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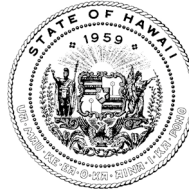GOVERNOR

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January 24, 2023

The Honorable Ronald D. Kouchi
President of the Senate
  and Members of the Senate
Thirty-Second State Legislature
State Capitol, Room 409
Honolulu, Hawai'i 96813

The Honorable Scott K. Saiki
Speaker and Members of the
  House of Representatives
Thirty-Second State Legislature
State Capitol, Room 431
Honolulu, Hawai'i 96813

Aloha Senate 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 initial assessment received by the Office of Enterprise Technology Services for the State of Hawai'i, Department of Accounting and General Services, Enterprise Financial 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 25, 2023 10:13 HST)

Douglas Murdock
Chief Information Officer
State of Hawai'i

Attachment

Monthly IV&V Status Report

OF THE

Hawaii Department of Accounting and General Services

Enterprise Financial System Project

FINAL

January 18, 2023 – For the month of December 2022

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Table i: Version History of the Report

Version	Delivered Date	Update Reason
DED1	August 22, 2022	Delivery of Deliverable Expectation Document (DED) by BerryDunn to State of Hawaii for review and feedback
DRAFT	January 9, 2023	Delivery of Draft report by BerryDunn to State of Hawaii for review and feedback
FINAL	January 18, 2023	Delivery of Final report by BerryDunn to State of Hawaii

1.0 Executive Summary

In this section, BerryDunn has provided an overview of the Enterprise Financial System (EFS) Project (EFS Project) and current EFS Project Health Status.

1.1 EFS Project Overview

The EFS Project is designed to modernize and replace many of the State of Hawaii's (State's) financial management systems for executive branch departments. The State is executing a targeted approach to modernizing systems in core enterprise resource planning (ERP) areas. The State separated the large strategic ERP project originally envisioned into transactional pieces to improve the chance of success with each system. To date, the State has modernized human resources, gross-to-net payroll administration and processing, and time and leave management. The EFS Project, representing the finance dimension of ERP, will be the fourth component under this modernization effort.

On November 21, 2021, the State Office of Enterprise Technology Services (ETS) awarded Labyrinth Solutions, Inc. (invenioLSI) the contract for Solicitation RFP-ERP-2020 to implement the proposed system—SAP S/4HANA ERP cloud suite of applications—via a hosted managed service delivery model. The EFS is anticipated to include the following areas:

- Budget/finance

- Accounts payable and purchasing

- Travel and expenses

- Fixed assets

- Project accounting

The State has selected BerryDunn to perform Independent Verification and Validation (IV&V) services to assist the State in identifying and reducing risks and issues as well as implementing best practices to help ensure successful implementation of the EFS.

1.2 EFS Project Health Status

Table 1-1 below illustrates the individual health ratings BerryDunn used to rate the EFS Project Critical Components (i.e., key areas of the EFS Project that BerryDunn assessed). Table 1-2 below illustrates the overall ratings for the EFS Project that BerryDunn used to determine the health of the EFS Project and their corresponding rating definitions. The overall rating of the EFS Project reflects the calculated average of the individual EFS Project Critical Component ratings.

Table 1-1: EFS Project Critical Components Rating Definitions

Rating	Definition
5 – Excellent	No findings were identified by BerryDunn.
4 – Good	One or a few low-severity risk(s)/issue(s), one medium-severity risk/issue, and/or watch list items and/or observations were identified by BerryDunn.
3 – Average	Many low-severity risks/issues, a few medium-severity risks/issues, and/or one high-severity risk/issue was/were identified by BerryDunn and not logged in the EFS Project's risk/issue log and/or lessons learned repository—or have been logged, but the plans to address them are not resolving them.
2 – Fair	Many medium-severity risks/issues and/or a few high-severity risks/issues were identified by BerryDunn and not logged in the EFS Project's risk/issue log and/or lessons learned repository—or have been logged, but the plans to address them are not resolving them.
1 – Poor	Many medium-severity risks/issues and/or many high-severity risks/issues were identified by BerryDunn and not logged in the EFS Project's risk/issue log and/or lessons learned repository—or have been logged, but the plans to address them are not resolving them.

Table 1-2: EFS Project Overall Monthly Status Definition

Rating	Definition
5.0 – 4.5	Excellent health
<4.5 – 4.0	Good health
<4.0 – 3.0	Average health
<3.0 – 2.0	Fair health
<2.0 – 1.0	Poor health

Table 1-3 below shows the health ratings BerryDunn determined for the individual EFS Project Critical Components and overall EFS Project for its initial assessment and all monthly status reports. BerryDunn was unable to assess several EFS Project Critical Components because the efforts to be assessed for the correlating Task Items (i.e., specific evaluation criteria for each EFS Project Critical Component—see Appendix A) are not yet underway. As a result, these EFS Project Critical Components are marked with "N/A" in Table 1-3 below.

Table 1-3: Executive Summary of Health Ratings

EFS Project Critical Components	Initial Rating	Oct. 2022 Rating	Nov. 2022 Rating	Dec. 2022 Rating
EFS Project Management	1	1	1	1
Quality Management	3	3	3	3
Training	N/A	2	2	2
Requirements Management	2	2	2	2
Operating Environment	N/A	N/A	N/A	N/A
Development Environment	N/A	N/A	N/A	N/A
Software Development	3	3	3	3
System and Acceptance Testing	N/A	N/A	N/A	N/A
Data Management	N/A	N/A	N/A	N/A
Operations Oversight	N/A	N/A	N/A	N/A
Overall EFS Project Health Rating (Average of EFS Project Critical Component Ratings):	2.25	2.20	2.20	2.20

1.3   EFS Project Health Status

BerryDunn recommends the EFS Project and Executive Sponsorship take the following top-priority steps to address to most concerning findings BerryDunn has outlined in this report:

1. Establish a solid EFS Project foundation (i.e., EFS Project Standards deliverables and initial OCM deliverables from invenioLSI's proposal that meet quality expectations) before considering amending the existing contract with invenioLSI.

2. Meet with DAGS and B&F leadership to review, modify, and agree upon resource availability expectations for the EFS Project and use this information to adjust the EFS Project work plan dates.

3. Set expectations for invenioLSI to use quality review checklists in the draft deliverable review process to help ensure quality standards are upheld.

2.0 EFS Project IV&V Methodology

This section details BerryDunn's EFS Project IV&V Methodology (i.e., EFS Project Critical Components, EFS Project Rating Methodology, and Fact-Finding Process).

2.1 EFS Project Critical Components

BerryDunn has listed the following EFS Project Critical Components below:

- EFS Project Management
- Quality Management
- Training
- Requirements Management
- Operating Environment
- Development Environment
- Software Development
- System and Acceptance Testing
- Data Management
- Operations Oversight

These components, as well as their corresponding Task Items and Task Numbers, can be found in Appendix A.

2.2 EFS Project Rating Methodology

In Appendix B, BerryDunn has provided definitions for risk, issue, watch list item, observation, lessons learned perspective, and risk-/issue-related definitions (i.e., impact, probability, and severity), as well as tables defining the:

- Individual health ratings for the EFS Project Critical Components
- Overall health ratings for the EFS Project
- Levels of risk impact
- Levels of risk probability
- Levels of risk severity
- Common attributes for the levels of risk severity
- Common attributes for the levels of issue severity

2.3 Fact-Finding Process

The subsections below describe the fact-finding activities BerryDunn performed as a part of the Monthly Status Report.

2.3.1 Document Review

At the start of this engagement, the State's IV&V Contract Manager granted BerryDunn access to the EFS Project's SharePoint site for viewing EFS Project documentation. BerryDunn reviews EFS Project documents on an ongoing basis to better understand the EFS Project's status and to further inform potential findings and recommendations.

2.3.2 Direct Observation of EFS Project Meetings

BerryDunn attended several of the EFS Project's key recurring meetings to identify findings and potential recommendations for the project. BerryDunn worked with EFS Project leadership and BerryDunn's State IV&V Contract Manager to determine the meetings BerryDunn would observe. Table 2-1 lists the EFS Project meetings BerryDunn observed.

Table 2-1: BerryDunn's Observed Meetings and Related Information

Meeting Date	Meeting Name/Purpose	IV&V Attendee(s)
12/01/2022	System Administration Meeting	Denise Lang
12/01/2022	Data and Development Meeting	Jack Kreiser
12/02/2022	EFS Project – Targeted Discussions	Denise Lang
12/05/2022	D 1.1.1 Working Session: Project Charter	Jack Kreiser
12/06/2022	D 1.1.1 Working Session: Work Plan Session #1	Denise Lang
12/06/2022	D 1.1.1 Working Session: PMP Session #1	Denise Lang
12/07/2022	D 1.1.1 Working Session: PMP Session #2	Denise Lang
12/07/2022	D 1.1.1 Working Session: PMP Session #3	Jack Kreiser
12/08/2022	D 1.1.1 Working Session: Work Plan Session #2	Denise Lang
12/12/2022	PMO Work Plan Review	Denise Lang
12/12/2022	D 1.1.1 Working Session: PMP Session #2	Jack Kreiser
12/13/2022	EFS Project – Targeted Discussions	Denise Lang
12/14/2022	PMO Weekly Meeting	Jack Kreiser
12/15/2022	Data and Development Meeting	Jack Kreiser
12/15/2022	System Administration Meeting	Jack Kreiser
12/15/2022	Supplement Contract #3	Denise Lang
12/16/2022	EFS Project – Targeted Discussions	Jack Kreiser

Meeting Date	Meeting Name/Purpose	IV&V Attendee(s)
12/19/2022	PMO Work Plan Review	Denise Lang
12/20/2022	EFS Project – Targeted Discussions	Denise Lang
12/21/2022	RIO-D Meeting	Jack Kreiser
12/21/2022	PMO Weekly Meeting	Denise Lang
12/22/2022	Data and Development Meeting	Jack Kreiser
12/23/2022	EFS Project – Targeted Discussions	Denise Lang
12/23/2022	EFS Project – Open House	Jack Kreiser
12/27/2022	EFS Project – Targeted Discussions	Denise Lang
12/28/2022	PMO Weekly Meeting	Denise Lang
12/29/2022	System Administration Meeting	Jack Kreiser
12/29/2022	Data and Development Meeting	Jack Kreiser
12/30/2022	EFS Project – Targeted Discussions	Denise Lang

3.0   Detailed Findings and Recommendations

In this section, BerryDunn has included the findings and recommendations for the risks, issues, observations, watch list items, and lessons learned perspectives (including previously reported findings that remain open) we identified through this month's observed meetings and document review. For each risk and issue identified, BerryDunn provided a severity rating. Please note that observations, watch list items, and lessons learned perspectives do not have correlating severity ratings (see Appendix B for the definitions of these finding terms).

3.1   Updated Risk and Issue Findings and Recommendations

BerryDunn revisited findings from the Initial Assessment Report to determine if risks/issues previously identified by BerryDunn:

- Were closed as resolved by the EFS Project and should be reopened—because their severity has worsened or their impact has manifested in a different way than when BerryDunn first identified them—or if BerryDunn agrees with the State's decision to close the respective risk/issue as resolved

- Were/are being mitigated/remediated by the EFS Project and now have an increased severity or have an impact that has manifested in a different way than when BerryDunn first identified them

- Were and/or are not being mitigated/remediated sufficiently by the EFS Project and are persisting and/or manifesting in a different way

Table 3-1 below details:

- Risks and issues that the State closed and that BerryDunn agrees with as being resolved

- Risks and issues that the State closed and that BerryDunn is recommending the State reopen

- Risk and issue refresh findings and correlating recommendations for all open risks/issues

Table 3-1: Updated Risk and Issue Findings and Recommendations

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
Risks/Issues That Are or Are Recommended (by BerryDunn) to be Closed		
(None identified at this time)		
Risks/Issues That Are Open or Are Recommended (by BerryDunn) to be Reopened		
EFS Project Management	**Original Finding:** Key initial EFS Project deliverables have either not been delivered by LSI or have been delivered and not been approved by the State on time. **Severity: High**	**Reference Number:** Issue 28 (The EFS Project added this IV&V finding to previously logged Issue 28) **Status:** In Process – **High**	**Updated Finding:** BerryDunn observed that the Project Standards deliverables (e.g., Project Charter, Scope Management Strategy, Quality Management Strategy) invenioLSI submitted to the EFS Project for review on October 31, 2022, are being revised based on feedback from the EFS Project team. BerryDunn observed that the EFS Project team repurposed regularly occurring meetings to conduct Project Standards deliverable review working sessions and discuss feedback. During these sessions and independent review of the draft deliverables, BerryDunn observed quality gaps in invenioLSI's deliverables, which are typically expected to be identified and corrected by a vendor during quality reviews prior to delivery to the client. The quality gaps BerryDunn observed in the Project Standards deliverables included: • Diagrams and organization charts that were illegible due to low image resolution • Project resource references to individuals who were not on the EFS Project at the time the Project Standards draft was submitted • Tables of figures and tables of tables, which are contractually required, were missing

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
			• References (e.g., see Section #.#) that directed the reader to the wrong sections or deliverables • Links that were broken and/or not explained with introductory language • Acronyms or phrases that were not defined upon first usage in the deliverable • Non-editable tables or figures (i.e., screenshots) included as part of documents that are expected to be routinely updated • Process documentation (e.g., performing quality assurance) that did not provide the EFS Project with direction in regard to the required effort, ownership, and completion dates for these processes • Key metrics that were not defined BerryDunn observed that some comments provided by the EFS Project were not replied to by invenioLSI prior to the Project Standards review meetings. During follow-up review meetings, invenioLSI sometimes did not appear to come to the meeting with a proposed approach prepared for how to address each of the EFS Project's comments. As a result, less of the review meeting time was spent gathering input from the EFS Project on whether invenioLSI's proposed changes would meet the EFS Project's needs than could have otherwise been achieved. As a result of not starting review working sessions until the week of December 5, the deliverable review period has gone beyond the planned 20 days and has delayed the start of the Executive Steering Committee's review period. This review process was also further delayed due to:

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
			• Additional time spent by the EFS Project team addressing the quality gaps listed above • More review working sessions being needed due to invenioLSI not addressing and/or reviewing written feedback prior to review working sessions BerryDunn continues to rate the severity of this issue as high because not having these Project Standards deliverables approved continues to delay the EFS Project from having the crucial direction and guidance these deliverables provide. **Updated Recommendation:** BerryDunn continues to recommend using the following techniques for improving the timeliness of finalizing future deliverables: • The EFS Project's deliverable owner conducts pre-review sessions of work-in-progress deliverables with invenioLSI prior to their formal submission for approval to help reduce the amount of time the EFS Project and Executive Steering Committee need for review and to help ensure the deliverable invenioLSI is drafting is aligned with the EFS Project's expectations. • The deliverable owner schedules working sessions immediately upon receipt of deliverables to help ensure deliverable reviewers can attend the deliverable review working sessions without cancelling regularly occurring EFS Project meetings. BerryDunn recommends the EFS Project consider adopting the following deliverable review schedule for the EFS Project deliverable review period: • Week 1:

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation

			○ State deliverable review owner conducts initial review and provides feedback.
			
			    Please consider this as a point in the review period in which the deliverable owner should reject low-quality deliverables (i.e., substantial gaps in meeting contractual obligations, Deliverable Description Document [DDD] expectations, and/or EFS Project needs). Granting the deliverable owner this authority would help save the deliverable reviewers from needing to provide feedback on deliverables that are unlikely to be approved and allow for invenioLSI to rework its deliverables for resubmission sooner.
			
			    ○ InvenioLSI addresses/corrects formatting and minor quality issues.
			
			    InvenioLSI might benefit from developing a checklist of universally applicable quality gaps that have occurred to date on EFS Project deliverables. Using this checklist prior to submitting future deliverables for review will help support internal quality review measures and help prevent recurrence of gaps previously identified by the EFS Project and/or Executive Sponsors.
			
			• Week 2:
			    ○ Deliverable reviewers provide written feedback in a shared document.
			
			• Week 3:

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
			○ All deliverable reviewers who submitted comments attend working session(s) to review and reach consensus on approving, or steps for approving (if additional edits are needed), the deliverable. ○ If additional edits are needed before approving the deliverable, invenioLSI makes updates to the deliverable based on feedback from deliverable reviewers. • Week 4: ○ If additional edits are needed before approving the deliverable, InvenioLSI and deliverable reviewers conduct additional deliverable review sessions led by the deliverable owner to review invenioLSI's deliverable updates (based on feedback) and either approve the deliverable or reject the deliverable and provide invenioLSI with reasons for the rejection. ○ InvenioLSI and EFS Project provide the deliverable to the Executive Steering Committee for their deliverable review and approval period.
EFS Project Management	**Original Finding:** invenioLSI's deliverables and implementation phases/tasks (and related deadlines/durations)	**Reference Number:** Issue 18 (The EFS Project added this IV&V finding to previously logged Issue 18)	**Updated Finding:** BerryDunn understands the EFS Project is continuing to work with invenioLSI to revise the draft Scope Management Strategy, DDD, and Revised EFS Project Work Plan, which were submitted by invenioLSI to the EFS Project on October 31, 2022. BerryDunn believes defined deliverables and phases/tasks are crucial for providing direction and guidance for

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
	have not yet been confirmed and agreed upon with the State. **Severity: High**	**Status:** In Process – **High**	all EFS Project efforts and the lack thereof has been a major contributing factor toward the minimal progress made to date. BerryDunn also understands that invenioLSI and the EFS Project are working to draft a proposed contract supplement to adjust the timeline, deliverables, and departments included so that they better align with the scale of effort required. **Updated Recommendation:** BerryDunn recommends the State focus on establishing a solid project foundation before considering amending the existing contract with invenioLSI, which would include: - Identification of which departments will/will not implement the EFS System and the extent of their implementation and/or integration needs. - Completing all outstanding Prepare Phase deliverables (i.e., Project Standards and initial Organizational Change Management [OCM] efforts). - Development of a full list of current requirements that is vetted by department leaders. - Development of an agreed-upon approach for the EFS Project and State departments managing involvement of external consultants. - Identification of State resources who can commit the time needed for project activities that require State subject matter expertise and/or approval. BerryDunn recommends the EFS Project: 1. Determine which of the steps mentioned above fall under the current scope of work with invenioLSI.

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
			a. If these steps do fall under the current contract, BerryDunn recommends the EFS Project prioritize completing these tasks and hold off on any modifications and/or supplementation of the existing contract. b. If any of these steps do not fall under the current contract (e.g., if the scope of the deliverables/tasks needs to be expanded to accommodate for the additional State end-user departments being included in the EFS Project), BerryDunn then recommends the EFS Project shift funding allocations from later tasks in the "Deliverable Schedule with RACI" document (that specifies invenioLSI's required deliverables and related payment amounts) to cover the additional cost associated with completing EFS Project foundational activities. 2. Once these fundamental steps have been completed, BerryDunn believes the EFS Project might be in a better position to understand the scope and determine whether to expand the dollar amount and number of departments involved in invenioLSI's contract as part of a contract supplement.
EFS Project Management	**Original Finding:** The EFS Project's deliverable review and approval process is not effectively moving deliverables	**Reference Number:** Issue 29 (The EFS Project added this IV&V finding to previously logged Issue 29)	**Updated Finding:** BerryDunn observed that the EFS Project conducted review sessions with invenioLSI starting the week of December 5 to discuss feedback on Project Standards deliverables, address quality gaps, and resolve areas where the deliverables did not meet EFS Project contract expectations. The review process for the Project Standards deliverables has gone

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
	through the approval process. **Severity: High**	**Status:** In Process – **High**	beyond the 20-day EFS Project review period, which has delayed the start of the Executive Steering Committee's review period. BerryDunn also observed that some comments provided by the EFS Project were not replied to by invenioLSI prior to the Project Standards review meetings. During follow-up review meetings, invenioLSI sometimes did not appear to come to the meeting with a proposed approach prepared for how to address each of the EFS Project's comments. As a result, less of the review meeting time was spent gathering input from the EFS Project on whether invenioLSI's proposed changes would meet the EFS Project's needs than could have otherwise been achieved. **Updated Recommendation:** BerryDunn recommends invenioLSI develop quality review checklists to help ensure quality standards are upheld. BerryDunn provided a universal project deliverable review checklist as part of its Initial Risk Assessment Report (which is also included in Appendix C of this report) to provide direction and alignment on quality expectations with third parties involved in the delivery of any EFS Project deliverables. BerryDunn recommends: 1. invenioLSI and the EFS Project review the quality checklist BerryDunn provided, modify it to cover agreed-upon minimal quality expectations, and incorporate it into the EFS Project's deliverable review process. a. These checklist items are intended to be universally applicable to EFS Project deliverables and can be supplemented with deliverable-specific considerations based on the DDD. 2. invenioLSI conduct an internal signoff of each item in the modified quality checklist to confirm and document

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
			invenioLSI's QA review of all deliverables prior to their submission to the EFS Project for review. 3. The EFS Project team conduct a signoff of each item in the modified quality checklist during the review process to either confirm or disagree on whether the quality expectations have been met as well as to document for both reasons for rejecting the draft deliverables and recurring quality issues. BerryDunn also recommends the EFS Project's deliverable owner conducts pre-review sessions of work-in-progress deliverables with invenioLSI prior to their formal submission for approval to help reduce the amount of time the EFS Project and Executive Steering Committee need for review and to help ensure the deliverable invenioLSI is drafting is aligned with the EFS Project's expectations.
EFS Project Management	**Original Finding:** There appears to be misunderstanding in regard to invenioLSI's Organizational Change Management (OCM) approach. **Severity: Medium**	**Reference Number:** Issue 30 **Status:** In Process – **Medium**	**Updated Finding:** BerryDunn understands the new invenioLSI OCM Lead started on December 2 and is new to invenioLSI and its OCM approach. BerryDunn observed the invenioLSI OCM Lead mention plans to conduct OCM activities (i.e., sustainment, current-state role design, and organizational structure discussions) other than the outstanding initial OCM deliverables, including the Stakeholder Engagement Strategy, Leadership Alignment and related workshops, and End-User Training Assessment. **Updated Recommendation:** BerryDunn recommends invenioLSI's Project Director and OCM Lead discuss with the State Enterprise Program Manager how to prioritize, submit, and gain approval of the outstanding OCM deliverables listed above.

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
EFS Project Management	**Original Finding:** Initial OCM deliverables and related efforts have not been completed on time. **Severity: High**	**Reference Number:** Issue 31 **Status:** In Process – **High**	**Updated Finding:** BerryDunn has continued to observe that the OCM workstream has not conducted change management engagement and communication activities (e.g., town hall meetings, stakeholder awareness memos, project website, and outreach memos from the EFS Project) that were originally proposed as part of invenioLSI's approach. These activities were originally intended to engage potential stakeholders and generate awareness at the start of the EFS Project. BerryDunn understands that the EFS Project experienced difficulties in effectively conducting some of the explore sessions in part due to EFS Project stakeholders having limited understanding of: • The EFS Project implementation process • Their expected level of involvement in the EFS Project • State requirements for use of the EFS • The EFS Project's goal to align business processes with best practices and minimize customizations • The EFS Project's intended benefits BerryDunn remains concerned that the EFS Project is engaging with stakeholders during explore sessions who have received little or no outreach from the EFS Project (including the OCM workstream) regarding the EFS Project to date. **Updated Recommendation:** BerryDunn continues to recommend invenioLSI and EFS Project Leadership help ensure that OCM efforts align with the critical needs of the EFS Project by working with the new invenioLSI OCM Lead to:

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
			• Identify priorities and to direct OCM efforts to tasks that focus on stakeholder engagement, leadership alignment, and user readiness assessment. • Identify key OCM efforts that can begin or be planned while the contract supplement is being reviewed. • Draft and distribute messaging to stakeholders identified and involved in the current EFS Project scope to provide them with an understanding of the goals of the EFS Project and the intended benefits of the EFS (both for the State and their specific department). This messaging, once established by the OCM workstream, can be retailored and distributed to new groups of stakeholders if/when the contract supplement is approved. BerryDunn also recommends invenioLSI's Project Manager and OCM Lead present additional steps to the EFS Enterprise Program Manager that might help address negative impacts that have occurred as a result of not having completed the Prepare Phase OCM activities on time. BerryDunn recommends the EFS Project postpone further explore sessions and other efforts that involve input from EFS Project stakeholders until the OCM workstream can complete the Prepare Phase OCM activities proposed in invenioLSI's proposal.
EFS Project Management	**Original Finding:** There appears to be a misalignment between the EFS Project and Spire Hawaii in regard to	**Reference Number:** Issue 32 **Status:** In Process – **Low**	**Updated Finding:** At this time, Spire Hawaii is not involved in the EFS Project, as its contract with DAGS Accounting ended on December 5. BerryDunn understands the DAGS Accounting Division (which held the contract that included Spire Hawaii's involvement on the EFS Project, among other duties) has

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
	EFS Project stakeholder engagement efforts. **Severity: Low**		published a Request for Proposal for a vendor to provide similar services but has yet to award the contract. **Updated Recommendation:** BerryDunn recommends the EFS Project change the status of this issue to Addressed given Spire Hawaii is no longer on the EFS Project. If Spire Hawaii is not awarded the upcoming contract, BerryDunn expects to recommend this risk be closed.
EFS Project Management	**Original Finding:** There appears to be misalignment between the EFS Project, Spire Hawaii, and GFOA in regard to efforts on the EFS Project. **Severity: Medium**	**Reference Number:** Issue 33 **Status:** In Process – **Medium**	**Updated Finding:** BerryDunn observed that, while GFOA is still working with B&F and continues to have a role in the EFS Project, GFOA is not always included in all EFS Project discussions related to its area of focus on the EFS Project and at times is reliant upon updates from B&F regarding the approach of and updates on the EFS Project. BerryDunn also observed that GFOA raised concerns about the approach the EFS Project is taking during explore sessions to use workflow demonstrations instead of requirements gathering activities. **Updated Recommendation:** BerryDunn continues to recommend the EFS Enterprise Program Manager hold discussions with Executive Sponsors and leadership from DAGS and B&F to clarify and further document the expected role of outside consulting groups contracted by DAGS and B&F. If outside consulting groups continue to act on behalf of departments on the EFS Project, the EFS Project might benefit from helping to ensure these outside consulting groups are included in all conversations/meetings related to their area of focus to keep them apprised of the status, priorities, and direction of the EFS Project.

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
EFS Project Management	**Original Finding:** The planned go-live date of November 2023 for the Core Phase might not be achieved. **Severity: High**	**Reference Number:** Risk 45 **Status:** Implement Mitigation – **High**	**Updated Finding:** BerryDunn has continued to observe the following barriers that are likely contributing to delaying the EFS Project: - Quality gaps and a review/approval process have led to the initial review period continuing beyond the planned 20 business days for all Project Standards deliverables. - Explore sessions have taken longer than anticipated, as additional attendees from departments have been unprepared to fully participate due to having received minimal stakeholder awareness messaging/engagement regarding the EFS Project beforehand. - The key role of EFS Project Manager remains unfilled, and State resource availability remains critically low. - The expansion to departments outside of DAGS and B&F compounds issues stemming from not having a complete, current, and vetted list of EFS requirements. - Gaps, discrepancies, and/or delays in regard to the State and invenioLSI efforts as a result of unclear expectations on: - Key roles and responsibilities (e.g., ownership of data extraction efforts) - Deliverable expectations and due dates - The number of State end-user departments to engage. - All Project Standards deliverables, which were submitted on or before October 31, 2022, remain unapproved as of December 31, 2022

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
			BerryDunn understands invenioLSI and the EFS Project have submitted a contract supplement request to the State which, if approved, would extend the timeline to a date that might be more achievable. However, based on the minimal rate of progress made to date and the major unmitigated issues listed above, BerryDunn does not believe that extending the timeline will help address the critical underlying challenges facing the EFS Project.

Updated Recommendation: *Please see BerryDunn's recommendation on Reference # Issue 18 in regard to steps to take prior to considering a contract supplement that increases the total dollar amount under contract with invenioLSI.* |
| **EFS Project Management** | **Original Finding:** invenioLSI Deputy Project Directors might not be able to efficiently execute invenioLSI's EFS Project approach. **Severity: Medium** | **Reference Number:** Risk 46 **Status:** Monitor – **Medium** | **Updated Finding:** BerryDunn observed that invenioLSI Deputy Project Directors are continuing to complete key EFS Project planning deliverables within the Prepare Phase, with minimal delays in the invenioLSI Deputy Project Directors engaging with the invenioLSI Project Director for key decisions and approvals. **Updated Recommendation:** BerryDunn recommends the EFS Project continue to monitor this risk while the contract supplement is under review and Prepare Phase tasks are being completed. |
| **EFS Project Management** | **Original Finding:** Functional Primaries are now unable to validate the EFS requirements because they were not involved in requirements gathering and had | **Reference Number:** Risk 48 **Status:** New – **High** | **Updated Finding:** BerryDunn understands invenioLSI and the EFS Project are drafting a contract supplement that, if approved as is, would increase the number of State departments engaged in the EFS Project as end user, which would require introducing them to the EFS and identifying gaps between the GovOne functionality and their needs as well as potential solutions. BerryDunn understands that the EFS Project has not yet conducted stakeholder engagement activities, including |

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
	minimal involvement in reviewing the requirements prior to their posting in the State's EFS RFP. **Severity: High**		requirements gathering, with EFS Project stakeholders outside of DAGS Accounting Division and B&F. **Updated Recommendation:** BerryDunn continues to recommend pausing explore sessions until Prepare Phase tasks and deliverables have been completed, including identifying and engaging with all EFS Project stakeholders. BerryDunn believes completing all Prepare Phase tasks and deliverables will help ensure EFS Project stakeholders are well informed and prepared to provide insights to the EFS Project on how to meet their departments' needs. *Please see BerryDunn's recommendation on Reference # Risk 50 in regard to challenges the EFS Project might face in determining whether the EFS Project is complete without having a "Definition of Done."*
EFS Project Management	**Original Finding:** Functional Primaries are minimally available to provide input to the EFS Project due to high vacancy rates. **Severity: High**	**Reference Number:** Issue 26 (The EFS Project added this IV&V finding to previously logged Issue 26) **Status:** In Process – **High**	**Updated Finding:** BerryDunn continues to observe that Functional Primaries are minimally available to provide input to the EFS Project (e.g., explore sessions and knowledge transfer activities) due to high vacancy rates. BerryDunn has not observed a clear solution from the EFS Project on how sufficient and reliable State resource levels will be maintained throughout the EFS Project. BerryDunn understands GFOA has filled the role of EFS Project representative for B&F. BerryDunn also understands DAGS Accounting Division is currently working to select a new vendor to provide services (similar to those previously provided by Spire Hawaii) as EFS Project representative for DAGS Accounting Division. BerryDunn observed that DAGS Accounting Division

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
			resources have been increasingly involved in providing input to the EFS Project while they work to select a vendor.
			Updated Recommendation: BerryDunn continues to recommend the EFS Project develop a resourcing plan that includes estimates on how many hours will be required from each EFS Project resource to complete tasks and does not exceed EFS Project resource availability (i.e., identifying and leveling periods where resources are overallocated). Developing a resource-loaded workplan will help ensure the EFS Project's workplan is feasible in regard to the planned go-live date and minimally available State resources. The EFS Project might also consider requesting invenioLSI provide support through the use of analogous resource estimating (i.e., estimating duration or cost of an activity or a project using historical data from a similar activity or a project) to inform the EFS Project Work Plan.
			BerryDunn recommends the EFS Project then meet with DAGS and B&F leadership to review, modify, and agree upon resource availability expectations for the EFS Project. If the amount of time required from DAGS and B&F resources (or suitable replacements) cannot be provided, the State might consider either further extending the Phase 1 timeline or reevaluating the feasibility of the EFS Project at this time.
EFS Project Management	**Original Finding:** The EFS Project has developed a Core Phase schedule prior to allocating the expected State resource hours into	**Reference Number:** Risk 47 **Status:** New – **High**	**Updated Finding:** BerryDunn continues to observe the EFS Project has not estimated the number of hours required for each resource to complete EFS Project Work Plan tasks to help ensure resource availability is feasible. While the EFS Project has established plans to review the alignment of resources and tasks at the start of each phase, BerryDunn has not observed this despite explore sessions already occurring. BerryDunn has not

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
	the EFS Project Work Plan, confirming these expectations with the State, and ensuring State resources are available as agreed upon. **Severity: High**		observed the EFS Project communicating expectations to State resources regarding the anticipated number of hours required from them to complete work plan tasks they are expected to be involved in completing. **Updated Recommendation:** BerryDunn continues to recommend the EFS Project develop a resourcing plan that includes estimates on how many hours will be required from each EFS Project resource to complete tasks and does not exceed EFS Project resource availability (i.e., identifying and leveling periods where resources are overallocated). Developing a resource-loaded workplan will help ensure the EFS Project's workplan is feasible in regard to the planned go-live date given the available resources. As the EFS Project begins to further engage stakeholder groups (e.g., explore sessions, knowledge transfer, UAT, and training), it will become increasingly important to have accurate and clearly communicated estimates for their expected level of involvement.
EFS Project Management	**Original Finding:** The recently hired EFS Project Manager has resigned. **Severity: High**	**Reference Number:** Issue 37 **Status:** In Process – **High**	**Updated Finding:** BerryDunn observed the recently vacated State Project Manager role has not yet been filled. This has resulted in action items being reassigned to EFS Project resources, workplan tasks being delayed, and additional administrative work for the State's Enterprise Program Manager. BerryDunn understands the State Enterprise Program Manager has requested approval from the State to hire a contractor to provide project management services to close this gap as quickly as possible. Without approval of this request, BerryDunn believes the Project Manager role will go unfilled for an extended period of time while the State works through the standard State hiring process.

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
			Updated Recommendation: BerryDunn recommends the EFS Project continue with its current approach of working to identify a contractor to provide Project Management services. If the State Enterprise Program Manager cannot hire an EFS Project Manager, BerryDunn recommends the EFS Project consider the following: • Adjusting the deliverable due dates and resources included to account for the interim absence of a Project Manager • Developing a plan to cover the responsibilities of the EFS Project Manager position in the interim and communicating that plan to the broader EFS Project team and stakeholders while the State works to determine how this position will be filled • Evaluating whether existing EFS project resources with sufficient skillsets could move into the Project Manager role
EFS Project Management	**Risk 1:** The EFS Project does not appear to have a clear plan for how Spire Hawaii's role on the EFS Project will be covered between the time when their contract with DAGS' Accounting division ends and a new RFP for similar services is	**(BerryDunn unable to find similar findings logged in the EFS Project's Issue Log or Risk Register – BerryDunn recommends logging this finding as an Issue with a High Severity)**	**Updated Finding:** BerryDunn understands the DAGS Accounting Division has published an RFP (solicitation # P23001057, published December 7, 2022) for a vendor to provide services similar to those previously provided by Spire Hawaii (for which services ended December 5, 2022) but has yet to award this contract. BerryDunn has observed that, during the period following the end of Spire Hawaii's contract, representatives from DAGS Accounting Division have been increasingly involved in key EFS Project meetings and deliverable review as requested by the EFS Project.

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
	awarded to a selected vendor. **Severity: High**		**Updated Recommendation:** BerryDunn recommends the EFS Project and DAGS Accounting Division continue with their current approach of increasingly involving representatives from DAGS Accounting Division while waiting for a contract to be awarded. BerryDunn continues to recommend the EFS Project review the EFS Project Work Plan, Action Log, Issue Log, and Risk Register to help ensure all tasks Spire Hawaii was previously assigned have been reassigned to and are being worked on by DAGS Accounting Division resources.
EFS Project Management	**Risk 2:** The EFS Project might experience misalignment with the vendor that DAGS Accounting Division selects regarding EFS Project efforts. **Severity: Medium**	**(BerryDunn unable to find similar findings logged in the EFS Project's Issue Log or Risk Register – BerryDunn recommends logging this finding as a risk with a Medium Severity)**	**Updated Finding:** BerryDunn understands DAGS Accounting Division has published an RFP and is working to select a vendor to, among other services, fulfill part of DAGS Accounting Division's roles and responsibilities on the EFS Project. BerryDunn's believes that the misalignment of stakeholder engagement efforts experienced with Spire Hawaii were due, in part, to Spire Hawaii's contract being held by DAGS Accounting Division (not the EFS Project). Given this same approach will be used for contracting with the selected vendor to support the EFS Project, BerryDunn believes there is potential for future misalignment with the EFS Project. **Updated Recommendation:** BerryDunn continues to recommend that, once a contract is in place for the selected vendor, the EFS Project conduct an onboarding meeting with representatives from both the vendor and Accounting Division to discuss roles and responsibilities of the vendor within the EFS Project and align them with the EFS Project.
Quality Management	**Original Finding:** The Executive Sponsors and State	**Reference Number:** Issue 34	**Updated Finding:** During Project Standards draft review sessions as well as during independent review of the draft Project Standards deliverables, BerryDunn observed quality gaps in

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
	EFS Project Leadership feel deliverables provided by invenioLSI to date have not met the State's quality expectations. **Severity: High**	**Status:** In Process – **High**	invenioLSI's deliverables, which are typically expected to be identified and corrected by a vendor during quality reviews prior to delivery to the client. The quality gaps BerryDunn observed in the Project Standards deliverables included: • Diagrams and organization charts that were illegible due to low image resolution • Project resource references to individuals who were not on the EFS Project at the time the Project Standards draft was submitted • Tables of figures and tables of tables, which are contractually required, were missing • References (e.g., see Section #.#) that directed the reader to the wrong sections or deliverables • Links that were broken and/or not explained with introductory language • Acronyms or phrases that were not defined upon first usage in the deliverable • Non-editable tables or figures (i.e., screenshots) included as part of documents that are expected to be routinely updated • Process documentation (e.g., performing quality assurance) that did not provide the EFS Project with direction in regard to the required effort, ownership, and completion dates for these processes • Key metrics that were not defined **Updated Recommendation:** BerryDunn cautions the EFS Project and the State on approving a contract supplement that increases

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
			the total amount of funding the State is committing to pay invenioLSI for work on the EFS Project. Given the amount of delays the EFS Project has experienced to date, quality gaps, and open questions on EFS Project resourcing, BerryDunn recommends the EFS Project and State consider the potential consequences of increasing the amount of funding committed to invenioLSI if the State's quality expectations have not been met to date. *Please see BerryDunn's recommendation on Reference # Issue 28 in regard to timely feedback loops for EFS Project deliverables.*
Requirements Management	**Original Finding:** The EFS Project has not yet identified and documented a comprehensive list of EFS end users and system interfaces, and invenioLSI and the State are not aligned on expectations for who will identify them. **Severity: High**	**Reference Number:** Issue 35 **Status:** In Process – **High**	**Updated Finding:** *Please see BerryDunn's recommendation on Issue #18 in regard to steps to take prior to executing a contract supplement.*
Requirements Management	**Original Finding:** Not all the specific needs of departments will be met by standard GovOne	**Reference Number:** Risk 16 **Status:** Monitor – **High**	**Updated Finding:** BerryDunn observed that the current approach to use explore sessions to identify business requirements has encountered challenges, including: • The explore sessions being delayed as a result of resources being unavailable.

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
	functionality and will not be identified or addressed during the Explore and Realize phases. **Severity: High**		• An inability to get through the explore session material as scheduled as a result of many questions being raised regarding the overall purpose and approach of the EFS Project. • Concerns being raised during explore sessions from attendees (e.g., GFOA) who would prefer requirements be gathered prior to workflow demonstrations. **Updated Recommendation:** *Please see BerryDunn's recommendation on Issue #18 in regard to steps to take prior to executing a contract supplement.*
Requirements Management	**Original Finding:** The SAP configuration for user security currently planned for the State's implementation might not have the capabilities to meet the State's needs for managing user roles and privileges. **Severity: Medium**	**Reference Number:** Risk 49 **Status:** New – **Medium**	**Updated Finding:** BerryDunn understands the EFS Project will be using SAP Cloud Identity Services to manage user roles and privileges, which will provide technical capabilities to satisfy the needs of DAGS and B&F. However, if the current version of the contract supplement is approved, the EFS Project will need to determine whether the needs of the additional State departments will be met by SAP Cloud Identity Services. **Updated Recommendation:** BerryDunn recommends continuing to monitor this risk as the EFS Project works to determine which State departments will adopt the EFS and their associated security requirements.
Software Development	**Original Finding:** The EFS Project does not have a clear "Definition of Done"	**Reference Number:** Risk 50 **Status:** Implement Mitigation – **High**	**Updated Finding:** BerryDunn continues to observe that, while invenioLSI has delivered a draft Quality Management Strategy for the EFS Project to review, a "Definition of Done" (DoD) for the configuration of the EFS was not included. Since the EFS Project is not using a set of detailed system requirements (i.e., a

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
	for configuration of the EFS. **Severity: High**		Requirements Traceability Matrix) and instead plans to conduct multiple review sessions of the EFS with stakeholder groups, the EFS Project will need to be able to determine whether all end-user needs have been met. Not having a Definition of Done for the EFS Project introduces the risk that EFS Project teams will assume that their understanding of quality and completeness matches that of EFS stakeholders and Executive Sponsors. Without a DoD, the EFS Project team, invenioLSI, and EFS end users might be unable to agree on whether the EFS is complete. **Updated Recommendation:** BerryDunn continues to recommend the EFS Project develop a Definition of Done during the Prepare Phase to help ensure the EFS Project has a consistent and measurable standard for quality and completeness for configuration of the EFS before moving into the Explore Phase. The EFS Project might consider incorporating this into a revised version of the Quality Management Strategy. The Definition of Done should: • Specify the criteria and standards that determine that the implemented EFS completely and correctly meets the technical and functional requirements. • Provide an overview on how invenioLSI and the EFS Project will work together to help ensure State usability and behavior requirements are met. BerryDunn believes that without a Definition of Done that has been agreed upon by both the EFS Project and invenioLSI, both the State and invenioLSI might later be unable to agree on whether the EFS requirements have been fully met.

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
Software Development	**Original Finding:** Some invenioLSI EFS Project resources might not be able to efficiently execute invenioLSI's EFS Project approach. **Severity: Medium**	**Reference Number:** Risk 46 **Status:** Monitor – **Medium**	**Updated Finding:** BerryDunn has not been able to observe a demonstrated understanding of testing, training, OCM, and stakeholder outreach from the invenioLSI EFS Project resources, as these activities have largely not occurred at the current stage of the EFS Project. BerryDunn also continues to have concerns about the ability of invenioLSI resources to successfully execute OCM strategies and stakeholder engagement. **Updated Recommendation:** BerryDunn continues to recommend monitoring this risk as the EFS Project works to finalize EFS Project Standards. We recommend the EFS Project consider whether invenioLSI's approach can be successful with proper execution or if there needs to be a significant change to the approach itself. *Please see BerryDunn's recommendation on Issue 30 for more OCM-related findings.*
Training	**Original Finding:** State EFS Project team members do not have access to an environment in which they are able gain hands-on experience with the system to supplement their web-based training. **Severity: High**	**(BerryDunn unable to find similar findings logged in the EFS Project's Issue Log or Risk Register – BerryDunn recommends logging this finding as an Issue with a High Severity)**	**Updated Finding:** BerryDunn observed that while invenioLSI made additional progress in creating an environment (Environment 500) for State resources to train in, as of the last update before the holiday break (December 20), the environment was still not available to the State. BerryDunn continues to note invenioLSI's Best and Final Offer indicates the State would have access from "day one" to a prototype system for hands-on experience. While invenioLSI previously delivered a prototype of the GovOne system, this environment did not have data that could be used for training. The State therefore continues to not have a usable training environment. **Updated Recommendation:** BerryDunn continues to recommend the EFS Project make it a priority during the Prepare Phase to

EFS Project Critical Component	BerryDunn's Original Finding	EFS Project Risk/Issue Log Details	BerryDunn's Updated Finding and Updated Recommendation
			provide users with a training environment populated with usable data. BerryDunn recommends the EFS Project pause explore sessions until invenioLSI has provided end users with the tools needed to train on the EFS. BerryDunn believes providing a training environment will help enable the EFS Project to build desire to adopt and knowledge of the EFS among end users.
Training	**Original Finding:** State EFS Project team members have not been provided with role-based learning plans. **Severity: High**	**(BerryDunn unable to find similar findings logged in the EFS Project's Issue Log or Risk Register – BerryDunn recommends logging this finding as an Issue with a High Severity)**	**Updated Finding:** BerryDunn observed that invenioLSI has made additional progress in defining learning plans, which are being reviewed to help ensure alignment with the State's contracted EFS modules. However, learning plans have not yet been finalized or communicated to end users. **Updated Recommendation:** BerryDunn continues to recommend: - invenioLSI complete the development of learning plans during the Prepare Phase based on expected post-implementation roles. - The State EFS Project team assign those learning plans to State team members based on their key focus areas. - The State EFS Project team prioritize defining post-implementation roles for team members.
Risks/Issues That Have Manifested From Previous Findings			
(None identified at this time)			

3.2 Updated Observation, Watch List Item, and Lessons Learned Perspective Findings and Recommendations

In Table 3-2 below, BerryDunn has included updated findings and recommendations for the previously reported observations, watch list items, and lessons learned perspectives that remain open.

Table 3-2: Updated Observation, Watch List Item, and Lessons Learned Perspective Findings and Recommendations

EFS Project Critical Component	BerryDunn's Finding(s)	BerryDunn's Recommendation
Observations, Watch List Items, and Lessons Learned Perspectives That Are Being Closed		
EFS Project Management	**Original Observation:** The EFS Project is effectively distinguishing between planned tasks in the EFS Project workplan and unanticipated work in the Action Log, with workstreams increasing ownership of monitoring and escalating Action Log items.	**Updated Finding:** EFS Project workstreams are monitoring and escalating Action Log items. **BerryDunn's Recommendation:** BerryDunn agrees with the EFS Project's approach. Given the progress made in transferring ownership of monitoring and escalating Action Log items, BerryDunn is closing this observation.
Data Management	**Original Watch List Finding:** Currently, no agreement exists between invenioLSI and the State on how much, and which, legacy data to move over to the new EFS.	**Updated Finding:** No new findings; BerryDunn did not observe additional conversations on how much, and which, legacy data to move over to the new EFS. **BerryDunn's Recommendation:** BerryDunn continues to recommend the EFS Project team conduct an initial conversation with all relevant State resources—including department leaders and ETS staff—and invenioLSI to begin discussions on the State expectations and best practices for data migration.
Observations, Watch List Items, and Lessons Learned Perspectives That Remain Open		
EFS Project Management	**Original Watch List Finding:** The EFS Project has not documented or communicated its	**Updated Finding:** No new findings.

EFS Project Critical Component	BerryDunn's Finding(s)	BerryDunn's Recommendation
	Software Development Life Cycle (SDLC) approach.	**Updated Recommendation:** BerryDunn continues to recommend the EFS project define, document, and socialize the EFS Project's SDLC approach. While invenioLSI's proposal and BAFO contain information on its proposed approach, this has been modified since the start of the EFS Project and has not been formally shared with key stakeholders. Once a decision has been made by the Executive Sponsorship in regards to the contract supplement with invenioLSI, BerryDunn recommends the State and invenioLSI OCM Leads work with the invenioLSI Project Manager to develop high-level content on the EFS Project's SDLC that can be shared with key stakeholder groups.
EFS Project Management	**Original Observation:** BerryDunn observed that many—but not all—of the EFS Project Workstreams have demonstrated effective project communication by adhering to an increased schedule of team meetings and implementing meeting best practices including providing agendas, recording, distributing meeting notes, and tracking action items in an Action Item Log.	**Updated Finding:** BerryDunn continues to observe that there are opportunities for further improvement by having all workstreams (e.g., OCM and Functional) fully adopt these practices. BerryDunn also was limited in its ability to observe the regularly occurring meetings and their demonstration of meeting best practices, as several of these were repurposed for Project Standards review sessions. **Updated Recommendation:** BerryDunn continues to recommend the EFS Project PMO communicate the importance of consistently applying these practices across the EFS Project and working toward 100% compliance across all EFS Project workstreams.

EFS Project Critical Component	BerryDunn's Finding(s)	BerryDunn's Recommendation
		BerryDunn recommends the EFS Project also consider reiterating the rationale for the meeting best practices that are being used. For example, while meeting agendas are being distributed in advance of most meetings, the level of detail and amount of time prior to the meeting varies considerably between meeting owner and series.
Operations Oversight	**Original Watch List Finding:** Currently, there is no plan for who will update existing State accounting manuals (i.e., process job aids) in State departments, who will identify and track required changes, and how those required changes will be communicated to relevant parties.	**Updated Finding:** No new findings. **BerryDunn's Recommendation:** BerryDunn recommends that the EFS Project include tasks for and assign resources to these activities when replanning and developing a new resource-loaded project schedule.

3.3 New Risk and Issue Findings and Recommendations

In Table 3-3, BerryDunn has listed its new risk and issue findings and recommendations for the Monthly IV&V Status Report. For this review of the EFS Project, BerryDunn identified two new issue findings. For these new findings, BerryDunn determined both to be of high-level severity.

Table 3-3: New Risk and Issue Findings and Recommendations

EFS Project Critical Component	BerryDunn's Finding(s)	BerryDunn's Detailed Findings and Recommendation
EFS Project Management	**Risk 1** The anticipated contract supplement (to expand the number of State agencies implementing	**BerryDunn's Finding:** BerryDunn understands the EFS Project is working to submit a contract supplement that would more than double the amount of fees of the current contract with invenioLSI. While this contract supplement adds time to the EFS Project Plan and allows for additional departments to be included under the original scope of work, BerryDunn does not believe the EFS Project has established the

EFS Project Critical Component	BerryDunn's Finding(s)	BerryDunn's Detailed Findings and Recommendation

	the EFS and overall EFS Project timeline) will add significant costs and effort prior to scoping and resourcing the additional work and completing fundamental EFS Project planning deliverables (e.g., Project Standards).
	
	Severity: High
		critical project foundations needed to successfully execute the EFS Project goals and objectives. BerryDunn observed critical issues negatively affecting progress for the EFS Project including, but not limited to:
		
		• invenioLSI deliverables have substantial quality issues, are going through a delayed deliverable review process, and do not currently have an agreed-upon format
		
		   o Major Impact: Delays to completing Prepare Phase tasks (including Project Standards and initial OCM deliverables) and thereby establishing critical foundations for the EFS Project and guidance for EFS Project stakeholders
		
		• Limited resource availability from end-user departments (i.e., DAGS Accounting Division and B&F) and no agreements between EFS Project and end-user departments on expected/realistic level of availability for EFS Project activities
		
		   o Major Impact: Delays in completing key EFS Project activities including current explore sessions (which are intended to engage potential EFS end users and determine gaps in the GovOne solution) and future data validation, UAT, and training activities
		
		• Management of external consultant involvement in EFS Project activities solely occurring outside the EFS Project team
		
		   o Major Impact: Misaligned and wasted efforts between external consultants and the EFS Project team
		
		• Lack of comprehensive EFS requirements and identified end-user departments, their level of involvement, and the systems that will be affected
		
		   o Major Impact: Undefined scope of which departments will be involved in the EFS implementation, their requirements, and their extent of implementation of or integration with the EFS and therefore no "Definition of Done" for the EFS Project

EFS Project Critical Component	BerryDunn's Finding(s)	BerryDunn's Detailed Findings and Recommendation
		BerryDunn's Recommendation: *Please see BerryDunn's recommendation on Reference # Issue 18 in regard to steps for the EFS Project to take before considering amending the existing contract with invenioLSI.*
EFS Project Management	**Issue 1** Responsibility for data extraction, cleanup, and validation and long-term maintenance of integration crosswalk mapping post go-live is not agreed upon between the State and invenioLSI. **Severity: High**	**BerryDunn's Finding:** BerryDunn observed that invenioLSI and the EFS Project disagree on who should assume responsibility for data extraction, cleanup, and validation as well as the long-term maintenance of integration crosswalk mapping post go-live. BerryDunn believes both of these disagreements on roles and responsibilities between the State and invenioLSI are a result of the EFS Project not having sufficiently detailed roles and responsibilities (i.e., RACI chart and accompanying documentation). **BerryDunn's Recommendation:** BerryDunn recommends that the EFS Project and invenioLSI consider clearly defining the division of responsibilities for data extraction, cleanup, and validation and long-term maintenance of integration crosswalk mapping post go-live as part of the Deliverable Schedule with RACI document.

3.4   New Observation, Watch List Item, and Lessons Learned Perspective Findings and Recommendations

In Table 3-4, BerryDunn has listed its new observation, watch list item, and lessons learned perspective findings and recommendations for the Monthly IV&V Status Report. For this review of the EFS Project, BerryDunn identified no new observation finding or watch list items.

Table 3-4: New Observations, Watch List Items, and Lessons Learned Perspective Findings and Recommendations

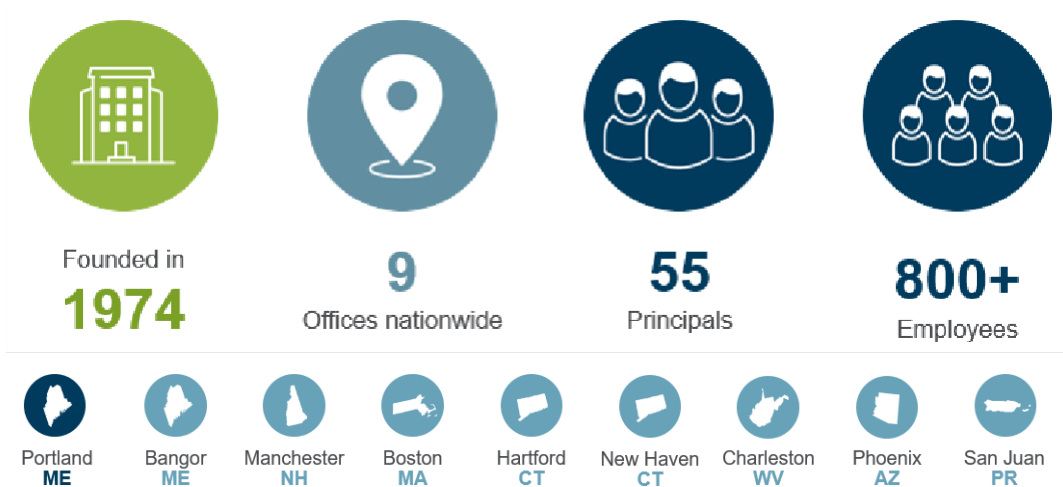| EFS Project Critical Component	BerryDunn's Finding(s)	BerryDunn's Recommendation
(None identified at this time)		

4.0   BerryDunn

BerryDunn is a national consulting and certified public accounting firm with a Government Consulting Group dedicated to serving state and local government agencies. BerryDunn was formed in 1974 and has experienced sustained growth throughout its 49-year history. Today, BerryDunn employs 800+ personnel with headquarters in Portland, Maine—and office locations in Arizona, Connecticut, Massachusetts, New Hampshire, Puerto Rico, and West Virginia. The firm has experienced professionals who provide a full range of services, including IT consulting; management consulting; and audit, accounting, and tax services.

BerryDunn's State Government Practice Group provides a variety of independent services to state agencies in need of understanding the health and effectiveness of their programs and processes. To assist in these efforts, BerryDunn provides an independent and proven audit methodology—in conjunction with state-established processes, tools, and templates—which includes a clear and actionable mitigation strategy.

BerryDunn regularly performs audits of IT and business organizations and their processes, as well as the interactions they have with other agencies and departments. Independent audits and project assessments are core to our consulting practice, and our project teams have conducted enterprise-wide strategic risk assessments, project audits, and project health assessments for public-sector clients for more than 33 years.

Figure 4-1: BerryDunn Overview

5.0 Appendix A: EFS Project Critical Components

Below in Table 5-1 is a list of all EFS Project Critical Components, and their related task numbers and descriptions, that BerryDunn used to assess the EFS Project during the Monthly IV&V Status Report period.

Table 5-1: EFS Project Critical Components, and Related Task Numbers and Descriptions

EFS Project Critical Component	Task #	Task Description
EFS Project Management		
EFS Project Sponsorship	PM-1	Assess and recommend improvement, as needed, to assure continuous executive stakeholder buy-in, participation, support and commitment, and that open pathways of communication exist among all stakeholders.
EFS Project Sponsorship	PM-2	Verify that executive sponsorship has bought-in to all changes which impact EFS Project objectives, cost, or schedule.
Management Assessment	PM-3	Verify and assess EFS Project management and organization, verify that lines of reporting and responsibility provide adequate technical and managerial oversight of the EFS Project.
Management Assessment	PM-4	Evaluate EFS Project progress, resources, budget, schedules, workflow, and reporting.
Management Assessment	PM-5	Assess coordination, communication, and management to verify agencies and departments are not working independently of one another and following the communication plan.
EFS Project Management	PM-6	Verify that an EFS Project Management Plan is created, has been accepted, and is being followed. Evaluate the EFS Project management plans and procedures to verify that they are developed, communicated, implemented, monitored, and complete.
EFS Project Management	PM-7	Evaluate EFS Project reporting plan and actual EFS Project reports to verify EFS Project status is accurately traced using EFS Project metrics.
EFS Project Management	PM-8	Verify milestones and completion dates are planned, monitored, and met.
EFS Project Management	PM-9	Verify the existence and institutionalization of an appropriate EFS Project issue tracking mechanism that documents issues as they arise, enables communication of issues to proper stakeholders, documents a mitigation strategy as appropriate, and tracks the issue to closure. This should include but is not limited to technical and development efforts.
EFS Project Management	PM-10	Evaluate the system's planned life-cycle development methodology or methodologies (waterfall, evolutionary spiral, rapid prototyping,

EFS Project Critical Component	Task #	Task Description
		incremental, etc.) to see if they are appropriate for the system being developed.
Business Process Reengineering	PM-11	Evaluate the EFS Project's ability and plans to redesign business systems to achieve improvements in critical measures of performance, such as cost, quality, service, and speed.
Business Process Reengineering	PM-12	Verify that there engineering plan has the strategy, management backing, resources, skills, and incentives necessary for effective change.
Business Process Reengineering	PM-13	Verify that resistance to change is anticipated and prepared for by using principles of change management at each step (such as excellent communication, participation, incentives) and having the appropriate leadership (executive pressure, vision, and actions) throughout their engineering process.
Risk Management	PM-14	Verify that an EFS Project Risk Management Plan is created and being followed. Evaluate the EFS Projects risk management plans and procedures to verify that risks are identified and quantified and that mitigation plans are developed, communicated, implemented, monitored, and complete.
Change Management	PM-15	Verify that a Change Management Plan is created and being followed. Evaluate the change management plans and procedures to verify they are developed and communicated,
Communication Management	PM-16	Verify that a Communication Plan is created and being followed. Evaluate the communication plans and strategies to verify they support communications and work product sharing between all EFS Project stakeholders; and assess if communication plans and strategies are effective, implemented, monitored, and complete.
Configuration Management	PM-17	Review and evaluate the configuration management (CM) plans and procedures associated with the development process.
Configuration Management	PM-18	Verify that all critical development documents, including but not limited to requirements, design, code, and JCL are maintained under an appropriate level of control.
Configuration Management	PM-19	Verify that the processes and tools are in place to identify code versions and to rebuild system configurations from source code.
Configuration Management	PM-20	Verify that appropriate source and object libraries are maintained for training, test, and production and that formal sign-off procedures are in place for evaluating acceptability of and approving deliverables.

EFS Project Critical Component	Task #	Task Description
Configuration Management	PM-21	Verify that appropriate processes and tools are in place to manage system changes, including formal logging of change requests and the review, prioritization, and timely scheduling of maintenance actions.
Configuration Management	PM-22	Verify that mechanisms are in place to prevent unauthorized changes being made to the system and to prevent authorized changes from being made to the wrong version.
Configuration Management	PM-23	Review the use of CM information (such as the number and type of corrective maintenance actions over time) in EFS Project management.
EFS Project Estimating and Scheduling	PM-24	Evaluate and make recommendations on the estimating and scheduling process of the EFS Project to ensure that the EFS Project budget and resources are adequate for the work- breakdown structure and schedule.
EFS Project Estimating and Scheduling	PM-25	Verify the schedules to assure that adequate time and resources are assigned for planning, development, review, testing, and rework.
EFS Project Estimating and Scheduling	PM-26	Examine historical data to determine if the EFS Project/department has been able to accurately estimate the time, labor, and cost of software development efforts.
EFS Project Personnel	PM-27	Examine the job assignments, skills, training, and experience of the personnel involved in program development to verify that they are adequate for the development task.
EFS Project Personnel	PM-28	Evaluate the staffing plan for the EFS Project to verify that adequate human resources will be available for development and maintenance.
EFS Project Personnel	PM-29	Evaluate the State's personnel policies to verify that staff turnover will be minimized.
EFS Project Organization	PM-30	Verify that lines of reporting and responsibility provide adequate technical and managerial oversight of the EFS Project.
EFS Project Organization	PM-31	Verify that the EFS Project's organizational structure supports training, process definition, independent Quality Assurance, Configuration Management, product evaluation, and any other functions critical for the EFS Project's success.
Subcontractors and External Staff	PM-32	Evaluate the use of sub-contractors or other external sources of EFS Project staff (such as IS staff from another State organization) in EFS Project development.
Subcontractors and External Staff	PM-33	Verify that the obligations of sub-contractors and external staff (terms, conditions, statement of work, requirements, standards, development milestones, acceptance criteria, delivery dates, etc.) are clearly defined.

EFS Project Critical Component	Task #	Task Description
Subcontractors and External Staff	PM-34	Verify that the subcontractors' software development methodology and product standards are compatible with the system's standards and environment.
Subcontractors and External Staff	PM-35	Verify that each subcontractor has and maintains the required skills, personnel, plans, resources, procedures, and standards to meet their commitment. This will include examining the feasibility of any offsite support of the EFS Project.
Subcontractors and External Staff	PM-36	Verify that any proprietary tools used by subcontractors do not restrict the future maintainability, portability, and reusability of the system.
State Oversight	PM-37	Verify that State oversight is provided in the form of periodic status reviews and technical interchanges.
State Oversight	PM-38	Verify that the State has defined the technical and managerial inputs the subcontractor needs (reviews, approvals, requirements, and interface clarifications, etc.) and has the resources to supply them on schedule.
State Oversight	PM-39	Verify that State staff has the ultimate responsibility for monitoring EFS Project cost and schedule.
Quality Management		
Quality Assurance	QA-1	Evaluate and make recommendations on the EFS Project's Quality Assurance plans, procedures, and organization.
Quality Assurance	QA-2	Verify that QA has an appropriate level of independence from EFS Project management.
Quality Assurance	QA-3	Verify that the QA organization monitors the fidelity of all defined processes in all phases of the EFS Project.
Quality Assurance	QA-4	Verify that the quality of all products produced by the EFS Project is monitored by formal reviews and signoffs.
Quality Assurance	QA-5	Verify that EFS Project self-evaluations are performed and that measures are continually taken to improve the process.
Quality Assurance	QA-6	Verify that QA has an appropriate level of independence; evaluate and make recommendations on the EFS Project's Quality Assurance plans, procedures, and organization.
Quality Assurance	QA-7	Evaluate if appropriate mechanisms are in place for EFS Project self-evaluation and process improvement.
Process Definition and	QA-8	Review and make recommendations on all defined processes and product standards associated with the system development.

EFS Project Critical Component	Task #	Task Description
Product Standards		
Process	QA-9	Verify that all major development processes are defined and that the defined and approved processes and standards are followed in development.
Process Definition and Product Standards	QA-10	Verify that the processes and standards are compatible with each other and with the system development methodology.
Process Definition and Product Standards	QA-11	Verify that all process definitions and standards are complete, clear, up-to-date, consistent in format, and easily available to EFS Project personnel.
Training		
User Training and Documentation	TR-1	Review and make recommendations on the training provided to system users. Verify sufficient knowledge transfer for maintenance and operation of the new system.
User Training and Documentation	TR-2	Verify that training for users is instructor-led and hands-on and is directly related to the business process and required job skills.
User Training and Documentation	TR-3	Verify that user-friendly training materials and help desk services are easily available to all users.
User Training and Documentation	TR-4	Verify that all necessary policy and process and documentation is easily available to users.
User Training and Documentation	TR-5	Verify that all training is given on-time and is evaluated and monitored for effectiveness, with additional training provided as needed.
Developer Training and Documentation	TR-6	Review and make recommendations on the training provided to system developers.
Developer Training and Documentation	TR-7	Verify that developer training is technically adequate, appropriate for the development phase, and available at appropriate times.

EFS Project Critical Component	Task #	Task Description
Developer Training and Documentation	TR-8	Verify that all necessary policy, process and standards documentation is easily available to developers.
Developer Training and Documentation	TR-9	Verify that all training is given on-time and is evaluated and monitored for effectiveness, with additional training provided as needed.
Requirements Management		
Requirements Management	RM-1	Evaluate and make recommendations on the EFS Project's process and procedures for managing requirements.
Requirements Management	RM-2	Verify that system requirements are well-defined, understood and documented.
Requirements Management	RM-3	Evaluate the allocation of system requirements to hardware and software requirements.
Requirements Management	RM-4	Verify that software requirements can be traced through design, configuration and test phases to verify that the system performs as intended and contains no unnecessary software elements.
Requirements Management	RM-5	Verify that requirements are under formal configuration control.
Security Requirements	RM-6	Evaluate and make recommendations on EFS Project policies and procedures for ensuring that the system is secure and that the privacy of client data is maintained.
Security Requirements	RM-7	Evaluate the EFS Project's restrictions on system and data access.
Security Requirements	RM-8	Evaluate the EFS Project's security and risk analysis.
Security Requirements	RM-9	Verify that processes and equipment are in place to back up client and EFS Project data and files and archive them safely at appropriate intervals.
Requirements Analysis	RM-10	Verify that an analysis of client, State and federal needs and objectives has been performed to verify that requirements of the system are well understood, well defined, and satisfy federal regulations.
Requirements Analysis	RM-11	Verify that all stakeholders have been consulted to the desired functionality of the system, and that users have been involved in prototyping of the user interface.

EFS Project Critical Component	Task #	Task Description
Requirements Analysis	RM-12	Verify that all stakeholders have bought-in to all changes which impact EFS Project objectives, cost, or schedule.
Requirements Analysis	RM-13	Verify that performance requirements (e.g. timing, response time and throughput) satisfy user needs.
Requirements Analysis	RM-14	Verify that user's maintenance requirements for the system are completely specified.
Interface Requirements	RM-15	Verify that all system interfaces are exactly described, by medium and by function, including input/output control codes. data format, polarity, range, units, and frequency.
Requirements Analysis	RM-16	Verify those approved interface documents are available and that appropriate relationships (such as interface working groups) are in place with all agencies and organizations supporting the interfaces.
Requirements Allocation and Specification	RM-17	Verify that all system requirements have been allocated to either a software or hardware subsystem.
Requirements Allocation and Specification	RM-18	Verify that requirements specifications have been developed for all hardware and software subsystems in a sufficient level of detail to ensure successful implementation.
Reverse Engineering	RM-19	If a legacy system or a transfer system is or will be used in development, verify that a well-defined plan and process for reengineering the system is in place and is followed. The process, depending on the goals of the reuse/transfer, may include reverse engineering, code translation, re-documentation, restructuring, normalization, and re- targeting.
Operating Environment		
System Hardware	OE-1	Evaluate new and existing system hardware configurations to determine if their performance is adequate to meet existing and proposed system requirements.
System Hardware	OE-2	Determine if hardware is compatible with the State's existing processing environment, if it is maintainable, and if it is easily upgradeable. This evaluation will include, but is not limited to, CPUs and other processors, memory, network connections and bandwidth, communication controllers, telecommunications systems (LAN/WAN), terminals, printers, and storage devices.
System Hardware	OE-3	Evaluate current and EFS Projected vendor support of the hardware, as well as the State's hardware configuration management plans and procedures.

EFS Project Critical Component	Task #	Task Description
System Software	OE-4	Evaluate new and existing system software to determine if its capabilities are adequate to meet existing and proposed system requirements.
System Software	OE-5	Determine if the software is compatible with the State's existing hardware and software environment, if it is maintainable, and if it is easily upgradeable. This evaluation will include, but is not limited to, operating systems, middleware, and network software including communications and file-sharing protocols.
System Software	OE-6	Current and EFS Projected vendor support of the software will also be evaluated, as well as the State's software acquisition plans and procedures.
Database Software	OE-7	Evaluate new and existing database products to determine if their capabilities are adequate to meet existing and proposed system requirements.
Database Software	OE-8	Determine if the database's data format is easily convertible to other formats, if it supports the addition of new data items, if it is scalable, if it is easily refreshable and if it is compatible with the State's existing hardware and software, including any on-line transaction processing (OLTP) environment.
Database Software	OE-9	Evaluate any current and EFS Projected vendor support of the software, as well as the State's software acquisition plans and procedures.
System Capacity	OE-10	Evaluate the existing processing capacity of the system and verify that it is adequate for current statewide needs for both batch and on-line processing.
System Capacity	OE-11	Evaluate the historic availability and reliability of the system including the frequency and criticality of system failure.
System Capacity	OE-12	Evaluate the results of any volume testing or stress testing.
System Capacity	OE-13	Evaluate any existing measurement and capacity planning program and evaluate the system's capacity to support future growth.
System Capacity	OE-14	Make recommendations on changes in processing hardware, storage, network systems, operating systems, COTS software, and software design to meet future growth and improve system performance.
Development Environment		
Development Hardware	DE-1	Evaluate new and existing development hardware configurations to determine if their performance is adequate to meet the needs of system development.

EFS Project Critical Component	Task #	Task Description
Development Hardware	DE-2	Determine if hardware is maintainable, easily upgradeable, and compatible with the State's existing development and processing environment. This evaluation will include, but is not limited to, CPUs and other processors, memory, network connections and bandwidth, communication controllers, telecommunications systems (LAN/WAN), terminals, printers and storage devices.
Development Hardware	DE-3	Current and EFS Projected vendor support of the hardware will also be evaluated, as well as the State's hardware configuration management plans and procedures.
Development Software	DE-4	Evaluate new and existing development software to determine if its capabilities are adequate to meet system development requirements.
Development Software	DE-5	Determine if the software is maintainable, easily upgradeable, and compatible with the State's existing hardware and software environment.
Development Software	DE-6	Evaluate the environment as a whole to see if it shows a degree of integration compatible with good development. This evaluation will include, but is not limited to, operating systems, network software, CASE tools, EFS Project management software, configuration management software, compilers, cross-compilers, linkers, loaders, debuggers, editors, and reporting software.
Development Software	DE-7	Language and compiler selection will be evaluated with regard to portability and reusability (ANSI standard language, non-standard extensions, etc.).
Development Software	DE-8	Current and EFS Projected vendor support of the software will also be evaluated.
Software Development		
High-Level Design	SD-1	Evaluate and make recommendations on existing high-level design products to verify the design is workable, efficient, and satisfies all system and system interface requirements.
High-Level Design	SD-2	Evaluate the design products for adherence to the EFS Project design methodology and standards.
High-Level Design	SD-3	Evaluate the design and analysis process used to develop the design and make recommendations for improvements. Design standards, methodology and CASE tools used will be evaluated and recommendations for improvements made.
High-Level Design	SD-4	Verify that design requirements can be traced back to system requirements.

EFS Project Critical Component	Task #	Task Description
High-Level Design	SD-5	Verify that all design products are under configuration control and formally approved before detailed design begins.
Detailed Design	SD-6	Evaluate and make recommendations on existing detailed design products to verify that the design is workable, efficient, and satisfies all high-level design requirements.
Detailed Design	SD-7	The design products will also be evaluated for adherence to the EFS Project design methodology and standards.
Detailed Design	SD-8	The design and analysis process used to develop the design will be evaluated and recommendations for improvements made.
Detailed Design	SD-9	Design standards, methodology and CASE tools used will be evaluated and recommendations made.
Detailed Design	SD-10	Verify that design requirements can be traced back to system requirements and high-level design.
Detailed Design	SD-11	Verify that all design products are under configuration control and formally approved before coding begins.
Job Control	SD-12	Perform an evaluation and make recommendations on existing job control and on the process for designing job control.
Job Control	SD-13	Evaluate the system's division between batch and on-line processing with regard to system performance and data integrity.
Job Control	SD-14	Evaluate batch jobs for appropriate scheduling, timing and internal and external dependencies.
Job Control	SD-15	Evaluate the appropriate use of OS scheduling software.
Job Control	SD-16	Verify that job control language scripts are under an appropriate level of configuration control.
Code	SD-17	Evaluate and make recommendations on the standards and processes currently in place for code development.
Code	SD-18	Evaluate the existing code base for portability and maintainability, taking software metrics including but not limited to modularity, complexity, and source and object size.
Code	SD-19	Code documentation will be evaluated for quality, completeness (including maintenance history) and accessibility.
Code	SD-20	Evaluate the coding standards and guidelines and the EFS Project's compliance with these standards and guidelines. This evaluation will include, but is not limited to, structure, documentation, modularity, naming conventions and format.

EFS Project Critical Component	Task #	Task Description
Code	SD-21	Verify that developed code is kept under appropriate configuration control and is easily accessible by developers.
Code	SD-22	Evaluate the EFS Project's use of software metrics in management and quality assurance.
Unit Test	SD-23	Evaluate the plans, requirements, environment, tools, and procedures used for unit testing system modules.
Unit Test	SD-24	Evaluate the level of test automation, interactive testing and interactive debugging available in the test environment.
Unit Test	SD-25	Verify that an appropriate level of test coverage is achieved by the test process, that test results are verified, that the correct code configuration has been tested, and that the tests are appropriately documented.
System and Acceptance Testing		
System Integration Test	ST-1	Evaluate the plans, requirements, environment, tools, and procedures used for integration testing of system modules.
System Integration Test	ST-2	Evaluate the level of automation and the availability of the system test environment.
System Integration Test	ST-3	Verify that an appropriate level of test coverage is achieved by the test process, that test results are verified, that the correct code configuration has been tested, and that the tests are appropriately documented, including formal logging of errors found in testing.
System Integration Test	ST-4	Verify that the test organization has an appropriate level of independence from the development organization.
Pilot Test	ST-5	Evaluate the plans, requirements, environment, tools, and procedures for pilot testing the system.
Pilot Test	ST-6	Verify that a sufficient number and type of case scenarios are used to ensure comprehensive but manageable testing and that tests are run in a realistic, real-time environment.
Pilot Test	ST-7	Verify that test scripts are complete, with step-by-step procedures, required pre-existing events or triggers, and expected results.
Pilot Test	ST-8	Verify that test results are verified, that the correct code configuration has been used, and that the tests runs are appropriately documented, including formal logging of errors found in testing.
Pilot Test	ST-9	Verify that the test organization has an appropriate level of independence from the development organization.

EFS Project Critical Component	Task #	Task Description
Interface Testing	ST-10	Evaluate interface testing plans and procedures for compliance with industry standards.
Acceptance and Turnover	ST-11	Acceptance procedures and acceptance criteria for each product must be defined, reviewed, and approved prior to test and the results of the test must be documented. Acceptance procedures must also address the process by which any software product that does not pass acceptance testing will be corrected.
Acceptance and Testing	ST-12	Verify that appropriate acceptance testing based on the defined acceptance criteria is performed satisfactorily before acceptance of software products.
Acceptance and Turnover	ST-13	Verify that the acceptance test organization has an appropriate level of independence from the subcontractor.
Acceptance and Turnover	ST-14	Verify that training in using the contractor-supplied software will be on-going throughout the development process, especially If the software is to be turned over to State staff for operation.
Acceptance and Turnover	ST-15	Review and evaluate implementation plan.
Data Management		
Data Conversion	DM-1	Evaluate the State's existing and proposed plans, procedures and software for data conversion.
Data Conversion	DM-2	Verify that procedures are in place and are being followed to review the completed data for completeness and accuracy and to perform data clean-up as required.
Data Conversion	DM-3	Determine conversion error rates and if the error rates are manageable.
Data Conversion	DM-4	Make recommendations on making the conversion process more efficient and on maintaining the integrity of data during the conversion.
Database Design	DM-5	Evaluate new and existing database designs to determine if they meet existing and proposed system requirements.
Database Design	DM-6	Recommend improvements to existing designs to improve data integrity and system performance.
Database Design	DM-7	Evaluate the design for maintainability, scalability, upgradable, concurrence, normalization (where appropriate) and any other factors affecting performance and data integrity.

EFS Project Critical Component	Task #	Task Description
Database Design	DM-8	Evaluate the EFS Project's process for administering the database, including backup, recovery, performance analysis and control of data item creation.
Operations Oversight		
Operational Change Tracking	OO-1	Evaluate system's change requests and defect tracking processes.
Operational Change Tracking	OO-2	Evaluate implementation of the process activities and request volumes to determine if processes are effective and are being followed.
Customer and User Operational Satisfaction	OO-3	Evaluate user satisfaction with system to determine areas for improvement.
Operational Goal	OO-4	Evaluate impact of system on program goals and performance standards.
Operational Documentation	OO-5	Evaluate operational plans and processes.
Operational Processes and Activity	OO-6	Evaluate implementation of the process activities including backup, disaster recovery and day-to-day operations to verify the processes are being followed.

6.0 Appendix B: EFS Project Rating Definitions

Table 6-1 illustrates the individual ratings for the EFS Project Critical Components that BerryDunn used to determine the health of the EFS Project, and their corresponding rating definitions, for each Monthly IV&V Status Report.

Table 6-1: EFS Project Critical Components Rating Definitions

Rating	Definition
5 – Excellent	No findings were identified by BerryDunn.
4 – Good	Watch List Items and/or Observations were identified that may or may not result in risks and/or issues.
3 – Average	Many low-severity risks/issues, a few medium-severity risks/issues, and/or one high-severity risk/issue was/were identified by BerryDunn and not logged in the EFS Project's risk/issue log and/or lessons learned repository—or have been logged but the plans to address them are not resolving them.
2 – Fair	Many medium-severity risks/issues and/or a few high-severity risks/issues were identified by BerryDunn and not logged in the EFS Project's risk/issue log and/or lessons learned repository—or have been logged but the plans to address them are not resolving them.
1 – Poor	Many medium-severity risks/issues and/or many high-severity risks/issues were identified by BerryDunn and not logged in the EFS Project's risk/issue log and/or lessons learned repository—or have been logged but the plans to address them are not resolving them.

Table 6-2 below illustrates the overall ratings for the EFS Project that BerryDunn used to determine the overall health of the EFS Project, and the corresponding rating definitions, for each Monthly IV&V Status Report. The overall health rating of the EFS Project reflects the average of the individual ratings for all the EFS Project Critical Components ratings.

Table 6-2: EFS Project Overall Health Ratings and Related Definitions

Rating	Definition
5.0 – 4.5	Excellent health
4.5 – 4.0	Good health
4.0 – 3.0	Average health
3.0 – 2.0	Fair health
2.0 – 1.0	Poor health

Table 6-3, below, provides definitions for risk and issue (and all risk/issue-related definitions—i.e., impact, probability, and severity), watch list item, observation, and lessons learned perspectives that BerryDunn used to identify and rate findings for each Monthly IV&V Status Report.

Table 6-3: Finding-Related Definitions

Term	Definition
Risk	An uncertain event or condition that, if it occurs, has a positive or negative effect on one or more EFS Project objectives. A risk is therefore an event or condition that might occur in the future.
Issue	An event or condition that is occurring in the EFS Project and having a negative effect on its objectives, standards, and/or requirements. An issue is therefore an event or condition that is currently occurring.
Impact	The effect that a risk will have on the EFS Project if it occurs or the effect that an issue is having on the EFS Project.
Probability	The likelihood of risk impact occurring on the EFS Project.
Severity	A measurement of an EFS Project risk (that considers the impact and probability) or issue that demonstrates the potential or actual effect on the EFS Project.
Observation	An event or situation in the EFS Project that might be noteworthy. Should the event or situation continue to occur, the observation might then be escalated and recorded as a watch list item.
Watch List Item	An event or situation in the EFS Project that might warrant monitoring to determine its potential impact (if any). These events or situations should be scrutinized and analyzed to determine if the item might need escalation to a risk or an issue, or if the watch list item resolves on its own.
Lessons Learned Perspective	Additional perspective(s) from BerryDunn on the EFS Project's lessons learned, including recommendations/guidance/considerations.

Table 6-4 below provides definitions for the different levels of risk impact ratings that BerryDunn used for each Monthly IV&V Status Report.

Table 6-4: Risk Impact Rating Definitions

Risk Impact Rating	Definition
5 – Severe	Very significant impact on the EFS Project.
4 – Significant	Significant impact on the EFS Project.
3 – Moderate	Some impact in key areas of the EFS Project.
2 – Minor	Minor impact overall on the EFS Project.
1 – Slight	Minor impact on secondary areas of the EFS Project.

Table 6-5 provides definitions for the different levels of risk probability ratings that BerryDunn used for each Monthly IV&V Status Report.

Table 6-5: Risk Probability Rating Definitions

Risk Probability Rating	Definition
5	Near Certainty (80% – 100%)
4	Highly Likely (60% – 80%)
3	Likely (40% – 60%)
2	Unlikely (20% – 40%)
1	Remote (0% – 20%)

The Risk Severity Matrix in Table 6-6 illustrates the method BerryDunn used to determine risk severity (i.e., probability rating multiplied by impact rating), for any risks BerryDunn identified for each Monthly IV&V Status Report.

Table 6-6: Risk Severity Matrix

Risk Severity Level (Probability x Impact)					
Probability	**Impact**				
—	**1 – Slight:**	**2 – Minor:**	**3 – Moderate:**	**4 – Significant:**	**5 – Severe:**
1 – Remote:	1 – Low	2 – Low	3 – Low	4 – Low	5 – Medium
2 – Unlikely:	2 – Low	4 – Low	6 – Medium	8 – Medium	10 – Medium
3 – Likely:	3 – Low	6 – Medium	9 – Medium	12 – Medium	15 – High
4 – Highly Likely:	4 – Low	8 – Medium	12 – Medium	16 – High	20 – High
5 – Near Certainty:	5 – Medium	10 – Medium	15 – High	20 – High	25 – High

Table 6-7 on the following page provides common attributes for the different levels of risk severity ratings (from Table 6-6 above) that BerryDunn used for each Monthly IV&V Status Report.

Table 6-7: Risk Severity Rating Common Attributes

Risk Severity Value	Risk Severity Rating	Common Attributes
15 – 25	High	• Major disruption to EFS Project likely • Change in EFS Project approach required • Mitigation to EFS Project risk required • Management attention toward EFS Project risk required
5 – 12	Medium	• Some disruption in EFS Project • Consider an alternative EFS Project approach • Mitigation to EFS Project risk recommended • Management attention toward EFS Project risk recommended
1 – 4	Low	• Minimal disruption to EFS Project likely • Oversight required to help ensure EFS Project risk remains Low • Mitigation to EFS Project risk may not be necessary • Monitor the EFS Project risk

Table 6-8, below, provides common attributes for the different levels of issue severity ratings that BerryDunn used for each Monthly IV&V Status Report.

Table 6-8: Issue Severity Rating Common Attributes

Issue Severity Rating	Common Attributes
High	• Major disruption to EFS Project occurring • Change in EFS Project approach required
Medium	• Medium disruption to EFS Project occurring • Consider an alternative approach in remediating EFS Project issue
Low	• Minimal disruption to EFS Project occurring • Oversight required of EFS Project issue • Remediation tasks recommended to help ensure EFS Project issue impact remains Low

7.0 Appendix C: Sample Deliverable Quality Checklist

Table 7-1 illustrates a sample format either invenioLSI can use as a starting point for developing checklists to help address quality control issues or the State can use to provide direction and alignment on quality expectations with third parties involved in the delivery of any EFS Project deliverables. BerryDunn recommends applying any additional universally applicable expectations that have been issues to date and/or are spelled out as part of contractual agreements with the State. BerryDunn recommends the EFS Project consider using the below checklist as a starting point to use when communicating deliverable expectations. These checklist items are intended to be applicable to more EFS Project deliverables and can be supplemented with deliverable-specific considerations.

Table 7-1: Universal Project Deliverable Review Checklist

Deliverable Review Area	Overall Purpose for Assessing Deliverable Review Area	Date and Signature of invenioLSI's Internal QA Review	EFS Project's Determination on Whether Deliverable Review Areas Have Been Met [Y/N]	Comments/Reason for Not Meeting Deliverable Review Area
Completeness	◢ Are all expected documents included and complete? ◢ Are all expected sections within documents included and complete?			
Clarity	◢ Is the deliverable purpose clear? ◢ Is the content clearly written and presented?			
Submission Format	◢ Are the documents readily accessible to the reviewers (e.g., named clearly and correctly, and in a common file format)? ◢ Is the content, including diagrams, legible?			

Deliverable Review Area	Overall Purpose for Assessing Deliverable Review Area	Date and Signature of invenioLSI's Internal QA Review	EFS Project's Determination on Whether Deliverable Review Areas Have Been Met [Y/N]	Comments/Reason for Not Meeting Deliverable Review Area
	◢ Is the document free of basic spelling, grammatical, and formatting errors?			
Consistency	◢ Is the content consistent within the document and between related documents? ◢ Is the content provided at a consistent level of detail within and between documents?			
Comprehensiveness	◢ Is the material presented at the expected level of detail given the phase of the project? ◢ Does the content include inputs from all relevant sources such as existing system documentation, federal guidance, and the RFP? ◢ Does the approach follow best practices and industry standards?			
Accuracy	◢ Is the material accurate based on State business and project needs?			
Contractual Compliance	◢ Does the deliverable satisfy the RFP and/or contractual requirements?			
Regulatory Compliance	◢ Is the deliverable consistent with State and federal regulations and guidance?			

Deliverable Review Area	Overall Purpose for Assessing Deliverable Review Area	Date and Signature of invenioLSI's Internal QA Review	EFS Project's Determination on Whether Deliverable Review Areas Have Been Met [Y/N]	Comments/Reason for Not Meeting Deliverable Review Area
	◢ Is traceability to State and federal laws, regulations, and guidance demonstrated?			