is also needed.

**Update:**
- **03/27/20:** COVID-19 will impact project costs, however, the extent of the impact is indeterminable. Additionally, DLIR is assessing available funding for planned procurements of resources and other project costs.
- **04/24/20:** Some tentative updates were made to project schedule dates but no changes were officially approved. Careful consideration is needed to estimate realistic task hours and assignment of tasks to DLIR project resources specific availability to minimize impacts to successor tasks and prevent further delays.

**ASSESSMENT**

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</thead>
<tbody>
<tr>
<td>Schedule Management</td>
<td>2019.07.PM13.R1</td>
<td>Document and approve the next phase of project schedule revisions. Continue the project schedule with the current high-level schedule, and proceed to detailed schedule development in accordance with the data conversion activities, scheduled development tasks, and unallocated project costs.</td>
<td>Level 1 (High)</td>
<td>Findings cashiered to management and forwarded to the executive steering committee for further action.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schedule Management</td>
<td>2019.07.PM13.R2</td>
<td>Refine the project schedule with details of tasks, durations, phases, and assigned resources.</td>
<td>Level 1 (High)</td>
<td>Findings cashiered to management and forwarded to the executive steering committee for further action.</td>
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</tr>
<tr>
<td>Schedule Management</td>
<td>2019.07.PM13.R3</td>
<td>Prepare regular schedule reports and schedule variance analyses for management and the executive steering committee.</td>
<td>Level 1 (High)</td>
<td>Findings cashiered to management and forwarded to the executive steering committee for further action.</td>
<td></td>
<td></td>
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</tbody>
</table>
Cost, Schedule and Resource Management

Issue Moderate

09/20/19: Accuity has kept the severity rating as Level 2 (Moderate).

Inadequate assigned project resources may impact the design process and require additional updates to the project schedule.

The Quality Management Plan (available in the project portal) was completed on June 20, 2019. The Quality Management Plan is currently under review and strategy and design changes were incorporated. The draft plan was sent to the interface design team for review. DataHouse provided feedback on the following: how images are uploaded to selected Content Management solution from Salesforce, how metadata is uploaded into Salesforce, how files are uploaded to selected Content Management solution from Salesforce, and who is responsible for setup, configuration, and maintenance of the interface solution. Additionally, DataHouse will provide feedback to resolve issues in the interface solution.

Update the project schedule to assign quality assurance resources (refer to finding 2019.07.PM14). Accuity will work with DLIR to understand what additional quality management activities and metrics need to supplement the DataHouse quality management plan.

Accuity will continue to evaluate the interface solution as additional details are finalized and as development progress using the actual solution components is made.

Quality Management and Testing

06/27/19: No updates to report. See finding 2019.07.PM14.

07/25/19: DLIR plans to procure additional resources to support data conversion and testing activities. DataHouse plans to shift some of the DataHouse resources on AWS setup and network logistics delayed completion of the test plans and progress on the DataHouse Project team.

CURRENT

CATEGORY FINDING ID TYPE

Open

09/20/19: Accuity decreased the severity rating from Level 1 (High) to Level 2 (Moderate). DataHouse included a narrative about the interface components in the Case Management Design Document. The interface solution should be clearly analyzed, documented, mapped to project requirements, and communicated to DLIR.

09/20/19: Accuity has kept the severity rating as Level 2 (Moderate). The interface solution has been clearly analyzed, documented, mapped to project requirements, and communicated to DLIR.

09/20/19: Accuity decreased the severity rating from Level 1 (High) to Level 2 (Moderate). DataHouse included a narrative about the interface components in the Case Management Design Document. The interface solution should be clearly analyzed, documented, mapped to project requirements, and communicated to DLIR.

Quality Management and Testing

06/27/19: No updates to report. See finding 2019.07.PM14.

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07/25/19: DLIR plans to procure additional resources to support data conversion and testing activities. DataHouse plans to shift some of the DataHouse resources on AWS setup and network logistics delayed completion of the test plans and progress on the DataHouse Project team.

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### FINDING

**Configuration Management**

#### CATEGORY

Risk

#### SEVERITY

Moderate

#### CURRENT SEVERITY

Moderate

#### FINDING ANALYSIS

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.

#### RECOMMENDATION ID

2019.07.IT06.R1

#### RECOMMENDATION

Develop a formal configuration management plan.

#### SUPPLEMENTAL RECOMMENDATION

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, and a configuration management plan. DataHouse should collaborate and agree upon the configuration management plan purposes and parameters that will best serve this project.

#### FINDING STATUS

Closed

#### PROJECT STATUS UPDATE

2019.07.IT06.R1 Developed a formal configuration management plan. DataHouse plans to prepare a configuration management plan by October 11, 2019. Based on the current project plans, the 2019.07.IT06.R1 project was expected to begin the Build stage of Phase 3.  Following the short CMS development cycle, the configuration management plan will be finalized as part of the Build stage, and having a security management plan in place may lead to unnecessary defined security requirements, and may impact the delay of the systems to support the data needs of the system. Security management plan updates will be submitted to DataHouse and DLIR should collaborate and agree upon the specific standards that will best serve this project.

#### CLOSURE REASON

Accuity has kept the severity rating as Level 2 (Moderate). DataHouse is still in the process of finalizing and documenting a configuration management approach. DataHouse will continue to evaluate the configuration management plan as project updates are received.

#### FINDING ID

2019.07.IT07

#### SEVERITY

Security

#### CURRENT SEVERITY

Moderate

#### FINDING ANALYSIS

The security management plan has not yet been finalized and also needs to be updated to include AWS security plans (from finding 2019.07.PM13). DataHouse plans to complete the security management plan updates in October 2019.

#### RECOMMENDATION ID

2019.07.IT07.R1

#### RECOMMENDATION

Ensure the security management plan meets specific standards.

#### SUPPLEMENTAL RECOMMENDATION

Consider the industry standards and best practices above. DataHouse and DLIR should collaborate and agree upon the specific standards that will best serve this project.

#### FINDING STATUS

Closed

#### PROJECT STATUS UPDATE

2019.07.IT07.R1 Updated the security management plan to include AWS security plans. The security management plan has not yet been finalized and also needs to be updated to include AWS security plans (from finding 2019.07.PM13). DataHouse plans to complete the security management plan updates in October 2019.

#### CLOSURE REASON

Accuity increased the severity rating from Level 2 (Moderate) to Level 1 (High) due to the need for a plan or controls to be in place and the impact that a delay in implementing the plan or controls could have on project outcomes and overall system performance. Based on the current project plans, the 2019.07.IT07.R1 project was expected to begin the Build stage of Phase 3. Following the short CMS development cycle, the security management plan will be finalized as part of the Build stage, and having a security management plan in place may lead to unnecessary defined security requirements, and may impact the delay of the systems to support the data needs of the system. Security management plan updates will be submitted to DataHouse and DLIR should collaborate and agree upon the specific standards that will best serve this project. Accuity will continue to evaluate the security management plan and documentation as project updates are received.

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**Note:** The text continues with similar updates and recommendations for various findings. The updates include progress on implementing security standards, updates to the security management plan, and actions taken to address security concerns. The document highlights the collaboration between Accuity, DataHouse, and DLIR to ensure security standards are met throughout the project lifecycle. The updates reflect efforts to ensure security is integrated into the project from planning through implementation.
<table>
<thead>
<tr>
<th>ASSESSMENT</th>
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<th>CATEGORY FINDING ID</th>
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### RECOMMENDATION: RECOMMENDATION

- **2019.07.PG06.R1** - Draft and publish a project support 4.0 update to include ETS and project support needs and responsibilities. Recommend a training program for IT professionals to align and clarify ETS vs. IT governance, including ETS.

### GOAL: GOAL

- **2019.07.PG06** - Draft a plan and timeline to amend the statutes to align to project and organizational objectives. 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.

### PROJECT: PROJECT

- **2019.07.PG04** - Risk Level: Low - The lack of guidelines, checklists, and shared project assets may reduce project modernization objectives or increase the risk of adverse impacts. The DataHouse BAFO proposed a technical solution that planned to require that these forms are filed electronically by law. As such, manual paper forms may continue to be submitted by law. This risk is adequately mitigated with the planned course of action.

### ASSESSMENT: ASSESSMENT

- **Organization and Management**
  - **Continuous improvement is not a focus** - 10 months without a formal review process followed at the DataHouse. The DLIR Project Manager is hardworking and has continually demonstrated leadership-questions that need to be good project manager. The project is still lacking critical milestones and there is not a sufficient amount of project resources (refer to finding 2019.07.PM14) to properly manage the project.
  - **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 project tasks for each sprint. DataHouse has incorporated the Case Management sprint schedule into the overall project schedule and provided a list of tasks prior to moving forward with an alternative solution.
  - **Communication and collaboration between DataHouse BAFO, the DLIR eCMS Product Owners, and all impacted stakeholders is not occurring** - The recommendation to communicate the methodology to all impacted stakeholders will continue to be recommended.

### RECOMMENDATION: RECOMMENDATION

- **2019.07.PG06.R1** - Develop and publish a project support 4.0 update to include ETS and project support needs and responsibilities. Recommend a training program for IT professionals to align and clarify ETS vs. IT governance, including ETS.

### GOAL: GOAL

- **2019.07.PG06** - Draft a plan and timeline to amend the statutes to align to project and organizational objectives. 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.

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  - **Communication and collaboration between DataHouse BAFO, the DLIR eCMS Product Owners, and all impacted stakeholders is not occurring** - The recommendation to communicate the methodology to all impacted stakeholders will continue to be recommended.
Identify and track BPR opportunities. There is no formal plan for BPR activities. DataHouse’s approach to BPR is based on identifying and addressing significant BPR opportunities in the design and development of software solutions. There are opportunities for business process improvement that can be identified through the design and development process. The following alternative solutions can be considered:

- Solutions that could utilize a different choice of methodology using different tools, providing a cheaper solution for the longer term and faster implementation.
- Solutions that could include other technical applications that could be leveraged to provide a cheaper solution for the longer-term and faster implementation.
- Solutions that could be leveraged to provide a cheaper solution for the longer-term and faster implementation.
- Solutions that could be leveraged to provide a cheaper solution for the longer-term and faster implementation.

Although the team related to the proposed hosting infrastructure solution for Context 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 has sufficient access to provide a comprehensive alternative solution, software, hardware integration requirements, performance requirements, and system software, hardware integration requirements, performance requirements, and system software, hardware integration requirements, performance requirements. It is important that through research and adequate feasibility performed by the team, it is possible to avoid further project delays and to ensure that the selected solution will meet operational and stakeholder requirements.

High 2019.07.IT01 Issue High N/A The Content Management design documents were based on incomplete, inaccurate, and outdated requirements. DataHouse is reviewing the design documents and will provide an updated version of the design documents. 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 has sufficient access to provide a comprehensive alternative solution, software, hardware integration requirements, performance requirements, and system software, hardware integration requirements, performance requirements. It is important that through research and adequate feasibility performed by the team, it is possible to avoid further project delays and to ensure that the selected solution will meet operational and stakeholder requirements.

High 2019.07.IT02 Issue High N/A The Content Management design documents were based on incomplete, inaccurate, and outdated requirements. DataHouse is reviewing the design documents and will provide an updated version of the design documents. 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 has sufficient access to provide a comprehensive alternative solution, software, hardware integration requirements, performance requirements, and system software, hardware integration requirements, performance requirements. It is important that through research and adequate feasibility performed by the team, it is possible to avoid further project delays and to ensure that the selected solution will meet operational and stakeholder requirements.
## Appendix E: Prior IV&V Reports

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<tr>
<td>06/30/19</td>
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<tr>
<td>09/20/19</td>
<td>Monthly On-Site IV&amp;V Review Report</td>
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<tr>
<td>03/27/20</td>
<td>Monthly On-Site IV&amp;V Review Report</td>
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Appendix F: Comment Log on Draft Report
## Appendix F: Comment Log on Draft Report

### DLIR DCD eCMS Project: IV&V Document Comment Log

<table>
<thead>
<tr>
<th>ID #</th>
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COVID-19 is impacting current and ongoing work. DLIR continues to fulfill its mission of delivering systems and services to mitigate the impact to project costs and the project schedule as well as the potential impacts to project execution although the extent of the impact to project costs and the project schedule is currently indeterminable.

The COVID-19 pandemic is impacting nearly every aspect of governmental operations and a throttle of where they would return to in the coming days and weeks. The DLIR is working to protect its employees and ensure that it can continue to provide critical services to the state. The severe reduction in project resources has been put on hold due to COVID-19. Although a few DLIR SMEs have been temporarily assigned to assist the UI Division, their availability and bandwidth to work on the project moving forward with available resources.

The DLIR SMEs are currently assisting with the Governor's 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. Although the Office of Enterprise Technology Services (ETS) and DLIR Electronic Data Processing Systems Office (EDPSO) stakeholders will continue to address other pressing department and state IT issues.

The Office of Enterprise Technology Services (ETS) and DLIR Electronic Data Processing Systems Office (EDPSO) stakeholders are prioritizing projects and ensuring the delivery of critical services to the state. Although this finding is reported under the Project Organization and Management IV&V Assessment Category, this finding also impacts the Resource Management; Risk Management; Communications Management; Data Conversion; Quality Management and Testing; and Security categories.

Even when stay-at-home orders are lifted, the mounting DCD operational and staff capacity limits due to COVID-19. Although a few DCD operational resources were reassigned to assist with higher priority and more urgent UI Division system support, DataHouse continues to be overwhelmed operations and a timeline of when they would return to DCD or to work. The following is a summary of the related events and facts:

- All eCMS Project meetings were cancelled beginning March 17, 2020.
- The office was closed to the public.
- The Governor's Office of Enterprise Technology Services (ETS) and DLIR Electronic Data Processing Systems Office (EDPSO) stakeholders are prioritizing projects and ensuring the delivery of critical services to the state.
- The SEVERITY rating and the following IV&V recommendations are based on a specific impact identified.
- Carefully assess the situation and individually log all of the specific impacts to the project in the risk register, including direct and indirect impacts. Evaluate alternative courses of action and contingency plans for each identified impact.
- Consider adjusting the frequency of communications and reviews of risk plans to support the pace of evolving circumstances.
- DataHouse and DLIR, with input from the ESC, must come together to move forward with available resources.

The following is a summary of the related events and facts:

The Biden Project team meetings were cancelled beginning March 17, 2020. Following direction from the executive team, the team was put into lockdown mode. Although the project work on the state side continued, the DataHouse work has been partially limited due to COVID-19. Although a few DataHouse resources were reassigned to assist with higher priority and more urgent UI Division system support, the extent of the reassigned work has been limited due to dependencies on DLIR's completion of assigned tasks.

Some preliminary discussions were held and limited progress was made to formulate contingency and mitigation plans and to adjust the project schedule and budget for COVID-19 impacts. DataHouse plans to have an E&C meeting in May 2020. DLIR understands that after the COVID pandemic is over, the project's ability to respond effectively and timely.
FINDING ID: 2019.11.IT01

Develop adequate test management processes and procedures.

TYPE: High

The current RTM documentation and tool (DataHouse Test Plan) is incomplete and requires additional features. The requirements documentation references were developed by the Content Management and Case Management development teams in the early development phase. As a result, there is a duplication of requirements in the RTM which will likely impact the ability to reconcile requirements through the life of the project. Additionally, requirements in the RTM were finalized or frozen before development was completed. Due to the nature and scope of the project, DDIR requirements were not included in the RTM and may not be included in the requirements documentation. Test plan requirements are included in the RTM but not traceable to requirements documentation. Consider use of a requirements management tool as part of the development process to ensure full traceability to requirements and documents.

RECOMMENDATION

Risk

ANALYSIS

Moderate

03/27/20: A meeting was scheduled for early March to discuss and review the RTM. A deliverable review (refer to finding 2019.07.PM03) to ensure the scope and objectives are met. Accuity will evaluate the RTM as improvements are made.

• Perform a deliverable review (refer to finding 2019.07.PM03) to ensure the scope and objectives are met. Accuity will evaluate the RTM as improvements are made.

• Interim improvements were made to the RTM (refer to 2019.11.IT01.R2 regarding DataHouse including DLIR in project activities). Additional improvements were made to the RTM (refer to 2019.11.IT01.R3 regarding the DataHouse integration process). The RTM was finalized to ensure proper data conversion planning.

• The security testing does not address all security requirements outlined in the documentation. Adequate security testing was not established for the DataHouse Test Plan. Consider a process for authorizing test data.

• The scope of the test plan is incomplete (e.g., performance, load, volume, scrapping procedures, metrics for test cases and coverage of code). The test plan identifies the test objectives in the project schedule but does not yet formulate plans for these tests. The test plan does not provide sufficient details and does not align with the current software development lifecycle. Testing activities, such as load, performance, and volume, are not specified. At this point, DDIR should consider performing tasks required for planning and execution of testing activities. Testing processes and procedures require further improvement. Consider use of a requirements management tool to ensure proper planning and execution of testing activities. Testing plans should be adequately discussed with DLIR to ensure changes are understood and properly approved. DataHouse's Test Plan, however, this meeting was cancelled due to COVID-19.

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FINDING ID
FINDING
TYPE
CLOSURE REASON
2019.10.IT02
ANALYSIS
Document changes in Change Log. Lack of approved test plans may impact the testing activities. As a result, DLIR is in the process of formalizing change management process.

RECOMMENDATION ID
RECOMMENDATION
11/27/19.IT02.R1
Document changes in Change Log. Security policies and procedures need to be developed. DLIR needs to understand DataHouse’s test strategy and test needs.

SUPPLEMENTAL RECOMMENDATION
Moderate
Formalize security policies.

• Identify applicable test standards and requirements.
• Work with ETS to align DLIR policies with State policies and/or a standard. Consider prioritizing security policies that are most relevant for use of cloud environment. Security requirements for the cloud environment must be determined immediately to prevent further delay of the project.

Issue
2019.10.IT02
The documented change management process was not followed as prescribed.

RECOMMENDATION ID
RECOMMENDATION
11/27/19.IT02.R2
Document changes in Change Log. Risk to focus resources on the AWS setup and network connections. DLIR is also evaluating AWS Control Tower options which will be used to configure access and apply security policies to AWS accounts.

Issue
2019.10.IT02
The documented change management process was not followed as prescribed.

RECOMMENDATION ID
RECOMMENDATION
10/25/19.02.HA01
DataHouse began to summarize changes in the Change Log. The completion of the AWS setup and the Content Management go-live date were finalized. The development of formalized policies will also impact the project schedule and AWS. DLIR is also evaluating AWS Control Tower options which will be used to configure access and apply security policies to AWS accounts.

Issue
2019.10.IT02
The documented change management process was not followed as prescribed.

RECOMMENDATION ID
RECOMMENDATION
11/27/19.IT02.R1
Document changes in Change Log. DLIR is in the process of formalizing change management process.

Issue
2019.10.IT02
The documented change management process was not followed as prescribed.

RECOMMENDATION ID
RECOMMENDATION
11/27/19.IT02.R2
Document changes in Change Log. Security policies and procedures need to be developed.

Issue
2019.10.IT02
The documented change management process was not followed as prescribed.

RECOMMENDATION ID
RECOMMENDATION
11/27/19.IT02.R1
Document changes in Change Log. Security policies and procedures need to be developed.

Issue
2019.10.IT02
The documented change management process was not followed as prescribed.

RECOMMENDATION ID
RECOMMENDATION
11/27/19.IT02.R2
Document changes in Change Log. Security policies and procedures need to be developed.

Issue
2019.10.IT02
The documented change management process was not followed as prescribed.
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<td>2019.09.PM01.R2</td>
<td>Refine the change management process for greater clarity and effectiveness.</td>
<td>• Consider setting thresholds or criteria for changes that go through different approval processes. • Define the different approval processes (e.g., project manager, product owners, change control board, steering committee). • Ensure that changes are documented and communicated to all impacted stakeholders.</td>
<td>pj</td>
<td>12/20/19 and 01/24/20: No updates to report. 02/21/20: Accuity increased the severity rating from Level 2 (Moderate) to Level 1 (High) as the change requests identified in the September 2019 report are still outstanding and need to be finalized and agreed upon soon. Accuity reviewed the draft AWS change request and noted inconsistencies with what was verbally discussed and agreed between DataHouse and DLIR in July 2019 as a no-cost change. The change request also does not contain the impact analysis prescribed by the Project Management Plan. 03/27/20: No updates to report. 04/24/20: Two change requests for the Content Management solution were approved by DLIR. Critical change requests for AWS still need to be agreed on and schedule changes that extend beyond the DataHouse contract period still need to be finalized and communicated. Accuity will review the Change Requests as they are finalized and evaluate improvements to the Change Log.</td>
<td>03/27/20: No updates to report.</td>
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N/A for prelim findings.
N/A for prelim findings.
N/A for prelim findings.
N/A for prelim findings.
FINDING ID
Clarify roles and responsibilities
The current project management organization (management conversion and migration) is responsible for project planning, execution, and oversight, with all project team members and stakeholders sharing ownership of project goals, benefits, and metrics. The DataHouse team is responsible for project execution, including the tasks of data implementation, conversion, and migration, with a focus on ensuring the smooth transition of data and minimizing disruption to business operations. DLIR is responsible for project oversight, ensuring that project goals, benefits, and metrics are met, and for providing feedback and direction to the project team.

ANALYSIS
Collect baseline and project performance data. It is critical to establish a baseline for project performance, including baseline data for all metrics, and to communicate this data to stakeholders in order to manage expectations and identify opportunities for improvement.

RECOMMENDATION ID
• Consider revising project management plans to identify the person responsible for collecting and communicating project performance information.
• Consider financial, nonfinancial, tangible, and intangible metrics such as cost savings, productivity gains, and project duration.
• Consider methods for collecting data such as surveys, queries, observation, open forums, or actual performance testing.
• Consider sources of data such as legacy systems, operations, and internal and external stakeholders.

Status Date
10/21/19: Accuity will continue to evaluate the collection and monitoring of success metrics to baseline data.
11/22/19 and 12/20/19: DLIR is close to finalizing and plans to post to the new DLIR website.
1/29/20: Accuity is making progress on the success metrics and is collaborating with DataHouse to communicate these measures of success and begin collecting data.
03/27/20: DLIR has formalized project success metrics. DLIR still needs to communicate these measures of success and begin collecting data.
4/24/20: Progress on the success metrics is stalled due to shifting priorities and changes at DLIR project resources. Accuity will continue to evaluate the collection and monitoring of success metrics and baseline data.

FINDING ID
Formalize measurable goals and success metrics at the start of the project. It is critical to establish clear, measurable goals and success metrics at the start of the project as they should be guiding all key decisions throughout the entire project.

ANALYSIS
Collect baseline and project performance data. It is critical to establish a baseline for project performance, including baseline data for all metrics, and to communicate this data to stakeholders in order to manage expectations and identify opportunities for improvement.

RECOMMENDATION ID
• Consider the need to include an outline of DLIR and DataHouse roles and responsibilities in the project plan updates. The Case Management Development Plan (version 1.0) did delineate some roles and responsibilities, however, further clarification is still necessary to determine if the project and technical solution will achieve the desired level of integration or benefits that justify the project. This project is intended to improve the data management processes and services for DLIR through the DCD website. DLIR plans to also communicate the project goals and success metrics to stakeholders through the DCD website. DLIR plans to also communicate the project goals and success metrics to stakeholders through the DCD website. DLIR plans to also communicate the project goals and success metrics to stakeholders through the DCD website. DLIR plans to also communicate the project goals and success metrics to stakeholders through the DCD website.
• Consider the need for project management, organizational change management, and data governance engagement as well as alignment to DLIR goals.

Status Date
10/21/19: Accuity will continue to evaluate the collection and monitoring of success metrics. Although DataHouse does not plan to work onsite at DLIR, they plan to include DLIR in their planning, review, and retrospective meetings. This team was involved in the project, and DataHouse is currently working on the project.
04/24/20: Progress on the success metrics is stalled due to shifting priorities and changes at DLIR project resources. Accuity will continue to evaluate the collection and monitoring of success metrics and baseline data.
11/22/19: The DCD Business Manager has been assigned the task of updating the DCD Website on a quarterly basis.
02/21/20: DLIR is close to finalizing and plans to post to the new DLIR website.
01/24/20: DLIR formalized project success metrics. DLIR still needs to communicate these measures of success and begin collecting data.
03/27/20: DLIR has formalized project success metrics. DLIR still needs to communicate these measures of success and begin collecting data.
10/25/19: Progress on the success metrics is stalled due to shifting priorities and changes at DLIR project resources. Accuity will continue to evaluate the collection and monitoring of success metrics and baseline data.
12/20/19: The Scrum methodology employed for the Case Management development team was clarified. DataHouse has included DLIR in Case Management development work, and DLIR is working on developing a timeline for collecting information on success metrics rather than goals and benefits.
12/20/19: The Scrum methodology employed for the Case Management development team was clarified. DataHouse has included DLIR in Case Management development work, and DLIR is working on developing a timeline for collecting information on success metrics rather than goals and benefits. In addition, the timing may be impacted by COVID-19.
11/22/19 and 12/20/19: DLIR is close to finalizing and plans to post to the new DLIR website.
1/29/20: Accuity will continue to evaluate the collection and monitoring of success metrics and baseline data.
10/21/19: Accuity will continue to evaluate the collection and monitoring of success metrics and baseline data.
11/22/19: The Scrum methodology employed for the Case Management development team was clarified. DataHouse has included DLIR in Case Management development work, and DLIR is working on developing a timeline for collecting information on success metrics rather than goals and benefits.
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<td>2019.07.PM02.R3</td>
<td>Include DLIR in project activities &amp; communications to increase DLIR and DataHouse project team cohesion.</td>
<td>02/21/20: The project organization of the Case Management development team is working very well. There is limited visibility and collaboration in other areas of the project and a lack of understanding of and ability to properly prepare for upcoming tasks, particularly for Content Management. DLIR plans to implement regular meetings with the Content Management development team and data with the other DataHouse team members responsible for data conversion, AWS setup, and interfaces. Clarification of roles and responsibilities is still needed for testing and M&amp;O.</td>
<td>03/27/20: Due to COVID-19, DLIR project resources were unavailable to work on the project and DLIR cancelled all project meetings effective March 18, 2020. DataHouse continues to do what they can, however, project execution is impacted without DLIR participation or collaboration.</td>
<td>04/24/20: As the DLIR Project Manager was temporarily reassigned, weekly project status meetings are still on hold. Some of the Case Management sprint meetings are still on hold. Some of the Case Management sprint meetings are tentatively scheduled for May 2020.</td>
<td>Accuity will continue to evaluate the clarity of roles and responsibilities and observe the effectiveness of project organization.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
FINDING:

Accuity has had limited involvement in project activities for the preparation of deliverables (refer to finding 2019.07.IT05). DLIR does not have a formal definition of the purpose of the deliverables to be created, and the acceptance criteria for the deliverables is not clear except for the initial deliverable review meeting held on 02/05/2019. Without the completion of this initial deliverable review meeting, the acceptance process is uncertain. As a result, DLIR has not conducted review and acceptance process to the deliverables. The delay in the approval of deliverables has been cited by the CMS Workspace Team as one of the reasons the Phase 1 go-live dates were extended. Based on informal feedback from the CMS Workspace Team, this has led to a piecemeal understanding of the technical solution, communications with the DLIR Project Managers, and impacts of decisions or actions. Communications with the Case Management Team needs to be improved through various methods (in-person meetings, Go To Meetings, email, phone, and text). Furthermore, as noted above at finding 2019.07.PM02, there has also been a lack of communications regarding the upcoming build dates. The CMS Workspace Team is in need of communications to increase the effectiveness of communications regarding the upcoming build dates, milestones, and due dates need to be communicated through various methods (in-person meetings, Go To Meetings, email, phone, and text) as well.

COMMUNICATION MANAGEMENT

FINDING:

Accuity has had limited involvement in project activities for the preparation of deliverables (refer to finding 2019.07.IT05). DLIR does not have a formal definition of the purpose of the deliverables to be created, and the acceptance criteria for the deliverables is not clear except for the initial deliverable review meeting held on 02/05/2019. Without the completion of this initial deliverable review meeting, the acceptance process is uncertain. As a result, DLIR has not conducted review and acceptance process to the deliverables. The delay in the approval of deliverables has been cited by the CMS Workspace Team as one of the reasons the Phase 1 go-live dates were extended. Based on informal feedback from the CMS Workspace Team, this has led to a piecemeal understanding of the technical solution, communications with the DLIR Project Managers, and impacts of decisions or actions. Communications with the Case Management Team needs to be improved through various methods (in-person meetings, Go To Meetings, email, phone, and text). Furthermore, as noted above at finding 2019.07.PM02, there has also been a lack of communications regarding the upcoming build dates. The CMS Workspace Team is in need of communications to increase the effectiveness of communications regarding the upcoming build dates, milestones, and due dates need to be communicated through various methods (in-person meetings, Go To Meetings, email, phone, and text) as well.

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FINDING ID
SUPPLEMENTAL RECOMMENDATION
Further refine communication
Moderate
RECOMMENDATION ID
Missing key OCM steps or activities may
Moderate
Develop and implement a structured
Risk
CLOSURE REASON
FINDING
FINDING STATUS UPDATE
09/20/19: Accuity decreased the severity rating from Level 2 (Moderate) to Level 2019.07.PM08
2019.07.PM07
SEVERITY
ORIGINAL
CURRENT
Management
Organizational Change
ASSOCIATION
2019.07.PM08.R1
2019.07.PM07.R1
04/24/20: Project communications with internal stakeholders were an indirect result of DLIR stakeholder participation in project meetings. With the majority of DLIR SMEs unable to participate in project meetings, new methods for communications project update need to be explored.
09/26/19: No update to report.
04/29/19: Project communications with internal stakeholders were an indirect result of DLIR stakeholder participation in project meetings. With the majority of DLIR SMEs unable to participate in project meetings, new methods for communications project update need to be explored.
Accuity will continue to evaluate project communications plans and activities.
10/25/19: DLIR held two informal sessions with key internal stakeholders to discuss OCM ideas. The ETS OCM resource to update the website and sent out a letter to contacts regarding project changes were not completed as expected. The need for communications with impacted stakeholders to be executed timely.
10/25/19: The letter to contacts was sent out; however, the website had not yet been launched. There is no update to report.
01/24/20: No update to report.
The project website was launched with high-level background, timeline, and success metrics. DLIR plans to develop videos for project communications.
03/27/19: No update to report.
01/24/20: DLIR held project meetings in project meetings however, the network of core team members should be extended to include neighbor island representatives.
11/22/19: Accuity increased the severity rating from Level 3 (Low) to Level 2 (Moderate) as plans to update the website and send out a letter to carriers communicated to all stakeholders who will be participating in sprint activities.
04/24/20: Project communications with internal stakeholders were an indirect result of DLIR stakeholder participation in project meetings. With the majority of DLIR SMEs unable to participate in project meetings, new methods for communications project update need to be explored.
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01/24/20: No update to report.
01/24/20: No update to report.
09/26/19: No update to report.
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</thead>
<tbody>
<tr>
<td>2019.07.PM10</td>
<td>Conduct regular meetings to discuss project risks and issues.</td>
<td>Ensure requirements include functional, performance, process, non-functional, data, and security requirements. Ensure requirements include functional, performance, process, non-functional, data, and security requirements.</td>
</tr>
<tr>
<td>2019.07.PM10.R2</td>
<td>Ensure requirements documentation include all requirements listed in the Case Management RTM.</td>
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</tr>
<tr>
<td>2019.07.PM09</td>
<td>Ensure requirements include SMART (specific, measurable, actionable, relevant, time-bound, and agreed upon) guidance.</td>
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</tr>
<tr>
<td>2019.07.IT07</td>
<td>Contract requirements were added to the RTM, however, those requirements were not traced to the requirements subsets used by the development teams for completeness.</td>
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**Summary:**

- **Case Management:**
  - **Process Update:**
    - ESC meetings were cancelled from early March. DataHouse and DLIR developed risk mitigation plans and updated their project management processes in early March.
    - The timing will need to be reevaluated for COVID-19.
    - Data management practices need to be further refined to include the DataHouse and DLIR logs into one source, assign risk owners, and develop mitigation or remediation plans for each risk issued.
  - **Recommendation:**
    - The project team must encourage open, transparent discussion about project risks and issues. DLIR plans to meet with DataHouse in March 2020 to continue developing mitigation plans.

- **DataHouse:**
  - **Process Update:**
    - Risks and issues still need to be reviewed and discussed for the high risks. The risk management process improvements started at 09/20/19 are still open.
  - **Recommendation:**
    - Additional risk management activities need to be set. Formalizing the risk management process needs to be set and reevaluated for COVID-19. Additionally, ensuring risk management activities for identifying risks, prioritizing risks, and helping to reduce individual threats and overall project risk should be revised and requirements management processes should be developed to crosswalk and merge all requirements into one master document.
<table>
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<th>TYPE</th>
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</tr>
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</table>

**FINDING:** 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.
- Develop a process for prioritizing and reporting requirements.
- Develop a process for tracing requirements to specific system design elements.

**FINDING STATUS:**
- **02/21/20:** The DataHouse Case Management development team continues to spend a lot of time to clarify and refine user stories. The new process for approving Case Management user stories changes was implemented. DLIR plans to procure a resource to help with their review of requirements documentation for completeness.
- **03/27/20:** The Case Management development team continued to make improvements to the process for creating and approving new user stories and the user story tracking tool. DLIR procured a resource to help with their review of requirements documentation for completeness and traceability, however, DLIR did not complete their review at the vendor’s results due to COVID-19.
- **04/24/20:** DLIR’s review of their third-party vendor’s requirements assessment results is still pending due to limited project resources. Documentation of requirements (e.g., security, performance, hardware, AWS, acceptance criteria) is still incomplete.

Accuity will continue to evaluate the requirements documentation and processes.
### Project Schedule Delays

- **Findings:**
  - Inadequate schedule management and the executive monitoring committee.
  - Schedule variance analysis is critical to determine the root cause of delays and to develop effective corrective action plans.

- **Recommendations:**
  - Refine the project schedule with a detailed review of all schedule delays (2019.07.PM13). A comprehensive project budget and long-term cost schedule have not been created yet. Additionally, regular cost variance reports are not prepared or presented.

- **Status:**
  - Open

- **Date:**
  - 02/21/20: DLIR plans to develop a comprehensive project budget while preparing the 2021-2022 budget.

### Data Conversion Issues

- **Findings:**
  - Specific assigned resources are not identified as only a generic DataHouse included in the more detailed task listing.
  - Although the project schedule, deliverable timelines, and go-live date has not yet been adjusted.

- **Recommendations:**
  - The schedule should be updated to include links for predecessor and successor relationships, critical paths, or determine if time estimates or project progress percentages are reasonable.

- **Status:**
  - Open

- **Date:**
  - 11/21/19, 12/20/19, and 01/24/20: No updates to report.

### Additional Findings

- **Findings:**
  - There is no formal cost management plan. A comprehensive total project budget tracking templates.

- **Recommendations:**
  - There are already some delays in select integrations and Content Management go-live date has not yet been adjusted.

- **Status:**
  - Open

- **Date:**
  - 11/22/19, 12/20/19, and 01/24/20: No updates to report.

- **Findings:**
  - Although there is no formal cost management plan. A comprehensive total project budget and long-term cost schedule have not been created yet. Additionally, regular cost variance reports are not prepared or presented.

- **Recommendations:**
  - Refine the project schedule with a detailed review of all schedule delays (2019.07.PM13). A comprehensive project budget and long-term cost schedule have not been created yet. Additionally, regular cost variance reports are not prepared or presented.

- **Status:**
  - Open

- **Date:**
  - 10/25/19: The project schedule was updated with time percentages for some of the tasks. There are still no updated links for predecessor and successor relationships.
  - 10/25/19: The project schedule was updated with time percentages for some of the tasks. There are still no updated links for predecessor and successor relationships.
  - 11/22/19: No updates to report.  The Content Management go-live date is not yet in place.

### Additional Findings

- **Findings:**
  - The schedule should be updated to include links for predecessor and successor relationships, critical paths, or determine if time estimates or project progress percentages are reasonable.

- **Recommendations:**
  - There is no formal cost management plan. A comprehensive total project budget and long-term cost schedule have not been created yet. Additionally, regular cost variance reports are not prepared or presented.

- **Status:**
  - Open

- **Date:**
  - 11/21/19, 12/20/19, and 01/24/20: No updates to report.

- **Findings:**
  - There are already some delays in select integrations and Content Management go-live date has not yet been adjusted.

- **Recommendations:**
  - The schedule should be updated to include links for predecessor and successor relationships, critical paths, or determine if time estimates or project progress percentages are reasonable.

- **Status:**
  - Open

- **Date:**
  - 11/22/19, 12/20/19, and 01/24/20: No updates to report.
<table>
<thead>
<tr>
<th>FINDING ID</th>
<th>CLOSED DATE</th>
<th>CATEGORY</th>
<th>ASSESSMENT</th>
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<th>IMPACT</th>
<th>DISCOVERY</th>
<th>STATUS UPDATE</th>
<th>DISCOVERY UPDATE</th>
<th>DISCOVERY UPDATE</th>
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</thead>
<tbody>
<tr>
<td>2019.07.PM01</td>
<td>2019.07.PM01</td>
<td>Moderate</td>
<td>Risk</td>
<td>Inadequate assigned project resources</td>
<td>Update the project schedule to define</td>
<td>Documentation should provide a clear understanding of the interface solution and its implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019.07.PM02</td>
<td>2019.07.PM02</td>
<td>High</td>
<td>Risk</td>
<td>Resource management is included in the Project Management Plan and states that resources will be provided based on project needs.</td>
<td>Ensure resource levels and skill sets align to assigned tasks.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2019.07.PM03</td>
<td>2019.07.PM03</td>
<td>High</td>
<td>Risk</td>
<td>An unclear interface solution may impact the quality of project deliverables.</td>
<td>Consider including DLIR resources needed and estimated hours for documentation (e.g., design resources, user demonstrations, or user testing).</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2019.07.PM04</td>
<td>2019.07.PM04</td>
<td>High</td>
<td>Risk</td>
<td>Resource constraints continue to be a challenge. Focus of DataHouse on DMIS setup and work logics of DMS integration on both core and processes (e.g., data transfer, activities, and metrics) need to supplement the DataHouse quality management responsibilities.</td>
<td></td>
<td></td>
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10/25/19: Accuity increased the severity rating from Level 2 (Moderate) to Level 3 (High) due to the delay in the project timeline and the impact that the delay in implementing the plan will have on other document deliverables and not in Application Security Management Plan. The impact the delay will have on project activities was not detailed.

11/22/19: DataHouse provided a summary of the configuration management approach for the Case Management development team in addition to the previously provided summary of the Control Management development team approach. This configuration management approach used by the other development teams (e.g., integration, DHRM, Financial) is still not clear. Additionally, DataHouse has a configuration management plan but has not yet shared it. Accuity will continue to evaluate the configuration management plan.

12/20/19: There was confusion about configuration items and required DLIR approvals due to a lack of a comprehensive configuration management plan.

01/24/20, 02/20/20, 03/27/20, and 04/24/20: No updates to report.

Accuity will continue to evaluate the configuration management plan and approach.

10/25/19: Accuity increased the severity rating from Level 2 (Moderate) to Level 3 (High) due to the delay in the project timeline and the impact that the delay in implementing the plan will have on other document deliverables and not in Application Security Management Plan. The impact the delay will have on project activities was not detailed.

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01/24/20, 02/20/20, 03/27/20, and 04/24/20: No updates to report.

Accuity will continue to evaluate the configuration management plan and approach.
The lack of a formal executive steering committee for positive findings. The DataHouse team's swift and adaptive response to delays and short-staffed project teams. The DCD Executive Sponsor's close involvement in project management. The DataHouse Case Management development team's actions have helped to minimize impacts and further delays to project development. Many members of the DataHouse team have contributed to the following successes:

- Demonstrated commitment to DLIR and project success. This includes the Project Sponsor to discuss key risks and issues and to align the eCMS Project Management development team and the DCD Executive Sponsor with the need for efficient decision making.
- Encouraged the effective communication of key stakeholders with the need for efficient decision making.
- Openly communicated solution options including rationale for optimal design and development.
- Secured a replacement Content Management hosting infrastructure, system software, and project processes (e.g., user story approval process).
- Maintained a high level of commitment and understanding of the performance expectations that require committee attention were also established.

The DataHouse Case Management development team's actions have helped to minimize impacts and further delays to project development. Many members of the DataHouse team have contributed to the following successes:

- Demonstrated commitment to DLIR and project success. This includes the Project Sponsor to discuss key risks and issues and to align the eCMS Project Management development team and the DCD Executive Sponsor with the need for efficient decision making.
- Encouraged the effective communication of key stakeholders with the need for efficient decision making.
- Openly communicated solution options including rationale for optimal design and development.
- Secured a replacement Content Management hosting infrastructure, system software, and project processes (e.g., user story approval process).
- Maintained a high level of commitment and understanding of the performance expectations that require committee attention were also established.
FINDING ID
Identify and complete all critical tasks

Risk
Failure to align statutes with the eCMS

Issue
N/A for positive findings.

Low
Low
Risk
Evaluate the need for a contract
The unclear DataHouse contract terms

Positive
ANALYSIS
N/A
Closed as the Scrum methodology

Develop a plan and timeline to
N/A
N/A

ASSESSMENT
Organization and Project Management

Project modernization objectives may
reduce the operational improvements that
Project 2019.07.PM04.R2

2019.07.PG04

2019.07.PG03

2019.07.PM09)
and testing documentation.
(refer to finding 2019.07.PM10), risk and issue log (refer to finding
2019.07.PM02).

•Update the project schedule for sprint activities and assign resources (refer
to finding 2019.07.PM13 Schedule and contract coordination);

•Discussed the need for clear acceptance criteria, roles and responsibilities

•Consider including acceptance criteria based on industry standards. For
electrical and electronics engineers (IEEE) 29148-2018 for a requirements
traceability matrix or compliance with IEEE 829 for test documentation.

•Consider including measurable success metrics (refer to finding
2019.07.PG05).

•Consider the need to outline roles and responsibilities between DLIR and
System Integrator (SI) for the eCMS Project.

•Update the project schedule for sprint activities and assign resources (refer
to finding 2019.07.PM13 Schedule and contract coordination);

•Consider including measurable success metrics (refer to finding
2019.07.PG05).

•Consider the need to outline roles and responsibilities between DLIR and
System Integrator (SI) for the eCMS Project.

•Consider updating the project schedule and communicate this to the
departments that are impacted by the change (refer to finding 2019.07.PM02).

•Update the project schedule (refer to finding 2019.07.PM04.R2) and communicate
this to the departments that are impacted by the change (refer to finding 2019.07.PM02).

•Consider the need to outline roles and responsibilities between DLIR and
System Integrator (SI) for the eCMS Project.

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2019.07.PG05).

•Consider the need to outline roles and responsibilities between DLIR and
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<table>
<thead>
<tr>
<th>FINDING ID</th>
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<th>ORIGINAL SEVERITY</th>
<th>CURRENT SEVERITY</th>
<th>RECOMMENDATION ID</th>
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<th>SUPPLEMENTAL RECOMMENDATION</th>
<th>FINDING STATUS</th>
<th>FINDING STATUS UPDATE</th>
<th>CLOSED DATE</th>
<th>CLOSURE REASON</th>
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<tr>
<td>2019.07.PM05.R2</td>
<td>Communicate the approach for executing Scrum phases to all team members and impacted stakeholders.</td>
<td>Many of the DataHouse project team members work remotely and are unable to work on-site.</td>
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</table>
In July 2019, DataHouse presented AWS as a potential alternative to IBM FileNet. The company recommended AWS due to the high performance and cost-saving benefits. Accuity had also recommended that a comprehensive technical analysis be prepared on the replacement solution. However, no formal analysis was prepared. Accuity will continue to review all AWS pricing and performance data under the 2019.07.PG05 and AWS costs under the 2019.07.PM02 finding.

**Findings:**
- The original solution proposed by the Content Management hosting infrastructure solution is selected. However, even prior to this development, the Content Management design documents were updated as changes were made. The recommendation for the Content Management design document is updated accordingly.
- The completeness of the design documents is monitored under the 2019.07.PM12 finding.
- The organization has not formally tracked BPR opportunities. Discussions with ETS and EDPSO are made. The completeness of the design documents is monitored under the 2019.07.PM12 finding.
- The decision to use AWS as a replacement for IBM FileNet was made. AWS has a high performance and cost-saving benefit.
- The proposed AWS solution was compared to another cloud solution, although AWS is better suited to cost and performance. Accuity will continue to review AWS pricing and performance data under the 2019.07.PG05 and AWS costs under the 2019.07.PM02 finding.

**Recommendations:**
- There is a need for a comprehensive technical analysis of the proposed AWS solution to ensure the security, maintenance and operational system. Consider the following website which lists 20 competitive alternatives to Microsoft Azure, in respect to cost and performance. The findings 2019.07.PG05 and 2019.07.PM02 are made. There is still a need for additional clarification regarding AWS costs under the 2019.07.PM02 finding.
- There should be clear and measurable goals and success metrics will also address this finding. The completeness of the design documents is monitored under the 2019.07.PM12 finding.
- There are a number of alternative methodologies to choose from. Consider the following website which lists 20 competitive alternatives to Microsoft Azure, in respect to cost and performance. There is still a need for additional clarification regarding AWS costs under the 2019.07.PM02 finding.
<table>
<thead>
<tr>
<th>Category</th>
<th>ID</th>
<th>Original Severity</th>
<th>Current Severity</th>
<th>Finding</th>
<th>Analysis</th>
<th>Recommendation</th>
<th>Supp. Recommendation</th>
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</table>
| Risk     | 2019.07.IT04 | Moderate         | N/A              | A Content Management data conversion plan that is based on inaccurate, incomplete, 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 yet been drafted. The Content Management Conversion and Migration (version 0.0) document was drafted by DataHouse on June 13, 2019, but 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 refactor the migration design process.
|          |        |                   |                  | As data conversion is the process of converting data from one source to suit the system requirements, 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). |
| Status   |        |                   |                  | 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.
|          |        |                   |                  | 10/25/19: DataHouse evaluated the new requirements and determined that there are no significant impacts on the high-level Content Management conversion plan. |                 | 10/25/19: DataHouse evaluated the new requirements and determined that there are no significant impacts on the high-level Content Management conversion plan. |
|          |        |                   |                  | 11/22/19: Closed as changes in system requirements do not appear to significantly impact the Content Management data conversion plan. |                 | 11/22/19: Accuity reviewed the taxonomy mapping with the primary stakeholder and determined that there are no significant impacts on the high-level Content Management conversion plan. |

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