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January 4, 2022

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

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

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

Pursuant to HRS section 27-43.6, which requires the Chief Information Officer to submit applicable independent verification and validation (IV&V) reports to the Legislature within ten days of receiving the report, please find attached the report the Office of Enterprise Technology Services received for the State's Employer-Union Health Benefits Trust Fund Benefits Administration System project.

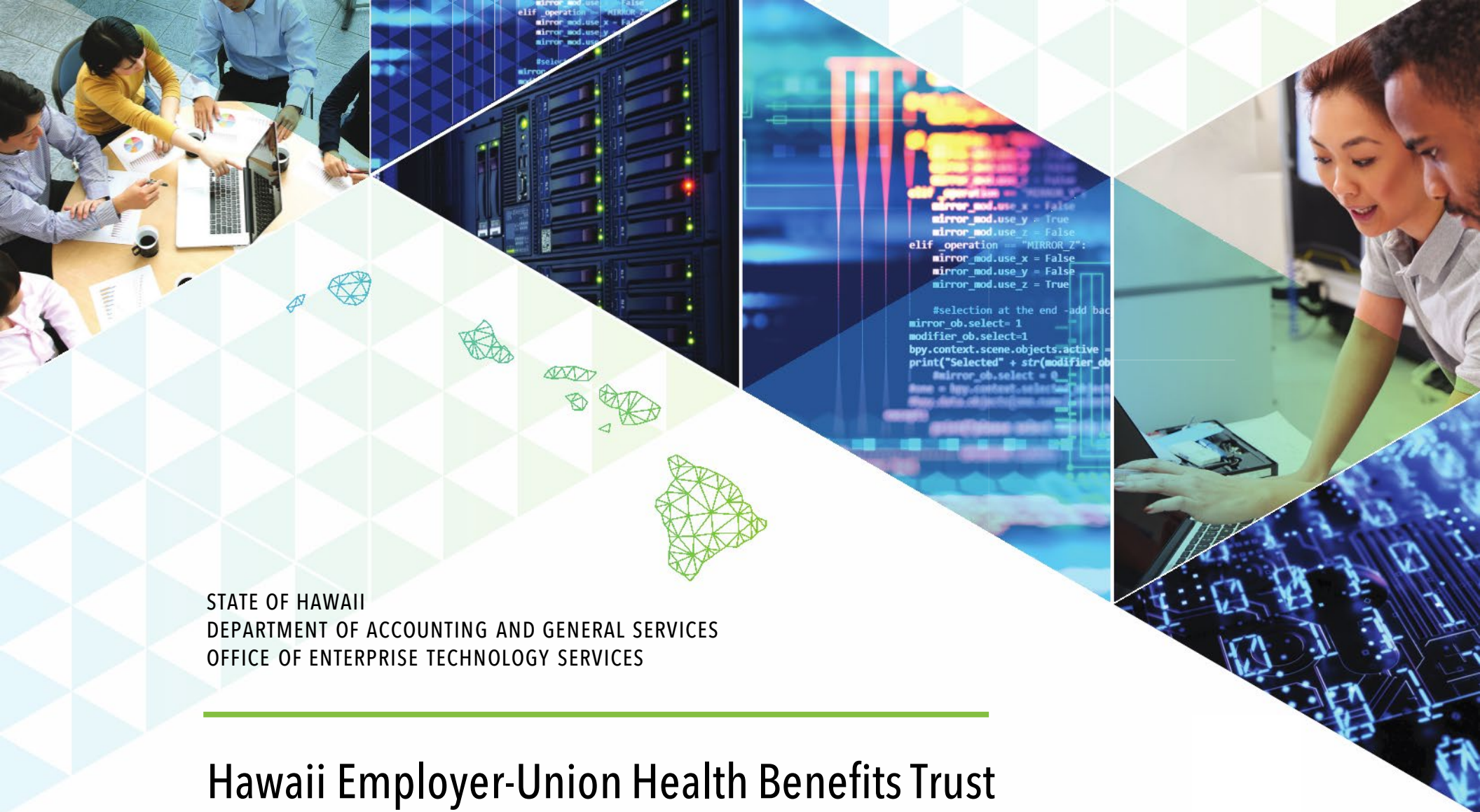
In accordance with HRS section 93-16, this report may be viewed electronically at <http://ets.hawaii.gov> (see "Reports").

Sincerely,

  
Douglas Murdock (Jan 4, 2022 13:21 HST)

DOUGLAS MURDOCK  
Chief Information Officer  
State of Hawai'i

Attachment (1)



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
OFFICE OF ENTERPRISE TECHNOLOGY SERVICES

# Hawaii Employer-Union Health Benefits Trust Fund Benefits Administration System (BAS)

MONTHLY IV&V STATUS & MILESTONE REPORT

October 27, 2021 | Version 1.0

REPORT FINALIZED

November 24, 2021





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## Document History

| DATE     | DESCRIPTION  | AUTHOR        | VERSION |
|----------|--|---------------|---------|
| 11/05/21 | Monthly IV&V Status Report Draft created   | Julia Okinaka | 0.0     |
| 11/24/21 | Monthly IV&V Status Report finalized with no changes. No comments submitted in Appendix F. | Julia Okinaka | 1.0     |
|          |  |               |         |
|          |  |               |         |
|          |  |               |         |



## EXECUTIVE SUMMARY

### BACKGROUND

The State of Hawaii (State), Employer-Union Health Benefits Trust Fund (EUTF) contracted Morneau Shepell Limited (now formally called LifeWorks) with their Ariel EAS technology solution for the Health Benefits Administration System Modernization Project (BAS Project) on June 1, 2020. On May 17, 2021, Morneau Shepell officially changed its company name to LifeWorks. EUTF also contracted Segal to provide project management, business process reengineering (BPR), organizational change management (OCM), and quality management. Segal's subcontractor, ICON Consulting (ICON), is responsible for data consulting and conversion.

The Office of Enterprise Technology Services (ETS) contracted Accuity LLP (Accuity) to provide Independent Verification and Validation (IV&V) services for the EUTF BAS Project. The goal of IV&V is to increase the probability of project success. The benefits of IV&V include identification of high-risk areas early and actionable recommendations.

Following IV&V's Initial Assessment Report, Monthly IV&V Status Reports are issued to update and evaluate continual project progress and performance. Pre and Post Go-live Implementation Milestone Reports will be issued prior to and after the deployment/completion of major project milestones.

The project has an incremental delivery method spread over four segments, and each segment consists of two to three intervals. The project is currently in its final build, configuration, and testing for Segment 4. The focus of our IV&V activities for this report included the start of a two-month in-depth assessment of requirements management and data conversion.

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 October 27, 2021. Refer to Appendix A: IV&V Criticality and Severity Ratings for an explanation of the ratings and Appendix E: Prior Findings Log for prior report findings.

#### TEAMWORK

*"Excellence is  
the gradual result of  
always  
striving to  
do better."*

*- Pat Riley*

# PROJECT ASSESSMENT

AS OF OCTOBER 27, 2021

## SUMMARY RATINGS

### OVERALL RATING



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

PROGRAM GOVERNANCE

G

PROJECT MANAGEMENT



TECHNOLOGY

Y

### CRITICALITY RATINGS

R

HIGH

Y

MEDIUM

G

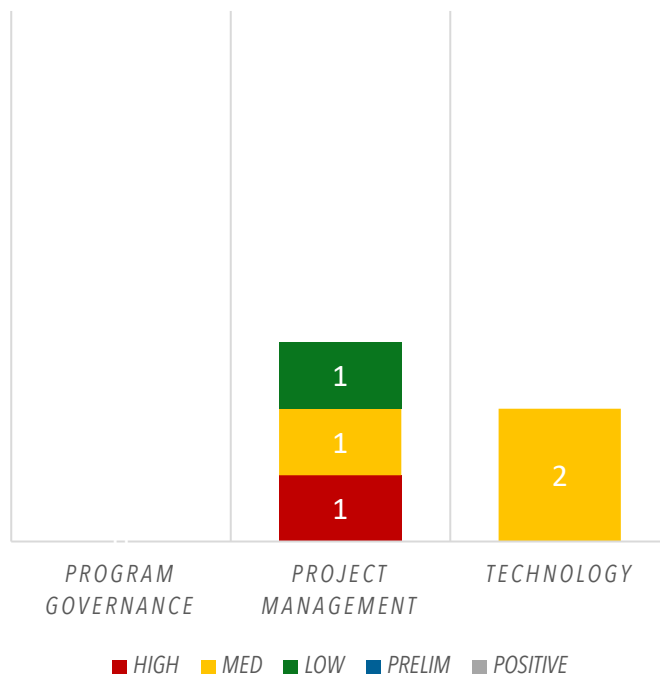
LOW

NA

N/A

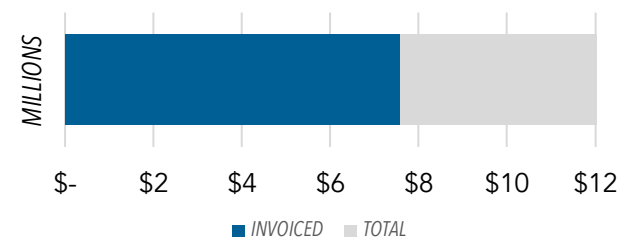
## 5 OPEN FINDINGS

SEVERITY RATINGS BY ASSESSMENT AREA



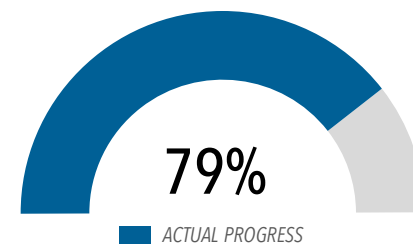
## 8 OPEN RECOMMENDATIONS

### PROJECT BUDGET\*



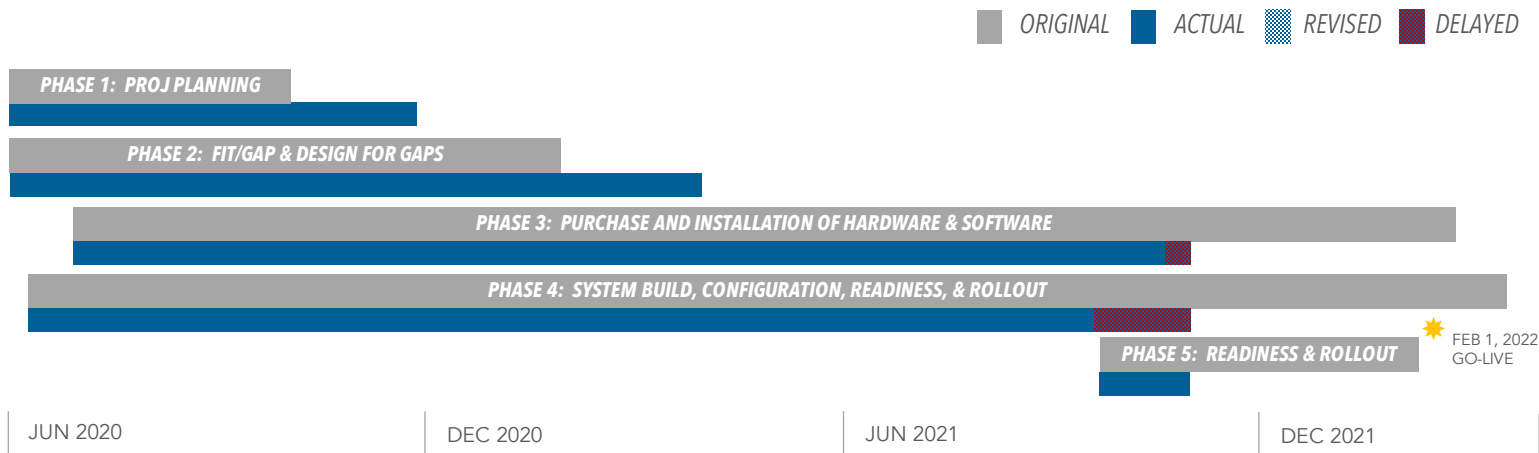
\*Only includes contracts.

### PROJECT PROGRESS\*\*



\*\* IV&V unable to verify %.













## PROJECT TIMELINE





# ASSESSMENT AREA & RATINGS SUMMARY

AS OF OCTOBER 27, 2021

| AUG   | SEPT  | OCT   | IV&V ASSESSMENT AREA      | IV&V OBSERVATIONS  |
|---|---|---|---------------------------|--|
|    |    |    | <i>Overall</i>            | <p>The project passed the first 90 day Go/No-go decision checkpoint in early October. Good progress was made this month; however, it is unclear what the potential impact of recent task delays are on Go-live.</p> <p>Project Schedule: The project team is still committed to a February 2022 Go-live; however, with only three months to accomplish all remaining project activities, the schedule is at risk (Refer to finding 2021.02.PM01).</p> <p>Project Costs: Project contract costs invoiced to-date approximated \$7,600,000.</p> <p>Quality: Quality and projects metrics continue to be monitored and discussed; however, recent project delays could compress the testing and defect remediation timeline.</p>  |
|    |    |    | <i>Program Governance</i> | <p>Project governance is working effectively with risks and issues openly questioned and discussed at Steering Committee and EUTF Board meetings. Continued active involvement is critical as the project makes the final 30 and 60 Day Go/No-go decisions points.</p>   |
|    |    |    | <i>Project Management</i> | <p>The active coordination of remaining tasks and discussion of risks and roadblocks is a priority for the project team. Although the project team continued to work diligently to hit major milestone targets, many areas fell short of meeting them completely including data conversion, build and configuration, LifeWorks internal testing, and security remediation. EUTF and LifeWorks need to complete an assessment to determine the potential impact of current task delays on the Go-live and evaluate if any schedule compression techniques, such as bringing on additional resources, need to be employed. As the same limited IT resources are being leveraged for both security remediation and build/configuration, LifeWorks should reevaluate the need for additional IT resources especially as additional security vulnerabilities are identified (Refer to findings 2021.04.IT02 and 2021.02.PM01). Segment 4 training started in late October, but UAT environment issues caused training and the start of UAT testing to be less effective. The project managers are tracking outstanding project and technical deliverables to ensure complete, effective knowledge transfer and documentation.</p>   |
|  |  |  | <i>Technology</i>         | <p>LifeWorks is still developing and testing over 200 requirements that were supposed to be delivered in time for Segment 4 UAT and/or parallel testing. Additionally, there are unresolved Data Cycle 3 issues for critical billing data. Another round of revised billing records is needed to perform on-going Segment 4 UAT and parallel testing scheduled to begin in November 2021. EUTF and LifeWorks moved forward with Segment 4 UAT to begin testing what is currently available and will track any reported defects and retest missing functionality later. Security remediation tasks are also delayed and additional vulnerabilities were identified in the monthly scans which may impact testing and other workstreams (Refer to finding 2021.04.IT02). It is unclear when the final build functionality will be delivered, when the data conversion issues will be resolved, or when security remediation will be completed. EUTF and LifeWorks still need to assess these delays and determine the impact this may have on testing and acceptance timelines and activities. EUTF does have defined quality metrics and clear Go/No-go criteria to ensure the proper checks are in place prior to system acceptance. The project passed the first 90 day Go/No-go decision checkpoint in early October and continues to monitor progress and impact of current issues on the upcoming 60 day checkpoint.</p> |

# 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 any 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 each of the three major IV&V Assessment Areas. The criticality rating for eight IV&V Assessment Categories are solid green. Two IV&V Assessment Categories declined due to delays in training and increased risk in the areas of quality and testing.

### AT-A-GLANCE

PASSED first 90 DAY  
GO/NO-GO  
DECISION point

Impact of DELAYS on  
GO-LIVE  
UNKNOWN

OVER 200  
REQUIREMENTS still  
PENDING

| AUG | SEPT | OCT | PROGRAM GOVERNANCE                          |
|-----|------|-----|---|
| G   | G    | G   | Governance Effectiveness                    |
| G   | G    | G   | Benefits Realization                        |
| AUG | SEPT | OCT | TECHNOLOGY                                  |
| Y   | Y    | Y   | System Software, Hardware, and Integrations |
| Y↓  | Y↓   | Y↓  | Data Conversion                             |
| Y↑  | Y↑   | Y   | Quality Management and Testing              |
| G   | G    | G   | Configuration Management                    |
| G↓  | Y    | Y   | Security                                    |
| G   | G    | G   | Deployment and Operations                   |

| AUG | SEPT | OCT | PROJECT MANAGEMENT                      |
|-----|------|-----|---|
| Y↑  | Y↑   | Y↑  | Project Organization and Management     |
| G↓  | G    | G   | Requirements Management                 |
| R   | R    | R   | Cost, Schedule, and Resource Management |
| Y↑  | Y↑   | Y↑  | Risk Management                         |
| G   | G    | G   | Communications Management               |
| G   | G    | G   | Organizational Change Management (OCM)  |
| G   | G    | G   | Business Process Reengineering (BPR)    |
| G   | G    | G↓  | Training and Knowledge Transfer         |



## PROGRAM GOVERNANCE

Governance  
Effectiveness

Benefits Realization



## PROGRAM GOVERNANCE

| AUG | SEPT | OCT | IV&V ASSESSMENT<br>CATEGORY | IV&V OBSERVATION   | FINDINGS |      |        |
|-----|------|-----|-----------------------------|--|----------|------|--------|
|     |      |     |                             |  | NEW      | OPEN | CLOSED |
| G   | G    | G   | Governance<br>Effectiveness | Project governance is working effectively with risks and issues openly questioned and discussed at Steering Committee and EUTF Board meetings. The project reported to the EUTF Board in October. Continued active involvement is critical as the project makes the final 30 and 60 Day Go/No-go decisions points. | 0        | 0    | 0      |
| G   | G    | G   | Benefits Realization        | Quality and projects metrics continue to be monitored and discussed; however, recent project delays could compress the testing and defect remediation timeline. The number of EUTF defects reported will be closely monitored during Segment 4 UAT and parallel testing.   | 0        | 0    | 0      |

## PROJECT MANAGEMENT

Project Organization and Management

Requirements Management

Cost, Schedule, and Resource Management

Risk Management

Communications Management

Organizational Change Management

Business Process Reengineering

Training and Knowledge Transfer



## PROJECT MANAGEMENT

| AUG | SEPT | OCT | IV&V ASSESSMENT CATEGORY                | IV&V OBSERVATION  | FINDINGS |      |        |
|-----|------|-----|---|---|----------|------|--------|
|     |      |     |   |   | NEW      | OPEN | CLOSED |
|     |      |     | Project Organization and Management     | The active coordination of remaining tasks and discussion of risks and roadblocks is a priority for the project team. Although the project team continued to work diligently to hit major milestone targets, many areas fell short of meeting them completely including data conversion, build and configuration, LifeWorks internal testing, and security remediation. EUTF and LifeWorks need to complete an assessment to determine the potential impact of current task delays on the Go-live and evaluate if any schedule compression techniques, such as bringing on additional resources, need to be employed. | 0        | 1    | 3      |
|     |      |     | Requirements Management                 | Requirements and their movement through the various interval and segment status levels are actively being monitored and reported on weekly during Weekly Project Team Status meetings. Interval demonstrations continued in October tracking the demonstration of requirements. The status of requirements continue to be tracked in ALM and Smartsheets.   | 0        | 0    | 0      |
|     |      |     | Cost, Schedule, and Resource Management | Project contract costs invoiced to-date approximated \$7,600,000. The project team is still committed to a February 2022 Go-live; however, with only three months to accomplish all remaining project activities, the schedule is at risk (Refer to finding 2021.02.PM01). As the same limited IT resources are being leveraged for both security remediation and build/configuration, LifeWorks should reevaluate the need for additional IT resources especially as additional security vulnerabilities are identified (Refer to findings 2021.04. IT02 and 2021.02.PM01).  | 0        | 1    | 0      |

## PROJECT MANAGEMENT

Project Organization and Management

Requirements Management

Cost, Schedule, and Resource Management
















Risk Management

Communications Management

Organizational Change Management

Business Process Reengineering

Training and Knowledge Transfer

| AUG   | SEPT  | OCT   | IV&V ASSESSMENT CATEGORY               | IV&V OBSERVATION  | FINDINGS |      |        |
|---|---|---|--|---|----------|------|--------|
|   |   |   |  |   | NEW      | OPEN | CLOSED |
|    |    |    | Risk Management                        | The proactive and transparent discussion of risks and roadblocks is a priority for the project team. The schedule for the next three months is aggressive, and the risk and impact of current project delays on Go-live is still unclear.   | 0        | 1    | 0      |
|    |    |    | Communications Management              | Internal project communications are being facilitated through recurring meetings, task lists, and tracking logs. Planning for training and communication continued to help EUTF members, employers, and carriers prepare for changes associated with the new Ariel BAS. A Training and Communication Plan was developed and continues to be refined.  | 0        | 0    | 0      |
|    |    |    | Organizational Change Management (OCM) | The Change Champion meetings are continuing and resulting in constructive feedback that is shared with the project team by the Segal Project Manager.   | 0        | 0    | 0      |
|   |   |   | Business Process Reengineering (BPR)   | Although EUTF is challenged by using formal BPR tools, BPR discussions and efforts continue through system demonstrations and discussions of how to meet the requirements which may include BPR opportunities. During interval demonstrations, LifeWorks often proposes how to address system requirements which address current pain points. Two additional SOPs were provided to EUTF to support employees through business process changes.  | 0        | 0    | 0      |
|  |  |  | Training and Knowledge Transfer        | The final Segment 4 training commenced although build/configuration is still not complete for the segment. A two-day training for Segment 4 commenced in late October for the Financial Services Branch (FSB). Unfortunately, the UAT environment was unavailable so hands-on training could not be conducted on the first day, resulting in lower confidence levels that FSB employees were prepared for UAT. Training for the Member Services Branch is planned for the first week of November. | 0        | 0    | 0      |

## TECHNOLOGY

System Software,  
Hardware, and  
Integrations

Data Conversion

Quality Management  
and Testing

Configuration  
Management

Security

Deployment and  
Operations



## TECHNOLOGY

| AUG | SEPT | OCT | IV&V ASSESSMENT<br>CATEGORY                       | IV&V OBSERVATION  | FINDINGS |      |        |
|-----|------|-----|---|---|----------|------|--------|
|     |      |     |   |   | NEW      | OPEN | CLOSED |
| Y   | Y    | Y   | System Software,<br>Hardware, and<br>Integrations | LifeWorks is still developing and testing over 200 requirements to be delivered for Segment 4 UAT and/or parallel testing. Security remediation tasks are also delayed and additional vulnerabilities were identified in the monthly scans which may impact testing and other workstreams (Refer to finding 2021.04.IT02). Carrier interface configuration and testing is on track and almost complete. Employer interface testing is behind schedule; however, significant progress has been made. LifeWorks produced an Employer FAQ to provide more instructions and clarification on the HRIS file.   | 0        | 0    | 1      |
| ↓   | ↓    | ↓   | Data Conversion                                   | There are unresolved Data Cycle 3 issues for critical billing data. Another round of revised billing records is needed to perform on-going Segment 4 UAT and parallel testing scheduled to begin in November 2021. Meetings are being held with LifeWorks, EUTF, and Vitech to analyze the issues and understand how to update the billing records.   | 0        | 1    | 0      |
| ↑   | ↑    | Y   | Quality<br>Management and<br>Testing              | EUTF and LifeWorks moved forward with Segment 4 UAT to begin testing what is currently available and will track any reported defects and retest missing functionality later. It is unclear when the final build functionality will be delivered and when the data conversion issues will be resolved to ensure ample time for testing and defect remediation. EUTF and LifeWorks still need to assess these delays and determine the impact this may have on testing and acceptance timelines and activities. EUTF does have defined quality metrics and clear Go/No-go criteria to ensure the proper checks are in place prior to system acceptance. | 0        | 0    | 2      |

## TECHNOLOGY

System Software,  
Hardware, and  
Integrations










Data Conversion

Quality Management  
and Testing

Configuration  
Management

Security

Deployment and  
Operations

| AUG   | SEPT  | OCT   | IV&V ASSESSMENT<br>CATEGORY | IV&V OBSERVATION   | FINDINGS |      |        |
|---|---|---|-----------------------------|--|----------|------|--------|
|   |   |   |                             |  | NEW      | OPEN | CLOSED |
|    |    |    | Configuration Management    | No significant updates from the prior report.  | 0        | 0    | 0      |
|    |    |    | Security                    | The remediation of a high severity security vulnerability was pushed back more than 7 months to November 18, 2021, and the timeline to address two remaining medium severity open vulnerabilities is still unknown (Refer to finding 2021.04.IT02). Continued security vulnerability remediation delays could impact other downstream activities including carrier and employer testing. The baseline security vulnerabilities are not new or isolated to the Azure environment or the EUTF build. LifeWorks has developed an internal working group to improve LifeWorks' existing vulnerability management program to include clear timelines and notification procedures. New baseline and monthly scans were provided in October indicating additional vulnerabilities that will need to be addressed by LifeWorks' already limited resources. | 0        | 1    | 0      |
|  |  |  | Deployment and Operations   | A detailed plan was developed for transition, deployment, and cutover activities including the schedule for data conversion, billing, payroll, parallel testing, and black-out periods. The project passed the first 90 day Go/No-go decision checkpoint in early October and continues to monitor progress and impact of current issues on the upcoming 60 day checkpoint. In addition, a disaster recovery plan was delivered and is currently under review by EUTF.   | 0        | 0    | 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 and take into consideration areas of increasing risk and approaching timeline. Up arrows indicate adequate improvements or progress made. Down arrows indicate a decline, inadequate progress, or incomplete resolution of previously identified findings. No arrow indicates there was neither improving nor declining progress from the prior report.

#### TERMS

##### RISK

An event that has not happened yet.

##### ISSUE

An event that is already occurring or has already happened.



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



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



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



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

## TERMS

### POSITIVE

Celebrates high performance or project successes.

### PRELIMINARY CONCERN

Potential risk requiring further analysis.

## Severity Rating

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

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

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



**SEVERITY 1:** High/Critical level



**SEVERITY 2:** Moderate level



**SEVERITY 3:** Low level



## Appendix B: Industry Standards and Best Practices

| STANDARD              | DESCRIPTION   |
|-----------------------|---|
| ADA                   | Americans with Disabilities Act   |
| ADKAR®                | Prosci ADKAR: Awareness, Desire, Knowledge, Ability, and Reinforcement  |
| BABOK® v3             | Business Analyst Body of Knowledge  |
| DAMA-DMBOK® v2        | DAMA International's Guide to the Data Management Body of Knowledge   |
| HIPAA                 | Health Insurance Portability and Accountability Act of 1996   |
| MARS-E v2.0           | CMS Minimum Acceptable Risk Standards for Exchanges – Exchange Reference Architecture Supplement  |
| MITA v3.0             | Medicaid Information Technology Architecture  |
| PMBOK® v7             | Project Management Institute (PMI) Project Management Body of Knowledge   |
| SWEBOK v3             | Guide to the Software Engineering Body of Knowledge   |
| TOGAF® v9.2           | The Open Group Architecture Framework Standard  |
| COBIT® 2019 Framework | Control Objectives for Information and Related Technologies Framework   |
| IEEE 828-2012         | Institute of Electrical and Electronics Engineers (IEEE) Standard for Configuration Management in Systems and Software Engineering  |
| IEEE 1062-2015        | IEEE Recommended Practice for Software Acquisition  |
| IEEE 1012-2016        | IEEE Standard for System, Software, and Hardware Verification and Validation  |
| IEEE 730-2014         | IEEE Standard for Software Quality Assurance Processes  |
| ISO 9001:2015         | International Organization for Standardization (ISO) Quality Management Systems – Requirements  |
| ISO/IEC 25010:2011    | ISO/International Electrotechnical Commission (IEC) Systems and Software Engineering – Systems and Software Quality Requirements and Evaluation (SQuARE) – System and Software Quality Models |
| ISO/IEC 16085:2006    | ISO/IEC Systems and Software Engineering – Life Cycle Processes – Risk Management   |

| STANDARD          | DESCRIPTION   |
|-------------------|---|
| IEEE 16326-2019   | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Life Cycle Processes – Project Management  |
| IEEE 29148-2018   | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Life Cycle Processes – Requirements Engineering  |
| IEEE 15288-2015   | ISO/IEC/IEEE International Standard – Systems and Software Engineering – System Life Cycle Processes  |
| IEEE 12207-2017   | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Software Life Cycle Processes  |
| IEEE 24748-1-2018 | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Life Cycle Management – Part 1: Guidelines for Life Cycle Management   |
| IEEE 24748-2-2018 | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Life Cycle Management – Part 2: Guidelines for the Application of ISO/IEC/IEEE 15288 (System Life Cycle Processes)   |
| IEEE 24748-3-2012 | IEEE Guide: Adoption of ISO/IEC TR 24748-3:2011, Systems and Software Engineering – Life Cycle Management – Part 3: Guide to the Application of ISO/IEC 12207 (Software Life Cycle Processes) |
| IEEE 14764-2006   | ISO/IEC/IEEE International Standard for Software Engineering – Software Life Cycle Processes – Maintenance  |
| IEEE 15289-2019   | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Content of Life Cycle Information Items (Documentation)  |
| IEEE 24765-2017   | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Vocabulary   |
| IEEE 26511-2018   | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Requirements for Managers of Information for Users of Systems, Software, and Services                                |
| IEEE 23026-2015   | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Engineering and Management of Websites for Systems, Software, and Services Information                               |
| IEEE 42010-2011   | ISO/IEC/IEEE International Standard – Systems and Software Engineering – Architecture Description   |
| IEEE 29119-1-2013 | ISO/IEC/IEEE International Standard – Software and Systems Engineering – Software Testing – Part 1: Concepts and Definitions  |
| IEEE 29119-2-2013 | ISO/IEC/IEEE International Standard – Software and Systems Engineering – Software Testing – Part 2: Test Processes  |
| IEEE 29119-3-2013 | ISO/IEC/IEEE International Standard – Software and Systems Engineering – Software Testing – Part 3: Test Documentation  |
| IEEE 29119-4-2015 | ISO/IEC/IEEE International Standard – Software and Systems Engineering – Software Testing – Part 4: Test Techniques   |

| STANDARD                          | DESCRIPTION   |
|-----------------------------------|---|
| IEEE 1484.13.1-2012               | IEEE Standard for Learning Technology – Conceptual Model for Resource Aggregation for Learning, Education, and Training   |
| ISO/IEC TR 20000-11:2015          | ISO/IEC Information Technology – Service Management – Part 11: Guidance on the Relationship Between ISO/IEC 20000-1:2011 and Service Management Frameworks: ITIL® |
| ISO/IEC 27002:2013                | Information Technology – Security Techniques – Code of Practice for Information Security Controls   |
| SAMLv2.0                          | Security Assertion Markup Language v2.0   |
| SoaML v1.0.1                      | Service Oriented Architecture Modeling Language   |
| CMMI-DEV v1.3                     | Capability Maturity Model Integration for Development   |
| FIPS 199                          | Federal Information Processing Standard (FIPS) Publication 199, Standards for Security Categorization of Federal Information and Information Systems              |
| FIPS 200                          | FIPS Publication 200, Minimum Security Requirements for Federal Information and Information Systems   |
| NIST 800-53 Rev 5                 | National Institute of Standards and Technology (NIST) Security and Privacy Controls for Federal Information Systems and Organizations                             |
| NIST Cybersecurity Framework v1.1 | NIST Framework for Improving Critical Infrastructure Cybersecurity  |
| LSS                               | Lean Six Sigma  |

## Appendix C: IV&V Monthly Status

### MAIN IV&V ACTIVITIES AND ACCOMPLISHMENTS

| MAIN IV&V ACTIVITIES AND ACCOMPLISHMENTS   |
|--|
| Participated in Hawaii EUTF project management, data conversion, technical, carrier/employer meetings, and joint stand-up meetings |
| Attended Interval 8 and 9 Demonstrations and Segment 4 Training  |
| Reviewed vulnerability scan and penetration test results, including subsequent remediation plans                                   |
| Researched the nature and risk of current security vulnerabilities and presented them at the Joint PM Meeting                      |
| Reviewed LifeWorks contract terms regarding client acceptance and warranty period  |
| Finalized September Monthly IV&V Status and Milestone Report and submitted Draft October 2021 Monthly IV&V Status Report           |

### KEY UPCOMING IV&V DELIVERABLES

| KEY IV&V DELIVERABLES                   | DRAFT DUE DATE | DRAFT SUBMITTED | FINAL SUBMITTED |
|---|----------------|-----------------|-----------------|
| October 2021 Monthly IV&V Status Report | 11/05/21       | 11/05/21        | 11/24/21        |

### PRIOR IV&V APPROVED DELIVERABLES

| DELIVERABLE                               | AS OF DATE | APPROVED DATE |
|---|------------|---------------|
| IV&V Project Management Plan (IVVP)       | N/A        | 07/22/20      |
| Initial Assessment Report                 | 06/26/20   | 07/29/20      |
| July 2020 Monthly IV&V Status Report      | 07/24/20   | 08/20/20      |
| August 2020 Monthly IV&V Status Report    | 08/25/20   | 09/25/20      |
| September 2020 Monthly IV&V Status Report | 09/25/20   | 10/19/20      |

## PRIOR IV&V APPROVED DELIVERABLES (CONTINUED)

| DELIVERABLE   | AS OF DATE | APPROVED DATE |
|---|------------|---------------|
| October 2020 Monthly IV&V Status Report             | 10/27/20   | 11/25/20      |
| November 2020 Monthly IV&V Status Report            | 11/25/20   | 12/14/20      |
| December 2020 Monthly IV&V Status Report            | 12/22/20   | 02/02/21      |
| January 2021 Monthly IV&V Status Report             | 01/26/21   | 02/25/21      |
| February 2021 Monthly IV&V Status Report            | 02/23/21   | 03/31/21      |
| March 2021 Monthly IV&V Status Report               | 03/23/21   | 04/28/21      |
| April 2021 Monthly IV&V Status and Milestone Report | 04/27/21   | 06/04/21      |
| May 2021 Monthly IV&V Status and Milestone Report   | 05/26/21   | 06/28/21      |
| June 2021 Monthly IV&V Status Report                | 06/23/21   | 07/26/21      |
| July 2021 Monthly IV&V Status Report                | 07/27/21   | 08/31/21      |
| August 2021 Monthly IV&V Status Report              | 08/27/21   | 10/06/21      |
| September 2021 Monthly IV&V Status Report           | 09/30/21   | 11/1/2021     |

## Appendix D: Interviews, Meetings, and Documents

### INTERVIEWS

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

### MEETINGS

| DATE     | MEETING DESCRIPTION                                       |
|----------|---|
| 10/01/21 | EUTF - Data Conversion Cycle 3 Check-in Meeting           |
| 10/01/21 | Azure US West Data Center Migration Discussion            |
| 10/04/21 | EUTF/ICON/MS Data Conversion Weekly Meeting               |
| 10/04/21 | EUTF - Joint Weekly Project Team Meeting                  |
| 10/04/21 | EUTF - UAT Defect Status and Review                       |
| 10/05/21 | EUTF - Joint Stand-up Meeting                             |
| 10/05/21 | Employer Meeting County of Hawaii, Department of Water    |
| 10/05/21 | EUTF Demo - Interval 8 - Communications & Add/Update Tool |
| 10/06/21 | EUTF - Data Conversion Cycle 3 Check-in Meeting           |
| 10/06/21 | Employer Meeting University of Hawaii                     |
| 10/06/21 | EUTF Carrier Meeting - Humana                             |
| 10/06/21 | EUTF - Joint Stand-up Meeting                             |
| 10/07/21 | EUTF - Transition & Joint PM Touchpoint                   |
| 10/11/21 | EUTF/ICON/MS Data Conversion Weekly Meeting               |

## MEETINGS (CONTINUED)

| DATE     | MEETING DESCRIPTION                                      |
|----------|--|
| 10/11/21 | EUTF - Joint Stand-up Meeting                            |
| 10/11/21 | EUTF Demo - Interval 8 - Workflow & Communications       |
| 10/13/21 | EUTF - BAS Joint Monthly Steering Committee Meeting      |
| 10/13/21 | EUTF - Biweekly Technical Meeting                        |
| 10/13/21 | October IV&V Update meeting                              |
| 10/14/21 | EUTF - Joint Stand-up Meeting                            |
| 10/14/21 | Employer Meeting Board of Water Supply                   |
| 10/14/21 | EUTF - Transition & Joint PM Touchpoint                  |
| 10/14/21 | Employer City and County of Honolulu                     |
| 10/15/21 | EUTF - Data Conversion Cycle 3 Check-in Meeting          |
| 10/18/21 | EUTF/ICON/MS Data Conversion Weekly Meeting              |
| 10/18/21 | EUTF - Joint Weekly Project Team Meeting & PM Touchpoint |
| 10/18/21 | EUTF - SSO for Admin Portal                              |
| 10/18/21 | Employer Meeting with HHSC                               |
| 10/18/21 | EUTF - UAT Defect Status and Review                      |
| 10/19/21 | EUTF - Joint Stand-up Meeting                            |
| 10/19/21 | EUTF Demo - Med B and Housekeeping Items                 |
| 10/20/21 | Monthly Meeting with IV&V and PMs                        |
| 10/20/21 | EUTF - Data Conversion Cycle 3 Check-in Meeting          |
| 10/20/21 | Employer Meeting University of Hawaii                    |



## MEETINGS (CONTINUED)

| DATE     | MEETING DESCRIPTION   |
|----------|---|
| 10/21/21 | EUTF - Joint Stand-up Meeting   |
| 10/21/21 | EUTF - Transition & Joint PM Touchpoint   |
| 10/25/21 | EUTF BAS Training - Payroll/Billing & Member Portal (Segment 4, Module 1)         |
| 10/25/21 | EUTF - Joint Weekly Project Team Meeting & PM Touchpoint                          |
| 10/25/21 | EUTF Carrier Meeting - CVS/SSI Meeting  |
| 10/25/21 | Employer Meeting with HHSC  |
| 10/25/21 | Employer Meeting Board of Water Supply  |
| 10/26/21 | EUTF Board of Trustees Meeting  |
| 10/26/21 | EUTF BAS Training - Payroll/Billing & Administrator Reports (Segment 4, Module 2) |
| 10/27/21 | EUTF Carrier Meeting - Kaiser   |
| 10/27/21 | EUTF - Biweekly Technical Meeting   |
| 10/27/21 | EUTF - Data Conversion Next Steps for Parallel                                    |

## DOCUMENTS

| TYPE                     | DOCUMENT  |
|--------------------------|---|
| Morneau Shepell Proposal | EUTF BAS RFP 20-002 - Morneau Shepell BAFO Response to BAS Project Oral Presentation Demo Question Requests - FINAL |
| Request for Proposal     | State of Hawaii EUTF BAS RFP No. RFP-20-001 for Project Management and Consulting Services (Release Date 09/25/19)  |
| Segal Proposal           | BAFO for RFP No. RFP-20-001 for Project Management and Consulting Services (Effective 03/16/20)                     |
| Request for Proposal     | State of Hawaii ETS RFP-19-010 EUTF BAS IV&V  |
| Accuity Proposal         | Accuity LLP EUTF IVV Proposal RFP-19-010 FINAL  |
| Contract                 | Morneau Shepell Limited Contract (effective 06/01/20)   |
| Contract                 | Segal Company Contract (effective 06/01/20)   |
| Contract                 | Accuity Contract (effective 06/01/20)   |
| Budget                   | New BAS Budget Worksheet  |
| Project Management       | Hawaii EUTF Morneau Shepell Project Kick-Off – FINAL (06/04/20)   |
| Project Management       | EUTF – Weekly Project Team Status – 2021-10-04  |
| Project Management       | EUTF – Weekly Project Team Status – 2021-10-18  |
| Project Management       | EUTF – Weekly Project Team Status – 2021-10-25  |
| Project Management       | 20210930 Segal Monthly Status Report  |
| Project Management       | 20211004 Segal EUTF Status Report   |
| Project Management       | 20211011 Segal EUTF Status Report   |
| Project Management       | 20211018 Segal EUTF Status Report   |
| Project Management       | 20211025 Segal EUTF Status Report   |
| Project Management       | Hawaii EUTF – ICON Status Report – Monthly September 2021   |
| Project Management       | Hawaii EUTF – ICON Status Report – Week Ending 10 21 2021   |

## DOCUMENTS (CONTINUED)

| TYPE            | DOCUMENT   |
|-----------------|--|
| Risk and Issues | EUTF – CRAIDL Log  |
| Schedule        | Hawaii (EUTF) – BAS Work Plan  |
| Deliverable     | Hawaii EUTF – BAS Implementation - Charter, Scope, and Management Plan |
| Deliverable     | EUTF Quality Management Plan_2020.10.14                                |
| Deliverable     | Ariel EAS Security Plan – EUTF   |
| Deliverable     | Patch_Deployment_Process_v1.16-EN                                      |
| Deliverable     | Vulnerability Management_v1.09b  |
| Performance     | Performance Testing plan   |
| Security        | Security Remediation Plan  |
| Security        | 2021-10-22 ee-eutf-bat.uat Detailed Scan Report                        |
| Security        | 2021-10-22 ee-eutf-cfg.uat Detailed Scan Report                        |
| Security        | 2021-10-25 ap2-eutf-bat.uat Detailed Scan Report                       |
| Security        | 2021-10-25 apt2-eutf-cfg.uat Detailed Scan Report                      |
| Security        | 2021-10-25 ap2-eutf-trn.uat Detailed Scan Report                       |
| Security        | 2021-10-26 ep2-eutf-.bat.uat Detailed Scan Report                      |
| Security        | 2021-10-26 ep2-eutf-trn.uat Detailed Scan Report                       |
| Transition      | Transition Calendar  |
| Testing         | Parallel Testing Plan 20211025   |
| Training        | Segment 4 Training Materials   |



## *Appendix E: Prior Findings Log*

Appendix E: Prior Findings Log

| ASSESSMENT<br>CATEGORY              | FINDING ID   | TYPE  | ORIGINAL<br>SEVERITY | CURRENT<br>SEVERITY | FINDING   | ANALYSIS   | RECOMMENDATION ID | RECOMMENDATION  | SUPPLEMENTAL RECOMMENDATION   | FINDING<br>STATUS | FINDING STATUS UPDATE  | CLOSED DATE | CLOSURE REASON |
|-------------------------------------|--------------|-------|----------------------|---------------------|---|--|-------------------|---|---|-------------------|--|-------------|----------------|
| Risk Management                     | 2021.07.PM01 | Issue | High                 | Moderate            | Current risk management processes to identify, communicate, and escalate risks are ineffective resulting in the inability to take timely corrective action. | The UAT Testing Strategy for Segment 2 states that the successful completion of the internal LifeWorks segment testing is an entry criteria to maximize the effectiveness of EUTF UAT; however, EUTF started UAT prior to the completion of Lifeworks' system testing. The purpose of segment testing is to ensure that Ariel is working as intended and any identified defects are addressed prior to the solution being delivered. LifeWorks segment testing is over one month behind its target completion date of April 29, 2021, with 54 requirements still pending segment testing. Without completing Segment 2 testing, Segment 2 functionality was not validated leading to the increased risk of design and functionality issues.  | 2021.07.PM01.R1   | Increase the rigor and leadership of managing risk management processes.            | <ul style="list-style-type: none"><li>• Reinforce that open and transparent discussions of risks and issues is healthy and critical for overall project success. Involve EUTF early in the decision-making and selection of risk response strategies.</li><li>• Conduct recurring internal meetings with workstream leads and clearly define their responsibilities in identifying, escalating, and conducting root cause analysis of new and existing risks.</li><li>• Actively communicate the risks and impacts of not meeting project milestones and deadlines so project members clearly understand how to prioritize their workloads and hold their teams accountable for completing tasks.</li></ul> | Open              | 08/27/21: Accuity decreased the severity rating from Level 3 (High) to Level 2 (Moderate) as LifeWorks made notable effort to proactively identify and communicate potential project delays, risks, and issues in August. Project leadership is improving its handling and communication of project risks for more timely discussion and decision-making. The LifeWorks PM and Deputy PM have started to effectively ask questions and discuss the impacts of not meeting project milestones.<br><br>09/30/21: Project risks and concerns requiring immediate attention continue to be discussed with more urgency as Go-live approaches. More frequent meetings and tracking tools facilitate the effective communication and management of risks.<br><br>10/27/21: The schedule for the next three months is aggressive, and the risk and impact of current project delays on Go-live is still unclear. The ongoing evaluation of risks and whether remaining project work can be accomplished in the months leading to Go-live is critical (Refer to Finding 2021.02.PM01).<br><br>IV&V will continue to monitor the communication, escalation, and management of risks.  |             |                |
| Project Organization and Management | 2021.04.PM01 | Risk  | Moderate             | Low                 | Need for greater coordination and control of project information, resources, tasks, and lessons learned to ensure project quality and performance.          | LifeWorks has a dedicated team that includes various leads and groups with different functional area responsibilities including requirements management, build/configuration, data conversion, training, and testing. The leads and SMEs of these functional teams work together and often attend cross-functional meetings; however, as the project progresses it is becoming more apparent that there needs to be improved coordination and control of workstreams to regularly assess and ensure the quality and performance of each work stream's output. These functional teams are not only accountable for their own work streams but are accountable to each other for properly sharing information, finishing their tasks timely, and openly sharing feedback and lessons learned to improve the team's overall project delivery. | 2021.04.PM01.R1   | Clarify roles and responsibilities for key tasks and milestones in each workstream. | <ul style="list-style-type: none"><li>• Review project plans and hold project team members accountable for their specific responsibilities under each workstream.</li><li>• Incorporate clear and detailed procedures for roles and responsibilities related to the execution of agile-like Segment activities and Go/No-Go Criteria.</li></ul>   | Open              | 05/26/21: This was originally reported in the April 2021 IV&V Monthly Report as a preliminary concern but is upgraded to a risk in May 2021. Despite additional resources added for QA, configuration, and project management, the project has continued schedule delays and miscommunication regarding UAT. A project Lessons Learned Log has been populated with feedback from surveys, change champions, and other observations; however, it has not been discussed as a team to prioritize and agree on how to implement improvements.<br><br>06/23/21: The coordination of data conversion and carrier activities improved as those workstreams were assigned to the LifeWorks Deputy PM. Segal is also supporting EUTF data conversion activities. IV&V will continue to monitor the communication and control of all other project workstreams.<br><br>07/27/21: Although the project culture is collaborative, current project management practices could be improved in areas including cost and schedule management, risk management, and communications management. It is unclear how project leads are being held accountable for timelines and actively managing their workstreams.<br><br>08/27/21: Accuity decreased the severity rating from Level 2 (Moderate) to Level 1 (Low) as project leads are more actively managing their areas of responsibility. Weekly recurring meetings of project workstreams are facilitating active oversight of major project activities. Better project tracking tools have also been implemented.<br><br>09/30/21 and 10/27/21: The project team continues to improve the active management of project workstreams; however, this observation becomes even more critical and requires even more rigor as activities/deliverables continue to be delayed and upcoming milestones cannot be missed.<br><br>IV&V will continue to assess project management activities. |             |                |

| ASSESSMENT<br>CATEGORY | FINDING ID   | TYPE | ORIGINAL<br>SEVERITY | CURRENT<br>SEVERITY | FINDING   | ANALYSIS  | RECOMMENDATION ID | RECOMMENDATION                                       | SUPPLEMENTAL RECOMMENDATION   | FINDING<br>STATUS | FINDING STATUS UPDATE   | CLOSED DATE | CLOSURE REASON |
|------------------------|--------------|------|----------------------|---------------------|---|---|-------------------|--|---|-------------------|---|-------------|----------------|
| Data Conversion        | 2021.04.IT01 | Risk | Moderate             | Moderate            | Need to improve the management of data conversion activities and coordination of all parties with data conversion responsibilities. | The successful and complete migration of data is critical to a successful project and requires strong cross-functional team communication and coordination of all data conversion resources. The overall status of data conversion is unclear and there is a need to improve the management of data conversion activities and coordination of responsible parties. Data Conversion Cycle 1 results were not formally approved and although Data Conversion Cycle 2 is in progress, it is unclear if they are on track to meet Data Conversion Cycle 2 objectives or completion by May 10, 2021. Furthermore, the data reconciliation process proposed by ICON is still pending finalization. The UAT environment penetration and vulnerability scan results are still pending remediation, which may delay the loading of Data Conversion Cycle 2 data. | 2021.04.IT01.R1   | Appoint a dedicated Data Conversion Management Lead. | <ul style="list-style-type: none"><li>• Appoint a dedicated Data Conversion Management Lead to actively manage all aspects of the data conversion effort including coordination of LifeWorks, ICON, and EUTF data conversion activities.</li><li>• Assign this lead the responsibility of providing weekly data conversion status reports with metrics that report on the status and health of data conversion activities.</li><li>• Develop a formalized Data Conversion acceptance process for the remaining cycles with defined acceptance criteria.</li></ul> | Open              | <p>05/26/21: Data Conversion Cycle 2 nears completion but is experiencing data derivation challenges related to employee status. An additional LifeWorks project manager resource was added to support the coordination of data conversion activities. Segal has also communicated plans to add support to managing data conversion activities. The importance of coordinating data conversion work was evident again when Segment 2 UAT was delayed due to these issues with data conversion impacting the availability of the UAT environment.</p> <p>06/23/21: The LifeWorks Deputy PM was assigned to be the lead coordinator for data conversion. Segal is also playing a larger role in supporting EUTF data conversion activities. Data conversion activities are being tracked and managed through a log. A data conversion dashboard to show the overall status is still pending.</p> <p>07/27/21: The project faces continued schedule delays in data conversion, specifically for billing records. Although sample billing data extracts were provided, EUTF and Vitech are still struggling to provide billing records to LifeWorks, which may also impact the project timeline.</p> <p>08/27/21: Although EUTF and Vitech delivered billing records in August, the time to review, refine, and test the billing extracts is very compressed. A formalized Data Conversion acceptance process for Data Cycle 2 and 3 was not developed. The coordination of data conversion has improved, however, still remains a cautious area that needs strong oversight.</p> <p>09/30/21: After continuous feedback and rework, all Data Cycle 3 files were finally delivered, including billing and payment extracts. Data Conversion activities are still critical and the time for LifeWorks to perform data validation and recalculations has been greatly compressed. Weekly data conversion meetings and bi-weekly Data Cycle 3 check-in meetings help manage the coordination of these vital activities.</p> <p>10/27/21: Due to issues with Data Cycle 3 billing records, another round of revised billing records is needed to perform on-going Segment 4 UAT and parallel testing is scheduled to begin in November 2021. Meetings are being held with LifeWorks, EUTF, and Vitech to analyze the data needs and develop a timeline for remediating the billing data issues.</p> <p>IV&amp;V will continue to assess the management of data conversion activities.</p> |             |                |

| ASSESSMENT<br>CATEGORY | FINDING ID   | TYPE  | ORIGINAL<br>SEVERITY | CURRENT<br>SEVERITY | FINDING  | ANALYSIS  | RECOMMENDATION ID | RECOMMENDATION   | SUPPLEMENTAL RECOMMENDATION   | FINDING<br>STATUS | FINDING STATUS UPDATE   | CLOSED DATE | CLOSURE REASON |
|------------------------|--------------|-------|----------------------|---------------------|--|---|-------------------|--|---|-------------------|---|-------------|----------------|
| Security               | 2021.04.IT02 | Issue | Moderate             | Moderate            | LifeWorks is not following their patch deployment and vulnerability management policies and procedures for remediation in the non-production environments. | LifeWorks's Vulnerability Management Program v1.09b outlines their practices to perform monthly network vulnerability and penetration scans. Based on the scans, system administrators schedule a time to fix vulnerabilities based on the overall risk rating with critical and high risks addressed as quickly as possible in an ad-hoc fashion. The initial vulnerability and penetration test scans were completed on March 4, 2021, and MS drafted a Security Assessment Report which included recommended remediations. LifeWorks has subsequently missed multiple dates to complete remediation with the original target date of March 24, 2021. | 2021.04.IT02.R1   | LifeWorks align project practices with their patch deployment and vulnerability management policies and procedures.                                      | When the project is unable to follow their vulnerability management policies and procedures, LifeWorks should follow standard risk management best practices including client escalation and risk acceptance processes.   | Open              | 05/26/21: Accuity decreased the severity rating from Level 2 (Moderate) to Level 1 (Low) as LifeWorks worked diligently to address security concerns and is now following their patch and vulnerability management policies and procedures. Interim remediation controls were put in place, and full vulnerability remediation is scheduled for completion by August 2021. Bi-monthly technical meetings have been implemented to discuss security concerns on a more regular basis.  |             |                |
|                        |              |       |                      |                     |  |   | 2021.04.IT02.R2   | The vulnerability management program should include specific target timeframes for remediation, and clear client notification and escalation procedures. | In a SaaS hosting model, LifeWorks should include clear notification and escalation procedures including what scenarios and risks would require a client risk assessment, risk acceptance, or risk exception. In addition, the current program should clearly define target remediation timelines as "as quickly as possible in an adhoc fashion" could result in different expectations. |                   | 06/23/21: LifeWorks is running and providing monthly security scans. Interim remediation controls were put in place and LifeWorks is targeting to complete remediation of security vulnerabilities by August 2021.  |             |                |
|                        |              |       |                      |                     |  |   | 2021.04.IT02.R3   | Reevaluate IT project resource needs and acquire additional resources.   | As the same limited IT resources are being leveraged for both security remediation and build/configuration, reevaluate the need for additional IT resources.  |                   | 07/27/21: Two of the three remaining security vulnerabilities targeted for completion by August 2021 are delayed and under assessment with one still targeted for remediation before the end of next month.   |             |                |
|                        |              |       |                      |                     |  |   |                   |  |   |                   | 08/27/21: The security rating increased from Level 1 (Low) to (Moderate) as the remediation of outstanding security vulnerabilities for the Azure environments continued to slip and the potential downstream project impacts become more critical due to the fast approaching Go-live. Due to an incorrectly logged ticket, the security vulnerability was not resolved for the Admin, Employer, and Carrier Portals by the agreed target date.  |             |                |
|                        |              |       |                      |                     |  |   |                   |  |   |                   | 09/30/21: As a result of numerous remediation date misses, IV&V has added an additional recommendation to address the need for specific target timeframes and client notification procedures. In addition, LifeWorks clarified that the baseline security vulnerabilities are not new or isolated to the Azure environment or the EUTF build. The clarification of the vulnerability management program is important as LifeWorks' escalation of existing security vulnerabilities to their senior management did not prevent further slippage in meeting security remediation deadlines. |             |                |
|                        |              |       |                      |                     |  |   |                   |  |   |                   | 10/27/21: LifeWorks informed EUTF that they were updating their vulnerability management program to include timelines for remediation. As additional security vulnerabilities were identified in the October scans, an evaluation should be conducted to determine if there are adequate resources to address all security and build/configuration activities within the project timeline.  |             |                |
|                        |              |       |                      |                     |  |   |                   |  |   |                   | IV&V will continue to monitor the remediation of security vulnerabilities and the impact on the project timeline.   |             |                |



| Assessment Category                     | Finding ID   | Type  | Original Severity | Current Severity | Finding  | Analysis  | Recommendation ID | Recommendation   | Supplemental Recommendation  | Finding Status | Finding Status Update   | Closed Date | Closure Reason |
|---|--------------|-------|-------------------|------------------|--|---|-------------------|--|--|----------------|---|-------------|----------------|
| Cost, Schedule, and Resource Management | 2021.02.PM01 | Issue | Moderate          | High             | Current schedule delays may impact the overall project timeline. | <p>LifeWorks has schedule management processes in place to report and track schedule variances. Furthermore, the project already proactively identified and actively reports on project risks related to the pace of intervals, insufficient time, and resources available to build and configure all EUTF requirements, and concern that complex functions and features are not being built early enough to allow for sufficient testing and quality reviews. However, even with these schedule management processes in place, the project continues to experience delays which may impact the overall project timeline and rigid Go-live date of February 1, 2022:</p> <ul style="list-style-type: none"> <li>• The project is experiencing some delays including build and configuration for Interval 4, data conversion, environment set up, and LifeWorks Segment 1 testing.</li> <li>• Requirements tagged to specific intervals continue to be deferred to later intervals. Although the deferral of project requirements were expected in earlier intervals as LifeWorks gained a clearer understanding of EUTF needs and expectations, requirements tagged to Interval 4 continue to be tagged to later intervals.</li> <li>• The RTM requirements related to reports, communications, data interfaces, and workflows have not been fully identified and assigned to intervals so the level of effort for the overall schedule cannot be planned at this time.</li> <li>• Data conversion for certain records continues to be delayed due to the complexity of the billing data and reliance on the current EUTF BAS Vendor to assist with extraction and correction to data extracts; and need for EUTF resources to map and resolve data extraction issues.</li> </ul> | 2021.02.PM01.R1   | Increase schedule management control activities.                       | <ul style="list-style-type: none"> <li>• Increase the rigor related to task and schedule delays including root cause analysis, discussions of mitigation plans, and reviews of mitigation tasks effectiveness to ensure schedule delays are timely addressed.</li> <li>• Regularly reassess and readjust the project schedule estimates and assumptions.</li> <li>• Consider all options for mitigating risk including adding resources, performing work in parallel, redistributing work in future development intervals, and reprioritizing remaining work.</li> </ul> | Open           | <p>03/23/21: LifeWorks made some progress in addressing certain project delays and trying to move up requirements earlier to address risks related to the pace of intervals and balance of functionality. However, other activities are slipping including training and testing activities for Segment 2. It is too early to determine if requirements tagged to Interval 5 will be completed as planned or if a significant number will need to be deferred. More formalized processes need to be performed to ensure schedule delays are timely identified and addressed.</p> <p>04/27/21: LifeWorks has begun to make improvements in schedule management; however, the project continues to have numerous delays outlined in the April 2021 IV&amp;V Monthly Status and Milestone Report. For the delay of XpertDoc, LifeWorks presented a mitigation plan including adding three additional QA resources to get back on track for Interval 5 and Segment 2 UAT. LifeWorks has begun to highlight late activities in the weekly status report. More formalized schedule management control activities are still needed across project workstreams.</p> <p>05/26/21: Despite additional resources added for QA, configuration, and project management, the project has continued schedule delays in data conversion, testing, interval demonstrations, deferred requirements, and carrier interfaces. LifeWorks should work to understand why delays continue to occur despite more resources being added.</p> <p>06/23/21: The project schedule and pace of build and configuration is a cautious area and the project team is actively monitoring progress towards getting the project back on track by July 23, 2021, in time for Segment 3 training and user acceptance testing (UAT). Project leadership agreed that any build and configure postponements after July 23, 2021 will impact the overall timeline.</p> <p>07/27/21: This was originally reported in the February 2021 IV&amp;V Monthly Report as a risk but is upgraded to an issue in July 2021 to reflect the growing concern of project delays. Despite ongoing project delays a root cause analysis has not been performed and it is unclear if project schedule estimates are realistic or achievable.</p> <p>08/27/21: The completion of Interval 8 is a month delayed. The next six weeks for build, configuration, and data conversion is critical. It is essential that LifeWorks completes all development and internal testing for remaining and deferred requirements by Segment 4 training scheduled for late October. Project schedules are being regularly assessed and adjusted; however, there is very little slack or flexibility left in the schedule to accommodate any additional delays.</p> <p>9/30/21: There are ongoing schedule delays, but LifeWorks does not anticipate an impact to the overall timeline. The project continues to face delays and hopes to finish build and configuration, LifeWorks internal testing, interval demonstrations, and data conversion, in time for Segment 4 training targeted for October 25, 2021. Continued security vulnerability remediation delays could impact downstream activities such as carrier and employer testing.</p> <p>10/27/21: The remaining three months of the project are aggressive with the impact of current project delays on Go-live still unknown. The inability to upload revised billing extracts will jeopardize parallel testing targeted to begin on November 15, 2021. Furthermore, although LifeWorks has added additional resources to their internal QA team, there are currently still almost 200 requirements left in development and/or internal QA testing status. Limited IT resources have caused the delayed remediation of security vulnerabilities and the build/configuration of other technical functionality (Refer to finding 2021.04.IT02).</p> <p>IV&amp;V will continue to assess these schedule management control activities.</p> |             |                |
|   |              |       |                   |                  |  | <p>Greater attention and rigor to schedule delays is needed to ensure that schedule delays do not impact the overall project timeline and success of the project.</p>   | 2021.02.PM01.R2   | Complete assessment of current delays on the overall project schedule. | <ul style="list-style-type: none"> <li>• Evaluate whether remaining project work can be accomplished in the months leading to Go-live and clearly communicate to all project stakeholders the impact of any delays on other workstreams.</li> <li>• Set realistic and achievable dates based on the availability of project resources.</li> <li>• Consider the impact of schedule management mitigation activities on quality.</li> </ul>  |                |   |             |                |



| ASSESSMENT CATEGORY                         | FINDING ID   | TYPE     | ORIGINAL SEVERITY | CURRENT SEVERITY | FINDING   | ANALYSIS  | RECOMMENDATION ID | RECOMMENDATION  | SUPPLEMENTAL RECOMMENDATION  | FINDING STATUS | FINDING STATUS UPDATE   | CLOSED DATE | CLOSURE REASON   |
|---|--------------|----------|-------------------|------------------|---|---|-------------------|---|--|----------------|---|-------------|--|
| Quality Management and Testing              | 2021.05.IT01 | Risk     | Moderate          | Moderate         | Segment 2 testing by LifeWorks is not following the UAT Testing Strategy which may impact overall system quality and the effective execution of UAT.                                | The UAT Testing Strategy for Segment 2 states that the successful completion of the internal LifeWorks segment testing is an entry criteria to maximize the effectiveness of EUTF UAT; however, EUTF started UAT prior to the completion of Lifeworks' system testing. The purpose of segment testing is to ensure that Ariel is working as intended and any identified defects are addressed prior to the solution being delivered. LifeWorks segment testing is over one month behind its target completion date of April 29, 2021, with 54 requirements still pending segment testing. Without completing Segment 2 testing, Segment 2 functionality was not validated leading to the increased risk of design and functionality issues.   | 2021.05.IT01.R1   | Lifeworks to align segment testing execution to UAT Testing Strategy. | <ul style="list-style-type: none"> <li>LifeWorks and EUTF should work together to evaluate the risks associated with not following UAT Testing Strategy against the need to adhere to the project timeline.</li> <li>Develop and commit to realistic timelines to address project execution issues considering the availability of LifeWorks and EUTF resources.</li> </ul>  | Closed         | <p>06/23/21: Segment 2 testing by LifeWorks was completed after user acceptance testing (UAT) was in progress. The Segment 3 UAT Testing Strategy was provided which also includes the completion of Internal MS segment testing as an entry criteria to UAT. LifeWorks stated that additional resource and schedule adjustments have been made to get the project back on track by July 23, 2021, in time for Segment 3 training and UAT.</p> <p>07/27/21: After initial delays and challenges, Segment 2 UAT commenced; however, parts of Segment 2 UAT were postponed and merged with Segment 3 UAT. LifeWorks' internal testing was delayed for Segment 3 and was not completed prior to Segment 3 training for EUTF UAT staff. Incomplete and rushed testing by LifeWorks could result in quality issues and more defects identified during UAT.</p> <p>08/27/21: After Segment 2 was postponed, Segment 2 and Segment 3 UAT commenced simultaneously. The UAT is in progress and defects are being actively reported and managed for resolution.</p>  | 8/27/2021   | Closed as Segment 2 testing has begun and the number of defects identified is reasonable and the severity level are non-critical.                                |
| Quality Management and Testing              | 2021.01.IT01 | Risk     | Moderate          | Moderate         | Insufficient testing and quality processes may impact the effectiveness of system demonstrations, and client confidence and satisfaction.   | <p>Periodic system demonstrations are one method for LifeWorks to share what functionality has been completed during the current interval. The requirements being demonstrated should be completely configured, tested, documented, and reviewed in advance of the system demonstration. If done successfully, system demonstrations not only help verify requirements and design, but also build confidence and customer satisfaction. The following problems were observed with the system demonstrations:</p> <ul style="list-style-type: none"> <li>Interval 1 and 2 functionalities were demonstrated through a combination of slideshows and live system walkthroughs. Based on feedback received from EUTF, Interval 3 functionalities were demonstrated in the live system; however, there were multiple system errors and problems with prepared sample transactions and data.</li> <li>Inability to show completeness of configuration to meet 100% of completed interval requirements.</li> <li>Testing and quality processes did not identify the issues encountered during the system demonstrations.</li> <li>Lack of a formal process to record incidents and problems during the demonstration, identify root causes, and track their resolution.</li> <li>The inability to clearly track issues to resolution in a timely manner may negatively impact client confidence.</li> </ul> | 2021.01.IT01.R1   | Evaluate testing and quality processes.                               | <ul style="list-style-type: none"> <li>Use quality assurances processes to analyze results and issues to identify the root cause, improve tracking of issues to system functionality/requirements, make appropriate corrective actions, and record lessons learned.</li> <li>LifeWorks should review the demonstration results including anomalies encountered and identify follow-up actions.</li> <li>The project team should conduct a project retrospective after each interval demonstration to facilitate practical steps for improvement and promote improved stakeholder buy-in and confidence.</li> </ul> | Closed         | <p>02/23/21 and 03/23/21: LifeWorks discussed the challenges associated with the system demonstrations at the February and March Steering Committee meetings. A more formalized analysis needs to be conducted to identify the root causes and track the issues to ensure appropriate corrective actions are taken. The risk has been added to the project risk log for tracking and monitoring.</p> <p>04/27/21 and 05/26/21: LifeWorks started to capture follow-up items and issues in a log to facilitate the tracking and resolution of items. Although the project is doing a better job of tracking items to be redemonstrated, the root causes are not being identified to prevent future errors or challenges.</p> <p>06/23/21 and 07/21/21: The project documents lessons learned in a log and tracks demonstration follow-up items in bi-weekly Joint Stand-up meetings. IV&amp;V has seen some improvement in the tracking of issues, defects, and follow-up items; however, due to delayed and rushed LifeWorks segment testing, quality is still a concern. Project retrospectives are not conducted after each interval.</p> <p>08/27/21: LifeWorks continued to provide system demonstrations after each interval. The number of bugs and defects initially encountered during early demonstrations was greatly reduced. When issues were encountered, LifeWorks explained the reasoning which helped promote stakeholder confidence in the system.</p> | 8/27/2021   | Closed because the quality of demonstrations has improved and any resulting follow-up items are addressed during Joint Stand-up meetings in a methodical manner. |
| System Software, Hardware, and Integrations | 2020.11.IT01 | Positive | N/A               | N/A              | The LifeWorks technology team's flexibility and collaboration demonstrates their commitment to be a trusted partner to EUTF to build a robust solution that fits EUTF requirements. | <p>The LifeWorks technology team:</p> <ul style="list-style-type: none"> <li>Works collaboratively with EUTF to understand the technical requirements, answer questions, and adjust the solution to find the best fit for EUTF</li> <li>Demonstrates a willingness to be transparent and openly share LifeWorks's IT practices, policies, standards, and personnel roles and responsibilities to develop, maintain, secure, operate, and support the system</li> <li>Provides documentation and ongoing clarification of the Ariel BAS solution's infrastructure, security, and disaster recovery architecture</li> <li>Through the involvement of key IT resources, shows commitment to the overall success of the project and being a trusted partner with the State of Hawaii</li> </ul> <p>This approach has helped EUTF gain comfort with the LifeWorks-managed Azure environment and how the solution aligns with EUTF's security, availability, system operations, and confidentiality requirements.</p>   | N/A               | N/A for positive findings.  | N/A for positive findings.   | Closed         | N/A   | 12/22/2020  | Closed as this is a positive finding.  |

| ASSESSMENT CATEGORY                 | FINDING ID   | TYPE     | ORIGINAL SEVERITY | CURRENT SEVERITY | FINDING  | ANALYSIS  | RECOMMENDATION ID | RECOMMENDATION   | SUPPLEMENTAL RECOMMENDATION   | FINDING STATUS | FINDING STATUS UPDATE  | CLOSED DATE | CLOSURE REASON  |
|-------------------------------------|--------------|----------|-------------------|------------------|--|---|-------------------|--|---|----------------|--|-------------|---|
| Project Organization and Management | 2020.08.PM01 | Risk     | Low               | Low              | The COVID-19 pandemic may impact project schedule, resources, and costs.   | <p>The COVID-19 pandemic creates uncertainty with rapidly evolving government responses and restrictions and changing circumstances. The following a summary of the related events and facts:</p> <ul style="list-style-type: none"> <li>• A second stay-at-home/work-at-home order went into effect August 27, 2020 for Honolulu City and County and will last for at least 14 days. EUTF employees are deemed essential. All key EUTF project employees will have the ability and equipment to work from home in the event of an office closure by the end of September. All project contractors already work remotely effectively.</li> <li>• The State is reviewing budgets and positions to make significant changes due to anticipated revenue shortfalls. The State also implemented a hiring freeze and is contemplating furloughs or salary cuts for State workers.</li> <li>• EUTF has several open positions that could play essential roles on the project. EUTF's request to fill these positions is pending.</li> <li>• The project timeline and Go-live dates do not have much room to be extended due to the annual benefit plan enrollment season. Any delays that postpone Go-live beyond the enrollment season could impact project costs.</li> </ul>  | 2020.08.PM01.R1   | Formulate processes for how to respond to COVID-19 impacts to the project. | <ul style="list-style-type: none"> <li>• EUTF, project contractors, and subcontractors should timely complete a back-up resources matrix including a list of key project resources, their key primary functions, and potential backup resources in case of their inability to work.</li> <li>• Assess COVID-19 direct and indirect impacts to the project and prepare contingency plans for possible scenarios.</li> <li>• Ensure all key EUTF project team members have the necessary access, equipment, and technology to work remotely effectively.</li> </ul> | Closed         | <p>9/25/20: The COVID-19 finding has been partially mitigated by ensuring all key EUTF project team members have computers and access to work remotely and additional headcount approved to support the project and operations. Project tools and practices such as a joint project SharePoint site and regular, recurring meetings also help the teams work effectively together from remote locations. The project contractors agreed to develop back-up resource matrices.</p> <p>10/27/20: EUTF, LifeWorks, Segal, and ICON worked together to identify back-up resources for each key project team member to ensure resource continuity.</p>  | 10/27/2020  | Closed as all recommendations were adequately addressed. A COVID-19 risk has been added to the project's risk log so direct and indirect COVID-19 related impacts will be continuously assessed.  |
| Project Organization and Management | 2020.07.PM02 | Risk     | Moderate          | Moderate         | <p>Segal's contract contains responsibilities and deliverables beyond oversight of LifeWorks, including OCM, BPR, and quality management. Segal's project deliverables, schedule, and processes have yet to be formally documented and scheduled, which could impact the execution of Segal, ICON, and EUTF responsibilities and activities.</p> | <p>Segal was contracted to provide various project management, OCM, BPR, data conversion, and quality management services for EUTF. Segal is effectively monitoring and reviewing LifeWorks activities and deliverables but does not yet have a schedule for ICON's and their own independent deliverables for this project. Segal established a dashboard and regularly submits reports to EUTF; however, thus far, these reports focus mainly on LifeWorks and do not include sufficient updates regarding Segal and ICON's own activities, progress, and risks. Additionally, Segal's processes in the areas of schedule, resource, cost, and quality management are still being developed and documented.</p> <p>Segal's deliverables include a BPR and OCM plan. Segal prepared a presentation, developed a tracking tool, and held a workshop to explain their BPR and OCM methodology, however, we are not aware of whether a formally documented plan or schedule of BPR and OCM tasks and resources has been prepared and delivered to EUTF for review. Further discussion of purpose and expectations for this deliverable is still needed.</p> <p>ICON is responsible for data cleansing and data conversion activities. The project team identified two risks and one issue and are experiencing some delays related to data conversion. Clarifying ICON deliverables, schedule, processes, and reporting may help to prevent further issues and delays.</p> <p>Possible root causes or contributing factors are an aggressive project pace and competing priorities. Both the Segal Project Manager and the EUTF Project Manager are extremely hard-working and may not have adequate time to participate in on-going Discovery Sessions and perform all of the required project management tasks. EUTF and Segal will need to work together to establish appropriate project management processes and clarify the priority of deliverables and schedules.</p> <p>Although this finding is reported under the Project Organization and Management IV&amp;V Assessment Category, this finding also impacts the criticality ratings for the Cost, Schedule, and Resource Management; OCM; BPR; Data Conversion; and Quality Management and Testing categories.</p> | 2020.07.PM02.R1   | Clarify Segal and ICON deliverables.                                       | <ul style="list-style-type: none"> <li>• Clarify purpose, content, and expectations of each of the contracted deliverables.</li> <li>• Consider whether contracted deliverables still make sense based on project needs.</li> </ul>   | Closed         | <p>08/25/20: Segal and ICON made good progress on clarifying deliverables and project activities related to their responsibilities. EUTF, Segal, and IV&amp;V started monthly check-in meetings and discussed Segal's "just-in-time" approach to OCM and BPR. The EUTF PM confirmed approval of this approach with preliminary activities occurring before OCM and BPR plans are formalized. ICON clarified their Data Quality Check Point (DQCP) process and preliminary results from defined business rules. Accuity closed recommendation 2020.07.PM02.R1 as IV&amp;V received sufficient clarification of Segal and ICON deliverables.</p> <p>Segal provided a deliverables schedule and ICON provided a work plan tracking the status of tasks. Segal provided a high level deliverable project schedule with duration, status, start and finish dates, and resources. The specific resources and tasks were not identified for key activities such as OCM and BPR; however, Segal noted that they would develop more detailed plans based on resource availability and bandwidth starting in December 2020. Other EUTF tasks are currently tracked in the RTM, Segal's Dashboard, and independently by EUTF project team members. Accuity closed recommendation 2020.07.PM02.R2 as IV&amp;V received sufficient clarification of Segal and ICON's schedules for this stage of the project.</p> <p>More clarity was provided for key processes on OCM, quality, data validation, and migration. Segal delivered a draft Quality Management Plan on 8/25/20 and scheduled a test planning meeting in September. ICON held a meeting to review their DQCP process and provided a high level DQCP Validation Consolidation process summary. Accuity will continue to evaluate the formalization of processes including BPR and quality management.</p> <p>09/25/20: Quality processes and metrics are well-defined and communicated through the draft Quality Management Plan. BPR activities continued through meetings, Fit Gap sessions, and solution demonstrations. Data migration and cleansing processes were more clearly defined through the draft Data Migration Plan, weekly data conversion meetings and DQCP / Validation meetings.</p> | 9/25/2020   | Closed as the Segal and ICON deliverables, activities and schedules have been clarified and approved by EUTF. In addition, key processes were defined and communicated through meetings, plans and metrics. Segal and ICON's status and activities are included in reports to the Joint Steering Committee. |
|                                     |              |          |                   |                  |  |   | 2020.07.PM02.R2   | Develop a project schedule to manage Segal, ICON, and EUTF tasks.          | <ul style="list-style-type: none"> <li>• Provide the appropriate detail of tasks, durations, due dates, milestones, and deliverables for various parties.</li> </ul>  |                |  |             |   |
|                                     |              |          |                   |                  |  |   | 2020.07.PM02.R3   | Develop and clarify Segal, ICON, and EUTF processes.                       | <ul style="list-style-type: none"> <li>• Key processes include resource and schedule management, cost management, BPR, OCM, quality management, data cleansing, and data conversion.</li> <li>• Consider including Segal, ICON, and EUTF's status and metrics in existing reports and dashboards.</li> <li>• Consider including Segal, ICON, and EUTF status and activities in recurring project management meetings to promote even greater project cohesion.</li> </ul>   |                |  |             |   |
| Project Organization and Management | 2020.07.PM01 | Positive | N/A               | N/A              | The project team continues to work collaboratively and support a culture of open communication and continuous improvement amongst all parties.   | <p>The project team members have:</p> <ul style="list-style-type: none"> <li>• Encouraged EUTF SMEs to openly discuss areas of confusion and request for improvements to working sessions.</li> <li>• Listened to feedback from project team members and timely implemented improvements to project processes (e.g., including incorporating solution demonstrations and introducing project team</li> </ul>  | N/A               | N/A for positive findings.   | N/A for positive findings.  | Closed         | N/A  | 8/25/2020   | Closed as this is a positive finding.   |



## *Appendix F: Comment Log on Draft Report*

Appendix F: Comment Log on Draft Report

| Hawaii EUTF BAS Project: IV&V Document Comment Log                                |        |   |                          |                    |
|---|--------|---|--------------------------|--------------------|
|  |        | <br><b>ACCUITY</b> |                          |                    |
| ID #  | Page # | Comment   | Commenter's Organization | Accuity Resolution |
| 1   |        | No Hawaii EUTF or ETS Comments.   |                          |                    |
| 2   |        |   |                          |                    |
| 3   |        |   |                          |                    |
| 4   |        |   |                          |                    |
| 5   |        |   |                          |                    |
| 6   |        |   |                          |                    |
| 7   |        |   |                          |                    |
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