A GLI® Professional Services Company

State of Nevada
Nevada Department of Health and Human Service
Division of Welfare and Supportive Services

RFP # 3475

INDEPENDENT VERIFICATION & VALIDATION (IV&V) FOR CHILD SUPPORT ENFORCEMENT (CSE) SYSTEM REPLACEMENT

Submitted to:
Ronda Miller, Purchasing Officer II
State of Nevada, Purchasing Division
515 E. Musser Street, Suite 300
Carson City, NV 89701

PART I A – TECHNICAL PROPOSAL
October 19, 2017

Submitted by:
SLI Global Solutions
8555 16th Street, Suite 800
Silver Spring, MD 20910
866.575.6881
info@sliglobalsolutions.com

I. TITLE PAGE

Part I A – Technical Proposal	
RFP Title:	**IV&V for Child Support Enforcement System**
RFP:	**3475**
Vendor Name:	**SLI Global Solutions, LLC**
Address:	**8555 16th Street Suite 800, Silver Spring, MD 20910**
Opening Date:	**10/19/2017**
Opening Time:	**2:00 PM**

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III. VENDOR INFORMATION SHEET

VENDOR INFORMATION SHEET FOR RFP 3475

Vendor Shall:

A) Provide all requested information in the space provided next to each numbered question. The information provided in Sections V1 through V6 shall be used for development of the contract;

B) Type or print responses; and

C) Include this Vendor Information Sheet in Section III of the Technical Proposal.

V1	Company Name	***SLI Global Solutions, LLC.***

V2	Street Address	***8555 16th Street, Suite 800***

V3	City, State, ZIP	***Silver Spring, MD 20910***

V4	Telephone Number		
	Area Code: ***303***	Number: ***575-6881***	Extension:

V5	Facsimile Number		
	Area Code: ***301***	Number: ***587-9620***	Extension:

V6	Toll Free Number		
	Area Code: ***866***	Number: ***575-6881***	Extension:

V7	***Contact Person for Questions / Contract Negotiations, including address if different than above***
	Name: ***Steven J. Esposito***
	Title: ***President, Government Solutions***
	Address: ***8555 16th Street, Suite 800, Silver Spring, MD 20910***
	Email Address: ***sesposito@sliglobalsolutions.com***

V8	Telephone Number for Contact Person		
	Area Code: ***480***	Number: ***620-59072***	Extension:

V9	Facsimile Number for Contact Person		
	Area Code: ***301***	Number: ***587-9620***	Extension:

V10	***Name of Individual Authorized to Bind the Organization***	
	Name: ***Steven J. Esposito***	Title: ***President, Government Solutions***

V11	Signature ***(Individual shall be legally authorized to bind the vendor per NRS 333.337)***	
	Signature:	Date: ***10/19/2017***

IV. STATE DOCUMENTS

IV.A. Amendments

The signature page from all amendments with an original signature by an individual authorized to bind the organization.

IV.A.1. Amendment 1

Signature Page from Amendment 1 for RFP 3475

73. Sections 4.10, 4.11, 4.12, and 4.13 all revolve heavily around system development processes/activities and not IV&V assessment/review activities. Can the State confirm that these sections are relevant to the IV&V contractor?

Sections 4.10 Design and Development Processes, 4.11 Configuration Management, 4.12 Peer Review Management and 4.13 Project Software Tools are not applicable to this solicitation. However, the IV&V vendor should verify and report that work is progressing and deliverables are produced in a timely manner. How verification and reporting occurs is the responsibility of the selected vendor.

74. Can the State confirm the onsite requirement for this project as section 12.3.4.1 states, 'The contractor shall be required to have its project management located in Carson City for the duration of the project?' This approach does not appear to be consistent with conducting periodic reviews.

Refer to the State's response to Question #16

75. Sections 12.3.11 Source Code Ownership and 12.3.13 Guaranteed Access to Software refer to activities, processes, tools, etc. that are specific to a development contractor. Can the State confirm that these items should apply to the IV&V contractor?

Refer to the State's response to Question #69.

76. Will the State provide an estimated / maximum budget for this project, in order to provide additional guidance for the scope of services to be provided by the IV&V vendor?

Refer to the State's response to Question #1.

77. Section 3.5.1.4 states "Provide written monthly status reports no more than once a month during active work conducting a semi-annual (Initial or Periodic) IV&V Review..." Can the State please clarify what is meant by the term "active work?" Does the State expect monthly reports during and immediately following Initial / Periodic reviews, or does the State anticipate monthly reports regularly throughout the duration of the IV&V contract?

The State anticipates monthly reports during the semi-annual IV&V review periods. Refer to the State's response to Question #1.

ALL ELSE REMAINS THE SAME FOR RFP 3475.

Vendor must sign and return this amendment with proposal submitted.

Vendor Name: SLI Global Solutions, LLC.

Authorized Signature:

Title: President, Government Solutions Date: 10/19/2017

This document must be submitted in the "State Documents" section of vendors' technical proposal.

Amendment 1 *RFP 3475* *Page 13 of 13*

IV.A.2. Amendment 2

Amendment #2 - Signature Page for RFP 3475

First set of questions included, "Please clarify if the Deliverable Observation Reports (DOR) are only upon request and thus will be scoped and priced separately if/when the State were to make this request of IV&V." Amendment 1 to Request for Proposal 3475 (in response to the first set of questions) communicates that "The Deliverable Observation Reports (DOR) are included in the project budget and should not be priced separately." Amendment 1 also communicates that "The State is adhering to federal requirements as per the IV&V Statement of Work Template located at https://www.acf.hhs.gov/css/resource/ivv-statement-of-work-template." The IV&V Statement of Work template, Task 8.1.10 Deliverable Observation Report (DOR), shows the following requirement/description for this deliverable: "Performed reviews of project artifacts, processes or deliverables not otherwise defined herein this scope of work, as-needed in a special scope of work between State and IV&V Service Provider." The state's response in Amendment 1 that DOR are "included in the project budget and should not be priced separately" appears to conflict with the Federal guideline that state DOR are "in a special scope of work" as-needed.

Refer to the State's response to Question #10.

40. Will the State please clarify the state's interpretation of the Federal guideline for Task 8.1.10 Deliverable Observation Report (DOR) as found in the IV&V Statement of Work template whether it should be included in the budget, or priced separately as needed?

Refer to the State's response to Question #10.

ALL ELSE REMAINS THE SAME FOR RFP 3475.

Vendor must sign and return this amendment with proposal submitted.

Vendor Name: SLI Global Solutions, LLC.

Authorized Signature: _____

Title: President, Government Solutions Date: 10/19/2017

This document must be submitted in the "State Documents" section of vendors' technical proposal.

IV.B. Attachment A – Confidentiality and Certification of Indemnification

Attachment A – Confidentiality and Certification of Indemnification signed by an individual authorized to bind the organization.

ATTACHMENT A – CONFIDENTIALITY AND CERTIFICATION OF INDEMNIFICATION

Submitted proposals, which are marked "confidential" in their entirety, or those in which a significant portion of the submitted proposal is marked "confidential" **shall not** be accepted by the State of Nevada. Pursuant to NRS 333.333, only specific parts of the proposal may be labeled a "trade secret" as defined in NRS 600A.030(5). All proposals are confidential until the contract is awarded; at which time, both successful and unsuccessful vendors' technical and cost proposals become public information.

In accordance with the submittal instructions of this RFP, vendors are requested to submit confidential information in separate files marked "**Part IB Confidential Technical**" and "**Part III Confidential Financial**".

The State shall not be responsible for any information contained within the proposal. If vendors do not comply with the labeling and packing requirements, proposals shall be released as submitted. In the event a governing board acts as the final authority, there may be public discussion regarding the submitted proposals that shall be in an open meeting format, the proposals shall remain confidential.

By signing below, I understand it is my responsibility as the vendor to act in protection of the labeled information and agree to defend and indemnify the State of Nevada for honoring such designation. I duly realize failure to so act shall constitute a complete waiver and all submitted information shall become public information; additionally, failure to label any information that is released by the State shall constitute a complete waiver of any and all claims for damages caused by the release of the information.

This proposal contains Confidential Information, Trade Secrets and/or Proprietary information.

Please initial the appropriate response in the boxes below and provide the justification for confidential status.

Part IB – Confidential Technical Information			
YES	*X* SE	NO	
Justification for Confidential Status			
In Section VI, Company Background and References, the information contained in sub-section VI.C, Business References is highly sensitive. SLI Global Solutions, LLC performs IT projects and security related work for other regulatory bodies and government agencies and client information cannot be public. The Questionnaire is to be marked accordingly as Confidential Information when completed. Response section VI.C, Business References has been marked Confidential. ***In Section VII, the Proposed Staff Resumes provided are a compilation of hand selected group of individuals with specific, highly trained backgrounds, best fit to provide the services requested in the RFP. The attached resumes have been marked as Confidential Information to protect their identities from competitors.*** ***Pages marked as Confidential have been redacted from the file submitted on the CD named: SLI-3475-Part1B-ConfidentialTechnicalProposal.pdf***			

Part III – Confidential Financial Information			
YES	X SE	NO	
Justification for Confidential Status			
SLI is a closely held, non-public corporation. Our financials records provide within Part III – Confidential Financial Information of our response are not public and therefore should be treated as private and confidential.			

Company Name
SLI Global Solutions, LLC.

Signature

Steven J. Esposito, President Government Solutions — 10/19/2017

Print Name — Date

This document shall be submitted in Section IV of vendor's technical proposal

IV.C. Attachment B – Vendor Certifications

Attachment B – Vendor Certifications signed by an individual authorized to bind the organization.

ATTACHMENT B – VENDOR CERTIFICATIONS

Vendor agrees and shall comply with the following:

(1) Any and all prices that may be charged under the terms of the contract do not and shall not violate any existing federal, State or municipal laws or regulations concerning discrimination and/or price fixing. The vendor agrees to indemnify, exonerate and hold the State harmless from liability for any such violation now and throughout the term of the contract.

(2) All proposed capabilities can be demonstrated by the vendor.

(3) The price(s) and amount of this proposal have been arrived at independently and without consultation, communication, agreement or disclosure with or to any other contractor, vendor or potential vendor.

(4) All proposal terms, including prices, shall remain in effect for a minimum of 180 days after the proposal due date. In the case of the awarded vendor, all proposal terms, including prices, shall remain in effect throughout the contract negotiation process.

(5) No attempt has been made at any time to induce any firm or person to refrain from proposing or to submit a proposal higher than this proposal, or to submit any intentionally high or noncompetitive proposal. All proposals shall be made in good faith and without collusion.

(6) All conditions and provisions of this RFP are deemed to be accepted by the vendor and incorporated by reference in the proposal, except such conditions and provisions that the vendor expressly excludes in the proposal. Any exclusion shall be in writing and included in the proposal at the time of submission.

(7) Each vendor shall disclose any existing or potential conflict of interest relative to the performance of the contractual services resulting from this RFP. Any such relationship that might be perceived or represented as a conflict shall be disclosed. By submitting a proposal in response to this RFP, vendors affirm that they have not given, nor intend to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant or any employee or representative of same, in connection with this procurement. Any attempt to intentionally or unintentionally conceal or obfuscate a conflict of interest shall automatically result in the disqualification of a vendor's proposal. An award shall not be made where a conflict of interest exists. The State shall determine whether a conflict of interest exists and whether it may reflect negatively on the State's selection of a vendor. The State reserves the right to disqualify any vendor on the grounds of actual or apparent conflict of interest.

(8) All employees assigned to the project are authorized to work in this country.

(9) The company has a written equal opportunity policy that does not discriminate in employment practices with regard to race, color, national origin, physical condition, creed, religion, age, sex, marital status, sexual orientation, developmental disability or handicap.

(10) The company has a written policy regarding compliance for maintaining a drug-free workplace.

(11) Vendor understands and acknowledges that the representations within their proposal are material and important, and shall be relied on by the State in evaluation of the proposal. Any vendor misrepresentations shall be treated as fraudulent concealment from the State of the true facts relating to the proposal.

(12) Vendor shall certify that any and all subcontractors comply with Sections 7, 8, 9, and 10, above.

(13) The proposal shall be signed by the individual(s) legally authorized to bind the vendor per NRS 333.337.

Vendor Company Name

SLI Global Solutions, LLC.

Vendor Signature

Steven J. Esposito, President Government Solutions — 10/19/2017

Print Name — Date

This document shall be submitted in Section IV of vendor's technical proposal

IV.D. Attachment J – Certification Regarding Lobbying

Attachment J – Certification Regarding Lobbying signed by an individual authorized to bind the organization.

ATTACHMENT J – CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or shall be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federally appropriated funds have been paid or shall be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all sub awards at all tiers (including subcontracts, sub grants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

By: _____ 10/19/2017
Signature of Official Authorized to Sign Application — Date

For: SLI Global Solutions, LLC.
Vendor Name

INDEPENDENT VERIFICATION & VALIDATION (IV&V) FOR CHILD SUPPORT ENFORCEMENT (CSE) SYSTEM REPLACEMENT
Project Title

This document shall be submitted in Section IV of vendor's technical proposal

IV.E. Vendor Licensing Agreements

Copies of any vendor licensing agreements and/or hardware and software maintenance agreements.

None.

IV.F. Applicable Certifications and/or Licenses

Copies of applicable certifications and/or licenses.

IV.F.1. ISO 9001:2015 Certification

Orion Registrar, Inc.
Thorough and Fair Auditing

Certificate of Certification

This is to certify the Quality Management System of:

SLI
4720 Independence St.
Wheat Ridge, CO 80033 USA

Has been assessed by Orion Registrar and found to be in compliance with the following Quality Standard:

ISO 9001:2015

The Quality Management System is applicable to:

Quality and Risk Management Services, including Quality Assurance, Testing, and Independent Verification and Validation (IV and V) for Software Applications and Computer Systems.

The Certification period is from

August 15, 2017 to September 24, 2019

This certification is subject to the company maintaining its system to the required standard, and applicable exceptions, which will be monitored by Orion.

Client ID: 1649 Certificate ID: 1009564

ANAB ACCREDITED ISO/IEC 17021 MANAGEMENT SYSTEMS CERTIFICATION BODY

Paul M. Burck, President — August 25, 2017 Date

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

7502 W. 80th Avenue, Suite 225, Arvada, Colorado 80003 | 303-456-6010 | FAX 303-456-6681 | www.orion4value.com
To authenticate this certificate, please visit: www.orion4value.com/about-orion/registered-companies/

IV.F.2. Certifications for Carl Blanchette, IV&V Program Manager

IV.F.2.1. *Project Manager Professional*

Project Management Institute

THIS IS TO CERTIFY THAT

Carl L Blanchette

HAS BEEN FORMALLY EVALUATED FOR DEMONSTRATED EXPERIENCE, KNOWLEDGE AND PERFORMANCE IN ACHIEVING AN ORGANIZATIONAL OBJECTIVE THROUGH DEFINING AND OVERSEEING PROJECTS AND RESOURCES AND IS HEREBY BESTOWED THE GLOBAL CREDENTIAL

Project Management Professional

IN TESTIMONY WHEREOF, WE HAVE SUBSCRIBED OUR SIGNATURES UNDER THE SEAL OF THE INSTITUTE

Steven V. DelGrosso • Chair, Board of Directors

Mark A. Langley • President and Chief Executive Officer

PROJECT MANAGEMENT INSTITUTE CORPORATE SEAL 1969 PENNSYLVANIA

PMP® Number 1309484

PMP® Original Grant Date 30 December 2009

PMP® Expiration Date 29 December 2018

PMI Project Management Institute

IV.F.2.2. *Information Technology Infrastructure Library (ITIL)*

Information Technology Infrastructure Library (ITIL)-Foundation Certification

February 2011 Cert # GR750001537CB 2/2011

IV.F.3. Certifications for Jon Kanas, IV&V Analyst

IV.F.3.1. *Project Management Professional*

Project Management Institute

THIS IS TO CERTIFY THAT

Jon B Kanas

HAS BEEN FORMALLY EVALUATED FOR DEMONSTRATED EXPERIENCE, KNOWLEDGE AND PERFORMANCE IN ACHIEVING AN ORGANIZATIONAL OBJECTIVE THROUGH DEFINING AND OVERSEEING PROJECTS AND RESOURCES AND IS HEREBY BESTOWED THE GLOBAL CREDENTIAL

Project Management Professional (PMP)®

IN TESTIMONY WHEREOF, WE HAVE SUBSCRIBED OUR SIGNATURES UNDER THE SEAL OF THE INSTITUTE

Antonio Nieto-Rodriguez • Chair, Board of Directors

Mark A. Langley • President and Chief Executive Officer

PROJECT MANAGEMENT INSTITUTE CORPORATE SEAL 1969 PENNSYLVANIA

PMP® Number: 1366731
PMP® Original Grant Date: 30 October 2010
PMP® Expiration Date: 29 October 2019

PMI Project Management Institute

IV.F.3.2. *Certified in Risk and Information Systems Control*

CRISC Certified in Risk and Information Systems Control
An ISACA Certification

ISACA SINCE 1969

CERTIFIED IN RISK AND INFORMATION SYSTEMS CONTROL®

ISACA hereby certifies that

Jon B. Kanas

has successfully met all requirements and is qualified as Certified in Risk and Information Systems Control; in witness whereof, we have subscribed our signatures to this certificate.

Requirements include prerequisite professional experience; adherence to the ISACA Code of Professional Ethics and the CRISC continuing professional education policy; and passage of the CRISC exam.

11 May 2011
Date of Certification

Robert E Stroud
International President of ISACA and ITGI

31 January 2018
Expiration Date

Chair, CRISC Certification Committee

1107991
Certificate Number

ANSI
ANSI Accredited Program PERSONNEL CERTIFICATION
ISO/IEC 17024

ISACA
Trust in, and value from, information systems

IV.F.3.3. *Certified Teste, Foundation Level (CTFL)r*

ASTQB
American Software Testing Qualifications Board, Inc.
ISTQB Certification in the U.S.A.

The American Software Testing Qualifications Board, Inc.
and its Board of Directors hereby attests that

Jon B. Kanas

has successfully completed the prescribed requirements in software testing of the International Software Testing Qualifications Board and is awarded the designation of

CERTIFIED TESTER, FOUNDATION LEVEL (CTFL)

Certificate Number
10-CTFL-00044-USA

January 16, 2010

Lois Kostroski
Executive Director, ASTQB

ISTQB
Certified Tester
Foundation Level

V. SCOPE OF WORK

This section of our proposal demonstrates to the State of Nevada the maturity, capabilities, and readiness of SLI Global Solutions, LLC. (SLI) to engage the Nevada Child Support Enforcement System (CSES) Replacement Project (the Replacement Project). SLI has invested in an IV&V practice built on a foundation of our ISO 9001:2015 certified methodology (SQM3) and delivered by experienced IV&V practitioners. The SLI IV&V Team utilizes our industry standard based corporate methodology and enterprise toolkit to deliver proven cost effective and risk reducing IV&V services.

Understanding of the Replacement Project. In 1992, the State of Nevada deployed the Nevada Operations of Multi-Automated Data System (NOMADS) to support work processes pertaining to Child Support and other public assistance programs. NOMADS is operational across multiple sites across the State with each site, dealing with their unique issues and developing their respective solutions. This, over time, lead to a diversity of solutions within NOMADS. A feasibility study was completed in 2014 that determined the State of Nevada needed to develop a replacement system for the Child Support functionality, under a unified architecture.

The Replacement Project is a modernization of the Child Support functionality of NOMADS.

Overall Approach for the Replacement Project. SLI Global Solutions, LLC (SLI) has carefully analyzed your scope of work for the Replacement Project. We find it to be a precise fit to our experience, expertise and approach to delivery of value-added IV&V services informed by a deep understanding of the Child Support program and practices and the technical and organizational challenges of successfully modernizing a Child Support Enforcement (CSE) system.

SLI's Value Proposition to the Replacement Project

- ✓ ***Proven Tools and Methodologies based on Industry Standards enable repeatable, predictable product quality***
- ✓ ***Strong, Recent Qualifications performing similar work for another State Transfer of the California Child Support System provide s relevant best practices and lessons learned that reduce risk***
- ✓ ***Experienced dedicated IV&V team fluent in our methodologies and your requirements provides faster, more meaningful start-up***
- ✓ ***SLI's experience in supporting states on federal certification means Nevada is fully prepared to assist DWSS reduce risk and ensure the Replacement Project goals and objectives are met.***

SLI and the Center for the Support of Families (CSF) made a strategic decision in 2016 to formally join their two companies. Both SLI and CSF are well established and well-respected members of the Health and Human Services community. SLI focuses on the delivery of project management and assessment services to large scale complex HHS IT projects to improve the quality of delivered systems. CSF focuses on the delivery of consulting services to help state agencies improve the performance and outcomes of Child Support and Child Welfare programs across the nation.

As proof of CSF's industry recognition, CSF won the President's Award for Corporate Associate of the Year at the 2017 Leadership Symposium of the National Child Support Enforcement Association (NCSEA) held this year in Scottsdale, AZ. Honoring outstanding support and continued dedication and commitment to the nation's child support program and its professional association, the award was presented to CSF President Vernon Drew for CSF's efforts "to help develop policies and programs that truly shape the future of child support."

Taken together, the skillsets and experience of SLI (IV&V) and CSF (Training and Policy) are a match to the unique requirements of DWSS. We have a broad understanding of State Child Support programs and the technical and organizational challenges of implementing their support systems. Our approach to this engagement is to make our experienced subject matter experts (SMEs) and their proven program improvement practices available to the State of Nevada for tasks and deliverables required under this solicitation.

SLI focuses on the delivery of project management and assessment services for large-scale systems. Our consulting services help state agencies improve the performance and outcomes of Child Support programs across the nation.

SLI proposes to execute IV&V service delivery around semi-annual periodic reports over the course of 6 years. SLI is prepared to provide IV&V services pertaining to the Replacement Projects milestone reviews, including:

- ***Twelve 8 to10-week semi-annual reviews that result in draft and final Periodic IV&V Review Reports from May 1, 2018 to April 30, 2024.***
- ***Monthly reports during each review cycle as formal status checkpoints that result in continuous information bulletins for the duration of the project.***
- ***Participation in weekly status meetings during the onsite review portion.***
- ***Participation in project meetings as required by the SOW.***

Exhibit V-1: SLI IV&V Review Timeline ***below depicts the timeline of IV&V reviews.***

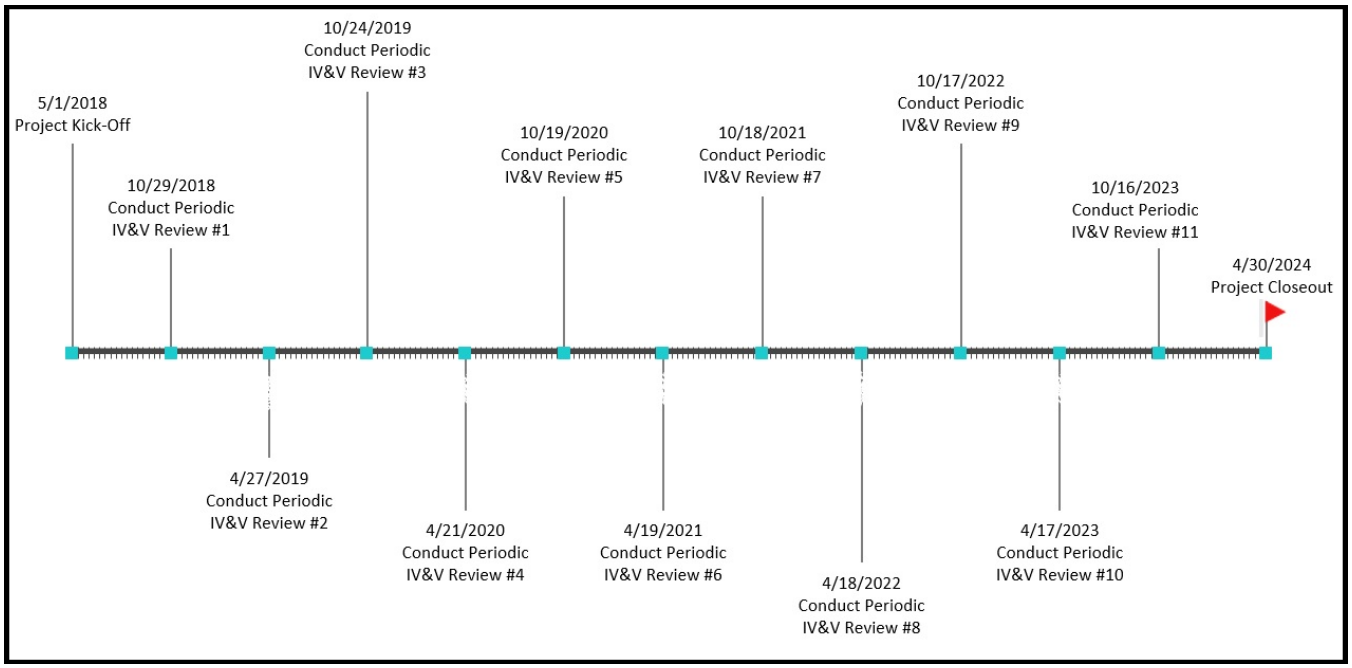
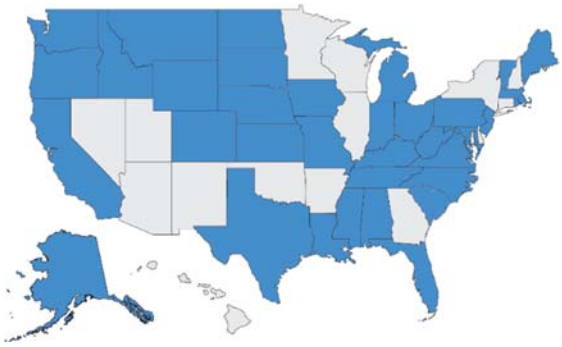


Exhibit V-1: SLI IV&V Review Timeline.

Our goal is to ensure the Nevada CSE Replacement System complies with State and Federal regulations and standards, provides required functionalities, and meets the needs of its user community.



SLI's Key Qualifications

- ***ISO-Certified IV&V Methodology***
- ***Team of Experienced IV&V Experts***
- ***20+ Years of IV&V Services***
- ***100% Focus on IV&V Exclusively***
- ***Active IV&V Projects in 20+ States***

As an organization fully dedicated to providing IV&V services, we bring experienced IV&V experts, an ISO-certified methodology, and a proprietary toolkit to successfully meet and exceed State IV&V requirements.

Benefits of Selecting SLI. ***SLI bring the State of Nevada access to the proven proprietary certified methodologies and experienced resources of a IV&V provider with an established record of customer satisfaction. We are independent and dependable with a high employee retention. Also, our technical maturity is supported with an enterprise management proprietary methodology that is ISO-certified. The SLI IV&V Team is composed of experienced IV&V and child support enforcement subject matter experts who have worked on projects like the Replacement Project.***

Our IV&V services brings 3 key components: a proprietary quality management methodology, a proven enterprise toolkit, and a set of quality standards that govern our IV&V projects.

Our Proprietary IV&V Methodology. ***SLI has successfully delivered IV&V services pertaining to the development and implementation of State and local government large-scale IT projects for over 20 years. Our proprietary methodology, called SQM³ – SLI Quality Management, Methods, and Models, aligns with many industry standards including IEEE, PMI – PMBOK, ISO, and CMMI.***

SLI is especially proud that our SQM³ quality management methodology earned an ISO 9001:2008 certification and that our management processes were audited again in August 2017 and found to meet ISO 9001:2015 certification. ISO 9001:2015 is the highest certification currently available and includes considerable enhancements to our previous ISO 9001:2008 certification. This distinction means that the methodology we use to deliver IV&V services for the Replacement Project has been independently audited and confirmed:

ISO 9001:2015
CERTIFIED

- ***to contain the highest-level ISO required quality management system features,***
- ***to be deployed consistently throughout our organization (including staff training), and***
- ***to be continuously improved to leverage lessons learned and reflect changes to the underlying standards and industry trends.***

We operate an ISO-certified quality management system that is constantly refined by our experienced IV&V experts.

Our Corporate IV&V Toolkit. ***Based on our previous and current IV&V contracts, SLI's experienced IV&V experts developed and refined a set of tools to expedite IV&V activities. This set of tools include:***

- ***Interview Guide Notes and Library (SIGNaL) – enables effective interviews and provides up-to-date IV&V quality checklists.***
- ***Comment Origination and Reporting (SCORe) – automates project deliverable reviews and creation of final documents.***
- ***SLI Process for Agile in a Regulated Context (SpARC) – effectively manages iterations of Agile-based projects.***

Quality Standards We Apply. ***In every engagement, the SLI IV&V Team systematically follows 3 sets of standards at a minimum: Institute of Electrical and Electronics Engineers (IEEE), Capability Maturity Model Integrated (CMMI), and the Project Management Institute's Project Management Body of Knowledge (PMBOK) Fifth Edition and the PMBOK - Government Extension.***

SLI is prepared to quickly align with the upcoming PMBOK Sixth Edition.

Our Response to the SOW. ***Within*** *Section V- Scope of Work*, ***we thoroughly address all requirements of the Scope of Work. SLI's proposal response conforms to the structure defined in the RFP as follows:***

- ***V.A. Project Kick-Off Meeting (3.4) – Covers how the SLI IV&V Team prepares the agenda and other materials for a well-executed project kick-off.***
- ***V.B. Planning and Administration (3.5) – Addresses how we execute services pertaining to the preparation of the Replacement Project's IV&V Project management Plan and how we deliver the IV&V project reports and invoices.***
- ***V.C. IV&V Activities (3.6) – Describes how the SLI IV&V Team perform all required tasks and prepares associated deliverables to meet the solicitation requirements.***
- ***V.D. Project Management (4.7) – Addresses our Project Management approach for managing the IV&V activities and tasks throughout the duration of the project.***
- ***V.E. Quality Assurance (4.8) – Presents our proprietary methodology for quality management.***
- ***V.F. Metrics Management (4.9) – provides the typical project metrics and our approach for assessing the project performance.***

In conclusion, SLI understand an important consideration in evaluating prospective IV&V Vendors for the Replacement Project is their commitment to the principles and practices of IV&V, their team project performance real-life experiences and the ability to add value to the project. SLI is the only IV&V vendor that can bring extensive IV&V experience on CSE systems combined with resources from NCSEAS' Corporate Associate of the Year at the 2017.

Improving quality of delivered systems and driving out risks is what SLI does. It is what we know, and we are committed to continuous improvement of our ability to deliver the highest quality IV&V services on each engagement.

V.A. Project Kick-Off Meeting (3.4)

3.4 PROJECT KICK OFF MEETING A project kick off meeting will be held with representatives from the State Replacement Project, the State's IV&V Contract Officer and the IV&V contractor after contract approval and prior to work performed.

The SLI IV&V Team is prepared to work with the State and its contractors in a collaborative manner with a focus on open communication and transparency. By experience, we consider a well planned and executed Kick Off Meeting a key success factor. As the first meeting to mark the start of project activities, it helps "break the ice" and establish a healthy and productive working relationship between all parties involved in the project. By joining the CSE Replacement Project's community of vendors collectively engaged with the State of Nevada, SLI brings a streamlined approach for onboarding our team members.

We conduct an informative Project Kick-Off Meeting to set the right tone for the project and ensure roles and responsibilities as well as expectations for periodic IV&V reviews are well understood. We work with the State of Nevada to define the agenda and identify the attendees. Typically, our Kick-Off Agenda includes:

- ***Introduction to the Replacement Project's organizational chart, roles, responsibilities, and lines of communication (internal and external).***
- ***Review of the project mission and how the replacement system supports that mission.***
- ***Overview of mock-ups of monthly status reports.***
- ***Review of the deliverables submission and review process.***
- ***Overview of the Replacement Project Preliminary IV&V Project Plan provided in our proposal.***
- ***Schedule of the initial series of meetings with the State to produce a Detailed Project Plan.***
- ***Overview of SLI's Methodology and Toolkit, including compliance standards.***
- ***Review of the high-profile risks that SLI has encountered on similar projects, including details on our approach to risk management and issues resolution.***
- ***Definition of a format for on-going meetings.***

Per the PMBOK, the addition of any new member to the vendor community inevitably reset the team to the "storming" stage… the SLI IV&V Team has the corporate support and experience necessary to cycle back to the "performing" stage in a short time.

V.B. Planning and Administration (3.5)

3.5 – Planning and Administration

The following pages represent the detailed project planning activities and deliverables to be delivered by SLI as your IV&V vendor.

V.B.1. Activities (3.5.1)

V.B.1.1. *IV&V Management Plan (3.5.1.1)*

3.5.1.1 Work with the State to provide a detailed project plan for the IV&V project with fixed deadlines that take into consideration the State holiday schedule provided in Section 2.1, State Observed Holidays. The plan is to be initially delivered within the first thirty (30) days from the date of contract award, and updated and delivered one week prior to the commencement of the onsite portion of each Initial and Periodic IV&V Review.

SLI develops a specific IV&V Project Management Plan (IV&V PMP) for each of our engagements that offers a comprehensive view of how our IV&V Team manages the IV&V engagement. The plan includes the tasks our SLI IV&V Team undertakes and the mechanisms used to monitor, control, and ensure quality outcomes from the IV&V activities. Our proposed IV&V PMP includes a work breakdown structure (WBS) with scheduled dates and milestones for conducting all IV&V tasks and producing required deliverables. Specifically, resources are assigned for each review area and required tasks identified in the SOW.

SLI prepares and delivers an IV&V PMP within the first 30 calendar days of the contract award date. We also update and deliver the IV&V PMP one week prior to the commencement of the onsite portion of the Initial and each Periodic IV&V Review.

The IV&V PMP includes the schedule of IV&V activities, methodologies, standards, templates, benchmarks, and other information routinely used to complete IV&V review and produce IV&V deliverables. It also defines the various review components, analysis techniques, and justification for each task (review of documentation; analysis; model checking; code review, etc.). Additionally, the plan defines the issue escalation and resolution process.

SLI's IV&V Management Plan contains the following:

- ***Resumes of all Key SLI personnel***
- ***An organization chart reflecting the SLI IV&V team, including the team's place within SLI's corporate structure, the key names, addresses and other contact information to be used for dispute resolution and customer feedback***
- ***A schedule describing the next two IV&V Review periods, including tasks, activities, Deliverables, and milestones, and will show the schedule's critical path reflecting both SLI's and State's delivery and response milestones***
- ***A narrative description of all Deliverables, including expected format, content, and organization, to be developed and delivered during the next two IV&V Reviews (12 months); and, all applicable Project lifecycle-appropriate IV&V Checklists to be utilized during the next two IV&V Reviews.***

As the reviews are scheduled, the SLI IV&V Team confers with your Project Management Team to determine the degree of attention needed for each review area for the time period of the assessment and the specifics of the upcoming deliverables. The Replacement Projects vendors'

work plan is used as input to this process. Our aim is to align our plan with Deloitte's to ensure that are reviews are coordinated with development activities and milestones.

The IV&V PMP is then adjusted to ensure that appropriate time and resources are assigned for the review tasks. The following Tasks and Review Areas for this engagement as required in the SOW include:

- ***IV&V Project Management***
- ***Replacement Project Management***
- ***Quality Management***
- ***Training***
- ***Requirements Management***
- ***Operating Environment***
- ***Development Environment***
- ***Software Development***
- ***System and Acceptance Testing***
- ***Data Management Oversight***
- ***Operations Oversight***

Our proposed IV&V PMP contains the following components, which are dictated as standard by SLI's SQM³ methodology as part of our core IV&V management for large design, development, and implementation projects:

- ***Methodology and approach to performing all project IV&V tasks, activities, and deliverables.***
- ***A project schedule detailing estimated and actual start and completion dates.***
- ***For each task, estimated durations, predecessors or dependencies, and frequency.***
- ***Ongoing documentation and updates throughout the project lifecycle to include reconciliation of actual dates.***
- ***Maintenance of the IV&V PMP in concert with the Replacement Project Implementation Work Plan.***

We understand the requirements for our IV&V Team and have reflected them in our preliminary IV&V PMP which follows the defined cycle requirements as found in the SOW.

SLI is aware of the IM (Implementation Contractors) requirements to pursue the recommended hybrid solution from the feasibility study by utilizing the technologies already in production in CA, MI, and NJ. We are also aware of and familiar with the inherent benefits and risks associated with development projects of this nature.

All IV&V tasks and deliverables are incorporated within the IV&V PMP. The time required for the State to review the draft IV&V Review Reports is also built into our project plan. SLI ensures that

timely delivery of our work products takes place, including collaboration and coordination with both you as the system owner and the Replacement Project project management, quality and implementation contractor teams.

Upon contract award, preliminary discussions between our IV&V Team and the State are held to determine the projected start date of the Initial Review and the IV&V PMP is updated and delivered within the first 30 business days after the engagement has started.

SLI expands on the IV&V PMP provided in this proposal and submits a draft and final IV&V PMP to the State's Project Management Team during the Project Initiation Phase. SLI will submit the updated and delivered IV&V PMP one week prior to the commencement of the onsite portion of the initial and each periodic review.

SLI's IV&V Team defines IV&V standards and selects the appropriate SLI IV&V quality checklists used for our Initial and Periodic IV&V Reviews, as well as individual deliverable assessments. For the Initial and Periodic reviews, a standard based approach is applied to confirm the processes and artifacts to be reviewed are specific to phase of the project at the time of review.

The IV&V PMP is structured to facilitate the entry of additional unique tasks for the integration and dependencies associated with bringing new modules and additional scope into the enterprise solution.

Exhibit V.B-1: IV&V Project Management Plan Table of Contents ***provided below illustrates an example of the content planned for the Replacement Project's IV&V PMP.***

SC Department of Health and Human Services
CDRL IV&V-003: IV&V Program Management Plan

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Exhibit V.B-1: IV&V Management Plan Table of Contents.

IV&V Project Management Plan-Baseline

During the initial Start-Up / Planning / Transition phase, SLI conducts discussions with the State of Nevada to establish guidelines for the content of the initial (Baseline) IV&V Project Plan and define the thresholds for conditions when updates and changes to the plan are considered significant enough to justify formal review and approval by the State.

SLI submits the IV&V PMP Baseline to the State as determined by discussions between SLI and the State as noted above. After review by the State, the SLI IV&V Project Manager gathers and analyzes the feedback from the initial submittal. Our IV&V Project Manager schedules meetings with key stakeholders for any items that are unclear, ambiguous, or conflict with other's feedback. Once clarity and consensus are achieved, the SLI IV&V Project Manager updates the plan with the assistance of other team members, as necessary. As a final quality check, the document(s) are then peer-reviewed by the project staff members who worked on other areas of the IV&V PMP. SLI recommends a deliverable walkthrough to address any questions and point out key updates to the final IV&V PMP.

Aligning IV&V Project Management Plan with State and Vendor Community

As the reviews are scheduled, the SLI IV&V Team confers with the State of Nevada to determine the degree of attention needed for each review area and the specifics of the upcoming deliverables. The Replacement Project vendors' work plans are used as input to this process. SLI's goal is to align our IV&V PMP with the overall Replacement Project plan to ensure that reviews are appropriately scheduled in coordination with development activities and milestones. The SLI IV&V Project Manager ensures timely delivery of our work products takes place, including collaboration and coordination to improve quality. In addition to outlining the SLI work effort, the time required for State staff to review draft IV&V Review Reports is built into the IV&V Management Plan.

The result is an approved plan for the SLI IV&V Team's engagement that is maintained over the course of the project.

IV&V Project Management Plan-Iterations / Updates

The IV&V PMP is reviewed and updated, as appropriate, on a semi-annual basis to reflect any changes in project deliverables, deliverable schedule, or SLI IV&V methodology updates. This enables SLI to stay aligned with the State by focusing reviews and deliverables based upon current priorities and project status. As the project proceeds, SLI reviews and updates the IV&V PMP to reflect additional iterations of activity sequences as each additional procurement takes place. Individual IV&V activities and tasks are based upon the lifecycles of each of the projects and represent a repeatable process. Additional IV&V tasks specific to the integration of each component are added into the plan at the time the component procurement has been completed. Additional State requested IV&V activities are established by agreement and confirmed via amendment to the existing SLI IV&V contract.

The processes invoked for evaluating new project components at a high level include, at a minimum, the following steps:

- ***Initiation Activities - Joint state and IV&V startup agreements to incorporate new components as necessary.***

- ***Assessment Report Review* – Content of the initial, monthly and final reports may be adjusted for summary reports, and new reports may be added for additional procurements.**
- ***Deliverable Review Reports* – Identify changes to scheduled vendor deliverables, and define the level of IV&V review and reporting for new vendor deliverables.**
- ***Risk and Issue Management* – Initiate risk discovery session to evaluate the impact of new components on existing issues and risks.**
- ***Testing* – Review planned testing and identify changes specific to the newly added component, with a focus on integration and system performance testing. Review planned end-to-end and User Acceptance Testing scope to identify necessary adjustments to incorporate the new component.**
- ***Federal certification* – Review and adjust specific steps, including the milestone reviews, necessary to assist the State of Nevada achieve meet OCSE certification requirements for its CSES implementation.**
- ***Provide necessary architectural and programmatic support to assist in ensuring compliance with latest technologies and standards.***

Our IV&V Project Manager ensures timely delivery of work products takes place, including collaboration and coordination to improve quality.

SLI is a strong advocate of regular updates to the IV&V Management Plan. We have observed too many projects where management plans are created but end up being "shelf-ware". A plan is only effective if it is being used to govern the project's processes and monitor progress.

In addition to updates mandated by the addition of incremental components, updates to the IV&V Management Plan are also made as the Replacement Project progresses through its lifecycle and the experience of vendors and stakeholders with the project deepens. Updates to the IV&V PMP include adjustments to processes/plans through lessons learned as the project matures. In addition, because the IV&V PMP includes the schedule, it must be regularly updated to account for task completion, schedule changes (slippage, compression, and/or "crashing"), and resource turnover/additions.

Our IV&V Project Manager is responsible for updating the IV&V PMP in response to project events and other agreed upon triggers. Typically, reviews of the IV&V PMP occur on a quarterly basis for routine updates but this is largely driven by the status of vendors' activities. Before any changes are formally made to any plans or procedures, the SLI Project Manager submits draft(s) to the Replacement Project Manager and/or other stakeholders, such as the Steering Committee, for review and approval. Like the process used for the final IV&V PMP, SLI recommends a deliverable walkthrough to address questions and discuss updates made.

The result is an approved plan for the SLI IV&V Team's engagement reflecting the status and maturity of the project over time.

Accommodation of Project Modules and Functionalities

Our IV&V PMP provides detailed information about IV&V activities presented in a time-sequenced order. The IV&V PMP is designed to be dynamic and flexible to accommodate evolving State,

project, and Federal needs. As the Replacement Project progresses and expands through incremental module procurements, the IV&V PMP is expanded by repeating the same IV&V activity sequence for each module. This approach results in a consistent and repeatable IV&V process. Functionalities are organized within the IV&V PMP to ensure that each is tracked and assessed by SLI as appropriate.

V.B.1.2. *Attend Monthly Project Status Meetings (3.5.1.2)*

3.5.1.2 Attend monthly project status meetings with the IV&V Contract Officer and the Replacement Project team at a location to be determined by the State. Attendance may be in person or via teleconferencing, as mutually agreed to by the project team.

SLI is an active participant and facilitator of monthly project status meetings of our IV&V engagements. For concise and timely project status checkup, the SLI IV&V Team communicate the status and health of the project to key stakeholders, including the technical and business communities.

Topics of the Monthly Replacement Project Status meeting include:

- ***A. Review and approval of previous meeting minutes – consolidation of minutes and feedback comments received from participants to the previous month's meeting.***
- ***B. Contractor project status – SLI provides a resource allocation chart illustrating where resources are assigned with location and schedules. States resources with assigned tasks and demonstrates resource allocations and percentages of planned versus actual defined by milestone;***
- ***C. State project status – quantifiable progress made during the reporting period.***
- ***D. Contract status and issues, including resolutions – identified problems with proposed or actual resolutions. SLI provides updates to the Issue Log with new issues highlighted and status of existing issues.***
- ***E. Status of IV&V activities – identifies planned accomplishments for the next reporting period to include meetings, deliverables and activities planned***
- ***F. New action items – capture any new items in the action items log with a numbering method that allows tracking of status and assignment to a staff member for execution.***
- ***G. Outstanding action items, including resolutions – quantifiable progress made during the reporting period.***
- ***H. Setting of next meeting date – discuss updates and commitment to time and place for next meeting.***
- ***I. Other business – discuss any other topics relevant to the project.***

Typically, our monthly project status meetings follow an agenda jointly developed with the State and allow for attendees to participate in person or via teleconferencing. When the SLI IV&V Team receives minutes that the State staff distributes within five (5) working days after each meeting, the minutes are kept on record to maintain consensus and historical references to key decision points.

V.B.1.3. *Participate in Project Meetings (3.5.1.3)*

3.5.1.3 Attend and participate in all IV&V project related meetings requested as well as Steering Committee meetings.

The SLI IV&V Team members attend and participate in ad-hoc meetings and Steering Committee meetings as requested. About meetings that SLI facilitates, our staff prepares materials or briefings. Our experience (documented in the IV&V PMP) suggests that the project participants be given 3 to 5 days to review and comment on meeting minutes. These comments are consolidated and then approved at the next meeting. This practice ensures accuracy of content and consensus throughout the project.

Typically, ad-hoc or regular project status meetings follow an agenda jointly developed with the State and allow for attendees to participate in person or via teleconferencing.

SLI has found the use of status reports and management debriefings is a best practice for communicating project status to the Steering Committee, project management, and other stakeholders (e.g., interface partners, office managers, and the courts). These reports not only clarify the overall understanding of IV&V activities and recommendations but also facilitate stakeholder buy-in to the project and its plans.

SLI status meetings provide a forum to verbally and visually present the highlights of the project status. SLI is experienced in developing and presenting status reports and debriefings to all levels of management. SLI understands the importance of communicating accurate and timely project status to ensure stakeholders are fully aware of progress as well as any key decisions or project schedule changes.

The SLI Team works with the Replacement Project community to define the content and format to use for status meetings and briefings. The SLI IV&V Team uses standard meeting attendance forms to capture the names of all attendees. During the meeting, the SLI IV&V Project Manager conducts a walk-through of the topics and any outstanding risks and issues that require management and stakeholder action. SLI's Project Manager summarizes the overall status of the project and the SLI IV&V Team responds to questions regarding methods employed, status, and recommendations.

The SLI IV&V Team keeps notes and a log of action items to consolidate with minutes distributed by the State staff. This information supplements our monthly status reports.

We create meeting agenda and briefings using Microsoft PowerPoint, including handouts to meeting attendees. The presentation itself provides valuable time for the project leadership to hear first-hand from our IV&V Project Manager and engage in further discussion of project status.

V.B.1.4. *Provide Written Monthly Status Reports (3.5.1.4)*

3.5.1.4 Provide written monthly status reports.

In our IV&V engagements, the SLI IV&V Team uses written monthly reports as a standard method of keeping the State IV&V Contract Officer and other key stakeholders informed about what's going on with the project (i.e., availability of key personnel and deliverables due within the next 60 days). No more than once a month during active work conducting a semi-annual (Initial or Periodic) IV&V Review, a report is generated to inform the IV&V Contract Manager of current contract status, availability of SLI IV&V key personnel, work and deliverables expectations prospective to the next sixty (60) days in the contract schedule.

V.B.1.5. *Prepare and Deliver IV&V Quality Checklists (3.5.1.5)*

3.5.1.5 Prepare and deliver IV&V Checklists, presenting in Question and Answer format elements to be reviewed, observed, monitored, and commented on, with regard to all aspects of industry standards for Project Management, Software and Systems Development, and Engineering disciplines as found in IEEE, CMI, and PMBOK industry standards, at a minimum.

SLI has an extensive repository of IV&V quality checklists for the various types of deliverables produced and tasks performed for a typical software development project. SLI's checklists are based on the specific industry standards applicable to each deliverable and process under review. These checklists have been used successfully for review of deliverables and processes on numerous IV&V projects like the Replacement Project. The completed assessments include SLI's findings on the completeness and correctness of deliverables, plans, and processes as applied to the Replacement Project. Where updates and changes are appropriate, recommendations for improvement are presented, as depicted below, in *Exhibit V.B-2: SLI's IV&V Quality Checklist Process****.***

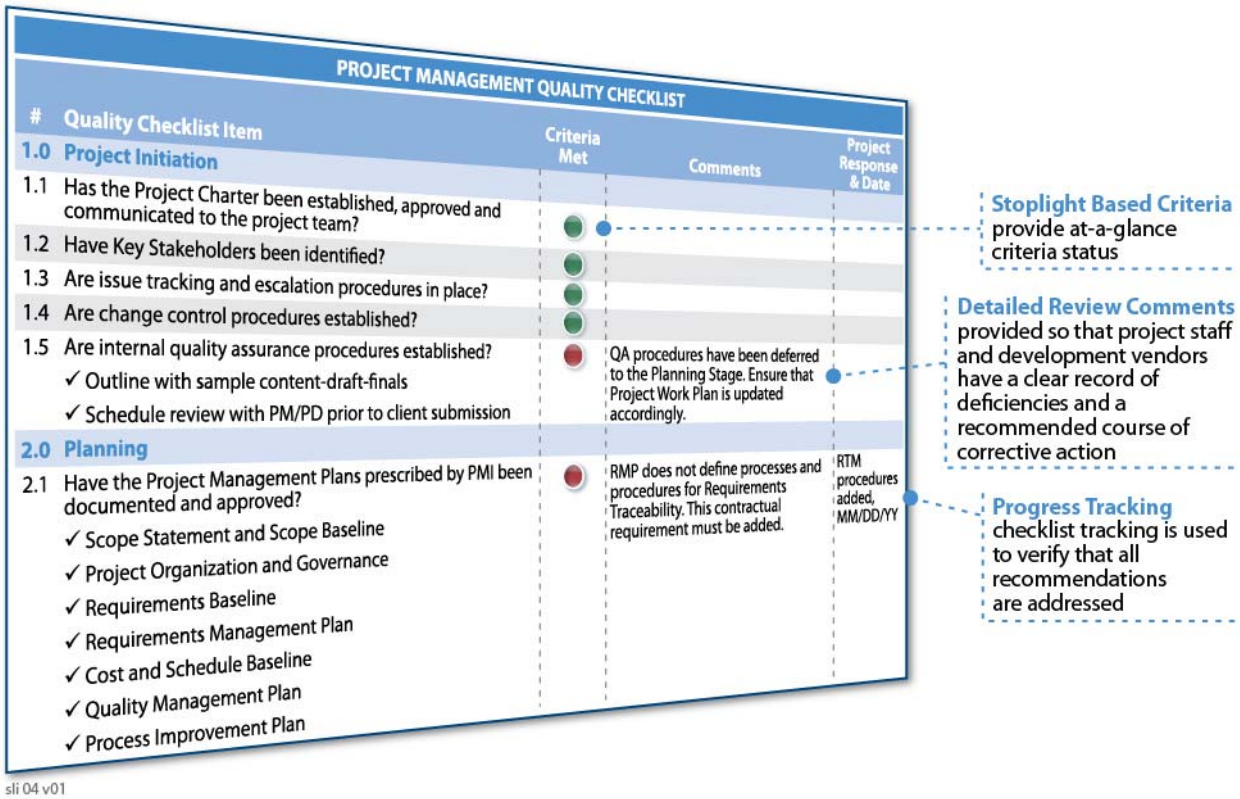


Exhibit V.B-2: SLI's IV&V Quality Checklist Process. *SLI reviews vendor deliverables and processes using standards based checklists that provide meaningful feedback on contract compliance and actionable recommendations for improvement.*

SLI's IV&V quality checklists are provided in a "positive statement" format such that if the criteria have been met by the deliverable or process under review, then the analyst will simply note it as such and reserve their comments and recommendations for those attributes that are not clearly met. SLI tailors our checklists to the specifics of the Replacement Project using SIGNaL our automated repository of interview questions and checklists. SLI's IV&V PMP describes processes, standards, and tools that are used to develop and manage artifacts. The plan

addresses defined templates, tools, guides, and checklists. SIGNaL facilitates the incorporation of new approved checklists and checklist items into our checklist repository.

V.B.1.6. *Compile and Deliver IV&V Quality Checklists (3.5.1.6)*

3.5.1.6 The IV&V Quality Checklists are to be compiled and delivered on an ongoing basis,

The SLI IV&V Team prepares checklist using our corporate SIGNaL utility; which is aligned with industry standards for Project Management, Software and Systems Development, and Engineering disciplines from in IEEE, CMI, and PMBOK. We use Question and Answer format to present elements to review, observe, monitor, and comment on.

We deliver the first IV&V Quality Checklist prior to the onsite portion of the initial review. We then deliver IV&V Quality Checklists, updated as necessary, prior to the on-site portion of each periodic IV&V Review.

V.B.1.7. *Prepare and Deliver Invoices (3.5.1.7)*

3.5.1.7 Prepare and deliver invoices for payment no more than once a month during active work

The SLI IV&V Project Manager submits invoices during active review cycles once we receive the original deliverable sign-off form. Each invoice is accompanied by any required supporting documentation, including deliverable sign-offs.

Invoices are contingent to the acceptance of the associated deliverable(s). SLI invoices the State after formal acceptance of the subject deliverable(s) in writing but no later than fifteen calendar days after the end of the month in which the Deliverable was accepted.

SLI recognizes that the State is not liable for any services rendered or obligations incurred on behalf of the State by SLI before execution of contract and that all payments shall be made in accordance with State procurement regulations. The State reviews each invoice for Contract compliance and completeness. If the State determines that an invoice is not acceptable under the provisions of the Contract or is otherwise incomplete, SLI corrects any deficiencies and resubmits before the State processes the invoice for payment.

SLI provides additional information and/or documentation as the State may reasonably require. SLI also responds to State requests for additional information and/or documentation to support payment within five (5) calendar days of receipt.

V.B.2. Deliverables (3.5.2)

3.5.2 Deliverables

3.5 PLANNING AND ADMINISTRATION DELIVERABLES			
DELIVERABLE NUMBER	DESCRIPTION OF DELIVERABLE	ACTIVITY	*STATE'S ESTIMATED REVIEW TIME (WORKING DAYS)
3.5.2.1	Detailed Project Plan	3.5.1.1	15
3.5.2.2	Attendance at all scheduled meetings	3.5.1.2 through 3.5.1.3	N/A
3.5.2.3	Written Monthly Project Status Reports	3.5.1.4	5
3.5.2.4	IV&V Checklists	3.5.1.5 and 3.5.16	15

*As stated previously, the State's review time begins following the Federal OCSE's review, and is limited to mistakes of fact and comments to be appended.

Our proposed IV&V Project Manager, Mr. Carl Blanchette, ensures quality preparation and on time delivery of all SLI deliverables to the State IV&V Contract Officer. All deliverables produced by SLI are delivered directly to the Federal OCSE and the State IV&V Contract Officer at the same time.

As part of the SLI defined process, the State may not modify, or reject any IV&V Review Report beyond recommendations to amend mistakes of fact. State comments to all IV&V Review Report findings are appended to the associated revised report.

SLI provides deliverables that meet our client's needs. One of the ways this is accomplished is that before submitting our deliverables, SLI provides Deliverable Expectation Documents (DED) for consensus on the content, format, and organization of the deliverable. SLI works with the State regarding the activities and schedule of each individual review and report.

SLI develops deliverables in accordance with CMMI, PMBOK, IEEE, and ITIL (or substantially and acceptably similar) standards. Where no applicable industry or project standard is available, SLI defines and delivers processes used in the analysis and creation of the deliverable to the State for approval prior to its use. We also describe the methodology/process in the final deliverable.

Routinely, SLI submits deliverables on time. However, should there be a circumstance where the scheduled delivery date is in jeopardy, SLI notifies the State IV&V Contract Officer of an anticipated delay of a deliverable as far in advance of the due date as possible.

Exhibit V.B-3: Planning and Administration Deliverables for Replacement Project IV&V Services ***reflects the deliverables defined in the RFP's Statement of Work:***

Activity/Task	Deliverable
3.5.1.1 Develop IV&V Management Plan	***IV&V Management Plan (Detailed Project Plan)***
3.5.1.2 Attend Monthly Project Status Meetings ***3.5.1.3 Participate in Project Meetings***	***Attendance at All Scheduled Meetings during each review cycle.***
3.5.1.4 Provide Written Monthly Status Reports	***Monthly IV&V Report Contract Status Reporting to IV&V Contract Officer, and Replacement Project Manager during each review cycle.***
3.5.1.5 Prepare and Deliver IV&V Checklists ***3.5.1.6 Compile and Deliver IV&V Checklists***	***IV&V Checklists***

Exhibit V.B-3: Planning and Administration Deliverables for Replacement Project IV&V Services.

Each of these IV&V deliverables are detailed in the sections below. There are also associated in with the activities described in section *V.B.1. Activities (3.5.1)* ***above.***

In all reports, SLI provides the State with quantified information on the progress the State has made against the recommendations from the previous review. SLI creates a log, printed in reports, with all findings and recommendations traceable from creation to closure.

V.B.2.1. *Detailed Project Plan (3.5.2.1)*

IV&V Project Management Plan Development Steps	
Description	***The IV&V PMP provides comprehensive and practical information for how the SLI IV&V team manages the IV&V engagement. The plan includes the tasks IV&V undertakes for the project, the mechanisms used to monitor, control, and adjust the IV&V activities, and the schedule of IV&V review.***
SLI Approach	***SLI begins the process for each IV&V PMP by gathering and reviewing all applicable information. The Team then outlines the strategy to ensure the Plan is comprehensive and satisfies all State and the Federal OCSE guidelines and requirements. The Plan is next drafted and reviewed with the Project Team to make appropriate updates and submit for review/approval.***
Tasks to Develop the Deliverable	***For each IV&V PMP, the SLI IV&V Team:*** ➢ ***Gathers all available information on the project.*** ➢ ***Reviews and analyzes the information to ensure complete understanding.*** ➢ ***Request documentation or meetings to clarify understanding or fill in knowledge gaps.*** ➢ ***Outlines Plan strategy to satisfy all State and the Federal OCSE requirements.*** ➢ ***Drafts the initial plan and conducts internal reviews.*** ➢ ***Submits the draft plan to the State for review and comments (meetings are conducted as needed).*** ➢ ***Obtains reviews and comments from the State and makes updates to the plan.*** ➢ ***Submits the plan for review and approval per the defined Deliverable Review Process.***
Deliverable Frequency	***Initial Plan is created for each project and updated per triggers defined in the plan.***
Delivered to	***State IV&V Contract Officer and Final Deliverable to Federal OCSE***

Exhibit V.B-4: IV&V Management Plan Overview.

V.B.2.2. *Attendance at All Scheduled Meetings (3.5.2.2)*

3.5.2.2	Attendance at all scheduled meetings	3.5.1.2 through 3.5.1.3	N/A

The SLI IV&V Team's attendance at regular and ad-hoc project meetings provide us with the ability to capture meeting minutes and reconcile with the minutes captured and distributed by the State staff within 5 business days of each meeting. This information in used to prepare our Monthly Project Status Reports for the State IV&V Contract Officer and the Replacement Project Team.

V.B.2.3. *Written Monthly Project Status Reports (3.5.2.3)*

3.5.2.3	Written Monthly Project Status Reports	3.5.1.4	5

The SLI IV&V Monthly Status Reports consolidate findings and recommendations from IV&V activities. The format and content are as agreed to with the State.

☛ ***Our monthly project status reports provide the State IV&V Contract Officer with continuous feedback on the whereabouts of the project through the project duration.***

Monthly Project Status Report	
Description	***SLI provides Monthly Project Status Reports over during active work conducting a semi-annual (initial or periodic). The objective of the monthly report is to present the status of the IV&V project, availability of SLI key personnel, work and deliverable expectations for the next sixty (60) days in the contract schedule.***
SLI Approach	***As an active partner in Replacement Project, SLI reports on the status of the project, availability of key personnel and work and deliverable expectations for the next 60 days.***
Tasks to Develop the Deliverable	***On a monthly basis, the SLI IV&V Team:*** ➢ ***Gathers data related to approved reporting metrics related to project status;*** ➢ ***Reviews the Replacement Project and Replacement Project Vendor plans to determine key personnel available and work/deliverable expectations for the next 60 days***
Deliverable Frequency	***Monthly***
Delivered to	***State IV&V Contract Officer***

Exhibit V.B-5: Monthly IV&V Report Overview.

V.B.2.4. *IV&V Checklists (3.5.2.4)*

3.5.2.4	IV&V Checklists	3.5.1.5 and 3.5.16	15

SLI has a well-established and effective process and corporate toolset for performing insightful reviews of project artifacts and vendor deliverables.

SLI has an extensive repository of IV&V Quality Checklists for the various types of deliverables produced and tasks performed on software development projects. SLI's checklists are based on the specific industry standards applicable to each deliverable and process under review. SLI has successfully used these checklists for review of deliverables and processes in over a hundred IV&V projects. The completed assessments include SLI's findings regarding the completeness and correctness of the deliverable and process for each IV&V Quality Checklist item.

SLI's IV&V Quality Checklists are provided in a "positive statement" format such that if the criteria have been met by the subject deliverable or process under review, then our analysts simply note it as such and reserves their comments and recommendations for those attributes that are not clearly met.

This allows our analysts to focus their recommendations and comments only on areas that need improvement and include SLI's findings regarding the completeness and correctness of the deliverable/process for each IV&V Quality Checklist item. Where items are lacking, SLI proposes recommendations for improvement as depicted above. SLI's IV&V practitioners are adept at keeping our assessment services relevant to the needs of the Replacement Project as it evolves. Our IV&V Team is skilled in the use of tools available to them in our SQM³ Methodology Knowledge Center.

SLI's Team defines IV&V standards and selects the appropriate SLI IV&V quality checklists used for our Initial and Periodic IV&V Reviews, as well as individual deliverable assessments. For IV&V

reviews, we confirm the processes and artifacts to be reviewed specific to the phase of the project at the time of review. SLI delivers IV&V Quality Checklists configured to the appropriate phase or stage of the Replacement Project, with the first checklists being delivered applicable to the project lifecycle phase or stage to be monitored and reviewed within the Initial IV&V review period, with such checklist delivery made prior to the onsite portion of the review being performed. As IV&V work progresses and project lifecycle phases change, applicable, updated IV&V Quality Checklists are delivered, as needed, prior to commencement of the on-site portion of that respective IV&V review.

We provide several examples of our IV&V Quality Checklists for many of the Task Areas defined in your Statement of Work. The checklists are working documents and can be configured to the specifics of the Replacement Project. Within SLI's IV&V Management Plan we have allotted time to configure or if necessary even develop specialized checklists for the project. As an example, one of the first Task Areas the SLI team addresses is the assessment of Replacement Project Management processes and products. We utilize a PMBOK based checklist, an excerpt of which is provided below in *Exhibit V.B-6, SLI Project Management Quality Checklist****, to objectively conduct this review and make recommendations for improvement in the "SLI Comments" column. Responses to findings and recommendations are tracked and reported in the same checklist document.***

PROJECT MANAGEMENT QUALITY CHECKLIST

#	Quality Checklist Item	Criteria Met	SLI Comments	Project Response & Date
1.0	**Project Initiation**			
1.1	the Project Charter has been established, approved, and communicated to the project team			
1.2	Key Stakeholders have been identified			
1.3	The initial Project Work Plan is complete			
1.4	The baseline Project Work Plan has been developed and includes: ✓ Schedule with deliverable due dates (outline-draft-finals) ✓ Key milestones ✓ Staff loading (including coordination of subcontractors and client resources)			
1.5	The preliminary project budget is complete			
1.6	The following logistics are complete: ✓ Secure physical space and work areas			

Exhibit V.B-6: SLI Project Management Quality Checklist

To provide the State with a sense of the breadth of Task Areas covered by SLI's portfolio of Quality Checklists, we provide a screen shot of our SQM³ Checklist Page from SLI's SharePoint portal as *Exhibit V.B-7, SLI's Portfolio of Quality Checklists****.***

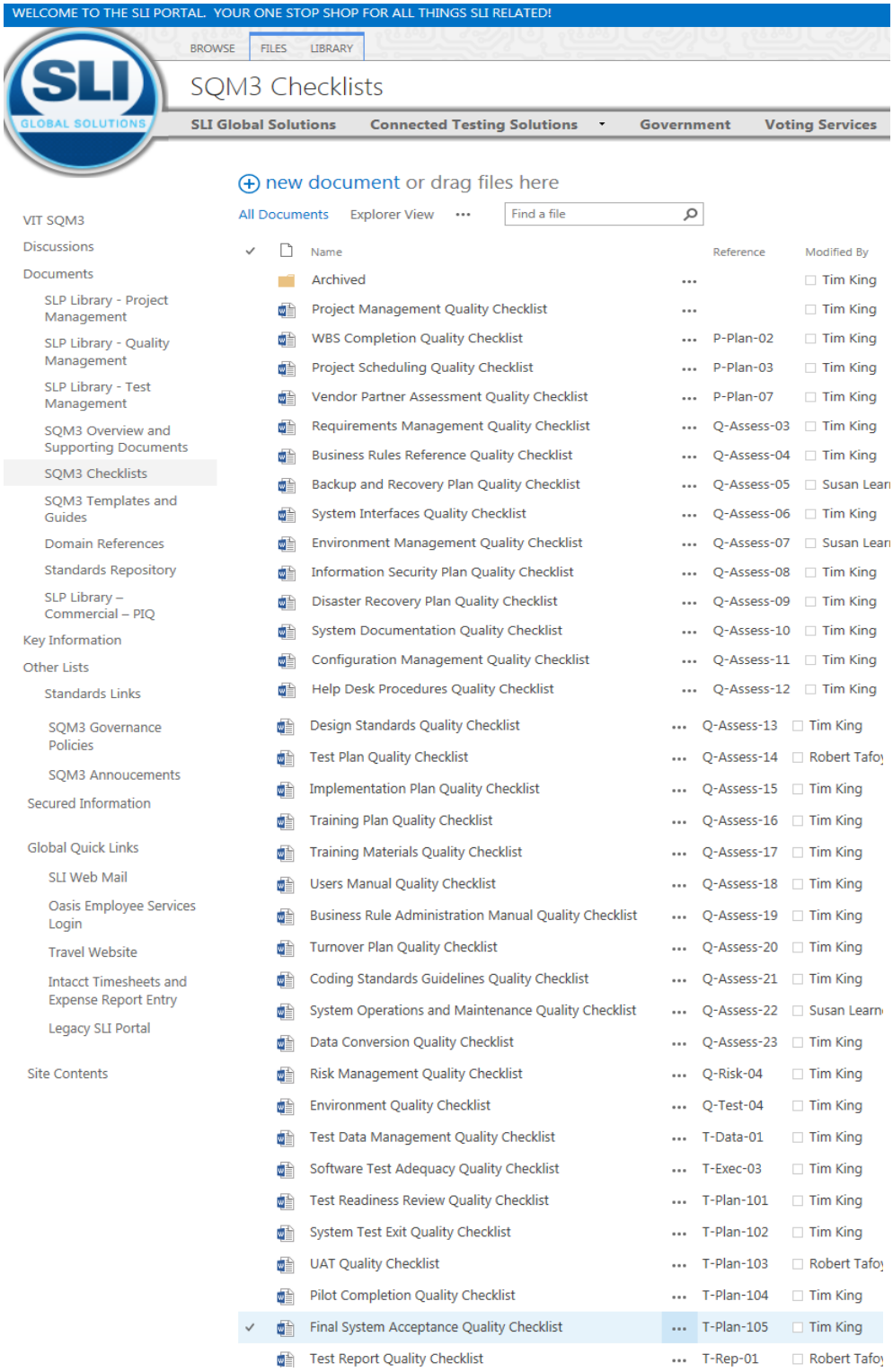


Exhibit V.B-7: SLI's Portfolio of Quality Checklists. *SLI has a library of standards based IV&V Quality Checklists that are ready to be deployed, as necessary, on the Replacement Project.*

V.C. IV&V Activities (3.6)

V.C.1. Objective (3.6.1)

RESPONSE FOR EACH ACTIVITY LIMITED TO 5 PAGES or COMBINED TOTAL OF ALL RESPONSES 35 PAGES
3.6.1 Objective T he objective of this task is to conduct and report on IV&V activities to ensure quality processes and results for the CSEP's Replacement Project.

The main objective of the State of Nevada is to successfully replace the Child Support functionality of NOMADS with a compliant unified solution for all locations across the State. The IV&V portion pursues the objective of assessing the quality built in the solution, compliance with applicable standards, and potential recommendations for improvement. SLI perform the IV&V activities required by this solicitation, as described below.

V.C.2. Activities (3.6.2)

V.C.2.1. *Conduct Initial IV&V Review of the Replacement Project*

3.6.2.1 Conduct initial IV&V Review of the Replacement Project.

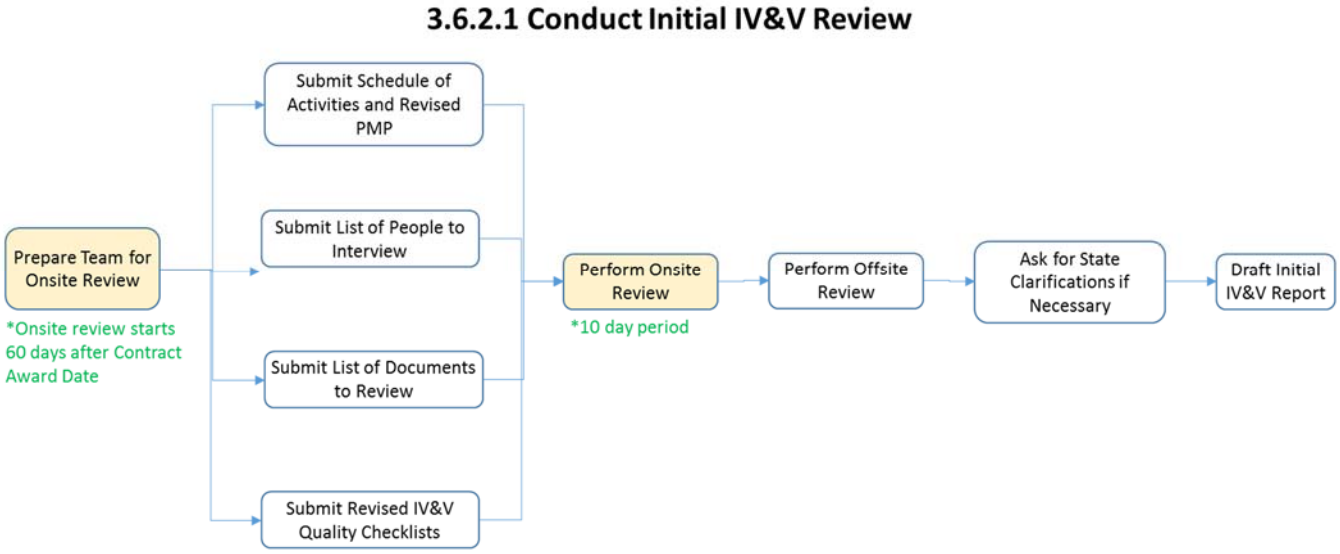


Exhibit V.C-1: Initial IV&V Review Process.

As each project is initiated, the project receives an initial assessment that is included in all subsequent periodic assessments moving forward. The process we follow is depicted in** Exhibit V.C-1: Initial IV&V Review Process **above.

The activities conducted during the Replacement Project Initial IV&V Review lays the foundation for coordination of detailed schedules for IV&V Reviews so that project team members are informed and aware of the interviews and the other IV&V activities that take place during an IV&V Review. Further, IV&V identifies the project documentation required by the IV&V Team to complete the review. SLI's Initial IV&V Review requires preparation prior to the on-site review to configure structured checklists and interview guides, identify interviewees, review existing project artifacts and coordinate schedules with the Replacement Project Team for attending meetings and conducting interviews.

To meet the 60-day time frame, SLI assumes that the SLI IV&V Team will receive timely responses from the State and have access to the project library and project staff. We presume the State will provide requested documents within 5 days of request.

SLI IV&V Team conducts the on-site portion of the Initial Review within a 10-calendar day period following delivery of our updated IV&V Management Plan. SLI IV&V Team is respectful of the project team's time and makes every effort to ensure that meetings start and end on time, that agendas are prepared and distributed before meetings, and minutes/action items are documented and distributed. Once the on-site portion of the Initial IV&V Review is completed, our team continues to review project deliverables and artifacts using our SCORe commenting tool. When the review activities are completed, we prepare our Initial IV&V Review Report.

SLI's Initial IV&V Review delivers critical information that key stakeholders can use to mitigate risks during the project lifecycle. The detailed information on each of the key IV&V focus areas is collected by SLI during our review of Initial project deliverables such as Project Charters, Governance, Planning Documents (Schedule, Resource, Scope, Risk, Issue, Communication, Change Control), work plan schedules, and State Standards.

The Initial IV&V Review focuses directly upon review of the status of contractor submitted planning and project documentation, and overall project governance, toward addressing the overall goals, objectives, and project milestones of the Replacement Project. The SLI IV&V Team:

- ***Provides an understanding of the approach, plans, processes and procedures for the assessment areas under review.***
- ***Works with the Project Management Team to ensure that IV&V Findings and Recommendations are clearly understood and actionable***
- ***Prepares the next review cycle to ensure that the appropriate IV&V resources are scheduled to conduct reviews of upcoming deliverables and risk areas.***

Work performed during the Initial IV&V Review allows us to map out the next cycles, to ensure that the appropriate IV&V resources are scheduled to conduct reviews of upcoming project activities, deliverables, and risk.

During the Planning Stage, IV&V focus moves from IV&V Project Management to planning, preparing and executing the initial assessments. The SLI approach to the initial IV&V assessment includes looking at the broad aspects of the ongoing procurement management, project management, quality management, design, development, and testing and implementation efforts.

The Initial IV&V Review focuses directly on the review of the status of the Replacement Project, and contractor-submitted planning and project documentation, and overall project governance towards addressing the overall goals, objectives, and project milestones of the project. In addition to project governance, we anticipate a need for assessing procurement plans and processes. It also allows us to map out ongoing IV&V activities for the first periodic assessments following the initial assessment. This enables us to ensure the appropriate SLI experts are scheduled to conduct reviews of project deliverables and associated risk areas.

These activities lay the foundation for coordination of detailed schedules for on-going assessments so that project team members are aware of the interviews and the other IV&V activities that take place during an IV&V assessment. IV&V PMP also identifies the project documentation that is required by the IV&V Team to complete the review.

Our initial assessment compiles analysis results and observations. It also identifies key project status milestones and/or shortcomings to be summarized in the Initial Review Report. Review findings and recommendations for improvement are included within the report. The report includes positive findings, as well as recommendations for areas of improvement. Additionally, near-term project activities are reviewed and the meetings or presentations that are important to the IV&V review are identified. The SLI IV&V Team reviews the State's project plans in order to make this determination.

The Initial IV&V Review Assessment Report contains project management process areas, and including evaluations topics:

- ***What are the current processes, procedures, practices, and technology?***
- ***What is working about the current processes, procedures, practices, and technology?***
- ***What current processes, procedures, practices, and technology need improvement?***
- ***Are the current processes, procedure, and practices achieving the desired results?***
- ***Is the project documentation accurate and up-to-date?***

The planning and organization of these activities implement the game plan established by SLI's approved IV&V Management Plan.

SLI observes project activities, conducts interviews with selected project staff, project stakeholders, and reviews project artifacts to create a comprehensive understanding of the status of the project governance and processes. We understand the objective of the Initial IV&V Assessment is to provide an independent assessment that the plans, management, organization, schedule and resources assigned are adequate to deliver the Replacement Project on-time and within budget. We view this Initial IV&V Assessment of the Replacement Project as a foundational task and deliverable that sets the stage and direction for all subsequent IV&V tasks and deliverables.

This organized approach allows the IV&V Team to gather the information necessary for evaluating the project management artifacts and activities. These scheduling and preparation activities are done in advance of the beginning of on-going review cycles:

- ***Create a detailed schedule of review activities for the initial assessment, including identification of needed project personnel***
- ***Create and deliver SLI Interview Guides to selected personnel to be interviewed***
- ***Create a list of specific documentation produced by the project required for the initial assessment***
- ***Create a detailed schedule, based on the updated work plans for the project, of meetings that IV&V attends during the review***
- ***Conduct interview and collect data making use of SLI Quality Checklists***
- ***Develop detailed recommendations, including actionable responses assigned to specific groups that are included as the IV&V Risk Tracking Log within the Review Report.***

The detailed information on each of the key IV&V focus areas is collected by SLI during our review of the following:

- ***Procurement documents including Opportunity Notices, Proposals, BAFOs, Contracts, and Subcontracts***
- ***Initial project deliverables such as Project Charters, Governance Documents, Planning Documents (Schedule, Resource, Scope, Risk, Issue, Communication), work plan schedules, and State Standards***

SLI drafts and submits the Initial IV&V Report (Draft); incorporates feedback, finalizes and submits the Initial IV&V Report (Final).

SLI's Initial IV&V Assessment delivers critical information that key stakeholders can use to adjust project processes and governance in order to mitigate risks and improve the likelihood of a successful implementation.

V.C.2.2. *Create the Initial IV&V Review Report (Draft and Final) (3.6.2.2)*

3.6.2.2 Create the Initial IV&V Review Report (Draft and Final). .

SLI's Initial IV&V Review evaluates all areas of the project described in the solicitation. The Initial IV&V Report provides project context and quantitative data on each area analyzed and includes actionable recommendations on how project management, quality, and development processes can be improved.

SLI ensures the following content and sections are incorporated into the Deliverable Expectation Documents (DED) which shall have approval from State IV&V Contract Officer and Federal OCSE prior to construction for IV&V Reports. The following example of the sections and proposed content is finalized with the State during the Project Initiation Phase:

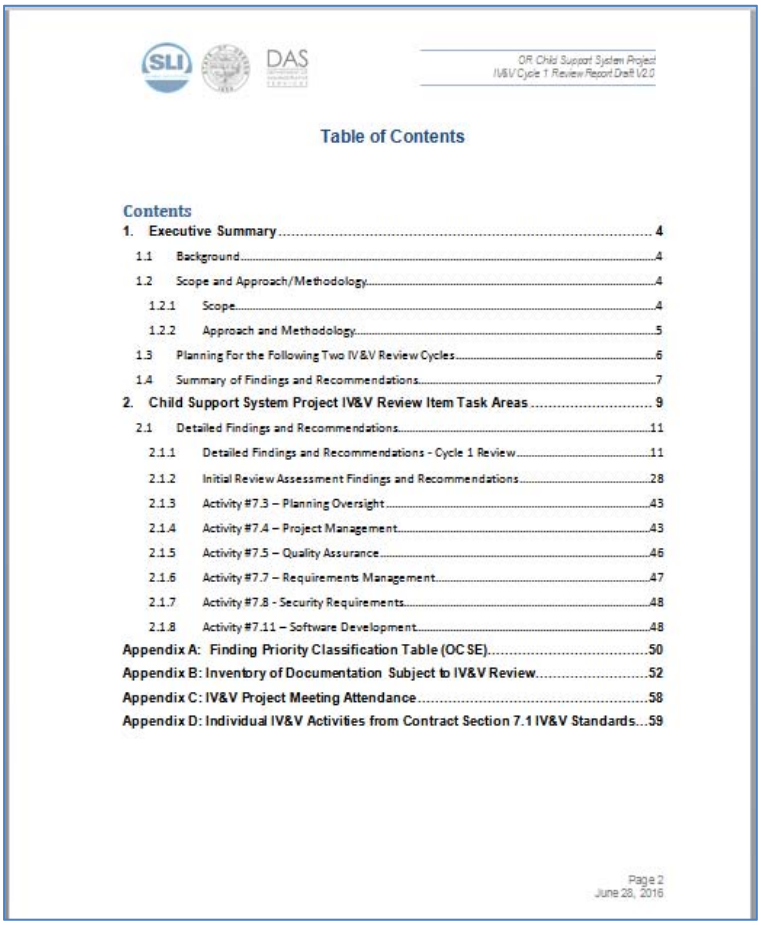
1. Executive Summary: ***A one (1) – two (2) page summary of the project, IV&V status and a brief description of new findings.***
2. Scope and Objectives***: A short narrative describing the scope and objectives of the applicable IV&V Report***
3. Methodology: ***A narrative description of the standards and processes used in the performance of IV&V services. Following the narrative is a table listing all interviews conducted, documentation reviews performed, artifacts analyzed, etc., including documentation requested but not provided and interviews declined or not otherwise conducted***
4. Comment Logs***: A record of comments on documents reviewed by the SLI IV&V Team.***
5. Replacement Project Status Review***: A narrative describing the current status of the Replacement Project, including any pertinent background information.***
6. IV&V Findings: ***A narrative discussion of the new findings, recommendations, the applicable standards used in determining the deficiency in question and a federal prioritization. Recommendations specify what can be done immediately and in the long term to improve CSES operations. Any technologies, methodologies, or resources recommended reflect industry standards and be appropriate for the unique circumstances and constraints of the Replacement Project. Recommendations specify a method of***

measuring the States progress against the recommendations. Some of our findings may be actual risks that the Replacement Project should include in the Project Risk Register.

7. Findings & Recommendation Status: ***A table, broken out by activity area, presenting the status of existing findings and associated recommendations, as well as new findings and recommendations. Quantified information on the progress made against the recommendations is included. Additional and/or modified recommendations are at the same level of detail as the initial finding recommendation. All findings and recommendations are historically traceable, with a clean and consistent method of identification/numbering, from the time of reporting to closure. Based on responses from the State, the IV&V Team may recommend closure of some findings contingent on authorization for closure from OCSE.***

8. Next Steps: ***A brief review/overview of what IV&V activities to be conducted for the next IV&V Report.***

In** Exhibit V.C-2: Sample IV&V Report Table of Contents**, we provide a copy of the TOC from the most recent IV&V Report from our Oregon CSE IV&V engagement. It contains content that is nearly identical to that which the State requires.



OR Child Support System Project
IV&V Cycle 1 Review Report Draft V2.0

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***Exhibit V.C-2: Sample IV&V Report Table of Contents**: For the SLI IV&V Project in Oregon our team generates semi-annual Review Report that are delivered to the State IV&V Contract Officer and OCSE that mirror those developed for DWSS and Federal OCSE.*

An Initial IV&V Review typically focuses on the status of submitted planning and project documentation, and overall project governance, toward addressing the overall goals, objectives, and project milestones of the Replacement Project. The diagram below illustrates our report preparation procedure.

3.6.2.2 Create Initial IV&V Review Report

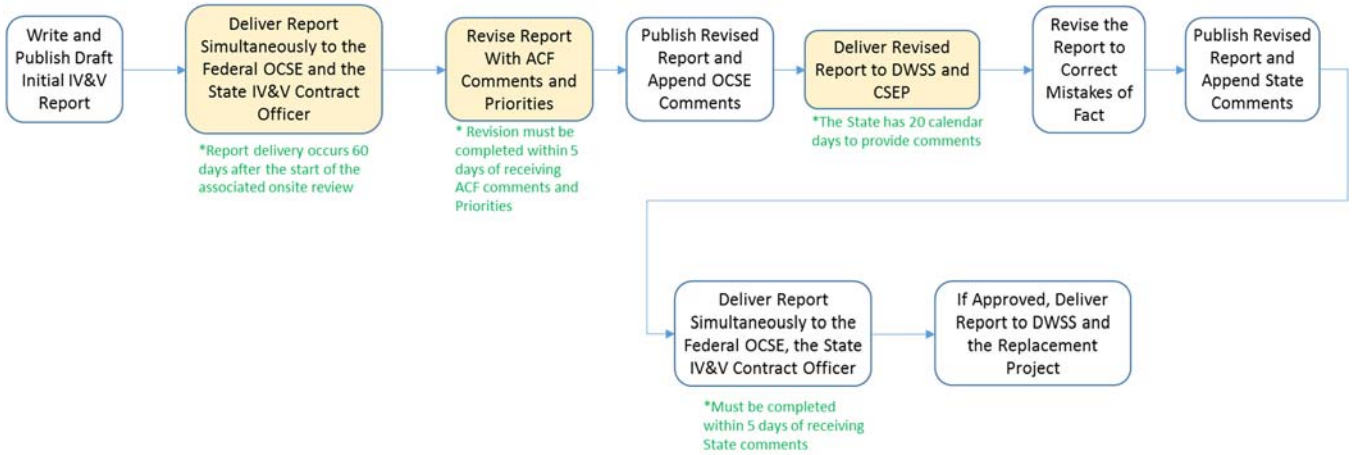


Exhibit V.C-3: Process to Create the Initial IV&V Review Report.

The Initial IV&V Review Assessment Report contains project management process areas, and including evaluations topics:

- ***What are the current processes, procedures, practices, and technology?***
- ***What is working about the current processes, procedures, practices, and technology?***
- ***What current processes, procedures, practices, and technology need improvement?***
- ***Is the State making measurable progress in this area?***
- ***Are the current processes, procedure, and practices achieving the desired results?***
- ***Is the effort within the triple constraints of budget, scope, and schedule?***
- ***What standards is the project following (State, industry [IEEE, SEI, ISO, etc.,]) internally***
- ***Is the project documentation accurate and up-to-date?***
- ***Is there adequate Stakeholder involvement in the Project?***
- ***Are best practices and metrics employed to identify issues, progress, performance, etc.?***

V.C.2.2.1 Initial Review Report

SLI's Initial IV&V Review Report contains an evaluation of the checklists and the evidence related to the checklists. SLI delivers a draft Initial IV&V Review Report to the Federal OCSE and the State IV&V Contract Officer as defined in the IV&V PMP. SLI understands that the IV&V Contract

Officer provides initial comments for the initial draft report. SLI then submits the Draft report to appropriate State and Department reviewers for the 20-calendar day review period.

SLI's SCORe utility expedites our reports production.
For instance, in our engagement with the State of Oregon, we hold a Debrief Meeting at this stage to ensure the State understands our Findings. This clarification is a benefit to all parties; it saves time and makes the State responses to our findings/recommendations more accurate. We also have a debrief in all Reviews Cycles.

V.C.2.2.2 Final Initial Review Report

Once the draft is returned with State and Department comments after the 20-calendar day review period, the IV&V Team, within 5 calendar days, corrects mistakes of fact to the draft version of the Initial IV&V Review Report and appends to the draft version all State comments. SLI then redelivers the Initial IV&V Review Report, marked as Final, to the IV&V Principal Representative, State Project Manager, and Department.

SLI submits all deliverables to the Federal OCSE, at the same time they are provided to the State IV&V Contract Officer for review and approval in accordance with 45 CFR 307.15(b)(10)(ii).

V.C.2.3. Conduct Periodic IV&V Review Activities. (3.6.2.3)

3.6.2.3 Conduct Periodic IV&V Review Activities.

3.6.2.3 Conduct Periodic IV&V Review

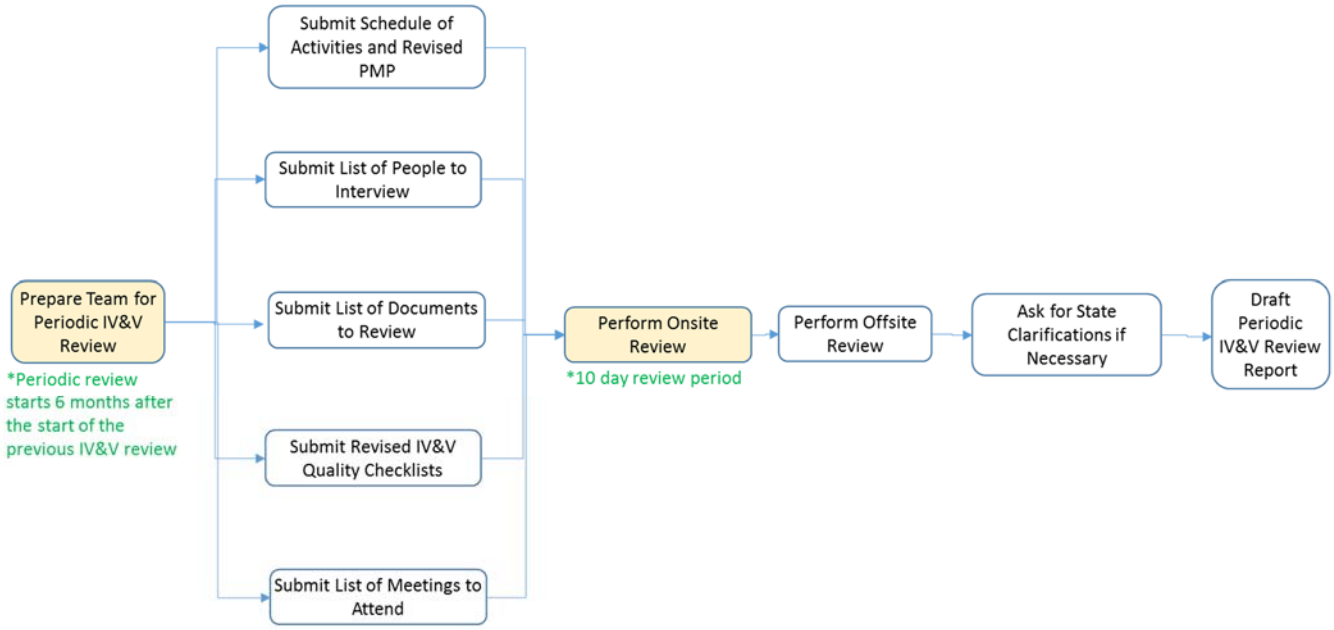


Exhibit V.C-4: Periodic IV&V Review Process.

The same planning, scheduling, and detailed preparations are required for each Periodic Review of the Replacement Project. The process we follow to conduct a Periodic IV&V Review is depicted in** Exhibit V.C-4: Periodic IV&V Review Process **above.

The delivery of this planning effort begins at the end of the previous cycle and then 3 weeks prior to onsite visit by IV&V Team, as defined in the IV&V PMP. SLI's IV&V Project Manager contacts the IV&V Contract Officer to verify the start date of the review cycle, determine updates in project status, and begins to ascertain the project activities that currently have the highest priority. Decisions regarding the need for specific expertise from our IV&V Team are made and the required staffing resources are arranged. SLI assigns the appropriate IV&V technical personnel, depending upon the phase and status of the project. The IV&V PMP is then adjusted and submitted to IV&V Contract Officer showing the projected IV&V schedule, staffing, and tasking levels for the upcoming Periodic Review.

In addition, Replacement Team and other vendors team members are identified for interviews, as are the deliverables that are scheduled for review. Our goal is to make certain that all stakeholders have advance notice and are fully aware of what is required of them to support the IV&V Periodic Review. SLI understands that the State staff and the vendor community team members have multiple demands on their schedules. Our team makes every effort to ensure that our IV&V activities are efficient, productive, and respectful of everyone's schedules, without compromising the integrity of our reviews.

Each of our Periodic Reviews and associated Periodic IV&V Review Reports provide continuity to the previous Periodic Review over the life of the project. This retrospective and longitudinal aspect of Periodic Reviews and associated reporting provides real value to the State of Nevada over the lifecycle of the project. Processes and plans that are reviewed during the Initial Review are revisited as the project progresses to assess if they are performing as planned, are being followed, have their associated recommended corrective action(s) implemented, and if the corrective actions are effective. As the project progresses, processes and plans that were effective in one phase may need revision to accommodate the transition to another phase. The Periodic Reviews monitors the effectiveness of established processes at every stage of the System Development Lifecycle (SDLC) performed for the Replacement Project.

SLI IV&V Team starts each Semi-Annual Review by coordinating with the Replacement Project Manager to determine the status of project activities and tasks. Prior to each Semi-Annual Review, the required activities are analyzed and prioritized and the SLI IV&V Team begins coordinating project stakeholder interviews and deliverables to be reviewed. During the Semi-Annual Review, we also review the status of IV&V findings and recommendations made in previous review cycles.

SLI IV&V Team uses the same planning, scheduling, and detailed preparations for each semi-annual review cycle as those used for the Initial IV&V Assessment. SLI's IV&V Project Manager contacts the Replacement Project Manager to verify the start date of the review cycle, determine updates in project status, and begin to ascertain the project process areas that currently have the highest activity and priority. Decisions regarding the need for specific expertise from the SLI IV&V Team are made and the required staffing resources are arranged.

SLI IV&V Team provides the appropriate technical personnel as needed, depending upon the phase and status of the project. The work plan is then adjusted and submitted to the State's Project Manager showing the projected IV&V schedule, staffing, and tasking levels for the review. In addition, project staff to be interviewed are identified and the deliverables that are scheduled for review. That way, the SLI IV&V Team is immediately productive and the use of Replacement Project team members' time is kept to a reasonable minimum.

A meeting is scheduled with the Replacement Team to coordinate the on-site review activities; review current project status, review risk and issues identified in the previous cycle(s); locate documentation and deliverables available since the previous review cycle; and confirm the interview schedule for project team members and stakeholders. The SLI IV&V Team completes the assessments of each of the areas that are the focus of the subject review cycle.

Semi-Annual Review Planning tasks include:

- ***Submit a schedule of review activities to be performed***
- ***Submit a list of project team and stakeholder interviews to be performed***
- ***Submit a list of project deliverables to be provided for SLI IV&V Team review***
- ***Submit a list of project meetings to be attended and observed by the SLI IV&V Team***

Semi-Annual Assessment tasks include:

- ***Review status of risks and issues from previous cycles.***
- ***Assess effectiveness of any risk mitigation efforts.***
- ***Review deliverables and produce Deliverable Review Reports.***
- ***Conduct interviews and collect data in adherence with each of the focus areas as detailed in the solicitation, using SLI's IV&V checklists.***
- ***Present preliminary findings and recommendations of the SLI IV&V Project Manager.***

The bullets below outline, at a high level, the focus for each of the IV&V areas. Our findings and observations are included in the Semi-Annual IV&V Periodic Reports delivered at the end of each review cycle.

- ***Project Management. The assessment of project management includes examination of the organization, plans, procedures, and processes used to manage the overall initiative. SLI reviews and assesses the Project Schedule, Communication Management Plan, Risk and Issues Management Plans, Resource Management Plan, and Scope Management Plan. We ensure that the plans are in place, being followed, and most importantly, are effective. If any of these items are not occurring, we make recommendations to correct the deficiency.***
- ***Quality Management. The IV&V assessment of the Quality Management processes serves to inform the State of the thoroughness and effectiveness of the Replacement QA Vendor's product standards and process controls. SLI monitors specific QA results to determine if they comply with relevant quality standards, and identifying ways to eliminate causes of unsatisfactory performance. Our assessment considers if the plan emphasizes that quality must start at the beginning of the software implementation lifecycle and continue to be an integral part of the design, development, build, and test process. Our assessments evaluate the existence of product standards, the monitoring of the conformance to those standards, and the existence of an effective process for improvement. For the Replacement Project, the IV&V team also assesses the project's conformance with its CMM level practices.***

- ***Training.*** ***The Replacement Project is expected to include new business processes and workflows as a result of implementing of new requirements. The project results in the implementation of new technology that needs to be learned by State technical staff. The SLI IV&V team understands that the training material must address more than just operation and maintenance of the new system, but also include an understanding of new methods for performance tuning, testing, and system maintenance. SLI IV&V Team evaluates the timing of the training, development of the training documentation, the delivery methods employed, and the availability of it.***

- ***Requirements Management.*** ***SLI's approach to assessing Replacement Project Requirements Management focuses on the processes, tools, and infrastructure in-place to manage project requirements across the SDLC. SLI is familiar with industry leading requirements management software (e.g., IBM Rational suite, HPALM) and incorporates its features and functions into our assessment of Replacement requirements management. The SLI IV&V Team also understands that Requirements Management includes establishing an effective structure for the requirements to be associated with a specific hardware or software function or subsystem. SLI reviews requirements documentation to ensure this allocation occurs and is maintained.***

- ***Operating Environment.*** ***Our operating environment reviews new and existing system hardware configurations to determine if the performance meets the existing and proposed system requirements, and determine if the hardware is compatible with the current hardware environment and is maintainable and easily upgradeable. Assigned SLI IV&V Team members evaluate specifications of the new and existing system software's ability to meet the existing and proposed system requirements. We evaluate the current and projected support of the software components by the software vendors. We review the software's compatibility with the Replacement Project's current software environment, as well as maintainability and upgradability. The SLI IV&V Team assesses if new and existing System Software requirement capabilities are adequate to meet existing and proposed system requirements. We determine the adequacy of current and projected external contractor's support of application software.***

- ***Development Environment.*** ***The SLI IV&V Team understands that a development environment is critical to a successful solution for the Replacement Project. We review the environment to determine any gaps for the development process for new releases. Our IV&V Analyst also verifies and validates the documented, as well as the actual, environment for proper hardware configuration, proper development software versions, compatibility, and completeness. A review and evaluation of the software for proper versioning, upgrade availability, and compatibility is done to ensure the proper environment configuration is controlled and maintained.***

- ***Software Development.*** ***The SLI IV&V Team focuses on the alignment of five key areas of the software development process: Detailed Design, Integration, Job Control, Coding Standards and Practices, and Unit Test. The SDLC and methodology for each process must be well defined and documented so the process can be followed and measured. Our assessments examine these key process areas for software development.***

- ***System and Acceptance Testing.*** ***As an ISO 17025 accredited software testing authorities, SLI is highly sensitive to the need for and application of rigorous testing methodologies. Our IV&V experience shows that developers often advocate for a***

diminished testing timeframe as a solution for schedule slippage – usually to the detriment of the project. As we assess the Replacement Project's approach to, and results from, Systems and Integration Testing, Performance Testing, and User Acceptance Testing we strive to ensure that adequate time and resources are being applied.

- ***Data Management Oversight.*** ***Data management includes both the design of the database as well as the data conversion effort. The data conversion effort is often the largest single point of risk for projects of this size given the complexities of converting data from a legacy environment to a modern CSEP system, while minimizing changes to the user interface and maintaining system performance characteristics.***
- ***Operations Oversight.*** ***The SLI IV&V Team comprehensively reviews the Operations Plan to verify that all program goals and performance standards are being achieved. The processes and activities associated with disaster recovery and business continuity are reviewed in full and assessed for their completeness. The impact to equipment and business processes, the backup alternatives available to the State, and the timeliness with which a planned recovery effort can be implemented are all evaluated.***

V.C.2.4. *Create Periodic IV&V Review Reports (Draft and Final) (3.6.2.4)*

3.6.2.4 Create Periodic IV&V Review Reports (Draft and Final).

For the Periodic IV&V Report, SLI plans to use the same report template as the Initial Review Report as noted above.

SLI's draft and final IV&V Review Reports provide continuity to previous IV&V Review Reports. Periodic IV&V Review Reports evaluate and quantify project efforts to address the findings and recommendations in the previous Review Reports. The work done to produce the Initial Review allows the SLI IV&V Team to progress through subsequent reviews with a meaningful baseline. The figure below depicts the process we follow to create a Periodic IV&V Review Report.

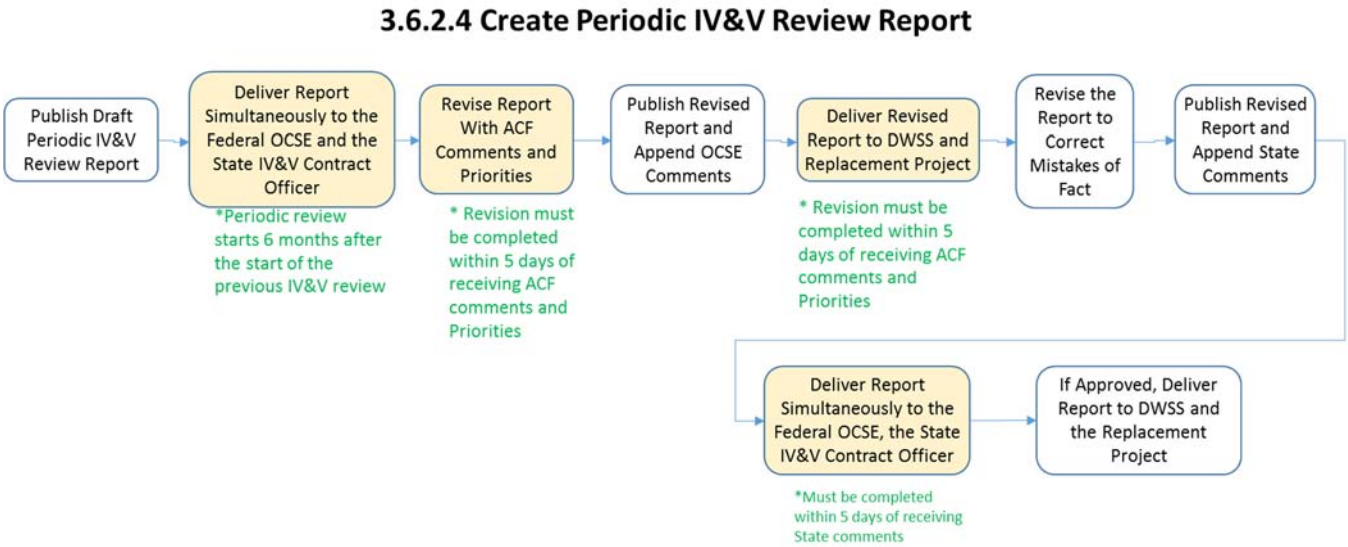


Exhibit V.C-5: Process to create the Periodic IV&V Review Report.

A Draft IV&V Review Report is submitted for each review cycle. The report contains subsections addressing the perceived health and status of each project focus area, as defined in the IV&V Services Opportunity Notice.

While the Initial IV&V Report provides an assessment of the current status of the Replacement Project and the readiness of the team to successfully manage the project, the Periodic IV&V Review Reports address a subset of the focus areas dependent upon the project lifecycle activities ongoing at the time of the semi-annual assessment. Definition of the specific focus area is a collaborative effort between the SLI IV&V Project Manager and the Replacement Project Manager prior to each review cycle.

SLI's Periodic IV&V Review Report includes an Executive Summary that relates the focus of previous IV&V reviews to the current review, summarizes the significant findings and recommendations from the current review period, and tracks the resolution (or lack thereof) of recommendations from the previous IV&V reports.

The draft IV&V Review Report is delivered sixty (60) calendar days after the start of the on-site portion of the respective review cycle. State comments to the draft version are returned within twenty (20) calendar days of receipt of the draft report.

SLI submits all deliverables to the Federal OCSE, at the same time they are provided to the State IV&V Contract Officer for review and approval in accordance with 45 CFR 307.15(b)(10)(ii).

V.C.2.5. *Conduct Formal Briefing Presentations (3.6.2.5)*

3.6.2.5 Conduct formal briefing presentations to the DWSS, CSEP, Replacement Project, and OCSE on the Respective IV&V Review Report.

The SLI IV&V Team is experienced in developing and presenting IV&V briefings to all levels of management and state/federal oversight to concisely communicate the health of the project. If desired and requested by the Replacement Project Team, CSEP, DWSS, and/or OCSE, SLI conducts requested IV&V Briefings within 5 business days following the submission of each of the Final IV&V Reports. The IV&V Briefings are scheduled on the IV&V Project Plan at dates and times approved by the Federal OCSE and the State IV&V Contract Officer. SLI's IV&V Briefings provide a forum to verbally and visually present the highlights of our Initial and Periodic IV&V Reports. The briefing process we follow is depicted below.

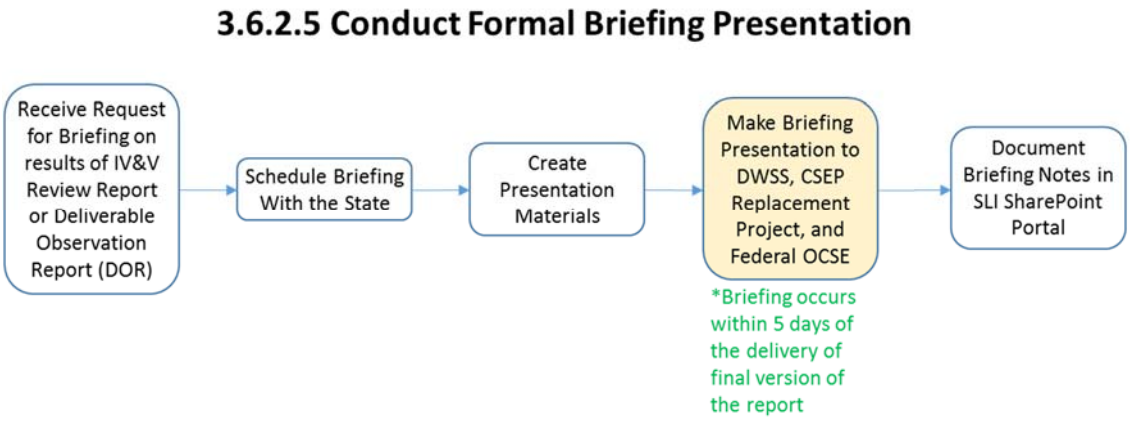


Exhibit V.C-6: Formal Briefing Presentation Process. *This diagram shows the steps to request a formal briefing presentation.*

For instance, in our engagement with the State of Oregon, we improved the periodic review process by having a briefing between the draft and the final report.

For each agenda item where our review identifies a deficiency (or best practice), SLI presents our recommendations for action. *Exhibit V.C-7: Briefing Presentation* ***provides sample pages from a current SLI management briefing PowerPoint presentation.***

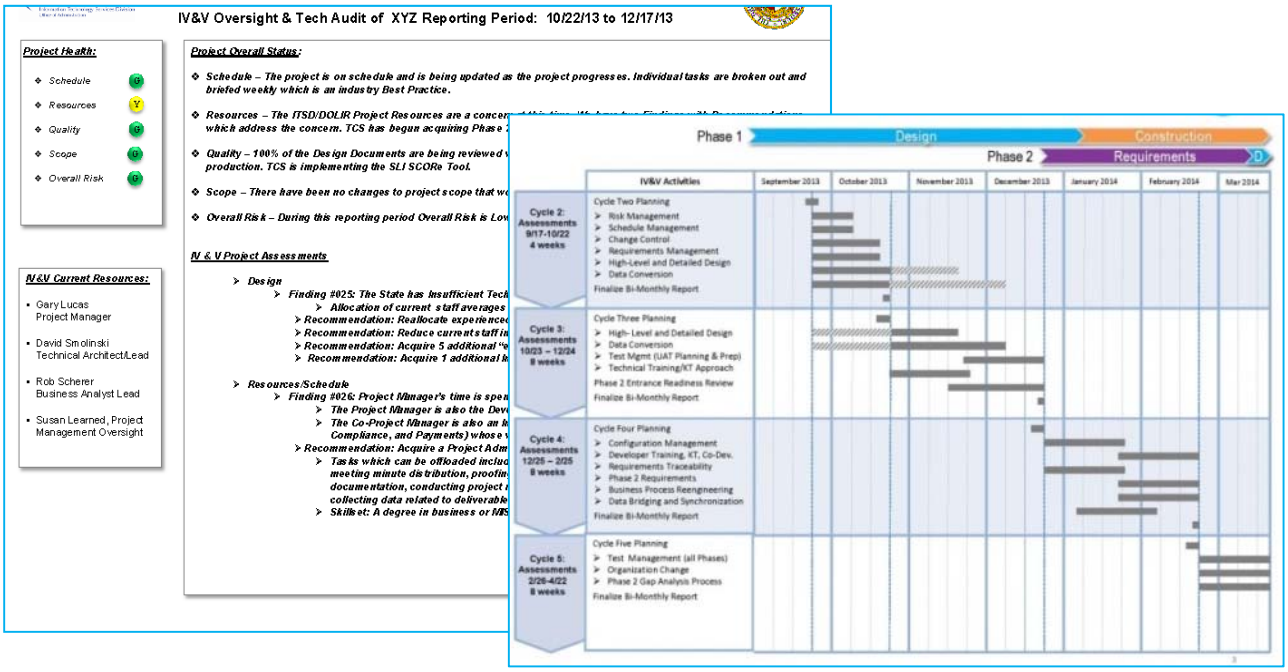


Exhibit V.C-7: Briefing Presentation. *SLI's Management Briefings provide clear and concise information about project health and upcoming focus areas.*

Typically, when providing a briefing to the Federal OCSE and the State stakeholders, we ensure that with the approach we use:

- ***The briefing provides a forum to verbally and visually present the highlights of our IV&V Reports. Our standard practice is to conduct the IV&V Management Briefings within 5 calendar days after receipt of request.***
- ***The SLI IV&V Team works with the Replacement Project Team in the planning and scheduling of the IV&V Briefings. The SLI IV&V Team works with the State on the schedule for distributing the agenda and for the briefings. The SLI IV&V Team uses standard SLI meeting attendance forms to capture the names of all attendees. SLI's Project Manager summarizes the findings of other reviewed documentation, and summarizes the overall IV&V view of the status of the project. The SLI IV&V Team responds to questions regarding the methods employed, findings, and recommendations. The SLI IV&V Team produces the notes and action items of these briefings and distributes them within two business days of the briefing.***
- ***Presentations are created using Microsoft PowerPoint, with accompanying handouts for meeting attendees. The presentation itself provides valuable time for the project***

leadership and OCSE to hear first-hand from our IV&V Project Manager and IV&V support staff to engage in further discussion of the project and IV&V recommendations.

SLI understands that to maintain the integrity of the process that ad hoc debriefings are expressly prohibited. The attendance conditions are also strictly adhered to. For instance the approval and representation of the Federal OCSE at the briefing is a condition that must be met, whenever applicable.

V.C.2.6. *Create Deliverable Observation Reports (3.6.2.6)*

3.6.2.6 Create Deliverable Observation Reports (DOR) as necessary.

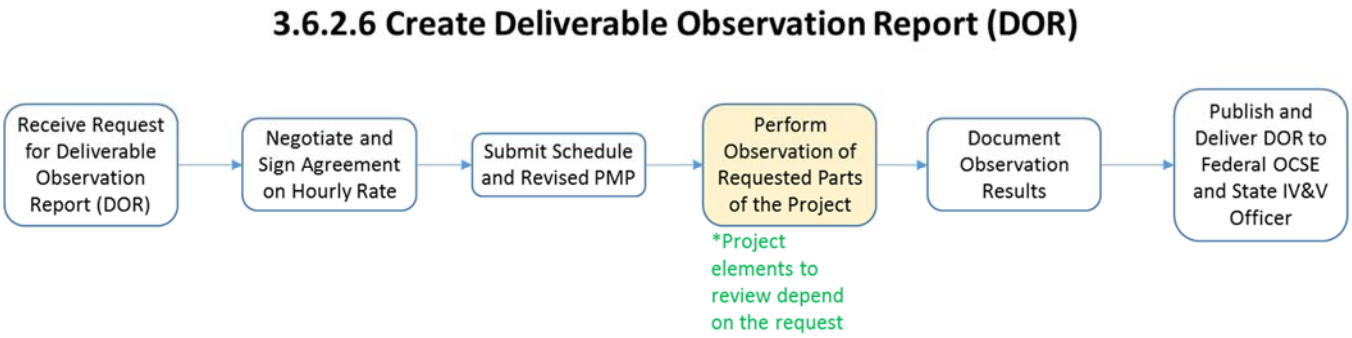


Exhibit V.C-8: Process to Create a Deliverable Observation Report (DOR). *This diagram reflects the steps involved in creating and submitting a DOR.*

SLI understands the need for possible IV&V reviews of project areas not currently defined in the Statement of Work (SOW). At the request and direction of the Replacement Project Team, CSEP, or DWSS, the SLI IV&V Team develops and delivers to the Federal OCSE and State IV&V Contract Officer a specific Deliverable Observation Report (DOR) at an agreed to hourly rate. The SLI IV&V Team also provides a DOR debriefing on the results of the DOR, if requested. SLI always accommodates the needs of a State to have the option to order focused reviews of artifacts, processes, or deliverables that are not currently defined in the IV&V vendor's contract scope of work.

SLI understands that if a debriefing is requested, subsequent to the delivery of a DOR, such debriefing can only be provided with the concurrence and attendance of the Federal OCSE.

If requested, SLI interviews and observes Project Management staff, Program staff, and the Project Development Contractor staff. SLI observes project meetings and activities to understand the processes, procedures, and tools used in the Program and Project environments. This may involve assessing compliance of a project deliverable with contract specifications. Depending on the areas involved, SLI analyzes system capabilities and features pertaining to network capacity, bandwidth, and throughput. Our independent analysis is supported with network measurements such as response time and peaks.

V.C.2.7. *Archive Documents (3.6.2.7)*

3.6.2.7 Archive documents.

The SLI IV&V Team provides the State IV&V Contract Officer, or designated representative, a with a complete archive of all IV&V documents and other project materials collected by SLI in while performing IV&V services.

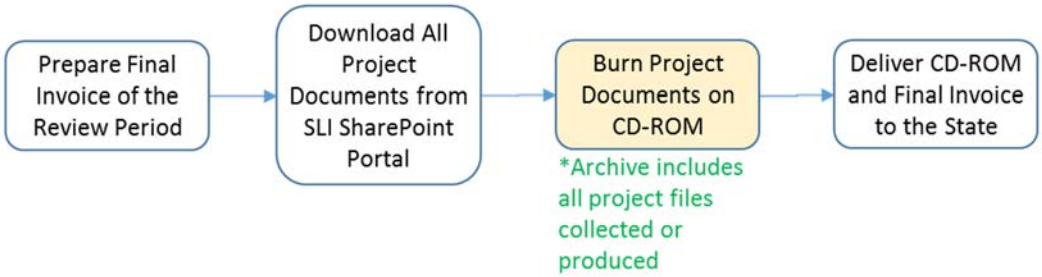


Exhibit V.C-9: Process to Archive Documents. *The process to archive documents and deliver to the State.*

On an annual basis, SLI IV&V Team provides the State IV&V Contract Officer with a complete archive of all documents and project materials collected by SLI up to that point in time. The Final Project Archive is delivered on CD-ROM with our final invoice. This includes draft and final reports, status briefings, exception reports, all versions of the Project Management Plan, deliverable observation reports, monthly (financial) invoices, project status reports, and all other relevant project materials such as documentation, artifacts, data, reports, forms, etc.

Since the SLI IV&V Team maintains all project documentation on a dedicated area of SLI's SharePoint portal, extracting all project artifacts is quickly accomplished.

V.C.3. IV&V Requirements (3.6.3)

V.C.3.1. *Mandatory Requirements (3.6.3.1)*

3.6.3.1 This section contains lists of requirements which detail specific topics for which IV&V is to be performed and reported on.
All items in 3.6.3.1 through 3.6.3.12 are mandatory IV&V requirements for fulfilling related activities and considered part of this solicitation.

All mandatory requirements in the solicitation sections 3.6.3.1 through 3.6.3.12 are addressed below.

V.C.3.2. *IV&V Project Management (3.6.3.2)*

3.6.3.2 IV&V Project Management

REQUIREMENT ITEM	REQ #	REQUIREMENT DESCRIPTION
IV&V Management Plan	IM-1	As the first deliverable the IV&V provider shall develop an IV&V Management Plan. This plan shall describe the activities, personnel, schedule, standards, and methodology for conducting the IV&V reviews. (see 3.5.1.1 for more details)
Conduct Initial Review	IM-2	Prepare and deliver an Initial IV&V report on the required activities. Report on status of each activity. (see *3.6.2.1* and *3.6.2.2* for more details)
Conduct Periodic Review(s)	IM-3	Prepare and deliver a Follow-up IV&V report on the required activities. Report on status of each activity and progress since the previous report. (see *3.6.2.3 and 3.6.2.4* for more details)

REQUIREMENT ITEM	REQ #	REQUIREMENT DESCRIPTION
Management Briefing	IM-4	Prepare and deliver a formal presentation(s) on the status of the IV&V project. Presented as required, with at least ten (10) business days' notice. No more than once a month. (see *3.6.2.5* for more details)

The following section details how SLI addresses specific requirements related to management of the IV&V services utilizing SQM³ artifacts as reflected in** Exhibit V.C-10: IV&V Project Management Activities Mapped to SQM³ **Artifacts as they relate to the Replacement Project as a whole.

IV&V Area	IV&V Project Management Activities	Applicable SQM³ Artifacts
IV&V Project Management	IV&V Management Plan (IM-1) Conduct Initial Review (IM-2) Conduct Periodic and Final Reviews (s) (IM-3) Management Briefing(s) (IM-4)	Deliverable Review Reports Project Management Quality Checklist WBS Quality Checklist Project Scheduling Quality Checklist Configuration Management Quality Checklist Risk Management Quality Checklist Organizational Change Management Quality Checklist

Exhibit V.C-10: IV&V Project Management Activities Mapped to SQM³ Artifacts.

Please refer to our responses in the sections above for SLI's approach and delivery of each of these tasks:

- ***IV&V Management Plan (IM-1) – V.B.1.1 IV&V Management Plan***
- ***Conduct Initial Review (IM-2) – V.C.2.1 Conduct Initial IV&V Review of the Replacement Project and V.C.2.2***
- ***Conduct Periodic Review(s) (IM-3)– V.C.2.3 Conduct Periodic IV&V Review Activities and Create Periodic IV&V Review Reports (Draft and Final)***
- ***Management Briefing (IM-4) – V.C.2.5 – Conduct Format Briefing Presentations***

We understand that the effectiveness of our IV&V Team is determined by its ability to ensure that IV&V activities, tasks, milestones, and completion dates are planned, monitored, and executed with a consistent level of quality. The need for meticulous management of the Replacement Project IV&V is acute given the complexity of the solution and the number of stakeholders and contractors. Management attention to every aspect of our IV&V responsibilities is necessary to make best use of our on-site assessments without disrupting on-going project activities during our reviews and to ensure that our findings and recommendations are fact-based and actionable.

Our approach to IV&V Project Management is based on the practices and methods recommended by the Project Management Institute and described in its Project Management Body of Knowledge, Fifth Edition (PMBOK®).

- ***Customer Focus. Deliver high quality IV&V services that address business objectives, and meet end user requirements, and strive to exceed customer expectations.***
- ***Process Approach. Effective management through processes for both resources and activities. Constant communication to all client and vendor participants and stakeholder for duration of the project. Identify issues and risks as early as possible and develop and initiate corrective action***

- ***Continual Improvement.*** ***Continual improvement is a permanent objective of SLI***
- ***Factual Approach to Decision Making.*** ***Effective decisions are based on the logical and rational analysis of data and information***

A typical IV&V project lifecycle consists of five integrated processes. These five processes are the same prescribed for the development/integration phases of a project and include:

1. ***Initiation.*** ***Defining the project and securing buy-in by appropriate stakeholders***
2. ***Planning.*** ***Detailing the tasks, resources, and schedule necessary to accomplish the project***
3. ***Execution.*** ***Carrying out the planned tasks***
4. ***Control.*** ***Managing the scope of the project and reporting progress***
5. ***Closeout.*** ***Wrapping up the completed project and documenting lessons learned***

V.C.3.3. *Replacement Project Management (3.6.3.3)*

SLI is highly experienced with the Activities Tables contained within your Statement of Work. As previously stated, SLI uses our proven IV&V quality checklists, questionnaires and Standard Lab Procedures(SLPs) as a starting point to support our IV&V reviews. SLI's IV&V review approach is completely in alignment with the task descriptions contained within these IV&V requirement tables. SLI customizes our review activities based upon the current project status and discussions with the Replacement Project program leadership and the federal OCSE.

SLI uses a variety of techniques when conducting our IV&V assessments including interviews, observation of project team members, attendance at regularly scheduled project meetings and review of relevant project documents and deliverables.

SLI past project experiences have taught us that each project has its own culture and uniquely tailored processes. Therefore, our team seeks first to understand the Replacement Project structure, processes, procedures, and project tools used and then review and analyze all applicable and available documentation for adherence to contractually-defined industry standards.

As a result of these interactions and reviews of the applicable documentation, SLI produces a structured, exception-based IV&V Report that objectively illustrates the strengths and weaknesses of the Replacement Project, along with actionable recommendations.

Led by the SLI IV&V Project Manager, the IV&V team assesses the project management activities utilizing SQM³ artifacts as reflected in *Exhibit V.C-11: IV&V Project Management Activities Mapped to SQM³ Artifacts****. The 13 activities within the Project Management task are reviewed in detail in the following section.***

IV&V Area	IV&V Project Management Activities	Applicable SQM³ Artifacts
Replacement Project Management	Project Sponsorship	(SLP-Plan) Project Plans
	Management Assessment	(SLP-P-Contr) Project Monitor and Control
	Project Management	(SLP-P-Close) Project Close
	Business Process Reengineering	(SLP-Q-Risk) Risk Management
	Risk Management	Deliverable Review Reports
	Change Management	Project Management Quality Checklist
	Communication Management	WBS Quality Checklist
	Configuration Management	Project Scheduling Quality Checklist
	Project Estimating and Scheduling	Configuration Management Quality Checklist
	Project Personnel	Risk Management Quality Checklist
	Project Organization	Organizational Change Management Quality Checklist
	Subcontractors and External Staff	Vendor Partner Assessment Quality Checklist
	State Oversight	

Exhibit V.C-11: IV&V Project Management Activities Mapped to SQM³ Artifacts.

V.C.3.3.1 Project Sponsorship

Requirement Item	Req #	Requirement Description
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
Project Sponsorship	PM-2	Verify that executive sponsorship has bought-in to all changes which impact project objectives, cost, or schedule.

Structured planning and governance are necessary conditions of project management; however, they are not sufficient for a project's success. While the Replacement Project Manager may have responsibility for the project, he/she may not have full authority to control all the resources whose involvement is critical to the project's success. SLI verifies that the State has a governing PMP in place and an Executive Steering Committee has been established.

It is important that project sponsors have a clear and action oriented role in the Project. SLI evaluates project sponsorship effectiveness based in part on the following attributes:

- ***Demonstrates leadership***
- ***Communications are articulated and open***
- ***Encourages commitment***
- ***Demands collaboration***
- ***Knows how to resolve an issue***
- ***Builds strong relationships with the Project Managers***
  - ***Key principles of Executive Sponsorship also considered are:***
  - ***Control of the project structure and organization, including reporting channels***
  - ***Define the roles and responsibilities, including authority***

- ***Provides processes for communication, decision-making, and approval.***
- ***Procedures for contract administration***
- ***Actively participates in the Integrated Change Control process***
- ***Actively participates in the Risk and Issue management processes for identifying, escalating, and resolving risks and issues***

The SLI IV&V Team attends and observes the processes by which project decisions, actions, issues, and risk are managed and controlled by the project sponsorship. We accomplish this through observation and attendance at Executive Steering Committee meetings and other project management meetings. SLI provides objective and clear assessments of the effectiveness of executive management activities and processes and provides, if necessary, suggestions for improvement, as appropriate, along with specific and actionable recommendations.

SLI's evaluation of the Change Control process encourages Executive Sponsors and Business Owners to have full participation in the Change Control Process to verify all changes are properly reviewed, and impacts to the project schedule and budget are appropriately reviewed and approved. Ensuring the effectiveness of project sponsorship is an ongoing, continuous process throughout the project lifecycle from inception to post-implementation support.

V.C.3.3.2 Management Assessment

Management Assessment	PM-3	Verify and assess project management and organization, verify that lines of reporting and responsibility provide adequate technical and managerial oversight of the project.
Management Assessment	PM-4	Evaluate project progress, resources, budget, schedules, work flow, and reporting.
Management Assessment	PM-5	Assess coordination, communication and management to verify agencies and departments are not working independently of one another and that they are following the communication plan.

Every project must address interests of its respective stakeholders. To do so, determining the appropriate level of communication with each stakeholder is essential. The SLI IV&V Team reviews the communications planning as well as reporting and monitoring processes and to evaluate if the project meets the communication requirements for the Replacement Project stakeholder groups, including project users, project customers, project team members, agency executives, IT personnel, and regional office and administrative staff. We conduct structured interviews with stakeholders to solicit feedback of the level, quality, and timeliness of communication across the project using SLI's Interview Guides and relevant Checklists.

The SLI IV&V Team analyzes the roles and responsibilities of project stakeholders, starting with the Project Charter and analyzing how lines of communications with each category of stakeholder have been used. Where appropriate, we may interview select stakeholders to determine if they are receiving sufficient communication and updates on the project. If there seems to exist lack of communication or reporting for a given stakeholder, SLI may create a Responsible, Accountable, Consult, Inform (RACI) matrix as a basis to determine the appropriate level of communication with that stakeholder. From a RACI matrix, we make recommendations for appropriate levels of communication and reporting.

	Executive	Sponsor	Process owner	Steering committee
Implement roadmaps	A		R	C
Identify & select projects		A	C	R
Implement projects		A	I	I
Track & monitor projects		A	I	R
Maintain operation gains	I		A R	I
Monitor progress	A		I	I
Coach and mentor			I	C

Exhibit V.C-12: Example of RACI Matrix. *The SLI IV&V Team may utilize RACI technique to evaluate the level of involvement and communication appropriate for each category of stakeholders.*

The SLI IV&V Team reviews project schedules, progress reports, and status reports to determine if the project staffing level is adequate and sufficient for on-time delivery of quality services within budget. In the "Project Management" section below, we provide additional indication of how we evaluate project performance under the three constraints of Scope, Cost, and Time.

A verification to assure the span of control and lines of reporting are in place for a large automation project such as the Replacement Project includes an analysis of the role definitions, ability, and effectiveness of the management staff, and reporting structures. SLI's management assessment focuses on the ability and effectiveness of the project management staff to provide technical and managerial oversight.

The initial assessment focuses directly upon a review of the status of submitted planning and project documentation to ensure SLI addresses the overall goals, objectives, and project milestones for this assessment. It also allows us to map out ongoing assessments to ensure the appropriate SLI experts are scheduled to conduct reviews of project deliverables and associated risk areas. Other organizational functions are reviewed to verify that they support sound development practices, appropriate oversight, training, process definition, independent quality assurance, configuration management, and other critical aspects of the project.

This approach supports the following SLI objectives:

- ***Provide an understanding of the project approach, plans, processes, and procedures for the assessment areas under review.***
- ***Work directly with the State to ensure that IV&V Findings and Recommendations are clearly understood and actionable.***
- ***Facilitate effective planning for the future reviews, to ensure that the appropriate IV&V resources are scheduled to conduct reviews of upcoming deliverables and risk areas.***

V.C.3.3.3 Project Management

Project Management	PM-6	Verify that a Project Management Plan is created and being followed. Evaluate the project management plans and procedures to verify that they are developed, communicated, implemented, monitored and complete.

Project Management	PM-7	Evaluate the project reporting plan and actual project reports to verify project status is accurately traced using project metrics.
Project Management	PM-8	Verify milestones and completion dates are planned, monitored, and met.
Project Management	PM-9	Verify the existence and institutionalization of an appropriate 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 issues to closure. This should include but is not limited to technical and development efforts.
Project Management	PM-10	Evaluate the system's planned life-cycle development methodology or methodologies (waterfall, evolutionary spiral, rapid prototyping, incremental, etc.) to see if they are appropriate for the system being developed.

The function of project management oversight is to provide a comprehensive, consistent method for reviewing the project's planning process, key project performance metrics, and taking steps to monitor the project to ensure its success.

This process begins with a thorough review and analysis of the Project Management response to the Statement of Work and a full understanding of any vendor's commitments, project schedule, and development approach. The SLI IV&V Team reviews project scope and approach documents and agreements and works with the project management and quality assurance teams to ensure that all commitments, deliverables, and quality factors are clearly present in the Project Management Plans and schedule. This exercise quickly gets the SLI IV&V Team "in the flow" of the project and ensures each team member is up-to-speed on project status and established processes.

SLI uses a set of project management evaluation procedures based on the practices and methods recommended by the Project Management Institute and described in its Project Management Body of Knowledge, PMBOK 5th Edition and the PMBOK - Government Extension. The PMBOK documents and describes practices and methods that are generally accepted in the project management profession. SLI evaluates the planned methodology for completeness and helps ensure it is appropriately followed.

Our goal in evaluating the planning processes put in place by the Project Management team include the identification and verification of key performance metrics that support the project throughout its lifecycle. In addition, SLI evaluates the project reporting plan and actual project reports to verify project status is accurately traced using project metrics. During this process, SLI confirms the milestones and completion dates are planned, monitored, and met.

The presentation and recurrence of key progress reporting artifacts are assessed to ensure the information is accurate, is measured against a baseline or established criteria, and true progress can be tracked as the weeks and months of the project proceed. This close evaluation of the project contractual and planning documents gives the SLI IV&V Team in-depth knowledge of the obligations and reporting metrics that are essential to project performance and planning oversight.

SLI verifies that a project Issue Tracking mechanism is in place and is being utilized to document issues, communicates issues to appropriate state and contractor individuals and entities, documents mitigation strategies and outcomes and tracks issues to their closure.

As required, anomalies or deviations from the work plan are reported within 24 hours of discovery.

Since each project and each project's risk profile is different, what is important to be measured and monitored in one project may not be the same measurements in another. Acceptable thresholds (parameters that a set of measurements may be within and still be considered in an acceptable range) for one project may differ from another. These are common project metrics that all projects should strive to apply but each set of metrics should be discussed and agreed to in advance of their use.

Most importantly, we ensure that we focus our resources on monitoring key outcomes and characteristics such as meeting the planned development progress. The SLI IV&V Team works with the Replacement Project Team to develop and report on software development metrics that are aligned with the project's development approach.

V.C.3.3.4 Business Process Reengineering

Business Process Reengineering	PM-11	Evaluate the 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 the reengineering 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 the reengineering process.

We look at the business drivers and new business processes as well as the team's plan to build buy-in and consensus throughout the IV&V assessments. We monitor and focus on:

- ***Assessing Stakeholder Representation. Adequate stakeholder representation is a critical success factor for any system project. Inadequate representation often leads to a lack of buy-in for the new system functionality and business processes. Even when buy-in is achieved, the new business processes may be sub-optimal and unable to achieve their desired results. Our assessments confirm all relevant business areas are represented in the planned system activities.***
- ***Reviewing the Change Management Approach. We almost always see resistance to change in systems modernization initiatives. If not properly managed, this can result in reengineered processes that are rejected by the organization, or it can result in processes that differ little from the processes they are intended to replace. The SLI IV&V Team examines the project's plan for addressing resistance to change to ensure the plan includes an overall communications approach and a plan for consensus building and conflict resolution.***
- ***Performance Management. The Replacement Project Team must develop and implement performance measures in order to reinforce the new behaviors needed to support the implementation of the new business processes and system, as well as new skills that are required. This should include formally and informally recognizing individuals and groups for behavioral change.***

The SLI IV&V Team works with the State and the project team to ensure the building blocks to move forward with acceptance of new business processes are in-place and the organization that must be implemented to support those processes is clearly defined and communicated.

V.C.3.3.5 Risk Management

Risk Management	PM-14	Verify that a Project Risk Management Plan is created and being followed. Evaluate the project's risk management plans and procedures to verify that risks are identified and quantified and that mitigation plans are developed, communicated, implemented, monitored, and complete.

The purpose of risk management is to identify threats to project success and to mitigate or eliminate the negative impacts to the project. The SLI IV&V Team evaluates the quality of the project's risk management program by verifying that the Project's Risk Management Plan is complete, follows industry standards for risk management, and is being rigorously followed.

SLI utilizes a Risk Management Methodology, which includes four (4) main risk management activities:

- ***Risk Planning and Identification. The ongoing process of identifying causes and the possible resulting effects***
- ***Risk Assessment. The process of analyzing an identified risk for the probability of occurrence and the severity of the impact***
- ***Response Planning. Based on the risk assessment, the process of planning the appropriate response***
- ***Monitoring and Controlling. The process of tracking the mitigation plan to ensure the Project Team knows when a risk occurs and the appropriate response***

The SLI IV&V Team monitors and reports on the effectiveness of the risk process to ensure it is properly developed, executed, monitored, tracked, and reported throughout the project lifecycle. As part of our initial assessment, SLI IV&V Team reviews the Issue and Risk Management Plan to ensure our IV&V Team is coordinating with the project's risk management process. As part of our ongoing reviews, the SLI IV&V Team reviews the risk management process and artifacts produced by the process to ensure risks are identified and prioritized, and necessary and sufficient mitigation plans are developed, communicated, implemented, and monitored.

The SLI IV&V Team assists the State by ensuring risks are identified and carefully managed in the Risk Register throughout the project. It is particularly important during the transition from User Acceptance Testing to Production to document high-risk areas, identify mitigation strategies, and develop contingency plans for high-risk areas of the project in order to mitigate the impact of those risks.

V.C.3.3.6 Change Management

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, communicated, implemented, monitored, and complete; and that resistance to change is anticipated and prepared for.

Assessment of Change Management Procedures. In every project, changes may be necessary due to a new reality that influences the initial course of the project and must be dealt with through change. This introduces adjustment that can amount to a deviation from the intended goals. To avoid this, the project must have some form of approval and control over changes. SLI uses several IV&V processes to ensure that a change management process is fully defined and implemented in each project. We also ensure that changes to the project are approved, implemented, and controlled according to a change request approval method.

Assessment of How Resistance to Change is Managed. Every modernization project must deal with an inherent potential for resistance to change. We often witness resistance to change in new system initiatives. If not properly managed, the situation can result in reengineered processes that are rejected by the organization, or it can result in processes that differ little from the processes they are intended to replace. The SLI IV&V Team examines the project's plan for addressing resistance to change to ensure the plan includes an overall communications approach and a plan for consensus building and conflict resolution.

Implementation of a CSES module requires significant commitment to changing existing processes and organizations to align with the workflow of the donor modules or purchased software rather than extensively changing that software to align with the existing processes and organization.

Review of Change Management Plan. The SLI IV&V Team reviews the project Change Management Plan to ensure it informs and educates internal and external stakeholders about the Replacement Project and enlists the support, endorsement, and participation of stakeholders in successfully implementing the project. In addition, SLI evaluates the change management plans and procedures to verify they are developed, communicated, implemented, monitored, and completed. Change Management Plans are also evaluated to ensure resistance to change is anticipated and properly addressed.

The SLI IV&V Team intends to review the project Change Management Plan as part of our initial IV&V Assessments. That way, our team is cognizant of plans to facilitate adoption of organizational changes and system acceptance. SLI revisits Change Management processes and documentation as part of our IV&V Assessments to determine if the Change Management Plan is being followed and updated as the needs for Change Management evolve over the life of the project.

The Change Management Plan review includes:

- ***Commitment Building:*** ***This element of change management addresses the various stakeholders' resistance to change. A stakeholder is defined as someone who is impacted by change, or influences the change. Commitment building provides a framework for identifying the stakeholders, their level of commitment or resistance, and activities associated with reducing their resistance, thereby gaining support from the key stakeholders.***
- ***Organizational Design:*** ***The new business processes and system implementation bring changes to organizational structures, workgroup roles, and responsibilities. Addressing organizational design issues are important to the success of the change management effort and how successfully the vision is implemented. Process owners and individuals must understand the impacts to their work environment. The Replacement Project's Change Management Plan should incorporate methods and tools, such as gap analysis, for implementation from the current organizational state to a new organizational design. An organizational and competency development process that matches and aligns employees' skills, knowledge, and abilities in the new organizational structure.***
- ***Performance Management:*** ***The Replacement Project must develop and implement performance measures in order to reinforce the new behaviors needed to support the implementation of the new business processes and system, as well as new skills that are***

required. This includes formally and informally recognizing individuals and groups for behavioral change.

- ***Leadership Development:*** ***Developing leadership is a critical element in the change management process. All the change elements are predicated upon strong and involved leadership. Developing leaders are primarily directed at project management and team members responsible for implementing revisions. Leadership development is also an important element in retaining quality personnel and developing change leadership competencies. Continuous development, which includes executive leadership coaching, helps individuals become more effective in their work and in leading others to do the same.***
- ***Capturing Best Practices and Lessons Learned:*** ***A lesson learned is knowledge or understanding gained by experience. The experience may be positive, as in a successful test or mission, or negative, as resulting from a mishap or failure. A documented lesson learned must be significant in that it has real or assumed impact on operations, valid in that it is factually and technically correct and applicable in that it identifies a specific design, process, or decision that reduces or eliminates the potential for failures or mishaps, or reinforces a positive result.***

Principles Guiding the Change Management Process. SLI looks for the following change management principles to:

- ***Maintain an active and sustained sponsorship (forming a powerful guiding coalition), as an essential element for program success.***
- ***Undertake commitment building as an ongoing process.***
- ***Use leaders as role models.***
- ***Create an atmosphere of openness and honesty through an aggressive communication program.***
- ***Communicate the vision to all levels of the organization.***
- ***Articulate the program's benefits clearly.***
- ***Communicate uniformly.***
- ***Facilitate buy-in of management and employees throughout involvement.***
- ***Focus on organizational culture change and skills acquisition.***
- ***Training in new work process and tools to dispel performance fears.***
- ***Reward/recognize staff for new behaviors undertaken to make the system or BPO effort successful.***
- ***Transfer knowledge to build in the organization the capacity needed to manage process and systems change.***

SLI works with internationally recognized change management experts to incorporate these Best Practices into the SQM[3] methodology. Our checklists executed by our staff ensure that Best Practices are implemented.

V.C.3.3.7 Communication Management

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 project stakeholders; and assess if communication plans and strategies are effective, implemented, monitored and complete.

Communication is critical to the success of the Replacement Project and is an integral part of the project planning and support activities. One of the critical success factors for successful project management is effective communications management. SLI begins its verification of project communications with a comprehensive review and assessment of the project Communications Management Plan as part of our initial review of deliverables. We monitor the effectiveness of communications over the life of the project. With each project communication or set of communications, there are seven (7) key processes that should be followed; the SLI IV&V Team ensures actual methods used to communicate in the project address them:

- ***Identify Stakeholders. This process is for identifying all people or organizations impacted by the project. This includes documenting relevant information regarding their interests, involvement, and impact on the project's success.***
- ***Plan Communications. This process is for determining the project stakeholder information needs and defining a communications approach.***
- ***Distribute Information. This process is for making relevant information available to project stakeholders as required.***
- ***Manage Expectations. This process is for communicating and working with stakeholders to meet their needs and addressing issues as they occur.***
- ***Report Performance. This process is for collecting and distributing performance information, including status reports, progress measurements, and forecasts.***
- ***Documentation Storage. Effective archiving and retrieval of status reports, meeting minutes, project communications, and work products***
- ***Administrative Closure. Generating, gathering, and disseminating information to formalize and document the phase or project completion process***

The SLI IV&V Team reviews the communications planning process to ensure the project has identified and analyzed the communications requirements of each of the project stakeholder groups including project users, project customers, project team members, State executives, IT personnel, and local office and administrative staff.

V.C.3.3.8 Configuration Management

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 approving deliverables.
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 of the system.
Configuration Management	PM-23	Review the use of CM information (such as the number and type of corrective maintenance actions over time) in project management.

Successful projects use Configuration Management (CM) to establish and maintain the integrity of the products delivered throughout the project's life cycle. Configuration Management is intended to eliminate the confusion and error brought by the existence of different versions of artifacts. The Configuration Management Plan communicates to everyone in the organization exactly how Configuration Management is executed. Changes are made to correct errors, provide enhancements, or simply to reflect the evolutionary refinement of the application. Configuration Management is about keeping the inevitable change under control. Without a well-formed Configuration Management process, different team members can use different version of artifacts unintentionally. Individuals can create versions without the proper authority, and the wrong version of an artifact can be used inadvertently.

SLI has significant expertise in assessing CM plans and procedures for compliance with industry standards and best practices using tailored CM Quality Checklists provided by our methodology SQM³. The system modules being deployed require a consistent configuration management program that includes planning and deployment features that come from customizations and code developed for interfaces. SLI's initial IV&V review verifies that the project's CM plan and related procedures address development processes and that all critical documents for management and development are under configuration control.

SLI IV&V Team review of the Configuration Management Plan validates that the document describes the roles and responsibilities, policies, processes, and procedures necessary for controlling and managing changes during the development and implementation phases. This document is expected to identify how changes are identified, defined, evaluated, approved, and tracked through completion. The SLI IV&V Team verifies that the CM plan implements a process by which the project teams and stakeholders identify, communicate, implement, document, and manage changes in the systems environment. The SLI IV&V Team reviews and evaluates the project's CM Plan, the build and release management processes, and the project's change control process to ensure that a set of change control procedures that identify, document, control, and track all requested changes from their inception through disposition are specified and utilized.

A key component of Configuration Management is the change control process. The purpose of change control is to provide a formal, structured approach to manage change continuously, and to understand its impact on the established schedule, cost, and quality, staffing, and approved project deliverables. SLI reviews the Replacement Project Configuration Management Plan as part of our Initial IV&V Review. We confirm that the plan is being adhered to throughout all phases of the SDLC as part of our Periodic IV&V Reviews. SLI's IV&V Configuration Management Plan Checklist is based on the IEEE Standard 828-2012: Configuration Management in Systems and Software Engineering.

SLI's review of the Configuration Management Plan validates that the document describes the roles and responsibilities, policies, processes, and procedures necessary for controlling and managing changes during the development and implementation phases. This document is expected to identify how changes are identified, defined, evaluated, approved, and tracked through completion. Two key areas we monitor in the change control process are the validity of the change (is it actually out of scope) and the accuracy of the impact assessment (is the cost or time estimate necessary to implement the change reasonable).

An effective change control process includes steps for approval, implementation, and verification that the change was accomplished as intended.

Successful Configuration Management requires a well-defined and institutionalized plan that clearly defines:

- ***The documented set of artifacts (configuration items) under the control of Configuration Management***
- ***The naming of the configuration items***
- ***The process for artifacts entering and leaving the control***
- ***The description of how artifacts are allowed to change under Configuration Management***
- ***The description of how different versions of an artifact under Configuration Management are made available and under what conditions each one can be used***
- ***The Configuration Management tools assessing how they are used and enforcement.***

Configuration Management includes both project management and product development. SLI's Initial IV&V Assessment verifies the project Configuration Plan addresses both areas and that all critical documents for management and development our under Configuration Control.

Two key areas we monitor in the change control process are the validity of the change (is it actually out of scope) and the accuracy of the impact assessment (is the cost or time estimate necessary to implement the change reasonable).

Any deviation to what appears in the scope documentation should be considered as a change and handled using the change control process. SLI reviews the Change Control processes within the Configuration Management Plan and make sure it provides a clearly defined process for:

- ***Establishing change policies, and procedures***
- ***Properly documenting the need and justification for change so that change can be agreed upon***
- ***Coordinating all of the work activities associated with a change request***
- ***Effectively tracking and managing change once it is authorized***
- ***Managing changes to the project's deliverables, documents, and project management plan***
- ***Coordinating communication activities associated with changes across all areas of the project***

V.C.3.3.9 Project Estimating and Scheduling

Project Estimating and Scheduling	PM-24	Evaluate and make recommendations on the estimating and scheduling process of the project to ensure that the project budget and resources are adequate for the work-breakdown structure and schedule.
Project Estimating and Scheduling	PM-25	Review schedules to verify that adequate time and resources are assigned for planning, development, review, testing and rework.
Project Estimating and Scheduling	PM-26	Examine historical data to determine if the project/department has been able to accurately estimate the time, labor and cost of software development efforts.

The Project Management Team and its vendor community must work collaboratively to establish reasonable estimates and schedules for each activity and task. The team must develop a detailed project schedule with inter-dependencies to accomplish these activities. The effectiveness of the estimating and scheduling process is determined by its ability to ensure that activities, tasks, milestones, and completion dates are planned, monitored, and completed on time.

As part of SLI's Initial IV&V Assessment, we assess existing project plans and the assumptions and metrics used to drive the estimating and scheduling calculations. Our review of these plans and related assumptions and metrics help ensure all resource assignments (leveled appropriately on a regularly recurring schedule) are included and specific dependencies are established in order to meet project deadlines. The plans should be published and the quality execution of the plans should be the primary focus of the project team. Project timelines must be enforced, progress must be monitored, and delays and issues addressed in a timely manner. SLI IV&V Team identifies project reporting mechanisms that can be used to monitor the performance of the estimating and scheduling for each phase of the SDLC.

As part of our IV&V assessments, SLI uses PMI's defined standard project management metrics to evaluate the project's accuracy in in estimating and scheduling.

Our IV&V Team applies earned value metrics to evaluate the project's performance against the project schedule. The ability to accurately apply these metrics is heavily influenced by the implementation vendor's ability and willingness to share detailed schedule and cost data.

Earned Value Management (EVM) is a widely accepted project measurement technique. In traditional project approaches, it is assumed that the scope is fixed, any changes are managed through rigorous change control, and the project proceeds in a predictable manner in which past performance is indicative of future progress. EVM calculations are made based on a detailed WBS, and Project Managers focus on areas out of compliance to keep the project on track. Managers and stakeholders rely on EVM to understand project performance and to manage teams, contractors, and vendors.

Cost Performance Index (CPI) is a common project cost metric that we use once the cost data is provided to the SLI IV&V Team. Using an earned value analysis approach, which integrates scope, cost, and schedule measures to monitor project performance, the CPI is calculated by dividing the earned value of the project by the actual cost. The CPI is an efficient metric since it provides a measure of the value a project has generated per dollar spent. The standard deviation of CPI is a useful measure to gauge an organization's ability to estimate costs accurately.

Schedule Performance Index (SPI) is another schedule metric used by SLI and is defined as the earned value divided by the planned value delivered by the project. As in CPI, the standard deviation of SPI is a useful metric for establishing the organization's ability to schedule accurately.

SLI applies these and other standard metrics to develop an unbiased estimate of the project team's performance to determine if the project has been able to accurately estimate the time, labor and cost of software development efforts.

Finally, SLI evaluates the Project's phases, and evaluate that each phase is compatible with information architecture standards and policies, that the goal of each phase can be accomplished with the appropriated funds, and that the project (phase) supports the enterprise information technology strategy. This information is communicated to the State IV&V Contract Officer, pursuant state statute.

V.C.3.3.10 Project Personnel

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.
Project Personnel	PM-28	Evaluate the State's hiring plan for the project to verify that adequate human resources will be available for development and maintenance.
Project Personnel	PM-29	Evaluate the State's personnel policies to verify that staff turnover will be minimized.

For a project to be successful (i.e., it meets the project schedule and the stated requirements), it must be staffed with the personnel who have the appropriate skills to complete their assigned tasks. SLI IV&V Team reviews the Replacement Project staffing assignments, available labor pools, individual skill, and experience levels to verify that the right people are assigned the right tasks. SLI makes an assessment of the project staffing plans to verify that the right staffing level is used in each task and activity. Also, it is critical that the on-boarding and off-boarding of staff members occur at the right time.

This review includes roles and responsibilities, experience requirements for each role, the availability of training plans for each role, and the approach to staffing the project including ramping up, ramping down, and when needed. The staffing plan is expected to identify, whenever training is needed, the amount of time until an individual becomes proficient in that area.

SLI reviews the Replacement Project organization charts against Staffing Plans to match the roles on the organization chart to the roles in the Staffing Plan. The SLI IV&V Team reviews resumes of the project development and implementation vendor's staff involved in the program development, focusing on their documented experience, skills, and any project-related training received to verify they have the appropriate skills for their assigned project roles. In a like manner, the SLI IV&V Team reviews the development and implementation vendor's Project Schedule focusing on the assigned resources and verifying the assigned project tasks to the organizations chart and the Staffing Plan. This review validates that the assigned project schedule have staff assigned with the necessary skills to complete the task in the planned timeframe. In reporting the results, SLI's review focuses on those who require additional skills for their assigned role. The State should expect the development and implementation vendor to develop the necessary mitigation strategies, including training plans, additional resources, or replacement resources.

SLI reviews the project hiring plans to verify that an appropriate level of staff replacement with the right skill sets are in-place and integrated into their assigned roles at the right time as a means of preventing schedule slippage. This review includes determining the effectiveness of staff augmentation contracts to meet the Replacement Project staffing requirements in addition to assessing vendor staffing plans.

SLI conducts a review of the Replacement Project personnel policies to determine if existing policies promote low staff turnover. We have observed that when personnel policies allow for incentives to project personnel that reward active project engagement that exceeds expectations project turnover is minimized. When project staff are required to perform their permanent positions in addition to their role on the project, project turnover increases.

V.C.3.3.11 Project Organization

Project Organization	PM-30	Verify that lines of reporting and responsibility provide adequate technical and managerial oversight of the project.
Project Organization	PM-31	Verify that the project's organizational structure supports training, process definition, independent Quality Assurance, Configuration Management, product evaluation, and any other functions critical for the project's success.

A properly organized project starts with a Project Charter because each project has unique characteristics and the design of a project organizational structure should consider the organizational environment, the characteristics under which it operates, and the level of authority the Project Manager has. A project organizational structure can take various forms with each version having its own advantages and disadvantages. The organizational structure defines the relationships among members of the project management and the relationships with the external environment. Furthermore, the project organization must specifically identify the critical roles for Quality Assurance Management, Configuration Management, Product Ownership, Training Management, Systems and Database Management, and any other functions critical to the project's success.

Project organization charts and responsibility matrices (such as RACI chart) are compared and recommendations made to ensure adequate technical and management oversight of the project. Other organizational functions are reviewed to verify that they support sound development practices, appropriate oversight, training, process definition, independent, configuration management, and other critical aspects of the project.

The project structure cannot be designed as too rigid or too lose, since the project organization's purpose is to facilitate the interaction of people to achieve the project's ultimate goals within the specified constraints of scope, schedule, budget and quality.

The objective in designing an optimized project structure is to provide a formal environment that the Project Manager can use to influence team members to do their best in completing their assignments and duties. The structure needs to be designed to help develop collaboration among individual team members; all in a cost effective way with a minimum of duplication of effort and overlaps.

The SLI IV&V Team verifies that the organizational structure is well defined, that the critical roles are included and staffed, and the lines of reporting and responsibility provide adequate technical and managerial oversight of the project. We work with State to define the details of reporting, communication and span of control and work with project vendors to add their organizational structure to our review.

V.C.3.3.12 Subcontractors and External Staff

Subcontractors and External Staff	PM-32	Evaluate the use of sub-contractors or other external sources of project staff (such as an IS staff member from another State organization) in 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.
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 the 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 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.

The SLI IV&V Team evaluates project arrangements and assignments for sub-contractors to ensure that sub-contractors and external staff are held to the same standards for assigned work products and deliverables as their prime contractors. SLI ensures that assignments, standards, and commitments are met and that required skills, training, and project orientation are occurring and are evident in the quality of deliverables and work products.

Prime contractors and their associated sub-contractors but integrated enough fluidity in their interactions to give to the State the confidence that they operate seamlessly with the same accountability on behalf of the Prime Vendor.

As part of the review of the contracts between prime vendors and their sub-contractors, the SLI IV&V Team verifies that the terms and conditions, statement of work, requirements, standards, development methodologies, milestones, acceptance criteria and delivery dates, are clearly defined and meet or exceed the those imposed on the Prime Vendor. In addition, the SLI IV&V Team verifies that adequate metrics and control procedures are also clearly defined.

A project needs to have a single software development methodology and standards to ensure consistency across the entire project. As part of the review, the SLI IV&V Team reviews the software development methodology and standards of the development and implementation vendor and its sub-contractors, if any, to verify this consistency. The SLI IV&V Team also reviews the development architecture used by sub-contractors and external staff to ensure its compatibility with the development and implementation vendor development environment. Differences in environments may introduce compatibility issues between the code components developed by the development and implementation vendor and the sub-contractors and external staff.

The SLI IV&V Team reviews sub-contractor personnel and external staff involved in the program development, focusing on their documented experience, skills, all project-related training received or planned, to verify they have the appropriate skills for their assigned project roles in the same manner as the development and implementation vendor's personnel.

We also review the use of any proprietary tools, used by sub-contractors or external staff to verify that the use of these tools does not impact the current development, future maintainability, portability, or reuse of the application.

V.C.3.3.13 State Oversight

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 have the ultimate responsibility for monitoring project cost and schedule.

The relationship between State and Vendors must conform to contractual obligations. While the State does not manage Vendor's staff and the Vendor's staff cannot act as State employees, the Vendor must execute the project in total collaboration with the State staff and follow appropriate protocols for approval from the State.

The SLI IV&V Team reviews the Replacement Project oversight processes and procedures to ensure that appropriate reviews-for-comment and approvals are in-place and in compliance with the IT memorandum on project oversight and certification. The SLI IV&V Team works with the Replacement Project Team to verify that there are processes and controls in place to monitor project costs, schedule, scope, and quality. The SLI IV&V Team verifies that the State staff members have the ultimate responsibility for monitoring project cost and schedule. SLI ensures that the contractual obligations are clearly defined, staffed properly, and provide for ongoing reviews of project deliverables, issues management, schedule and scope adjustments, and that the proper review and approval documentation is in place.

As a best practice, vendors should retain approval logs to support inspection and audit checkpoints throughout the project lifecycle.

The SLI IV&V Team collects and reviews project monitoring and approval artifacts, including but not limited to requirements sign-off, formal approval letters, email authorizations, reports of burned hours, work breakdown structure with the Sate staff included.

The SLI IV&V Team reviews the development and implementation vendor's information technology plans and processes to verify they are in compliance with the State's information technology platforms and processes standards as well as other applicable standards.

V.C.3.4. *Quality Management (3.6.3.4)*

SLI understands the need for a clear understanding of roles and responsibilities regarding IV&V of Quality Management service delivery to avoid any confusion and duplication of effort between the IV&V and the QA Vendor.

SLI is experienced in delivering on projects where there are both QA and IV&V vendors. For example, on our Eligibility Project in Iowa, ELIAS, we are providing QA services, Public Consulting Group (PCG) is the IV&V Vendor and CSG is the Program Oversight and Management Integration (POMI) Contractor. As the QA Vendor, SLI worked closely throughout the SDLC with both PCG and CSG to ensure we had a common view and approach when providing recommendations to the State. This collaborative process provided additional assurances to the State since we often came to the same conclusion regarding recommended actions to be taken, through independent analysis efforts.

In our experience, problems arise where there is no consensus on the definitions and objectives of QA vs IV&V. Sometimes, the requirements of the solicitation include similarly worded tasks and deliverables as those found in the QA solicitation. Sometimes, QA and IV&V tasks are included in the same procurement and are performed by the same awarded contractor.

As a matter of fact, SLI served as both the IV&V and QA Vendor on Alabama's Eligibility and Enrollment project. We staffed two separate teams to maintain independence and integrity of our findings and recommendations.

Our experience has taught us that setting expectations and drawing a clear separation of duties between QA and IV&V is important. This is very helpful in avoiding confusion on the Replacement Project given the complexity and number of user community locations across the State. SLI recommends conducting a QA/IV&V Roles & Responsibilities workshop as part of our Project Initiation as a means of gaining clarification and consensus across the Replacement Project. This approach provides an open dialog where IV&V and QA staff can both be assigned separate and distinct areas to be reviewed to provide more breadth in coverage or assigned to the same area of review to allow for a deeper dive into a topic area.

As a starting point for gaining this consensus, we present SLI's views on the differences between QA and IV&V.

SLI's definition and focus of QA and IV&V efforts at a high level and in a generic setting:

- ***Quality Assurance Definition and Focus***
  - ***Ensuring the planned and systematic activities are implemented so that quality requirements for a product or service are fulfilled. It is the systematic measurement, comparison against a standard, monitoring of processes.***
  - ***Providing a feedback loop that supports error prevention.***
  - ***Keeping a focus on assessment of Project Management Life Cycle processes and artifacts.***
- ***IV&V Definition and Focus.***
  - ***Ensuring the system is built right - The evaluation of whether or not a technical product, service, or system complies with a regulation, requirement, specification, or imposed condition.***
  - ***Ensuring the right system is built - The assurance that a product, service, or system meets the needs of the customer and other identified stakeholders. It often involves acceptance testing and validating suitability with external customers.***
  - ***Providing a feedback loop on that supports error reporting and recovery***
  - ***Keeping a focus on assessment of System Development Life Cycle processes and artifacts.***

Using these generic but standards-based perspectives, we propose to work with all parties to apply them to the specific Quality Management tasking and deliverables of both the IV&V and QA portions and develop a Concept of Operations for our IV&V of the Replacement Project quality management. *Exhibit V.C-13: IV&V Quality Management Activities Mapped to SQM³ Artifacts* ***reflects the activities and the SQM³ artifacts used to evaluate the quality of the project.***

IV&V Area	IV&V Quality Management Activity	Applicable SQM³ Artifacts
Quality Management	Quality Assurance Process Definition and Product Standards	(SLP-Q-Plan) Quality Planning (SLP-Q-Assess) Quality Assessments (SLP-Q-Audit) Quality Audits Deliverable Review Reports

Exhibit V.C-13: IV&V Quality Management Activities Mapped to SQM³ Artifacts.

V.C.3.4.1 Quality Assurance

Requirement Item	Req #	Requirement Description
Quality Assurance	QA-1	Evaluate and make recommendations on the project's Quality Assurance plans, procedures and organization.
Quality Assurance	QA-2	Verify that QA has an appropriate level of independence from project management.
Quality Assurance	QA-3	Verify that the QA organization monitors the fidelity of all defined processes in all phases of the project.
Quality Assurance	QA-4	Verify that the quality of all products produced by the project is monitored by formal reviews and sign-offs.
Quality Assurance	QA-5	Verify that project self-evaluations are performed and that measures are continually taken to improve the process.
Quality Assurance	QA-6	Monitor the performance of the QA contractor by reviewing its processes and reports and performing spot checks of system documentation; assess findings and performance of the processes and reports.
Quality Assurance	QA-7	Verify that QA has an appropriate level of independence; evaluate and make recommendations on the project's Quality Assurance plans, procedures and organization.
Quality Assurance	QA-8	Verify that the QA vendor provides periodic assessment of the CMM activities of the project.
Quality Assurance	QA-9	Evaluate if appropriate mechanisms are in place for project self-evaluation and process improvement.

In the Replacement Project, the SLI IV&V Team is primarily focused on assessing the performance of the QA vendor, reviewing their plans and project activities, and helping to ensure that they are in compliance with their contractual requirements. The purpose of developing a Quality Assurance Plan is to determine the expectations and criteria to obtain the level of quality that is mandated for the project's implementation. SLI expects the plan should be action-oriented and proactive to meet those expectations. The SLI IV&V Team verifies if the QA Vendor's quality management approach includes internal quality inspections in the preparation of deliverables.

SLI's evaluation of QA plans, procedures, and organization and the verification that product quality is monitored by formal reviews and sign-offs begins as part of our Initial IV&V Review of the Project Management, Project Quality Assurance, and Project Implementation Plans. The SLI IV&V Team reviews all quality assurance plans, processes, and procedures and makes recommendations as appropriate to help the project management team verify that deliverables are being produced to an acceptable quality level and if the processes put in place to manage and create the deliverables are effective and properly applied.

The SLI quality assurance reviews provide an independent assessment of the quality management components and processes that define how quality is measured, and that the QA approach then formulates recommendations for improvements we believe are both actionable and beneficial to the project. SLI IV&V Team reviews the quality management plans, processes, procedures, and other deliverables as appropriate to help the project management team determine if deliverables are being produced to an acceptable quality level and if the project's processes for managing and creating deliverables are effective and properly applied.

During the periodic IV&V activities, SLI reviews the QA Plan, QA Test Results, Status Reports, and Risk/Issue Logs to validate the quality of delivered products, and verify that they have been subject to formal reviews and sign-offs. We review the QA Service Provider's assessments of the QA standards and metrics to determine if the activities of the project adhere to the standards. We assess reporting structures and organization to determine if there is an appropriate level of QA independence from project management.

The SLI quality assurance reviews provide an independent assessment of the quality assurance components and processes that define how quality is measured, and that the QA approach then formulates recommendations for improvements we believe are both actionable and beneficial to the project. Using our IV&V Quality Checklists, the SLI IV&V Team verifies that the QA vendor provides periodic assessment of the QA standards such as, LEAN or Capability Maturity Model (CMM) activities of the project and that the project takes action to reach industry standards as adopted by the Replacement Project.

By reviewing the organizational structure and lines of reporting and authority, SLI verifies that QA has an appropriate level of independence from project management. If any lack of independence is identified, a recommendation for an organizational change is made.

Using our IV&V Quality Checklists, the SLI IV&V Team verifies QA provides periodic assessment of the QA standards such as LEAN or Capability Maturity Model activities of the project and the project takes action to reach industry standards as adopted by the State.

SLI staff are familiar and have experience with assessing an organization's CMMI maturity levels. Maturity levels consist of a predefined set of process areas. Each maturity level provides a layer in the foundation for continuous process improvement. SLI reviews the projects current level by measuring the achievement of the <u>specific and generic goals</u> that apply to each predefined set of process areas.

There are five maturity levels designated by the numbers 1 through 5 as depicted in *Exhibit V.C-14: CMMI Stages Representation – Maturity Levels****.***

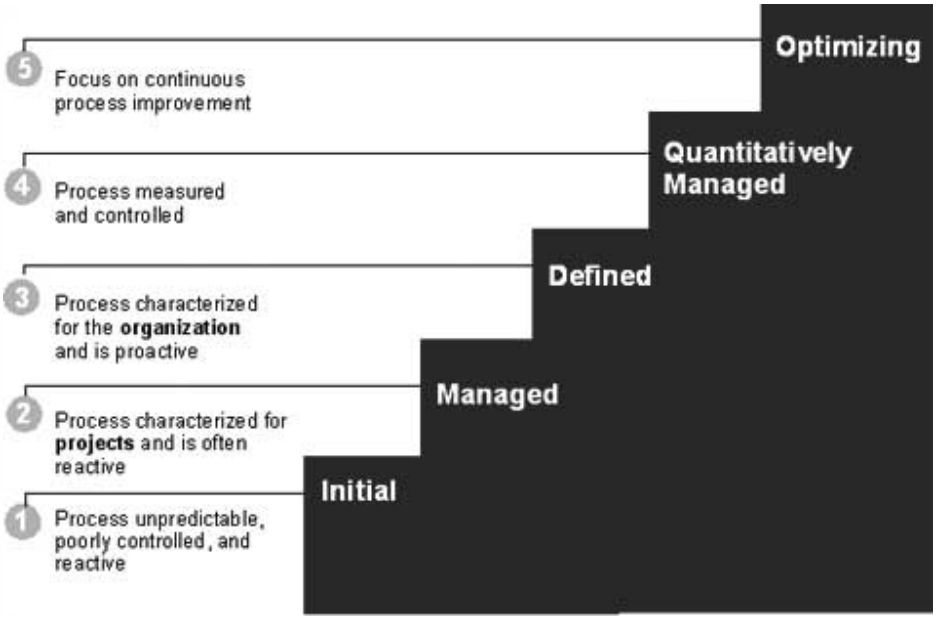


Exhibit V.C-14: CMMI Staged Representation- Maturity Levels

SLI regards CMMI appraisal as an examination of one or more processes by a trained team of SLI professionals using an appraisal reference model as the basis for determining strengths and weaknesses of an organization.

Appraisals require planning. When planning an appraisal of your organization, determine the scope of the organizational unit, which disciplines to include, whether the appraisal team consists of members internal or external to your organization, projects to be included, individuals to be interviewed, and the type or class of appraisal necessary.

SLI's CMMI Appraisals process consider three categories of model components as defined in the CMMI:

- ***Required:*** ***specific and generic goals only.***
- ***Expected:*** ***specific and generic practices only.***
- ***Informative:*** ***includes sub-practices and typical work products.***

SLI has adopted two guiding documents for CMMI assessments:

- ***Appraisal Requirements for CMMI (ARC):*** ***contains the requirements for three classes of appraisal methods Class A, Class B, and Class C. These requirements are the rules for defining each class of appraisal method.***
- ***Standard CMMI Appraisal Method for Process Improvement (SCAMPI):*** ***Method Description Document (MDD): currently the only approved Class A appraisal method. SCAMPI satisfies all the requirements of an ARC Class A Appraisal Method and has been approved by the SEI.***

The SLI IV&V Project Manager verifies the quality of all products produced by the project are monitored through formal reviews and sign-offs by direct observation of the files that are maintained on completed deliverables. All deliverables that are completed in the prior six months are reviewed to ensure all sign-offs have been received and any conditional approvals have active plans for completion. Any deviation from the approved process is documented on the quarterly assessment reports.

The SLI IV&V Team ensures approved processes are performed, and measures are taken to improve the process and verifies project self-evaluations. We work with QA to understand this process and make recommendation to improve it, if needed.

The SLI IV&V Team monitors the performance of QA by reviewing its processes and reports and performs spot checks of system documentation. We assess findings and performance of the processes and reports. If we find that QA has consistent errors or omissions in its assessments of system documentation, it is logged with a recommendation for improvement and possible for rework on the documentation in question

As part of the quality planning process, the SLI IV&V Team defines with the methods for monitoring and measuring QA as well as Process and Product standards. This is represented in the Quality Checklists, which combine the selected quality standards with the expected monitoring activities used during the IV&V process. The IV&V quality checklists thus become the precise instrument with which the SLI IV&V Team can provide measurements of the progress, quality, and overall health of the project.

SLI has developed a repository of standards-based checklists that have been modified by our IV&V specialists over many QA and IV&V engagements.

We customize our checklists to accommodate project-specific requirements objectives, and service level agreements, as appropriate. *Exhibit V.C-15: Quality Management Plan Quality Checklist for IV&V Services* ***is an excerpt from such a document.***

QUALITY MANAGEMENT PLAN QUALITY CHECKLIST				
#	Quality Checklist Item	Criteria Met	SLI Comments	Project Response & Date
1.0	**Quality Management Plan**			
1.1	Is there a quality management plan documented?			
1.2	Are the quality management functions and related roles and responsibilities clearly defined in the Quality Management Plan?			
1.3	Is there a process (test plans, inspections, reviews) defined for verifying outputs for each task?			
1.4	Is there a formal process for submitting, logging, tracking, and reporting of items undergoing QC throughout the submit-test-rework-resubmit-retest cycle?			
1.5	Is there a process to collect statistics related to QA and problems raised as issues?			
1.6	Is the QA related information reported regularly as part of the Status Reporting mechanisms?			
1.7	Does the QMP identify and process for sampling and auditing,			

Exhibit V.C-15: Quality Management Plan Quality Checklists for IV&V Services. *Each area of our responsibility for IV&V assessments are supported by standards-based evaluation criteria.*

V.C.3.4.2 Process Definition and Product Standards

Process Definition and Product Standards	QA-10	Review and make recommendations on all defined processes and product standards associated with the system development.
Process Definition and Product Standards	QA-11	Verify that all major development processes are defined and that the defined and approved processes and standards are followed.
Process Definition and Product Standards	QA-12	Verify that the processes and standards are compatible with each other and with the system development methodology.
Process Definition and Product Standards	QA-13	Verify that all process definitions and standards are complete, clear, up-to-date, consistent in format, and easily available to project personnel

The quality of the development and implementation vendor's deliverables can be measured by the existence and usability of its product standards and processes. If these standards are easily translated across the system and work well with each other, then they are not only highly rated as stand-alone quality standards, but enhance the team's ability to produce a quality product. Processes and product standards are considered for their completeness, ease of use, and availability. We verify that defined processes are compatible with the appropriate development methodology selected for the Replacement Project. Results and recommendations are provided at each assessment for all defined processes and product standards associated with the system development. The SLI IV&V Team reviews and makes recommendations on all defined processes and product standards associated with the system development.

SLI conducts periodic process and product standards reviews through staff and stakeholder interviews to make sure the development and implementation vendor is maintaining the standards, and all staff is aware of any updates and their correct use.

The SLI IV&V Team verifies all major development processes are defined and the defined and approved processes and standards are followed in development. We use industry best practices and prior experience to ensure standards are complete and compatible. We provide reports to the State Project Manager at regular intervals – first, at the beginning of the project when existing standards are verified, and then throughout the project, to make sure the standards are followed. If they are not, we report the deviation in the IV&V Review Report, unless there are unusual circumstances. In those instances, we make verbal reports directly to the State Project Manager as soon as the issue arises and/or generate a Memorandum for the Record (MFR) to highlight our pressing concerns.

SLI IV&V Technical Analyst(s) verify that project processes and standards are compatible with each other and with the system development methodology. Process documentation is compared to the development methodology that has been deployed to ensure that current standards (both State and industry) are utilized. Discrepancies are documented and recommendations for correction or alignment are made

Finally, the SLI IV&V Team verifies that all process definitions and standards are complete, clear, up-to-date, consistent in format, and easily available to project personnel. SLI IV&V Team documents any issues with the quality and availability of this documentation and prepares recommendations for improvements.

V.C.3.5. *Training (3.6.3.5)*

Realizing that there are varying levels of training that occur during the Replacement Project, the SLI IV&V Team reviews key aspects of the training and knowledge transfer processes and documentation to ensure that the training programs are suited to the individuals performing specific tasks within the Department. We consider the task of education a continual, evolving process throughout the duration of the project. Sharing knowledge is critical in a successful project deployment, and it is crucial that the stakeholders have 'buy-in' in order to see it through.

Exhibit V.C-16: IV&V Training Activities Mapped to SQM³ Artifacts ***reflects the 2 activities and the SQM³ artifacts used to evaluate the quality of the project.***

IV&V Area	IV&V Training Activity	Applicable SQM³ Artifacts
Training	User Training and Documentation Developer Training and Documentation	(SLP-Q-Assess) Quality Assessments (SLP-Q-Audit) Quality Audits Deliverable Review Reports Process Observation Reports Help Desk Procedures Quality Management Checklist Training Plan Quality Checklist Training Materials Quality Checklist User's Manual Quality Checklist

Exhibit V.C-16: IV&V Training Activities Mapped to SQM³ Artifacts.

V.C.3.5.1 User Training and Documentation

Requirement Item	Req #	Requirement Description
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.

Requirement Item	Req #	Requirement Description
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 are 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.

The SLI IV&V Team performs an assessment of all knowledge transfer and training documentation to ensure they are prepared in an effective manner. The objective of this assessment is to ensure that training elements are clearly, thoroughly, and consistently documented. The ultimate objective is to facilitate a process assuring that the Training Plan fulfills the needs of each user, technical community, and stakeholder.

As the systems transition to operations, the SLI IV&V Team assesses the training plans and processes, to ensure that there is sufficient knowledge transfer to support the transition. SLI has a well-defined process for monitoring the effectiveness of technical knowledge transfer and end-user training planning and execution processes. The training process is measured throughout the project's lifecycle, so that any necessary adjustments may be performed in a timely basis. SLI also includes audits of the post-training evaluation process and makes recommendations for future improvements. Training consists of three primary areas for review:

- ***Verifying that knowledge transfer and training processes exist, are adequate, are appropriate to the phase, and available when needed.***
- ***Verifying that all necessary policy, process, and standards documentation are easily available to developers and users.***
- ***Verifying that all training and knowledge transfer is given on-time and is evaluated and monitored for effectiveness, with additional training provided as needed.***

SLI verifies the development and implementation solution vendor puts considerable and measurable effort toward ensuring the State staff gains the appropriate skills necessary for proper use and maintenance of the application. The process includes identifying the staff to be interviewed for this process including key managers and supervisory staff. We interview the person in charge of the training program as well as the staff that are to be trained. The SLI IV&V Team conducts a baseline assessment of the Replacement Project Training Plans and processes. This base assessment collects the information necessary to determine the effectiveness of the training program. Interview questions are established for the State and the Replacement Project Managers. These interviews are conducted in a structured way and are designed to verify the training program is meeting the project's objectives for end-user training.

Additionally, the course schedules, follow-up course evaluations, and availability of policy and standards documentation, along with access to help desk personnel, are all addressed during Training/Documentation assessments. SLI IV&V Team verifies training and rollout schedules are coordinated so the training that is delivered to a particular community is adequate when the functionality is available to that same community. If training is delivered months before the new functionality is available, much of what was learned will have been forgotten. Our IV&V Team also verifies that mechanisms are in place to measure the effectiveness of delivered training and

to identify where and when additional training is required. *Exhibit V.C-17* ***provides an excerpt of SLI's Training Plan Checklist for IV&V Services.***

TRAINING MATERIALS QUALITY CHECKLIST				
#	Quality Checklist Item	Standard Measurement	Criteria Met	Team Review Comments
1.0	**Training Materials**			
1.1	The training material defines the scope of work to be accomplished	This document describes a step-by-step process of work to be accomplished		
1.2	The training material documentation is organized	This document has been organized in a clear manner		
1.3	The training material covers information on the training facility	This document provides information of who is responsible for the training facility		
1.4	The training material is easy for the trainer and trainee to follow	The materials in this document are easy to follow and flow in a consistent manner		
1.5	The training material addresses scheduling of groups to be trained	This document clearly describes the training schedule for when and where each group will be trained		
1.6	The training material covers internal and external users' training	This document clearly defines what information will be covered for both internal and external users		

Exhibit V.C-17: SLI's Training Plan Checklist for IV&V Services*. A customized version of this checklist is used during the IV&V assessment of training process.*

Too often, training is treated as an afterthought within the process. The State staff, with their day-to-day responsibilities, may feel pressured by the additional responsibility of learning/developing a new system. This can lead to a risk factor in building a new system. The SLI IV&V Team monitors the knowledge transfer process by conducting interviews with key personnel to ensure that they can fully comprehend what the development and implementation vendor is offering during training activities. SLI IV&V Team may recommend modifications to the training plan for improvement. Emphasis is placed on early assessments of the initial training program to ensure that:

- ***Technical training during the development phase is adequate,***
- ***Organizational information available at any given time during the project phases is technically appropriate, and***
- ***All standards, policies, and process information have been identified and reviewed.***

As the development phases progress, SLI IV&V Team evaluates the planning and execution of training for a variety of end-users. This involves the consideration of the training materials proposed in terms of availability, accuracy, thoroughness, and appropriateness. Concerns must then be applied to the plan's timeliness as it relates to the solution vendor's plan. As an example, SLI IV&V training assessments ensure that training materials adequately support the system training requirements, including:

- ***Application Development Knowledge Transfer Documents,***
- ***User Training Documents,***
- ***Maintenance and Operations Documents,***
- ***Train the Trainer Documents, and***

- ***Training and development and implementation Plan and Schedules.***

As part of the oversight of the UAT and implementation process, SLI ensures that the training documentation is available to the users in some easily available format whether in print, online or other methods.

V.C.3.5.2 Developer Training and Documentation

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.
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.

Developer Training and documentation assessments follow the same steps and procedures as those for end users but focuses on the technical aspects of supporting and maintaining the system.

The SLI IV&V Team verifies training is based on the technical documentation and procedures provided for the development of the system. SLI IV&V Team evaluates and assesses the training, maintenance, and operational documentation, produced by the development and implementation vendor. We evaluate the completeness, accuracy, clarity, and effectiveness of documentation relying on the following processes:

- ***Technical Documentation Evaluations***
- ***Operating Procedures Evaluations***

The SLI IV&V Team assesses the development and implementation vendor's training programs and provides recommendations to help ensure the process thoroughly takes into consideration the needs of all types of technical users who will be operating the new system. Our IV&V Team assesses the documentation and instruction to make sure they are addressing the correct audience. To ensure success, this process is measured throughout the training effort so that any necessary adjustments can be implemented on a timely basis. As we review and assess the development of the training and knowledge transfer materials, preparation for training and knowledge transfer activities, and delivery of training classes, workflow and business process effectiveness is incorporated as a key evaluation criterion for our SLI IV&V Team. We are also sensitive to the issues surrounding a phased development approach, where the alignment and timing of training must coincide with multiple software iterations and releases within the development cycle.

SLI IV&V Team verifies that policies, procedures, and process documentation are available at the right time and are appropriate for the audience. This includes a review to ensure training is monitored for effectiveness and additional training is provided as needed.

V.C.3.6. *Requirements Management (3.6.3.6)*

SLI employs several IV&V processes to ensure that requirements can be traced from their definition through development, testing, and implementation.

Requirements Management is a systematic approach to eliciting, organizing, and documenting requirements for a system or module. Requirements management is the process that establishes and maintains the requirement framework necessary to ensure agreement between the State stakeholders and the Replacement Project vendors. Our IV&V Team performs requirements management activities utilizing SQM³ artifacts as shown in *Exhibit V.C-18: IV&V Requirements Management Activities Mapped to SQM3 Artifacts.*

IV&V Area	IV&V Requirements Management Activity	Applicable SQM³ Artifacts
Requirements Management	Requirements Management	(SLP-Q-Assess) Quality Assessments
	Security Requirements	(SLP-Q-Reqs) Requirements Management
	Requirements Analysis	Deliverable Review Reports
	Interface Requirements	Process Observation Reports
	Requirements Allocation and Specification	Requirements Traceability Analysis
	Reverse Engineering	Requirements Management Quality Checklist

Exhibit V.C-18: IV&V Requirements Management Activities Mapped to SQM³ Artifacts.

V.C.3.6.1 Requirements Management

Requirement Item	Req #	Requirement Description
Requirements Management	RM-1	Evaluate and make recommendations on the 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, code 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.

Typically, the development and implementation vendor's team is responsible for performing a requirements analysis and developing specifications while SLI IV&V Team reviews and validates this work. Our aim is to ensure that all requirements are mapped to the design, carried out in development, and properly tested and executed before implementation. SLI's established processes for assessing requirements management are modified to some extent to align with a modular procurement, implementation, and interoperability.

As your IV&V Provider, SLI is involved in monitoring and tracking requirements throughout all aspects of the project, and supporting these activities with multiple work products. SLI IV&V Team gathers the requirements information and ensures that lessons learned from one-step to the next are applied to each cycle of requirements review. Our attention is focused on requirements traceability to ensure all requirements are represented in the testing, training, and operational readiness deliverables of the effort.

The SLI IV&V Team assists in defining a review process that seeks to ensure accuracy, clarity, and achievability within the parameters of the project schedule and budget. As the project progresses through each implementation stage, the SLI IV&V Team helps ensure business and technical requirements meet the project objectives by:

- ***Defining the criteria used to assess whether the software requirements are met by the system and software.***
- ***Checking that each system requirement allocated to software is testable (can be fully implemented in the software).***
- ***Verifying all system requirements that should be allocated to software have been allocated.***
- ***Establishing the link between requirements and software documentation.***
- ***Identifying other software requirements for verifying system and data integrity are based on analyses of the system requirements, system interfaces, and required functions.***
- ***Identifying all interfaces between components and interfaces with legacy systems.***
- ***Ensuring test coverage by evaluating use cases, models, software test scenarios, and procedures against the requirements.***
- ***Identifying open issues between system and software requirements.***
- ***Confirming software requirements are traced through design specifications, development documentation, systems integration test cases, and User Acceptance Test scripts.***

We assess the process for managing requirements and verify the requirements for clarity, accuracy, feasibility, completeness, and testability. We also assess the requirements definition and elaboration processes to ensure appropriate stakeholders are involved in the process.

SLI's IV&V requirements analysis process verifies the system requirements are implemented in accordance with a standard set of success criteria. The process used by SLI's IV&V Team:

- ***verifies the system and software objectives,***
- ***verifies the adequacy of the system and component level requirements, and***
- ***assures complete, consistent, correct, and understandable requirements are provided for the software design.***

For completeness of requirements, the SLI IV&V Team also assesses requirements for testability. If the requirement is vague, contains undefined parameters, or does not provide the information on how the software should react, it is deemed an incomplete requirement. This is dependent on the following factors:

- ***The success criteria established in a Requirements Management Plan. Minimum criteria include completeness, accuracy, correctness, minimum level of detail, usability (clarity, conciseness, and consistency) and conformance to applicable State standards.***
- ***A rigorous, systematic requirements management process that facilitates traceability throughout the project from initial requirement, through design, implementation, and testing.***

In large software IT projects, the development team is typically required to produce and maintain a Requirements Traceability Matrix (RTM). This matrix associates requirements with the design

modules that satisfy them. Further, as the project progresses, test scripts verify each requirement is traced within the RTM as requirements are produced and executed. SLI is experienced in assessing how solution vendors effectively utilize software to support this function and in using its output as input to our reviews.

The following** Exhibit V.C-19: SLI Requirements Management Quality Checklist for IV&V**, is an example. It is derived from the IEEE standard 830-1998 Recommended Practice for Software Requirements Specifications, IEEE standard 1233-1998 A Guide for Developing System Requirement Specifications, and SLI's SQM³ Methodology.

REQUIREMENTS MANAGEMENT QUALITY CHECKLIST				
#	Quality Checklist Item	Criteria Met	SLI Comments	Project Response & Date
1.0	**Procedural Review**			
1.1	The identification of Project Stakeholders was accomplished in a timely manner			
1.2	The Requirements Validation Methodology was properly applied			
1.3	Internal and external interfaces have been identified			
1.4	The state has completed the verification and validation of the projects requirements			
1.5	The Requirements Management process is documented and clearly understood			
1.6	Steps were taken to ensure all stakeholders are appropriately involved in the requirements validation process			
1.7	The Implementation Contractor's process for verifying the clarity, accuracy, feasibility, and testability of requirements and demonstrating how this process was applied to all			

Exhibit V.C-19: Requirements Management Quality Checklist for IV&V. *SLI's checklist for evaluating the quality of the Replacement Project Solution's Requirements Management process.*

V.C.3.6.2 Security Requirements

Security Requirements	RM-6	Evaluate and make recommendations on 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 project's restrictions on system and data access.
Security Requirements	RM-8	Evaluate the project's security and risk analysis.
Security Requirements	RM-9	Verify that processes and equipment are in place to back up client and project data and files and archive them safely at appropriate intervals.

Nowadays, security breaches are de facto threats to any computing environment, including high-privacy data in healthcare systems. Verifying security standards set forth by the State of Nevada, DWSS and federal standards, such as safeguarding Personally Identifiable Information (PII), are being implemented is critical to maintain confidence the system can reside on the State's network without enabling threats of intrusion and to meet federal security audits. SLI performs an assessment of security requirements as part of each deliverable review and assessment that is performed, including code review and design walk through.

The list of areas to be examined includes, but is not limited to the following:

- ***User Authentication,***
- ***Role Based Security,***

- ***Database Connectivity,***
- ***Password Validation, and***
- ***Encryption.***

These items are evaluated with respect to limiting both system and data access to ensure only the authorized individuals have appropriate access to the system and only have access to the data necessary to support their job functions.

The IV&V Team reviews the Replacement Project Security Plan against the State and Federal standards for security and HIPAA privacy to ensure the security of both the system and data as well as the privacy of the member data. *Exhibit V.C-20: Information Security Plan Quality Checklist for IV&V Services* ***is derived from ISO/IEC 24762:2008, Information technology – Security techniques – Guidelines for Information and Communications Technology Disaster Recovery Service and SLI's SQM³ methodology.***

INFORMATION SECURITY PLAN QUALITY CHECKLIST				
#	Quality Checklist Item	Criteria Met	SLI Comments	Project Response & Date
1.0	**Standards**			
1.1	The Information Security Plan (ISP) addresses all state and agency security standards			
1.2	The ISP addresses all required federal standards			
1.3	The ISP addresses all HIPAA standards (if applicable)			
1.4	The OWASP Top 10 Security Risks have been reviewed and corrective actions have been implemented			
2.0	**Personally Identifiable Information (PII)**			
2.1	The ISP identifies all sources of PII within the environment			
2.2	The ISP categorizes PII into confidentiality impact levels and applies the appropriate safeguards based on the confidentiality impact levels			
2.3	The ISP limits access to PII to what is strictly necessary to accomplish the business purpose and mission			

Exhibit V.C-20: SLI's Information Security Plan Quality Checklist for IV&V Services.

In its reviews and assessments, SLI includes a security assessment focused on system security that is aligned with the requirements for security reviews and is used as input to certification and/or gate reviews. SLI understands that the Replacement Project solution requires a consistent program for identity and access management.

SLI IV&V Team reviews the vendor's Security Plan against State and applicable federal standards for security and privacy to ensure the security of both the system and data as well as the privacy of the member data. The security plan is reviewed to ensure minimum requirements are met, including:

- ***A process for business review of application user access.***
- ***A process that defines segregation of duties to limit access scope.***
- ***A process to improve user lifecycle management.***
- ***Procedures to account for newly identified data/system owners and cover user requests, provisioning, authorization (roles), changes, and de-provisioning.***

We are also prepared to assess security requirements against the following NIST standards:

- ***NIST Special Publication 800-14 and 27, Generally accepted principles and practices for Securing Information Technology Systems, published by NIST in 2001.***
- ***NIST 800-39, Manage Information Security Risk, March 2011.***
- ***NIST Cyber Security Framework for Improving Critical Infrastructure Cybersecurity, 2014 (SLP-Q-Assess) Quality Assessments.***

The assessment incorporates a comprehensive review of specified privacy controls, including but not limited to, administrative controls, technical controls, and physical safeguards employed to protect the proper handling of PII. In addition, a full and comprehensive review of information security controls interrelated to privacy controls are assessed to verify information collected, used, maintained, shared, and disposed of by programs and systems are being handled and managed in accordance with the Standard.

The following are the SQM[3] SLPs and checklists specific to this area.

Standard Lab Procedures (SLPs)	Quality Checklists	IV&V Activity/Report
Security Assessments	Information Security Plan Quality Checklist	Information Security Plan Assessment and Deliverable Review Report

V.C.3.6.3 Requirements Analysis

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 as to the desired functionality of the system, and that users have been involved in prototyping of the user interface.
Requirements Analysis	RM-12	Verify that all stakeholders have bought-in to all changes which impact 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

SLI IV&V Team conducts an analysis of client, State and federal needs and objectives to verify requirements of the system are well understood, well defined, and satisfy federal regulations. Through our structured interview process, the SLI IV&V Team determines if all stakeholders have been consulted on the desired functionality of the system and users have been involved in prototyping of the user interface.

Well organized requirements engineering keeps a baseline from one release to the next, provides a unique numbering system for traceability, manages change request through forma approval procedure, and tracks defects associated with test cases where results do not meet associated requirements.

The SLI IV&V Team verifies the change control process is being adhered to and all appropriate stakeholders have been engaged on changes that impact project objectives, cost, or schedule. Our team interviews the technical staff and reviews requirements documentation to verify

performance requirements are complete and accurate; and determine if user's maintenance requirements for the system are completely specified

Typically, as an integral part of the project's early stages, the SLI IV&V Project Manager and assigned team members work with the Project Team to review the requirement framework in areas such as:

- ***Requirements Types. Identifying requirement classes such as high-level (e.g., business rules, vision statements, project goals), design (e.g., use cases, business modeling), software, test requirements, technical, performance, and maintenance.***
- ***Traceability. Defining, documenting, and working with State management and user communities involved in or impacted by the requirements process and providing for the traceability of requirements across multiple project areas.***
- ***Multi-Dimensional Attributes. Establishing requirement characteristics such as priority, owner, team or sub-team responsibility, degree-of-difficulty, or software release are attributes that need to be defined in order to effectively manage requirements and communicate information to stakeholders. This compendium of requirement characteristics provides management a tool for managing the scope of the system; and the project team a tool for understanding the elements of work that must be accomplished, including their interdependencies to other requirements.***

This activity verifies the system requirements are implemented in accordance with a standard set of success criteria detailed in the IV&V Management Plan. The software requirements analysis process used by SLI verifies the system and software objectives, verifies the adequacy of the system and component level requirements, and assures complete, consistent, correct, and understandable requirements are provided for the software design. For completeness of requirements, our IV&V Analysts also assess requirements for testability.

For the Replacement Project, the development and implementation vendor is responsible for validating requirements. SLI conducts an initial and ongoing assessment of requirements management from the perspective of the Planner, solution providers and the State. Our aim in doing this is to ensure all State and federal requirements are mapped to design, carried out in development, and finally properly tested and executed before implementation.

The SLI IV&V Team defines a review process that seeks to ensure accuracy, clarity, and achievability within the parameters of the project schedule and budget. As the project progresses through each implementation stage, the SLI IV&V Team helps ensure business and technical requirements are met.

Inputs to this activity include the user requirements, data flow and entity diagrams, system requirements (including the interfaces to legacy systems, software, and user interfaces to software) and system design constraints (including security-related requirements), and software requirements standards. *Exhibit V.C-21: Requirements Category Criteria*, ***shows the categories and criteria that can be applied to an assessment of requirements in the requirements database. Validating the requirements against criteria such as these facilitates the selection of an approach to verifying each of the requirements in subsequent project phases. Requirement categories and attributes such as those in the table below are analyzed for completeness, clarity, and testability.***

Requirements Category Criteria	Explanation
New	***Denotes a requirement that did not originally appear in the RFP.***
Ancestor	***A requirement that describes more than one element, aspect, and/or behavior of the system. Ancestor requirements have not yet been decomposed into singular statements of each element or aspect contained in the Ancestor.***
Accepted	***Denotes a requirement that was discussed, reviewed, and finalized in a JAD session.***
Modified	***The content, structure, and/or style of the requirement have been changed from the way it was originally written.***
Excluded	***A requirement that is no longer applicable and has been deleted.***
Transferred	***A requirement that has been re-associated with a different subsystem than the one with which it was originally associated or otherwise moved from its initial location in the listing of requirements.***
Related	***This column helps track requirements that are closely associated with another requirement or functionality in such a way that it is beneficial to consider them together.***
Count	***Notes the number of initial descriptors in the spreadsheet (New, Ancestor, Validated, Modified, Excluded, and Transferred) that apply to the requirement.***
Notes	***The requirement has explanatory or reminder notes associated with it. The notes appeared originally in the JAD session notes documents.***
Activity	***When a requirement is still being finalized, modified, clarified, or otherwise edited, this indicates that there is still activity needed in order to bring the requirement to a finished state.***
Transferred To	***When a requirement has been transferred, its new location is noted here. This information assists in the traceability of the requirement.***
Related To	***This column helps track requirements that are closely associated with another requirement or functionality in such a way that it is beneficial to consider them together. This information also assists in the traceability of the requirement. The identification number of the related requirement(s) is inserted.***
Testable	***In order to be testable, requirements specifications must be internally consistent in tone and relative levels of abstraction. Requirements statements must describe something concrete, something that can be physically, objectively measured (as opposed to subjective opinion). An example of a non-testable requirement statement is "The product should have a good human interface." An example of a testable requirement statement is "The system will respond to user requests within 10 seconds of the user pressing the enter key 90% of the time."***
Traceable	***To achieve traceability, each requirement must be assigned a unique individual identifier that is consistently used throughout the project documentation. Requirements must be complete, describe unique functionality, and be consistently defined. A traceable requirement can be traced from the RFP and is decomposed***

Requirements Category Criteria	Explanation
	consistently, so that it can be traced forward to design and test phases. This includes use of consistent naming conventions and terminology.
Meets Standards	***The column "Meets Standards" indicates whether the requirement correlates to one or more of the standards cited for the project.***
Consistent	***There are three types of conflict that can occur within requirements statements. These are:*** ➢ ***Different terms are used for the same item: for example, "a P45" and "a provider form" might be used to describe the same form. This is not precise or explicit.*** ➢ ***Characteristics of the same objects conflict. For example, in one part of the requirements document, "a popup message will indicate a fault," while in another part, "a loud beep will indicate a fault."*** ➢ ***There are contradictions in logical flow. For example, "A occurs after B" in one statement; "A and B occur simultaneously" in another statement.*** ***A consistent specification is one with no conflict between individual requirement statements that define the behavior of essential capabilities and inherent properties. In other words, capability and performance level must be compatible and the required quality features (reliability, safety, security, etc.) must not negate the system's utility. For example, the only bullet train that is totally safe is one that does not move, contains no unpadded surfaces, and is, in fact, closed to passengers.***

Exhibit V.C-21: Requirements Category Criteria. *SLI IV&V Team analyzes requirements to ensure they conform to specific criteria.*

A report is submitted with the results of the SLI IV&V Team's analysis of the requirements and the assessment of the Replacement Projects' Planner Contractor and solution vendors' requirements management deliverables against the success criteria.

V.C.3.6.4 Interface Requirements

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 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.

SLI utilizes our System Interfaces Quality Checklists and reviews of relevant Replacement Project Team design deliverables and associated artifacts, as a basis for determining if System Interfaces are precisely defined in terms of transport medium and function. SLI verifies the presence of specific definitions for input/output process flow and control codes, data format, polarity, range, units, frequency and error handling. The SLI IV&V Team verifies that all organizations responsible for the interfaces are included in planning, development, and testing procedures. We also verify that the schedule incorporates these tasks for those organizations. We publish our findings and recommendations regarding Interface Requirements as part of our Periodic IV&V Review Reports.
Requirements Allocation and Specification

The way application systems and subsystems interact are critical elements to consider. These interfaces occur within the application itself, as well as among external applications that may use or share the same data. This can result in a significant number of instances where data are passed back and forth, and the resulting conditions from one component form the input conditions of others. If any of these interfaces are not operational, it could severely impact the functionality of the entire application, and create issues for end users.

SLI has a thorough understanding of the importance of strong and reliable interfaces to the effective operation of a child support program. No other human services program requires the number and complexity of interfaces as Title IV-D. The IV-A/IV-D interface is extremely complex and important. Locate and income/asset identification interfaces are numerous and extend to almost every sector of the economy.

At the lowest level, individual components or objects must be able to interact with each other. The combination of objects may form a part or sub-system of the application. Each of the respective sub-systems must then be integrated together to form the full application. Requirements must be in place to provide detail about how each piece comes together to comprise the unified whole of the application.

Once the application is developed, it is implemented within the CSES enterprise architecture. This means that data could be shared by multiple applications, information created within one may be used within another, or there simply may be shared physical environment. Personnel to be interviewed when assessing the integration process are expected to include developers, DBAs, Network Administrators, and owners of the interfacing systems and applications.

The SLI procedural review encompasses the practices utilized by the Replacement Project teams for the following:

- ***Identification of application level interfaces***
- ***Identification of enterprise level interfaces***
- ***Dependency identification***
- ***Interface Requirements***
- ***Design Requirements***
- ***System Architecture Requirements***
- ***Component or Object Models***
- ***Data Models***
- ***System Architecture Diagrams – showing interfaces***
- ***Enterprise Architecture Diagrams – showing interfaces***

In the context of an IV&V Interface Requirements review process, we review the work products of the project development and implementation vendor to ensure that interface requirements specifications have been developed for all aspects of the system, are in line with industry standards for application interfacing protocols, and interface specifications have been thoroughly coordinated with all interfacing agencies and organizations.

The SLI IV&V Team verifies that partnership agreements are in place with external organizations whose systems interface with CSES. This includes service legal agreements (SLA) that may govern the performance of application interfaces.

V.C.3.6.5 Requirements Allocation and Specification

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.

The SLI requirement management assessment activities ensure that all requirements are properly categorized by Business, Stakeholder, and Solution needs, then appropriately sub-categorized into Functional, Non-Functional and Transitional requirements, and that the requirements are properly allocated to the hardware and software solutions. Each Functional requirement is verified to be fully testable (the requirement can be fully implemented in the software and the testing processes can definitively demonstrate that the requirement has been met).

Requirements which are allocated to hardware systems may be considered Functional (example: screen refresh time no greater than 10 seconds under load) which can be validated through formal testing processes, or Non-Functional (example: The development and implementation vendor will employ a Service Oriented Architecture (SOA)) which are confirmed through mutual agreement of the State stakeholders and the development and implementation vendor.

Regardless of the subsystem that the requirement is associated with, the SLI IV&V Team ensures that every requirement appears in the RTM, is properly associated with its business process, is subject to change control and is fully tested in advance if system implementation.

V.C.3.6.6 Reverse Engineering

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.

Because DWSS is modernizing the Child Support functionality out of the NOMADS legacy environment, the development and implementation vendor has to reverse engineer the "as is" functionality and bring it in alignment with current federal standards. Because multiple locations across the State have implemented their own local solution to address their specific needs, the development and implementation vendor has to integrate that disparity into a unified solution. This means SLI, as the IV&V Provider, must ensure the diversity across locations are addressed by the capabilities of the replacement CSES.

If necessary, CSES stakeholders and the development and implementation vendor may have to do a "deep dive" into existing system(s), including activities such as source code reviews and reverse engineering to extract some operational requirements.

SLI's business experience in IV&V and software validation enables us to bring assessment, oversight, and guidance to these very low-level activities to ensure that the effort follows a well-defined plan and produces requirements that are clear, concise, and testable.

DWSS has chosen a modular approach to the replacement of several subsystems with a state-wide CSES. As was stated in the RFP, the State staff and/or contractors(s) may have to do a

"deep dive" into the base system(s), including activities such as source code reviews and reverse engineering to extract operational requirements. The goal is to extract core logic, to reverse engineer, re-factor, or convert the code to another language. However, by definition, extracting a generalized model from source, design or requirements information involves the loss of, potentially, significant information. It is critical the modernization process allow for cross-referencing from the target engineering back to the source information to ensure the intended functionality of the legacy system is represented in the target system.

Selective conversion of legacy applications presents its own set of risks that vary according to the means being used to convert the code:

- ***Will automated conversion software be used?***
- ***If so, will the converted code be efficient, well commented, and easy to maintain?***
- ***If the majority of the code is converted manually what processes are in-place to ensure consistency across multiple programmers?***
- ***Does system, regression, and UAT testing used for converted code leverage the legacy system?***

SLI's business experience in IV&V and software validation enables us to bring assessment, oversight, and guidance to ensure the effort follows a well-defined plan and produces requirements that are clear, concise, and testable. SLI applies an Architecture-Driven Modernization (ADM) methodology - an industry-standard software transformation framework - utilized as a general framework for verifying processes involved in software modernization.

The ADM model provides a framework to integrate different abstraction levels and re-engineering tools involved in software modernization. The model represents a software system as a series of progressively higher levels of abstraction in order to facilitate the various modernization tasks.

The ADM methodology uses various Model-Driven Engineering (MDE) techniques in its implementation. The ADM modernization process consists of three main phases:

- ***Reverse Engineering – analysis of the existing system to obtain models to describe the source system as a series of progressively higher levels of abstraction.***
- ***Restructuring – transformation of source models into the target models.***
- ***Forward Engineering – generation of the new system from the target models.***

Exhibit V.C-22 ***reflects, at a high-level, the processes involved in software modernization utilizing the ADM methodology within the SQM³ framework.***

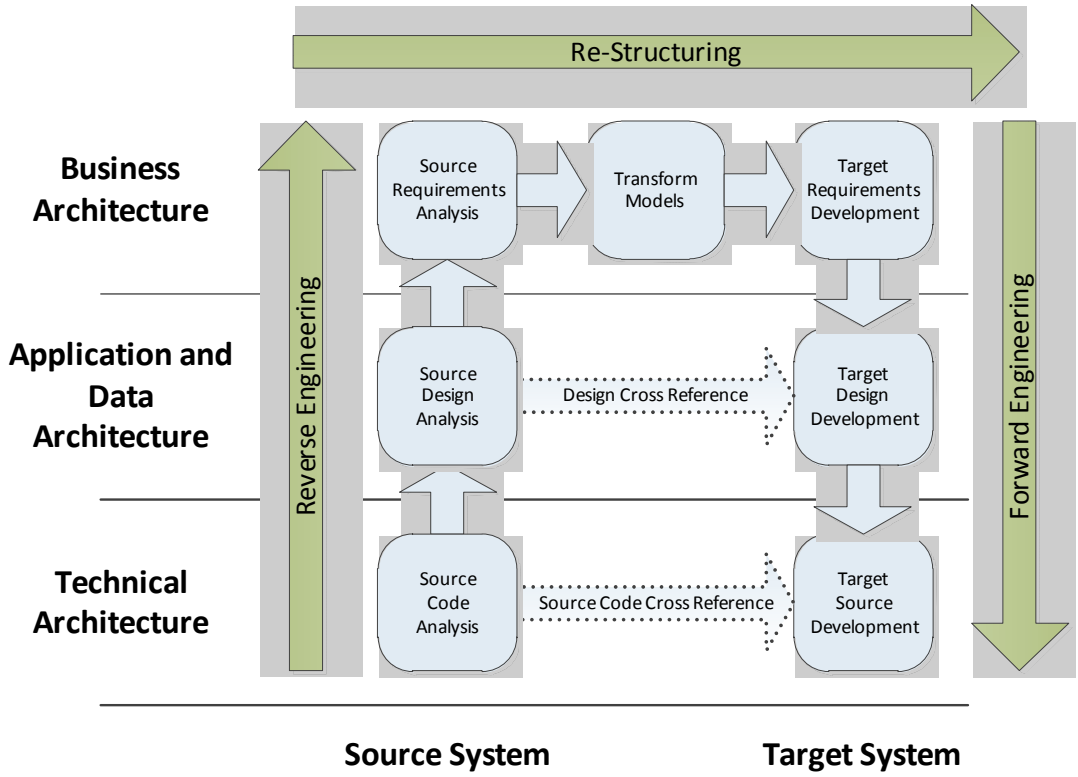


Exhibit V.C-22: Software modernization utilizing ADM methodology within the SQM³ framework.

The processes typically involved in analysis of source, design, and requirements artifacts of the source (legacy) system include capturing all existing documentation as well as interviews with all levels of staff. The intent of the analysis is to fully understand all architectural models (technical, application and data, and business) using all resources available to the modernization effort.

It is important to note the source code and design cross-referencing arrows in Exhibit A.2-28. The legacy system (source system) source code is an exact representation of the current set of functionalities of the source system. In the same sense, existing design and requirements information describe the intent of business and development staff in developing the source system.

SLI establishes a software modernization verification framework based on an industry-standard software modernization model, such as the ADM methodology. Key to the verification of any software modernization process is to ensure the modernization team's consistent use of a set of formalized processes and that their efforts properly capture the intent of the source (legacy) system and that the intent is properly translated into the target system.

Consistent use of formal modernization processes ensures the team's cohesiveness and a disciplined approach to the transformation. This relates to the formalization of the modernization process (i.e. how we do the work) to ensure all tasks and all information that needs to be managed is being properly managed.

Ensuring that the source system's intent, as well as modification to that intent arising from the transformation process, has been captured and transformed is key to satisfying business'

requirements for the target system. This relates to the satisfaction of business objectives for the target system (i.e. what the system needs to do).

SLI works with the software modernization team to integrate the verification process into the modernization process.

V.C.3.7. *Operating Environment (3.6.3.7)*

The remaining activities include environment build-out and support, performing modeling/testing support, and implementing the operations architecture. The production system must be configured correctly for the CSES to fulfill the technical requirements of the State. The CSES solution must demonstrate compliance with Nevada and Federal standards and be able to communicate with the legacy systems. Our IV&V Team evaluates the project's operating environment utilizing SQM³ artifacts as shown in *Exhibit V.C-23: IV&V Operating Environment Activities Mapped to SQM³ Artifacts****.***

IV&V Area	IV&V Operating Environment Activity	Applicable SQM³ Artifacts
Operating Environment	System Hardware	(SLP-Q-Assess) Quality Assessments
	System Software	Technical Process Guidelines
	Database Software	Deliverable Review Reports
	System Capacity	Hardware Performance Analysis
		Environment Management Quality Checklist
		Information Security Plan Quality Checklist
		Capacity and Volumetric Testing Quality Checklist

Exhibit V-C.23: IV&V Operating Environment Activities Mapped to SQM³ Artifacts.

V.C.3.7.1 System Hardware

Requirement Item	Req #	Requirement Description
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 system 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 projected vendor support of the hardware, as well as the State's hardware configuration management plans and procedures.

When performing an audit of the defined hardware and equipment needed to support the CSE system, we include production servers, database server, network hardware, storage hardware, as well as peripheral equipment needed for system operation. In addition, the use of random audits throughout the project lifecycle ensure that the hardware being used remains within conformance of the configuration management plan and the established baselines.

Our reviews of system hardware encompass current and projected system hardware configurations to determine if the performance meets the existing and proposed system requirements, determine if the hardware is compatible with the State's present hardware environment and is easily maintainable and upgradeable.

SLI IV&V Team evaluates the CSE systems' hardware configuration's ability to meet the existing and proposed performance requirements by assessing the application, network, hardware and software operating platform performance characteristics relative to expected/ anticipated/contractually guaranteed results and industry standards/expectations.

The SLI IV&V Team also evaluates the current and projected support of the hardware, as well as hardware configuration management plans and procedures. We review the compiled technical documentation for the design of the hardware environment and provide feedback on the documentation's accuracy and comprehensiveness. In addition, SLI IV&V Team reviews the system hardware and software configuration and reports on any compatibility and obsolescence issues.

This evaluation includes, but is not limited to the following:

- ***Local Area Network/Wide Area Network (LAN/WAN) architecture, connections and bandwidth***
- ***Security***
- ***End of Life (EOL) server and infrastructure components***
- ***Communication controllers***
- ***Capacity***
- ***Virus alerts and issues***
- ***Network support***
- ***Contractor support***

To conclude the hardware review, The SLI IV&V Team evaluates management and oversight of the inventory of hardware, warranties, or hardware maintenance agreements.

V.C.3.7.2 System Software

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 projected vendor support of the software will also be evaluated, as well as the State's software acquisition plans and procedures.

The system software utilized in implementing a robust and compliant CSES is of course a critical component of the project. Since COTS offers a core solution that can be configured to a customer's specific needs, COTS solutions have seen acceptance in the market.

Assigned SLI IV&V team members evaluate specifications of the new and existing system software's ability to meet the existing and proposed system requirements and review the software's compatibility with the State's current environment and its maintainability and scalability. The detailed listing of software that comprises the entire system software architecture is reviewed for accuracy and completeness. Finally, current and projected vendor support of the software is also evaluated, as well as the State's software acquisition plans and procedures.

At a minimum, the following areas are addressed:

- ***Operating systems, versions and configurations***
- ***Middleware installation, versions and configurations***

- ***Network software, versions and configurations***
- ***Communications protocols***
- ***File-sharing protocols***

To conclude the system software review, The SLI IV&V Team evaluates the management and oversight of software licenses.

V.C.3.7.3 Database Software

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 environment.
Database Software	OE-9	Evaluate any current and projected vendor support of the software, as well as the State's software acquisition plans and procedures.

The SLI IV&V Team evaluates the specifications and capabilities of the new and existing database products for the Replacement Project, which assesses the extent to which the enterprise relational database server platform can meet the existing and proposed system requirements. This evaluation includes factors such as scalability, stability, refresh, and compatibility with the State's current environment. We evaluate the current and projected support of the database products by the development and implementation vendor. This evaluation is conducted through an assessment of the vendor's experience supporting these products in other environments and interviews of the development and implementation vendor's staff that are directly responsible for these tasks.

SLI IV&V Team evaluates the design considerations for the logical and physical data models to determine if their capabilities are adequate to meet existing and proposed system requirements. We also evaluate the current and projected capacity to support the database software:

- ***Scalability. In assessing the scalability of the database schema, the ability to easily convert to other formats and support the addition of new data, and the ease of refreshing the database while remaining compatible with the existing hardware and software, remain high in consideration; including any on-line transaction processing (OLTP) environments.***
- ***Database Sizing. Sizing involves the estimation of the size of tables, indexes, partitions and other entities within the database. These estimates can be made by following the definition of the logical data model.***

To conclude the database software review, The SLI IV&V Team assess the database's data format to determine if the database design and implementation 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 Data Center's existing hardware and software.

V.C.3.7.4 System Capacity

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.

System capacity planning should consider various factors related to volume such as amount of records the database must be able to store and retrieve, maximum number of concurrent users the network must accommodate, maximum acceptable response time, etc. This includes a review of frequency and duration of failures based on the system incident tracking reports. SLI assesses the system's ability to meet the current and projected statewide needs. To provide an objective assessment, we conduct a review of the current and projected workload to create a baseline from which we can compare the plans for future upgrades or customizations. In addition, we also verify the results of any volume testing or stress testing. SLI reviews the performance requirements and actual performance test results that are recommended for each of the development and implementation vendor's modules being deployed.

The SLI IV&V Team evaluates the new system's flexibility to support future growth. We work with the Replacement Project team to determine the growth target that the system must accommodate. This assessment includes reviewing the capacity requirements and the ability of the system performance to meet or exceed the requirements for performance and throughput processing. The following is a list of items we consider when evaluating capacity and performance:

- ***Expected Workload***
- ***Execution Time***
- ***Presentation Response Time***
- ***System Scalability***
- ***Throughput***
- ***Resource Utilization***

Where applicable, SLI makes recommendations for changes or improvements in processing hardware, storage, network systems, operating systems, software, and software design to meet future growth and improve system performance.

V.C.3.8. *Development Environment (3.6.3.8)*

SLI understands that the development environment is critical to a successful development process for the Replacement Project. The SLI IV&V Team verifies and validates the documented, as well as the actual environment that supports the development work. This includes looking for proper hardware configuration, proper development software versions, compatibility, and completeness. A review and evaluation of the software for proper versioning, upgrade availability, and compatibility is done to ensure the proper environment and completeness of the environment.

The State is using modular approach to the Replacement Project that employs industry standard tools, reusable standard protocols, and model-driven code generation. SLI's IV&V assessment of the development effort is done in light of this modular approach.

Our IV&V Team review the project's development environment utilizing SQM³ artifacts as shown in** Exhibit V.C-24: IV&V Development Environment Activities Mapped to SQM³ Artifacts**.

IV&V Area	IV&V Development Environment Activity	Applicable SQM³ Artifacts
Development Environment	Development Hardware Development Software	(SLP-Q-Assess) Quality Assessments Technical Process Guidelines Hardware Performance Analysis Environment Management Quality Checklist Information Security Plan Quality Checklist Disaster Recovery Plan Quality Checklist System Operations and Maintenance Quality Checklist

Exhibit V.C-24: IV&V Development Environment Activities Mapped to SQM³ Artifacts.

V.C.3.8.1 Development Hardware

Requirement Item	Req #	Requirement Description
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.
Development Hardware	DE-2	Determine if development 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 projected vendor support of the hardware will also be evaluated, as well as the State's hardware configuration management plans and procedures.

SLI understands that the development hardware is key to the development process. In performing our reviews, our specialists:

- ***Evaluate new and existing development hardware configurations to determine if their performance is adequate to meet the needs of system development.***
- ***Determine if hardware is maintainable, easily upgradeable, and compatible with the existing environment.***
- ***Evaluate Implementation Vendor hardware support and the State's hardware configuration management plans and procedures.***

The SLI IV&V Team reviews the existing environment (architecture, hardware specifications, system documentation) to identify any gaps in the environment for the development project. The SLI IV&V Team also verifies and validates the documented, as well as the actual environment for proper hardware configuration, compatibility, and completeness. The development hardware is reviewed for proper processor speeds and memory requirements and to verify the actual hardware is operating in the environment. SLI IV&V Team members verify that any interactions with legacy systems for development or replacement purposes are in place or a suitable alternative is in place.

The SLI IV&V Team supports this review with available project documentation pertaining to hardware specifications and user guides.

V.C.3.8.2 Development Software

Development Software	DE-4	Evaluate new and existing development software to determine if their 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, project management software, configuration management software, compilers, cross-compilers, linkers, loaders, debuggers, editors, and reporting software.
Development Software	DE-7	Evaluate language and compiler selection with regard to portability and reusability (ANSI standard language, non-standard extensions, etc.)
Development Software	DE-8	Evaluate current and projected vendor support of the software, as well as the State's software acquisition plans and procedures.

SLI understands the importance of the development software and has a great deal of experience reviewing vendor support of development software. The existing development software is compared to the development effort to validate the proper technology is in place with respect to reporting, versioning, and release management.

SLI's experience in evaluation and verification of software development platforms incudes a review of the development tools and utilities. During our assessment reviews, we:

- ***Evaluate new and existing software to determine the adequacy of its capabilities to meet project requirements.***
- ***Determine if the software is maintainable, easily upgradeable, and compatible with the Department's existing hardware and software environment.***
- ***Evaluate the environment as a whole to verify that separate stages exist for coding, acceptance testing, and production.***
- ***Evaluate the portability and reusability of language and compiler selection.***
- ***Evaluate Implementation Vendor support of the software as well as the department's software acquisition plans and procedures.***
- ***Review and evaluate the software for proper versioning, upgrade availability, and compatibility is done to ensure a proper environment and completeness of the environment. Compatibility with the test environment is also considered. Any deficiencies are identified and documented.***

Once the hardware and software evaluations have been completed, SLI can properly validate and verify the integration of the environment as a whole. A validation is completed to ensure all the intended parts of the environment are in place and operating as intended. SLI assesses the development software through a review of the documentation of existing and planned configurations as well as their written processes for maintaining the development software.

The SLI IV&V Team supports this review with available project documentation pertaining to software specifications, fact sheets, and user manuals.

Included in the assessment of development software used in the Replacement Project is a review of the Software Specification documents to determine the compatibility of all the software

components. The following information on** Exhibit V.C-25: Software Evaluation Considerations**, is offered as a high-level view of the considerations made in our approach.

Software Area	Consideration Approach
Operating systems	*OS Platform, Compatibility, Security*
Network software	*Configuration, Compatibility, Tuning, Integration*
Tools	*Integration, Workflows, requirements, builds and release management*
Project management software	*Tracking, Workflow, Reporting, Integration*
Configuration management software	*Repository, Versioning, Freeware, Composition, Data modeling, Scalability, Availability*
Reporting software	*Compatibility, Flexibility, Reporting Needs Analysis*

Exhibit V.C-25: Software Evaluation Considerations. *SLI has detailed guidelines for evaluating the ability of the software implemented by the development and implementation vendor to meet requirements.*

V.C.3.9. *Software Development (3.6.3.9)*

SLI brings skilled technical IV&V resources to our engagement that is current with modern coding techniques and industry standards including <u>The Guide to the Software Engineering Body of Knowledge (SWEBOK Guide).</u> Our assessment of technical documentation employs SQM³ Quality Checklists for technical documentation and coding standards that incorporate SWEBOK principals and are tailored to the chosen SDLC and implementation approach. SLI anticipates a rigorous assessment of the clarity of technical documentation provided by the Development Contractors for the Program as a whole and for each sub-project.

Our IV&V Team reviews the project's technical documentation utilizing SQM³ artifacts as shown in** Exhibit V.C-26: IV&V Software Development Activities Mapped to SQM³ Artifacts**.

IV&V Area	IV&V Software Development Activity	Applicable SQM³ Artifacts
Software Development	High Level Design Specifications	SLP-Q-Assess) Quality Assessments
	Detailed Design Specifications	Software Development Assessment Guidelines
	Technical Architectures	Technical Process Guidelines
	System Software	Deliverable Review Report
	Database Software	Design Standards Quality Checklist
	Coding Guidelines	Coding Standards Guidelines Quality Checklist
	Requirements Traceability Matrix	System Documentation Quality Checklist
	Development Environment	System Interfaces Quality Checklist
	Production Environment	Configuration Management Quality Checklist
	Testing Environment	
	Training Environment	
	Software Release	
	Configuration Management	

Exhibit V.C-26: IV&V Software Development Activities Mapped to SQM³ Artifacts.

SLI focuses on the alignment of five (5) key areas of the Software Development Lifecycle. These are:

1. ***High-Level Design***
2. ***Detailed Design***

3. ***Job Code***
4. ***Code***
5. ***Unit Test***

Aligning the 5 key areas with the development methodology used to execute them creates a successful development environment. The software development lifecycle and methodology must be well defined and documented so the process can be followed and measured.

Most IV&V methodologies are designed to assess traditional Waterfall system development lifecycles (SDLC) even though new iterative SDLC's like Agile are increasingly becoming the norm for complex IT projects. SLI recognizes that some integration providers use Agile software development processes. SLI has hands-on experience in working with the State development team's agile processes. While working with Alabama's Department of Public Health (ADPH), we quickly came to realize that an IV&V approach founded on a Waterfall SDLC would not provide value to the project. Based on that finding and our subsequent work on other agile projects, we developed a proprietary set of agile process and guidelines tailored for software development. Most importantly, we ensure that we focus our resources on monitoring characteristics that accurately reflect the health of an agile-based software development, such as meeting the planned velocity of each Sprint and making sure that each User Story has a clear definition of "done". Our Agile specialists work with the Project Team to develop and report software development metrics suitable to the agile development approach.

As a component of the SQM³ methodology, SLI applies our proprietary approach to agile/SCRUM quality reviews, called SpARC– SLI Process for Agile in a Regulated Context. Our SpARC protocol allows our IV&V Specialists to evaluate the Vendors' agile/SCRUM work products to ensure quality outcomes. The SpARC approach checks multiple aspects of the Vendor's ability to apply its agile process in the context of the software project.

V.C.3.9.1 High-Level Design

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	Evaluated the design products for adherence to the 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. Evaluate design standards, methodology and CASE tools used and make recommendations.
High-Level Design	SD-4	Verify that design requirements can be traced back to system requirements.
High-Level Design	SD-5	Verify that all design products are under configuration control and formally approved before detailed design begins.

SLI's IV&V assessment process for Nevada's CSES high-level design includes a review of design deliverables, artifacts, and products using our SQM³ methodology's DOR Process and Quality Checklists. The SLI IV&V Team is looking to verify that the design is workable, efficient, and satisfies both general system and system interface requirements and is likely to produce a useful and maintainable system upon implementation. As discussed previously, our focus is on functions that require customization to meet the Replacement Project requirements.

Should the SLI IV&V Team find artifacts that do not conform to the design standards and methodology for the project, SLI makes recommendations for improvements to the design

process. SLI performs a review of the Replacement Projects' requirement traceability matrix (RTM) to verify that design requirements can be traced back to system requirements. SLI also expects to see both System Test and Acceptance Test references in the RTM which demonstrate testing for all team requirements, regardless of whether that requirement is met through the base product or a specific enhancement.

We pay special attention to functional and technical design processes for any required custom extensions to the proposed software solution that is needed to meet the Replacement Project requirements. This includes an assessment of the conceptual solution design, attending work sessions of the review of conceptual design, and the sign-off criteria for the final conceptual design.

The SLI IV&V Team reviews the Replacement Project's Change Management Plan, Process and Deliverable Approval Forms, and Configuration Management Plan to verify that all design products are under configuration control and formally approved before the detailed design effort is completed. SLI publishes findings and recommendations regarding high-level design as part of our Status and Review reports.

V.C.3.9.2 Detailed Design

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	Evaluate design products for adherence to the project design methodology and standards.
Detailed Design	SD-8	Evaluate the design and analysis process used to develop the design and make recommendations for improvements.
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.

As with our review of the High-Level Design area, the same level of detailed analysis is applied to the Detailed Design. Standards, design efficiency, methodologies, and controls are all evaluated. An additional granular level is applied to verify that the flow of requirements from high-level design to detailed design is accurate and complete. The detailed design process extends from the high-level design and builds-in the pertinent details of the design through progressive elaboration. SLI verifies that the project design products are under the control standards and are formally approved prior to the initiation of the actual coding. Any discrepancies found are documented and recommendations are made to resolve the identified issues.

SLI evaluates detailed design products for adherence to the project design methodology and standards and evaluates the process used to develop the design and make recommendations for improvements. We verify that detailed design requirements can be traced back to the high-level design and that all design products are complete and under configuration control.

High-level design artifacts should be developed by exposing lower and lower levels of detail in an iterative development process, so that detailed design artifacts are developed from the high-level design and are sufficient to the degree that the development teams can develop the software from the documented designs.

The SLI IV&V Team not only evaluates the detailed design products for adherence to the project design methodology and standards, but also evaluates the process used to develop the design and makes recommendations for improvements. We verify detailed design requirements can be

traced back to the high-level design and all design products are complete and under configuration control.

Assessment of the software architecture design is performed before and after the software development phase. This allows for a validation of the appropriateness of the proposed architecture for the business solutions.

The SLI approach to a detailed software design assessment is to validate the technical requirements and the Replacement Project software architecture against the architectural standards as defined for the project. The activities include reviewing all pertinent documentation that established the standards for the software architecture.

Also, from a review of the pertinent documents, a set or checklist of quality items is produced. The software solution is analyzed against the quality checklist items. Depending on the quality item, a targeted inspection or scanning and spot-checking are performed for validation. The following is an example of the types of design verifications that are performed in an SLI detailed design assessment:

- ***Has the project implemented the architectural layers as prescribed in the development and implementation vendor's documentation of the Replacement Project design?***
- ***Do the Detailed Designs reflect consistent requirements traceability?***
- ***Are the Detailed Designs sufficiently documented to allow accurate Code development?***

The SLI IV&V Team employs several IV&V quality checklists throughout the design process. *Exhibit V.C-27: Design Standards Quality Checklist for IV&V Services*, ***is derived from the IEEE Std 1016-2009 Standard for Information Technology - Systems Design - Software Design Descriptions and SLI's SQM³ methodology.***

DESIGN STANDARDS QUALITY CHECKLIST			
# Quality Checklist Item	Criteria Met	SLI Comments	Project Response & Date
1.0 Requirements Traceability			
1.1 The design addresses all requirements			
1.2 Each design element addresses at least one requirement (the design does not add features or functionality not specified by the requirements)			
1.3 Requirements coverage has been documented with a completed Requirements Traceability Matrix			
1.4 documented system requirements are used as the basis for selecting a design methodology			
2.0 System Architecture			
2.1 The overall software architecture, including the software component(s), hardware, networks, databases, operating systems, and any other pertinent major software components, is described			
2.2 The architecture is designed to accommodate likely changes.			

Exhibit V.C-27: SLI Design Standards Quality Checklist for IV&V Services. *The design phase of a project requires rigor to convert requirements into artifacts that programmers can effectively use to build working code.*

V.C.3.9.3 Job Control

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.

Job control includes evaluating the processes by which specific processor or time intensive jobs are run versus peak hour needs of the system. The evaluation of job control involves both batch and on-line processing and the selection of the optimal job control. If the job is run as a batch job, it may require scheduling during off-peak hours and must be placed in the proper sequence. A sample list of IV&V considerations for job control evaluation includes:

- ***Batch processes run only at times when they do not affect end user performance.***
- ***On-line processes do not negatively affect system performance or data integrity.***
- ***Timing for batch processing considerations.***
- ***Internal dependencies.***
- ***External dependencies.***
- ***Scheduling software selection to meet software requirements for job control.***
- ***All job control scripts are under source control including those that run via the operating system or database application.***

V.C.3.9.4 Code

Code	SD-17	Evaluate and make recommendations on the standards and process 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	Evaluate code documentation for quality, completeness (including maintenance history) and accessibility.
Code	SD-20	Evaluate the coding standards and guidelines and the project's compliance with these standards and guidelines. This evaluation will include, but is not limited to, structure, documentation, modularity, naming conventions and format.
Code	SD-21	Verify that developed code is kept under appropriate configuration control and is easily accessible by developers.
Code	SD-22	Evaluate the project's use of software metrics in management and quality assurance.

Coding standards must be adhered to in a manner allowing for the development of efficient, workable code that satisfies all the system and interface requirements. As part of the IV&V assessment, the code and the processes surrounding code creation and testing are evaluated and suggestions for improvements made.

The SLI team reviews and assesses the project's coding standards and guidelines against industry standards and best practices using IEEE Std. 1012, Standard for Software Verification and Validation, IEEE 1028-2008 Standard for Software Reviews and industry standard software guidelines. The team reviews a sampling of artifacts for adherence to the project standards and guidelines against quality checklists. The evaluations include reviewing:

- ***Structure***

- ***Documentation***
- ***Modularity***
- ***Naming conventions***
- ***Format***

The SLI IV&V Team reviews code, coding standards, code commenting, and code documentation against a coding standards matrix. This evaluation includes comparing code to the documented standards. All code generated is required to meet the documented standards. When the documented standards are not met, the finding is reported so the issue can be resolved, allowing the code to adhere to the standard. Code is evaluated for portability and maintainability including, but not limited to, modularity, complexity, and source/object size.

Quality management of code must be verifiable through metrics that capture comprehensive quantifiable facts such as error rates. The SLI IV&V Team verifies which metrics the QA provider is applying to the code.

The IV&V review determines if the coding standards are well documented and define the structure, documentation, modularity, and naming conventions used by all individuals developing code. As part of the development process, documentation describing the code generated is assessed for completion and accuracy. The SLI process evaluates the documentation to verify its quality, completeness, and accessibility. Code, as well as code documentation, is stored under configuration control. The use of metrics for management and quality control of the code are also evaluated.

Exhibit V.C-28: Code Standard Guidelines Quality Checklist for IV&V Services, ***is an excerpt from SLI's checklist, which provides industry-accepted quality standards used to evaluate software development and adherence to project coding standards and guidelines.***

CODING STANDARDS GUIDELINES QUALITY CHECKLIST			
# Quality Checklist Item	Criteria Met	SLI Comments	Project Response & Date
1.0 Naming Conventions			
1.1 All names should be both descriptive and meaningful. Names should be chosen to denote the purpose or intended use of the terms being named			
a. Classes should be named to indicate the purpose they are intended to serve, and the functionalities that they encapsulate			
b. Variables should be named to indicate the values they represent, and the purpose they are used for			
c. Methods should be named to indicate the actions they perform, and the return values that they provide			
1.2 Type names should be consistent casing. Pascal casing is preferred			
1.3 Class names should be consistent casing. Pascal casing is preferred			

Exhibit V.C-28: SLI's Coding Standards Guidelines Checklist for IV&V Services. *The checklist is starting point for SLI's reviews of Software Development Standards.*

V.C.3.9.5 Unit Test

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.

One of the important objectives of unit testing is to "build quality in" by finding most of the incidents (defects) related to the look and feel, navigation, on-screen validation and behavior. SLI'S IV&V Unit Test assessment begins with the review of the development vendor's Unit Test Plan and is followed by evaluation of documented procedures for movement of code from development to unit testing, application of manual and automated test tools, defect reporting and resolution, internal/peer reviews, and the configuration management process governing transition of code into System Integration Test.

SLI employs several IV&V processes to ensure the test management system is sound, that test coverage is complete across the requirements set and fully exercises the functionality of the system. From Unit Test to System Integration Testing, one of SLI's primary focuses in testing is to ensure adequate test coverage of all requirements and the integrity of the testing process.

SLI intends to configure our approach to assessing the adequacy of a module's test plan and execution per the characteristics of each module. For example, modules that do not require significant custom coding to meet CSES requirements do not require the same level of unit testing as a module that requires custom code. Our approach is to focus on those areas of development and implementation that have the highest risk. We believe these to be interoperability, conversion, interfaces, and custom code.

Unit testing verifies processes and logic within a screen or a "unit of work" operates in accordance with the design and is performed by application team developers. A unit is an identifiable product that can be explicitly defined, assembled, and tested separately from other units. The objective is to establish the successful execution of the logical paths throughout the application. SLI reviews both the test plan (to ensure coverage) and the test results (to ensure that defects are recorded and addressed).

SLI confirms that developed code is tested, the types of manual and automated test tools employed, that test results are subject to internal verification, and that Unit Test results are documented and available for review. The results of these reviews are provided in the periodic status and review reports during the appropriate phases of the project. SLI's Unit Testing Checklist guides our SLI IV&V Team in verifying the accuracy of the development and implementation vendor's Unit Testing efforts. This is done to verify that the components of the system, including logic, procedures, and database calls, meet the functional requirements currently under development. We ensure that testing individual services and procedures identify logic processing and test single points of failure.

The objectives of our unit testing reviews are to help ensure that developers are:

- ***Validating internal business rules logic.***
- ***Validating that design specifications are met by completing the Unit Testing Checklist.***
- ***Confirming that error handling procedures have been included.***
- ***Accepting and handling expected and unexpected data for each individual component.***
- ***Validating the entire range of possible inputs/outputs.***

The SLI IV&V Team assesses the Replacement Project's plans, processes and use of tools for unit test automation. Automated unit tests are added to make the base of tests stronger and more stable over time. SLI evaluates test processes for effectiveness and repeatability. Prior to the development and implementation vendor initiating unit test, SLI IV&V Team ensures that the following activities are completed:

- ***Detailed System Design has been completed.***
- ***Unit Testing Checklist has been created and approved.***
- ***Developers have been on-boarded with the unit testing process.***
- ***Development Environment has been created.***
- ***Incident management process has been documented and communicated to the project team.***

SLI recommends that developers complete a Unit Testing Checklist using a form to verify that each screen incorporates appropriate business rules, includes necessary features, meets accessibility requirements, and passes user guidelines. Presented below as *Exhibit V.C-29: SLI Unit Test Walk-though Quality Checklist for IV&V Services*, ***derived from IEEE standard 830-1998 Recommended Practice for Software Requirements Specifications and 1233-1998 A Guide for Developing System Requirement Specifications.***

UNIT TEST WALK-THROUGH QUALITY CHECKLIST				
#	Quality Checklist Item	Criteria Met	SLI Comments	Project Response & Date
1.0	**Unit Test Walk-Through**			
1.1	All critical/high defects resolved and retested			
1.2	All medium/low defects reviewed by project management, test lead, and development and determinations are made on which defects require resolution prior to system testing			
1.3	All unit tests complete			
1.4	Unit test documentation, including results, provided one business day prior to system testing			
1.5	Development trained on application and available during system test			
1.6	Acceptance of service level agreement for defect resolution during system test: • Critical defects - development response within 2 hours of defect reported			

Exhibit V.C-29: Unit Test Walk-though Quality Checklist for IV&V Services. *SLI recommends a Unit Test Checklist as a Software Development Best Practice.*

V.C.3.10. *System and Acceptance Testing (3.6.3.10)*

Early evaluation and recommendations of the test plans, requirements, environments, tools, and procedure are the goal of the SLI IV&V Team. The execution of tests require preparation in several areas. The test phase is a pre-production phase for the project, where the system is expected to perform as designed. At the same time, the test phase continually updates the environment with new software and data, thus increasing the risk of error. To closely track the test processes, the SLI IV&V Team evaluates all artifacts and processes required to successfully complete each test phase. This includes configuration management procedures, tools configuration, data

management techniques, defect management process, and entry and exit criteria definition for each stage.

SLI IV&V Tasks for System and Acceptance Testing verification allows us to:

- ***Assess test plans and schedule, and review a solutions vendor's test deliverables, including, but not limited to: test scenarios, test scripts, test data.***
- ***Ensure documents delivered for test artifacts consider timing, workload, schedule and resource implications.***
- ***Evaluate test tool(s) selection, configuration, and use for System Testing.***
- ***Evaluate the automated tool set provided for System Testing.***
- ***Evaluate tool configuration and use by the solution vendor for Acceptance Testing.***
- ***Evaluate the defect resolution process and recommend changes, as needed.***
- ***Verify that the appropriate level of test coverage is accomplished for each test phase.***

As each of the modules reaches the system test phase, significant resources and budget will have been spent. The SLI IV&V Team develops and maintains an expert level of involvement throughout the project, reviewing and evaluating all facets of the project that effect testing.

The SLI IV&V assessments are primarily focused on System Integration, Interface, Pilot Test, and Acceptance Testing. The goal of these testing task items is to demonstrate the system is installed and configured, integration is completed without errors, and the resulting software and hardware function according to technical requirements and business processes. SLI expects this testing to cover a range of tests designed to provide assurance that the integrated system modules meet predefined acceptance criteria. Recommendations are provided for all IV&V review findings to support System and Acceptance Testing process improvements.

The IV&V activities conducted by SLI apply to all aspects of this testing. SQM³ is SLI's comprehensive set of test methodologies based on industry standards and best practices. The specific SQM³ component required to provide oversight and deliverable review guidelines is selected depending upon the class of testing which is being conducted.

- ***System Integration/Interoperability Test. The SLI IV&V Team evaluates the project plans, requirements, environments, tools, and procedures used for integration/interoperability testing of system modules:***
  - ***Thorough test coverage must be provided for all integration requirements.***
  - ***Documented test processes and test results are verified by the SLI IV&V Team.***
  - ***All test automation tools are evaluated to assure System Integration/Interoperability requirements are accomplished.***
  - ***The test organization must have an appropriate degree of independence from the development organization.***
- ***Interface Testing. Interface testing is one of the most important software tests in assuring the quality of software products. The interface testing plans and procedures are evaluated by SLI IV&V Team for compliance with industry standards. This evaluation***

includes all interfaces that interact with the project environment. The verification of Interface Testing includes:

- ***Successful interchange of data between CSES and interfacing systems to verify the system is functioning appropriately and as designed.***
- ***Verification that the source data for Interface Testing, at a minimum, contains a sample representation of converted data***

- ***Acceptance and Turnover. SLI assists in the development of the Acceptance and Turnover procedures and acceptance criteria for each product. The SLI IV&V Team verifies that all procedures are reviewed and approved prior to testing and the test results are documented. Toward that end:***
  - ***SLI works with the solution vendor's team to assure each product that does not initially pass Acceptance and Turnover testing is corrected prior to deployment.***
  - ***SLI verifies appropriate acceptance testing based on the defined acceptance criteria is performed satisfactorily before acceptance of software products.***
  - ***SLI thoroughly reviews and evaluates the Test Plan.***

SLI IV&V Team provides recommendations for improvement of any concerns identified during the System and Acceptance Testing process. SLI expects the following tests are included in the System and Acceptance Test efforts:

- ***Requirements Based Functional Testing. Standard functional tests that demonstrate all requirements have been implemented in the system and all functionality performs as intended.***
- ***Security Testing. Testing to ensure all levels of application security have been implemented based on security requirements and design specifications.***
- ***End-to-End Testing. Tests designed to simulate (as close as possible) actual workflow/operational conditions. End-to-end testing requires integrated application environments.***
- ***Performance Testing. Tests that integrate system performance and anticipated future growth conditions. In addition, these. tests can be used to help establish capacity planning requirements.***
- ***Regression Testing. Testing on all areas that have been modified by changes/fixes for defects or bugs encountered during testing.***

Our IV&V Team reviews the project's testing process utilizing SQM³ artifacts as shown in *Exhibit V.C-30: IV&V System and Acceptance Testing Activities Mapped to SQM³ Artifacts****.***

IV&V Area	IV&V Testing Activity	Applicable SQM³ Artifacts
System and Acceptance Testing	System Integration Test	(SLP-T-Plan) Test Planning
	Pilot Test	(SLP-T-Design) Test Design
	Interface Testing	(SLP-T-Data) Test Data Management
	Acceptance and Turnover	(SLP-T-Exec) Test Execution

IV&V Area	IV&V Testing Activity	Applicable SQM³ Artifacts
		(SLP-T-Metr) Test Metrics
		(SLP-T-Rep) Test Reporting
		Test Management Plan Quality Checklist
		Software Test Adequacy Quality Checklist
		System Test Exit Quality Checklist
		Test Reporting Quality Checklist
		Interface Testing Report Quality Checklist
		User Acceptance Test Quality Checklist

Exhibit V.C-30: IV&V System and Acceptance Testing Activities Mapped to SQM³ Artifacts.

V.C.3.10.1 System Integration Test

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.

The SLI IV&V Team's evaluation of System Integration Testing includes the following tasks:

- ***Assess test plans and schedule and review the development and implementation vendor's test deliverables including, but not limited to, test scenarios, test scripts, test data, test environment, and test tools.***
- ***Ensure documents delivered for test artifacts consider timing, workload, schedule, and resource implications so that the Replacement Project Team may adjust the test phase as needed.***
- ***Evaluate test tool(s) selection, configuration, and use by the development and implementation vendor for System Integration Testing.***
- ***Evaluate the automated tool set provided for System Integration Testing.***
- ***Evaluate the defect resolution process and recommend changes, as needed.***
- ***Verify that the appropriate level of test coverage is accomplished for each test phase.***
- ***Ensure an appropriate level of independence from the development team; except for defect resolution during testing phases.***

The SLI IV&V Team evaluates the System Test Management Plan, Test Environment and documentation, System Test Documentation and Reports, tools, and procedures using the Test Planning, Test Plan, Test Readiness, and Test Entry/Exit Criteria Checklists that provide industry-accepted quality standards for evaluating the test management processes and procedures. Additionally, the SLI IV&V Team verifies that the test organization has an appropriate level of independence from the development organization. The extent and scope of test automation

incorporated into System Integration Test is evaluated. *Exhibit V.C.-31: Highlights of SLI's Approach to System Testing* ***presents highlights of SLI's approach to assess System Testing.***

Highlights of SLI's Approach to System Testing:
Evaluating the test / quality picture appropriate for an 'in-flight' project, at point of IV&V Team join-up
Collaborating with all team members in assessing the test / quality picture for the project
Leveraging test assessment approaches and checklists to add project-specific value, not merely applying them in a rote / static manner
Confirming traceability is intact and complete from requirements through to test cases
Checking test plans state how the test techniques 'paint' an overall picture of system quality
Verifying clear patterns of test design consistency within test approaches (e.g., JUnit, Interface, System)
Validating automated tests (e.g., JUnit, Regression) are focused, targeted and value-add
Evaluating the Test Schedule is comprehensive and credible in terms of practical execution

Exhibit V.C-31: Highlights of SLI's Approach to System Testing.

The SLI IV&V Team reviews the System Test Management Plan and perform an evaluation of the testing process, review of the test work products, review of the integration of the individual testing tasks and an evaluation of the test results. Each subordinate test plan is expected to show progressively more detail, with individual Test Cases showing the most detail, particularly in the area of identification of data required for the test, entry criteria and exit criteria. Test Plans are expected to contain the following items, and are reviewed accordingly:

- ***Identification and explanation of the scope of the testing effort,***
- ***Description of the overall test approach and strategy,***
- ***Identification of the types of tests to be performed,***
- ***Identification of the data requirements for the test,***
- ***Identification of required hardware, support software, and test tools to be used for testing,***
- ***Documentation of the entrance and exit criteria for each test, and***
- ***A high-level test schedule.***

SLI ensures Test Plans and Procedures comply with industry standards and best practices by using our checklist as shown in *Exhibit V.C-32: Test Plan Quality Checklist for IV&V Services****, as a starting point for assessing project Test Plans. SLI reviews and assesses the quality and content of templates used for periodic reporting of test execution status, defect correction activities, retest, and regression testing in advance of the initiation of each phase of testing and makes recommendations for changes or updates to these templates. The primary objective of these reviews is to validate documentation associated with the test effort provides the information and procedures necessary to perform the testing tasks and evaluate the progress and quality of the test efforts.***

TEST PLAN QUALITY CHECKLIST				
#	Quality Checklist Item	Criteria Met	SLI Comments	Project Response & Date
1.0	Test Plan			
1.1	The test plan supports the design, administration, and documentation of thorough end-to-end technical validation of the system functionality			
1.2	The test plan supports the design, administration, and documentation of thorough end-to-end technical validation of the system architecture			
1.3	The test plan supports the design, administration, and documentation of thorough end-to-end technical validation of system operations			
1.4	The test plan addresses testing of all components addressed in the requirements			
1.5	The test plan contains established testing processes to successfully test the requirements			
1.6	The test plan assigns roles and responsibilities for all testing			

Exhibit V.C-32: Test Plan Quality Checklist for IV&V Services

Test Cases and Test Scenarios are reviewed to verify that when followed, the test completely and adequately validates a specific functionality of the system is behaving as designed, and meets the agreed upon requirements. These artifacts must contain specific data elements to ensure the results from the test are accurate and repeatable. At a high level, Test Cases and Test Scenarios are reviewed for the following mandatory items:

- ***Unique Test Case Identifier***
- ***Test Case Description***
- ***Test Case Evaluator***
- ***Functional Area (Name and/or number)***
- ***Use case/Requirement(s) subject to test***
- ***Entry Criteria / Prerequisites to Test***
- ***Test Execution Procedure***
- ***Expected Test Results and Pass/Fail Determination***
- ***Final Exit Criteria***
- ***Ability of tester to append ad-hoc test criteria***

At a detailed level the Test Case, Test Scenario, and Test Results review verifies all system functional and business requirements have been successfully tested. As part of our monitoring of the testing effort SLI verifies a sufficient number and type of case scenarios are used to verify comprehensive but manageable testing and tests are run in a comparable, real-time environment. Closely related is SLI's verification that test scripts are complete with step-by-step procedures, required pre-existing events or triggers and expected results are defined. By having kept careful track of the system requirements through review and analysis of the requirements management methodology of the development and implementation vendor, SLI is prepared to implement close scrutiny of the adherence of test methods to the test plans.

Our experience tells us the Replacement Project should use a single suite of tools for the management of requirement tracking, test activities, and defect handling. Implementing a single suite of tools is a best practice for large software projects and minimizes project risk by employing a single repository for requirements, test artifacts, and defect tracking.

Automated testing serves two main purposes: increase efficiency of test execution; and to provide a bed of regression tests to verify new development has not impacted existing functionality. We look to see Test Environments are established that collect developer code for inclusion in the automated test suite and review the processes the development and implementation vendor employs to incorporate new automated test procedures into the existing Regression Test suite.

Automated regression testing should be part of the Systems and Integration Test phase and continue through application deployment. Candidates for inclusion in regression testing include scripts covering core business processes that are performed on a routine basis and have a large impact on the ability to serve customers.

The automated test scripts should be designed to be data-independent, meaning the test data is stored in external files instead of being hard-coded into the script. This approach reduces the maintenance effort needed to support automated regression testing. The automated scripts should be stored in a test automation tool to facilitate ease of access and review. SLI expects to see that there are processes in place to encourage the Test Team to work together to identify subsets of test scripts that are automated 'as-is' for regression testing during test planning and preparation activities. Candidates for inclusion in regression testing include scripts covering core business processes that are performed on a routine basis and have a large impact on the ability to serve customers.

SLI evaluates if Test Management includes the tracking of the automation coverage, as the project should expect an upward trend in the content of the regression test suite as the test execution progresses. SLI IV&V Team has extensive experience in test automation and provides findings and recommendations for process improvements in test automation throughout the engagement.

The SLI IV&V Team evaluates the outcomes of the load and performance testing efforts of the development and implementation vendor, based on their contractual requirements. We verify tests were conducted with appropriate transactional volume (i.e. simulated simultaneous users) and in an environment that is configured as would occur in production (software versions, hardware settings, data level, etc.). We review the selection and configuration of the load and performance automated testing tool to help determine the outcomes are representative of what will occur in production.

SLI brings a compendium of lessons learned on numerous engagements to our approach in providing IV&V of System Testing. *Exhibit V.C-33: SLI's Lessons Learned on System Testing* ***lists lessons learned on assessing System Testing efforts for projects like the Replacement Project:***

SLI's Lessons Learned on System Testing:
Test plans that don't show <u>how</u> specified test activities will complete on-schedule are ineffective
Reliance on automated tests (JUnit, regression) must be based on reviews of individual scripts to confirm value-add
Markers of development and implementation test risk: Lack of development and implementation % Complete reports on Test Development / Test Execution Progress

SLI's Lessons Learned on System Testing:
Markers of likely development and implementation test success: Use of standards for test names, design, and upkeep

Exhibit V.C-33: SLI's Lessons Learned on System Testing.

V.C.3.10.2 Pilot Test

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 those 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.

The SLI SQM[3] methodology for Pilot test planning, materials, execution and reporting are extensive, with details tailored to the specific type of test being validated.

In general, our IV&V role for Pilot test activities consists of:

- ***Evaluation of the Pilot Test Plan.***
- ***Evaluation of Pilot Entrance and Exit Criteria.***
- ***Understanding the system requirements and specifications.***
- ***Evaluation of Test Cases for adequacy and content including any needed pre-existing conditions.***
- ***Validation that the system, as a whole, is functioning as designed and the correct code is used.***
- ***Evaluate that interfaces are tested as detailed in the interface testing plan.***
- ***Observation and evaluation of the test execution activities.***
- ***Observation of the defect reporting, management and fix processes.***
- ***Verify an appropriate level of independence from the development team; except for defect resolution during testing phases.***

SLI also verifies that the documentation provided by the development and implementation vendor is adequate for use as a basis for Pilot testing and training, and makes recommendations for improvements to the Replacement Project. SLI uses an extensive Pilot Completion Quality checklist as well as an Operational Readiness Quality Checklist to verify that various activities necessary for the preparation and execution of the Pilot program are performed to ensure the success of both the Pilot testing and full implementation phases.

Our monitoring aids the State in verifying test planning is reasonable and that the testing is following the plan. Additionally, we review script execution criteria and that the scripted test execution process is verified to follow the testing process.

V.C.3.10.3 Interface Testing

Interface Testing	ST-10	Evaluate interface testing plans and procedures for compliance with industry standards.

State Title IV-D Child Support systems, such as the Replacement Project system, must support and maintain complex and critical interfaces with multiple external systems. The most complex interface to be developed is the IV-A/IV-D interface. Also, CSES must share information and referrals with the State's Child Welfare programs. These and other interfaces require rigorous testing to ensure that there is no disruption of services to these programs and populations.

SLI utilizes the SQM³ Interface Testing Report Quality Checklist to provide guidance for evaluating the Replacement Project Interface Test plans and procedures.

SLI IV&V Team ensures that the Interface portions of Test Plan and Procedures comply with industry standards as well as federal requirements by ensuring that they:

- ***Clearly provide full identification of the systems, the interfacing entities, and the interfaces to which the document applies***
- ***Clearly describe the general nature of the interfacing system and software:***
  - ***Identifies the project sponsor, acquirer, user, developer, and support agencies***
  - ***Identifies the current and planned operating sites; and lists other relevant documents***
- ***Specify the number, title, revision, and date of all documents referenced in the specification.***
- ***Specify the requirements imposed on one or more systems, subsystems, configuration items, manual operations, or other system components to achieve one or more interfaces among these entities.***
- ***For each interface identified, clearly include a project-unique identifier and designate the interfacing entities (systems, configuration items, users, etc.) by name, number, version, and documentation references, as applicable***
- ***Clearly define a set of qualification methods and specify, for each requirement, the qualification method(s) to be used to ensure that the requirement has been met***
- ***Clearly describe any general information that aids in understanding this document (e.g., background information, glossary, rationale)***
- ***Detail a specific process for raising, reviewing, tracking, and resolving risks and issues surrounding the interface testing process***

V.C.3.10.4 Acceptance and Turnover

Acceptance and Turnover	ST-11	Verify that acceptance procedures and acceptance criteria for each product are 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 Turnover	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 implementation vendor.
Acceptance and Turnover	ST-14	Verify that training in using the contractor-supplied software is 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.

For Acceptance and Turnover testing assessment activities, SLI provides an in-depth review and assessment of the Acceptance Test plans materials, process, outcomes, and defect correction processes. The validation role of IV&V is to assure that each project in this phase of the Replacement Project successfully supports the state's goals and objectives.

Several conditions must be met before commencing Acceptance Testing. These include:

- ***development and implementation vendor ensures all Requirements and related System functions have been unit and system tested prior to entering UAT.***
- ***development and implementation vendor ensures all operational components (Hardware, Software, and network communications) of the system are functioning in accordance with requirements, and the system is ready to process inputs and payments, meet reporting requirements, and utilize the State data communication network.***

We assume the development and implementation or QA vendor is responsible for developing a UAT Plan, preparing the test environment, training testers on the UAT process and tools, and providing a weekly UAT Results Report in addition to correcting defects. The SLI IV&V Team verifies these responsibilities are performed in a manner that supports an effective and efficient User Acceptance Test.

Exhibit V.C-34: Highlights of SLI's Approach to UAT, ***lists highlights of SLI's approach to assessing the UAT.***

Highlights of SLI's Approach to UAT
Confirming System Subject Matter Experts concur on the validity of the UAT test cases
Validating the UAT Test Cases also provide practical business process readiness value
Assuring UAT test data mirrors actual work scenarios without incurring privacy issues
Verifying all key readiness aspects are brought into UAT planning and grounded in 'real-usage'
Confirming the Defect Management approach / Tool(s) will deliver the Reports where and how expected
Ensuring UAT Results Reporting is timely, straightforward and usable to all stakeholders
Assuring defect metrics are calculated properly and shed practical light on defect resolution trends
Checking stakeholder decisions about defect priorities are used to guide defect resolution goals

Exhibit V.C-34: Highlights of SLI's Approach to UAT.

The SLI strategy and approach to IV&V for Acceptance Testing efforts involves six primary activities. The meetings and products included below represent our typical approach, and are refined for the specifics of the Replacement Project. In supporting project validation, SLI supports the operational perspective of the system end user. The six primary IV&V review activities are:

- ***Accuracy and Completeness:*** ***Review and assess a selected sample of test cases developed by all participating parties to ensure that the contents of the test conform to the expected conditions. Assess the accuracy and completeness of the Test Cases.***
- ***Adequacy:*** ***Review the Test Cases to assess them for adequacy. Adequacy, for purposes of this review, means the content of the Test Case fulfills the stated purpose of the test, and is achievable by the Test Scenario.***
- ***Actual Results:*** ***Verify the completed Test Case meets the conditions defined and assess the adequacy of the documentation in supporting the actual test outcome. Each test case template should require the expected results and the actual results are recorded. The documentation of results are the focus of this level of review.***
- ***Traceability:*** ***Review the traceability matrix from Test Case to the final, agreed upon requirements as defined or modified by design change request activities. Each Test Case template requires the appropriate requirement artifact be recorded.***
- ***Test Reporting:*** ***It is anticipated weekly status reports are generated during testing. The SLI IV&V Team reviews these reports for thoroughness and coverage. It is important these reports are descriptive of the defects, the resolutions, and the adherence to the plan and schedule. The reports are important in management decision-making to determine the readiness of the project to progress from the testing phase to the Pilot and Implementation phases of the project. The SLI IV&V Team reviews the formally submitted reports, participates in the daily test outcome reviews and the weekly Status Meetings, and reviews the formal deliverable. Formal comments, findings, and recommendations are submitted to Replacement Project Management as required.***
- ***Defect Reporting:*** ***Defects are documented and submitted to the development teams for correction throughout Acceptance Testing. Modified software releases are then resubmitted to the test team for re-testing. The SLI IV&V Team reviews the reported defects, monitors the defect reporting in the project status reports and defect tracking system, and reviews the re-tested cases in an effort to assess the progress, adequacy, and completeness of the defect correction process.***

SLI reviews draft and final test deliverables produced by the UAT Team related to the verification and tracking of testing requirements to verify appropriate acceptance testing based on the defined acceptance criteria is performed satisfactorily before acceptance of software products. Further, we provide necessary oversight to verify that the development and implementation vendor applies methods and procedures that ensure delivered test artifacts are appropriate and complete. *Exhibit V.C-35: SLI's UAT Lessons Learned****, lists SLI lessons learned on assessing UAT activities for projects similar to the Replacement Project.***

SLI's UAT Lessons Learned
Must reflect business processes being implemented and work schedules (daily / month)
Must address typical work-related snags without overdoing negative tests
Markers of UAT test risk: Lack of specifications for end-to-end tasks, "patch-work" approach to end-user group UAT Test Cases
Markers of likely UAT test success: End-user SME prioritization of UAT test cases
Reports / metrics must be briefed to stakeholders before UAT, for better concurrence on outcomes

SLI's UAT Lessons Learned
Reports must focus on overall defect trends instead of individual defects
Markers of UAT Tracking risk: Density metrics without practical context / explanation
Markers of UAT Tracking success: Defect reports that show trend impacts on project due dates

Exhibit V.C-35: SLI's UAT Lessons Learned.

SLI uses our own Implementation Plan Checklist and the related Go-Live Checklist, configured to Replacement Project's specifics, to assess the accuracy, details, and completeness of a module's Implementation Plan. Our assessment is based upon common best practices to ensure that all areas of the definitive decision to proceed with final implementation are considered. Our checklist begins as a listing of topics and steps that must be included within a solution's Implementation Plan in order to accomplish a successful 'Go-Live' event. Throughout the Development and Test phases of a solution the checklists evolve into more detailed listings of multiple checkpoints, typically scheduled at 90-days prior to Go-Live, 60-days prior to Go-Live, 45-days prior to Go-Live, and 30-days prior to Go-Live and continue through the actual implementation. Each successive list defines a set of activities, criteria, and progress thresholds that must be reached to accomplish the 'Go-Live' date. The checklist contains objective milestones for implementation readiness from the perspective of system readiness, organizational readiness, staff readiness, provider readiness, and vendor readiness. Our checklists help to identify and focus upon gaps, deficiencies, clarifications, and approvals that must be addressed and accomplished prior to go-live.

The Implementation/Go-Live Quality Checklist represents a summary level compilation of detailed task completion events extracted from Acceptance Plans, Communication Plans, Transition Plans, Organizational Change Management Plans, Implementation Plans, Security Plans, Conversion Plans, Training Plans, Testing Plans, and Cutover Plans that provides an assessment of project operational readiness. The partially executed 'Go-Live' Checklist can be reviewed as a Readiness Status "checkpoint in time", and is submitted to DWSS on a regular basis with the IV&V status reports and upon execution completion at the 'Go-Live' decision point. The SLI IV&V Team assesses every stage of the Implementation of the system from planning through the final outcome and includes – Planning, Environment Configuration, Conversion, Training/Knowledge Transfer, Interfaces, Communication, Security, Testing, Help Desk, and final Cut-over.

Exhibit V.C-36: SLI's Implementation Go-Live Checklist ***reflects an example of an implementation/cut-over quality checklist that we use. The SLI IV&V Team configures this list to the specifics of the Replacement Project.***

Implementation / Go-Live Planning Activities
Production planning activities have been finalized.
The "Go-Live" schedule has been approved by the client.
A formal walkthrough of the "Go-Live" activities has been conducted with appropriate: staff, stakeholders, help desk support, and training team.
Instructions regarding "Go-Live" activities are complete and have been delivered to the users and stakeholders prior to "Go-Live"
All Stakeholders have been notified and given "Go-Live" instructions.
Checkpoint meetings have been coordinated and scheduled based on the "Go-Live" schedule.

Implementation / Go-Live Planning Activities
All revisions and/or changes have been made to the "Go-Live" planning activities and documents accordingly.
All "Go Live" documentation is completed and approved by the client.
Environment Configuration
All hardware configurations are complete.
Project servers have been received and configured based on the hardware requirements.
All new hardware equipment has been inventoried (e.g. severs, routers, server racks) and includes serial numbers for tracking.
All required servers have been configured base on the Project environment requirements.
A connection to the network has been established by the network team for all new hardware.
All users are able to access the Project from their local PC (if the project is a web-based application).
The Project application has been installed on the designated Server.
Printers and peripheral devices are installed and function as designed.
Software installation / configuration
Software installations are completed and are working per the expectations.
Operating system and network software have been installed on the appropriate servers.
All subsystem/interfaces are configured and working properly based on interface requirements and objectives.
System Management tools have been installed and validated.
All application modules are installed and available for production.
Cutover Plan
Cutover activities have been documented.
Cutover plan has been communication to key staff members and the project team.
A cutover plan that includes a schedule with detailed times as to when which certain activities will be executed as well as the person tasked with the activities.
Validation of conversion activities is completed.
Validation of backup plans and processes are complete.
Full back-up of production has been scheduled and approved by the Client(s).
A schedule to shut down all legacy system is included in the cutover plan as well as who will perform the task.
The technical system test is complete (e.g. backup server) and results have been approved by the Client.
Project Conversion Activities
All data conversion activities are complete.
Data validation and reconciliation activities have been verified.
A snapshot of the existing tables in production is complete.
Data validation and reconciliations activities have been verified.
All database objectives have been tested and registered.
All installation scripts for all project specific extensions have been installed and tested.
All batch operations are in place and scheduled based on the business operating procedures.

Implementation / Go-Live Planning Activities
All customer seed data has been loaded into the production database.
Project Interface Activities and Verification
"Go-Live" communications have been completed with Partner Agencies and Interface partners.
All Interface(s) have been tested based on operational requirements.
Results from the above activities have been reviewed with the client and the client has signed-off on the end results.
Batch jobs are scheduled based on the "Go-Live" plan.
All extracts from any existing Legacy system(s) are complete.
Training Activities and User Support
All System training documentation is complete.
All outstanding updates to the documentation are complete and documents have been approved by the client.
All users have been trained on the new system.
Any users not trained on the system have been scheduled for future training classes.
Knowledge transfer is complete.
External users have been trained and will obtain a user manual for the new system.
Online help have been installed and will be available post "Go-Live".
User support will be available and onsite post "Go-Live" activities.
Help Desk staff has been trained and will be available post "Go-Live".
Communications Campaign
Communications Campaign for Project staff and management has been finalized
An external participant Communications Campaign is finalized.
The final schedule with control agencies and interface partners is complete.
Communications Campaign has been approved by the client.
The Campaign for the Project has been distributed to Project staff and is available on the internal website and through other agreed upon channels.
Training Documents and other user resources have been posted on the internal website and are accessible to the users.
System Security Validation
Permissions to the application are setup.
User roles have been assigned and tested.
User ID's have been created in place for post "Go-Live".
All user passwords and profiles are complete.
Project management has been informed of productive system readiness.
Security authentication process is complete.
Testing Activities Validation
User Acceptance Testing is completed and approved.
Load, performance, regression, stress, and all other testing are complete, results have been reported to the client, and the client has approved the final results.

Implementation / Go-Live Planning Activities
Project modules and/or system components have been tested and the results meet client expectations.
Help Desk Preparation
Help Desk staff members have been trained on the new system.
All procedures and responsibilities for working with the Help Desk have been defined.
Deployment team has been given instructions on Help Desk System procedures.
A contact procedure has been established and communicated to the end users and stakeholders.

Exhibit V.C-36: SLI's Implementation/Go-Live Checklist.

SLI anticipates attendance at implementation planning and execution/status meetings to enable its team to assess progress against plan. Findings and recommendations, including any risks/issues identified are included in our monthly status reports. However, should an item occur needing immediate attention from the project team or executive leadership, the SLI IV&V Team members use the approved escalation process to address that risk/issue.

V.C.3.11. *Data Management Oversight (3.6.3.11)*

Data management includes both the design of the database as well as the data conversion effort. These tasks can be some of the most challenging aspects to a successful launch of any large-scale development and implementation effort. SLI is experienced in performing IV&V services for the proper data management, conversion and testing in projects similar in scope and content to the Replacement Project. Given the complexities of converting and validating data from a legacy environment, it is generally accepted that the data conversion effort is the largest single point of risk to a project.

Our IV&V Team evaluates the project's data management process and documentation utilizing SQM³ artifacts as shown in *Exhibit V.C-37: IV&V Data Management Oversight Activities Mapped to SQM³ Artifacts****.***

IV&V Area	IV&V Data Management Activity	Applicable SQM³ Artifacts
Data Management Oversight	Data Conversion Database Design	(SLP-Q-Assess) Quality Assessments Technical Process Guidelines Deliverable Review Reports Process Observation Reports Data Conversion Quality Checklist System Interfaces Quality Checklist

Exhibit V.C-37: IV&V Data Management Activities Mapped to SQM³ Artifacts.

During the development and implementation phase for each module, SLI places heavy emphasis on technical oversight and adherence to interoperability standards for the project.

While the design of the core application is set by the COTS solution, the design (as well as coding and testing, for that matter) of data conversion and interfaces to other applications can be as complex as a ground up development project. SLI assesses the plan to ensure that sufficient time and resources are allocated to this often overlooked and underestimated component of the project.

Data mapping from the existing system(s) also pose risks for a COTS solution since the new application may not have fields or tables for all the source information and changing the database

on a COTS solution is often inadvisable or even impossible. In addition, many implementations often require a translation effort to convert data, which is no small task. SLI assesses plans and results of data mapping and translation to help ensure these risks are identified and mitigated.

SLI's assessment of data quality management begins with our initial assessment and continues with our on-going assessment as part of our Data Management Review. We evaluate the Data Architecture and Data Exchange plans for the Replacement Project as well as the adequacy of Data Conversion Plans. We assess all plans for data exchange internally as part of the architecture and externally as part of point-to-point interfaces. We configure our data quality checklists for the specifics of this engagement. SLI's portfolio of data quality checklists include Interface Specification, Data Conversion, Test Data Management, Business Rules Management as well as our the Federal OCSE checklists.

V.C.3.11.1 Data Conversion

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.

Data conversion includes both the design of the database as well as the actual data conversion effort. We note the tightly coupled relationship between data management and data conversion and respect Nevada's decision for two separate deliverables. These tasks can be some of the most challenging aspects to a successful launch of any large-scale development and implementation effort. SLI is experienced in performing IV&V services for the proper data management, conversion and testing in projects similar in scope and content to the Replacement Project. Given the complexities of converting and validating data from a legacy environment, it is generally accepted that the data conversion effort is the largest single point of risk to a project.

The reverse engineering of the legacy NOMADS application includes data mapping and conversion to roll the existing legacy data into the new CSES database.

Our IV&V Team evaluates the project's data conversion process and documentation utilizing SQM³ artifacts as shown in *Exhibit V.C-38: IV&V Data Management Activities Mapped to SQM3 Artifacts****.***

IV&V Area	Industry Standards	Applicable SQM³ Artifacts
Data Conversion	*SWEBOK – Guide to the Software Engineering Body of Knowledge, Version 3.0* *IEEE 12207-2008 Systems and software engineering — Software Life Cycle Processes* *IEEE 1028-2008 Standard for Software Reviews*	(SLP-Q-Assess) Quality Assessments Technical Process Guidelines Deliverable Review Reports Process Observation Reports Data Conversion Quality Checklist System Interfaces Quality Checklist

Exhibit V.C-38: IV&V Data Management Activities Mapped to SQM³ Artifacts.

Converting the existing legacy system data to the new architecture is a critical aspect of large systems development projects. Data conversion and migration must be complete and accurate, to the degree possible, to avoid data corruption and processing issues in the new system. The

new system must have accurate historical data before it can function correctly and support ongoing casework. The data conversion effort for a system that is being replaced in a modular fashion create some unique challenges as legacy components of the system either need to change to work with the new data or "data bridging" techniques must be developed so that both new and old components of the system handle and share data correctly.

A significant and common point of failure on a large system development project is the errors, omissions, and defects in the data conversion and migration effort. The data residing in the legacy systems is often very different and sometimes not well suited to convert to the data structures in the new system. Our IV&V Team assesses the plans, processes, and procedures; which are contained in the Data Conversion and Migration Strategy, Management and Test Plan developed by the Replacement Project vendors and other data conversion artifacts, and their relationship with other key development tasks in the schedule and offer constructive recommendations for making the process more efficient and accurate.

Exhibit V.C-39: Highlights of SLI's Approach to Data Conversion ***presents highlights of SLI's approach to assessing data conversion.***

Highlights of SLI's Approach to Data Conversion:
Assess Data Conversion plan for key items to building a successful conversion roadmap
Assess plans and progress for data cleansing activities
Assess state's capacity to keep pace with phased conversion efforts
Review data mapping activities
Monitor and evaluate Extract, Transform and Load (ETL) plan and process
Evaluate data quality metrics are established with corrective action plans prepared to maintain quality of data during conversion process
Review go-live Data Conversion plan and fall back plans

Exhibit V.C-39: Highlights of SLI's Approach to Data Conversion.

The SLI IV&V Team focuses first on validating that the development and implementation vendor is properly engaged early in the project life cycle with data conversion and plans to include the State in data cleansing activities and resolving data conversion issues.

SLI believes it is important that development of the data conversion and migration specifications, including data mappings, occur, as early in the project lifecycle as the project plan allows. Data conversion specifications and proper database design are consistently a major part of the IV&V effort to ensure that risks and issues are identified and resolved as early in the project effort as possible. Early identification and resolution of data conversion and migration issues reduces the costs and potential adverse impact of resolution. Due to the sensitive nature of the data within a MMIS, such as Personal Health Information (PHI) and Personally Identifiable Information (PII) data, SLI validates the transfer of data is secure. If data must be transferred via a physical medium such as a tape drive, SLI verifies all applicable HIPAA guidelines are followed.

SLI is diligent in identifying both data conversion and migration design and procedural issues early. The ability of the project to understand, communicate, make decisions on, and enact positive direction in these areas is crucial. To ensure that the data conversion and migration keeps pace with development and data model activities, SLI reviews and verifies that all information regarding the development and implementation vendor plans and processes in this area.

The SLI review of Data Conversion and Migration strategies and approach includes an initial evaluation of the conversion plan for completeness and strategy. Data mapping and data transformation is taken into consideration, as well as conversion test planning, initial conversion testing and final conversion test results. Data Conversion IV&V is concerned with the following:

- ***Validate UAT has verified system compatibility and functionality with converted data,***
- ***Verify all high priority areas associated with Data Conversion have been addressed,***
- ***Verify procedures have been followed to test the final converted data for completeness and accuracy, and that data clean-up has been performed.***

Confirmation of the strategy and methods for validation of a complete and accurate conversion is evaluated. Regularly scheduled data cleanup efforts, well defined incremental data loads, and planned procedures for verification and sign-off are reviewed for completeness. SLI's IV&V Data Conversion and Migration Assessments include the following:

- ***Evaluate the plans; procedures and software for the data conversion effort are in place to allow the use of converted data within the development environment so unit and integration level tests can be performed with converted data.***
- ***Verify the inventory of converted data from the existing systems which are necessary to migrate to the new project, detailed conversion specifications, procedures, test plans for the validation of the integrity of the converted data, and conversion back-out processes.***
- ***Monitor and assess the execution of the conversion and migration plan.***
- ***Monitor and evaluate the data migration and cleansing process to confirm the process is operating smoothly and key issues are being resolved in a timely manner.***
- ***Confirm that an adequate data conversion environment exists for loading and testing the converted data before it enters the application environment.***
- ***Involve State staff to review and support anomalies in the legacy data during the data conversion development and implementation processes.***
- ***Verify the adequacy and thoroughness of the evaluation of all existing data needed to identify duplicate or common data elements and the strategy for combining these elements into a single, unified data model that adheres to database normalization standards.***
- ***Evaluate the performance of the development and implementation vendor and State staff regarding their responsibilities for data migration, conversion and cleansing and provide written reports making recommendations for changes and improvements.***
- ***Determine conversion error rates and confirm they are within parameters established by the project team.***
- ***Make recommendations on making the conversion process more efficient and on maintaining the integrity of data during the conversion.***

The following** Exhibit V.C-40: Data Conversion Quality Checklist **for IV&V Services is derived from data conversion best practices and SLI's SQM³ methodology. SLI uses this checklist to assess data conversion and migration plans and processes.

DATA CONVERSION QUALITY CHECKLIST				
#	Quality Checklist Item	Criteria Met	SLI Comments	Project Response & Date
1.0	**Develop Conversion Plan**			
1.1	The conversion team has been organized and assembled			
1.2	Source systems analysis teams and subject matter experts are available and engaged			
1.3	The actual conversion plan has been produced and is up to date			
1.4	The conversion plan covers default values			
1.5	The conversion plan covers precedence rules			
1.6	The conversion plan covers transformation rules			
1.7	The conversion plan includes the data mapping matrix			
1.8	The conversion plan includes or references the conversion schedule and key milestones			
1.9	The conversion plan includes a detailed contingency plan to identify and mitigate risks that may be encountered during			

Exhibit V.C-40: Data Conversion Quality Checklist for IV&V Services. *SLI uses checklist during conversion phase.*

An overview of the IV&V Data Conversion process is outlined in the exhibit below.

IV&V Data Conversion	
Description	***Data Conversion review is a comprehensive assessment for plans, processes, tools and quality of the migration of data from NOMADS legacy system to CSES.***
SLI Approach	***SLI requests and obtains the documentation of data conversion plans, process and tools to evaluate data conversion execution quality and results. The SLI IV&V Team reviews the documentation leveraging industry standards and best practice; then develops the report, conducts internal review and provides to the State.***
Tasks to Develop the Deliverable	***For the Data Conversion review, the SLI IV&V team:*** ➢ ***Develops a detailed schedule of review activities for the ongoing assessment based on the updated work plans for the project*** ➢ ***Identifies meetings that SLI attends during the initial risk assessment*** ➢ ***Identifies project personnel and level of effort required*** ➢ ***Identifies near-term project activities, meetings, and presentations that are important to the assessment*** ➢ ***Identifies specific documentation produced by the Project to be reviewed for the assessment*** ➢ ***Creates and delivers SLI Interview Guides to selected personnel to be interviewed*** ➢ ***Configures SLI checklists to the Replacement Project*** ➢ ***Conducts interviews, attends meetings, and reviews artifacts and processes*** ➢ ***Develops detailed findings and recommendations, ensuring actionable responses are appropriately assigned to specific groups or individuals***

Deliverable Frequency	***One time review for each module and summary review during the last module; updates to Findings and Recommendations are reporting in the Monthly IV&V Report.***
Delivered to	***State IV&V Contract Officer and Final Deliverable to Federal OCSE***
Report Name	***SLI IV&V Data Conversion Assessment***

Exhibit V.C-41: IV&V Data Conversion Overview.

V.C.3.11.2 Database Design

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, refreshability, concurrence, normalization (where appropriate) and any other factors affecting performance and data integrity.
Database Design	DM-8	Evaluate the project's process for administering the database, including backup, recovery, performance analysis and control of data item creation.

The SLI IV&V review of Data Management strategies and approach also includes an assessment of the database and data model to:

- ***ensure industry standard database design principles are being followed,***
- ***database performance, capacity, and hardware requirements are being considered,***
- ***database security is being properly applied, and***
- ***database backup and recovery plans are in place.***

Specific areas included in the IV&V assessment of Database Design are:

- ***Physical Limitations Analysis. Identify the physical limitations of the Database. Review the maximum number of records, maximum record length, etc., and compare them to designated values. Determine how database growth is being monitored and review plans for data archival.***
- ***Performance Analysis. Evaluate the design for maintainability, scalability, refresh ability, concurrence, and normalization as it affects performance and data integrity.***
  - ***We verify tests were conducted with appropriate transactional volume (i.e. simulated simultaneous users) and in an environment that is configured as would occur in production (software versions, hardware settings, data level, etc.).***
  - ***We review the selection and configuration of the load and performance automated testing tool to help determine that the outcomes are representative of what will occur in production.***
- ***Index vs. Storage Analysis. Analyze the use of multiple indexes compared to the volume of stored data to determine if the proposed approach meets the requirements for data retrieval performance and size constraints.***
- ***Security Analysis. Review database architecture for common security threats including:***

- ***Are User account privileges appropriate?***
- ***Are unnecessary default accounts disabled and default passwords changed?***
- ***Are rules for minimum password length being enforced?***
- ***Does the framework enforce the use of bind variables that prevent SQL injection attacks?***

- ***Backup and Recovery. Review backup and recovery procedures. Require database administrators to demonstrate that backups can be fully restored to a development or test environment.***

The Database Design Assessment also includes a review of the data model. The data model review is designed to uncover common problems such as:

- ***Inconsistent naming and definitional standards/conventions,***
- ***Inconsistent or incorrect normalization,***
- ***Lack of referential integrity and security enforcement,***
- ***The existence of partially null primary keys,***
- ***Mandatory one-to-one relationships, and***
- ***Entity pairs with many relationships.***

V.C.3.12. *Operations Oversight (3.6.3.12)*

The success of any system development project is limited or enhanced by the State's readiness to effectively deploy and operate the new modules. The SLI IV&V Team plays a key role in determining these critical Operations functions and tasks are planned, executed, and tracked to effective completion; and recommending changes if any areas are lacking.

SLI's role in Operations Oversight is focused on:

- ***Evaluating the impact of the system on program goals and performance standards,***
- ***Evaluating operational plans, processes and organization roles and responsibilities,***
- ***Verifying that processes and equipment are in place to back up the system and data files, and***
- ***Evaluating viability of disaster recovery and business continuity plans.***

At the appropriate time within each project, the SLI team conducts an Operations Oversight assessment. SLI leverages SQM³ Software Development Processes and artifacts as shown in *Exhibit V.C-42: IV&V Operations Oversight Activities Mapped to SQM³ Artifacts****.***

IV&V Area	IV&V Operations Oversight Activity	Applicable SQM³ Artifacts
Operation Oversight	Operational Change Tracking	(SLP-Q-Assess) Quality Assessments
	Customer & User Operational Satisfaction	Operational Readiness Assessment
	Operational Goals	Deliverable Review Reports
	Operational Documentation	Process Observation Reports

IV&V Area	IV&V Operations Oversight Activity	Applicable SQM³ Artifacts
	Operational Processes and Activity	Change Management Quality Checklist Defect Management Quality Checklist Disaster Recovery Plan Quality Checklist Implementation Plan Quality Checklist Turnover Plan Quality Checklist

Exhibit V.C-42: IV&V Operations Oversight Activities Mapped to SQM³ Artifacts.

The SLI IV&V Team comprehensively reviews the development and implementation contractor's Project Deployment Plans, Operations Plans, and System Deployment Reports on an ongoing basis to verify all program goals and performance standards are being achieved. The primary documentation anticipated from the development and implementation Contractors includes the System Deployment Plan, the System Deployment Report, an Operations Manual, and a Disaster Recovery and Business Continuity Plan. Operations Oversight is the umbrella covering the entire system and information is collected on it throughout the project.

The processes and activities associated with disaster recovery and business continuity are reviewed in full and assessed for their completeness. The impact to equipment and business processes, the alternatives if the new systems become unavailable and the timeliness with which a planned recovery effort can be implemented are all evaluated.

The ultimate goal of the components of CSES is to function properly in production. Beyond the obvious need to have a system that performs correctly for the end-user field staff, there are the production "back office" functions that need to operate smoothly. The Customer and User Operational Satisfaction review entails reviewing that the products, processes, and procedures associated with a successful post-deployment are completed and of high quality.

V.C.3.12.1 Operational Change Tracking

Operational Change Tracking	OO-1	Evaluate statewide system's change request 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.

SLI evaluates the operational change control process to ensure the system is comprehensive, documented, and being effectively implemented to manage change in the operational environment.

SLI assesses the statewide system for operational change tracking to ensure there is a repeatable process for production changes to improve the stability of business service and required changes. The Operational Change Tracking system must be capable of tracking all changes related to a project from a project perspective. This feature is required for planning required operational changes that are driven from operations, the field, policy, and other mandated changes.

SLI ensures the change tracking process maps the impact and dependency of a change, project, or release. In addition, the system should provide an interface to enable planning of resource assignments for changes.

The SLI IV&V Team comprehensively reviews the project change requests and defect tracking processes with an eye towards ensuring change requests are captured, adequately described,

and routed through the appropriate levels of approval before being authorized for development. System defect processes are evaluated to ensure defects are captured and described in sufficient detail to facilitate an appropriate response from the vendor and the individual/team that identified the defect is informed when it is corrected.

SLI samples the change requests to ensure they are being managed from creation to closure and the system is being effectively used. Finally, we examine change request and defect volumes to identify trends and bottlenecks and to ensure processes are being followed.

SLI may, at times, request operational data to ensure that the process activities are effective and are being followed.

V.C.3.12.2 Customer & User Operational Satisfaction

Customer & User Operational Satisfaction	OO-3	Evaluate user satisfaction with the system to determine areas for improvement

End-user satisfaction can make or break the Replacement Project's credibility and future success. SLI goals for measuring customer and end-user satisfaction include:

- ***Understand the level of end user satisfaction across various user segments,***
- ***Focus on factors contributing to end-user satisfaction, to determine priorities for addressing priority items, and***
- ***Employ industry best-practices to establish the foundation for a continuous end user satisfaction improvement program.***

The ultimate goal of the Replacement Project is to implement a modernized CSE system that functions properly in production and supports the mission of the State. Beyond the obvious need to have a system that performs correctly for the end-user staff, there are the production "back office" functions that need to operate smoothly. SLI's Customer and User Operational Satisfaction review entails reviewing the products, processes, and procedures associated with a successful implementation are completed and of high quality.

SLI's approach is to conduct a comprehensive survey benchmarking solution that combines metrics and analysis with actionable recommendations aligned with industry best practices on improving end user satisfaction levels. In addition, SLI identifies areas of improvement that can be tangibly measured year over year.

SLI creates or customizes the current end user survey to reflect current organizational needs. The surveys are developed and distributed to the project stakeholders, customers, and/or users. A formal assessment of the processes and survey results are reviewed by the SLI IV&V Team to determine your clients' satisfaction with the new system. We document areas for improvement, as appropriate.

V.C.3.12.3 Operational Goals

Operational Goals	OO-4	Evaluate impact of the system on program goals and performance standards.

The SLI IV&V Team assesses the larger oversight of the day-to-day operations and management of the Replacement Project. The purpose of this assessment is to ensure the system is meeting the operational program goals and objectives for the project.

An Operational Goals and Objectives Quality Checklist is created at a high-level and used to capture key metrics and accomplishments related to the approved goals and objectives. The SLI IV&V Team then reviews the applicable sections of the state's Operational Goals for project goals and objectives. Where possible, the SLI IV&V Team provides the approximate time-period as to when the expected goal or objective is reached.

We look at the business drivers and new business processes as well as the team's plan to build buy-in and consensus throughout the IV&V assessments. We monitor and focus on:

- ***Assessing Stakeholder Representation. Adequate stakeholder representation is a critical success factor for any system project. Inadequate representation often leads to a lack of buy-in for the new system functionality and business processes. Even when buy-in is achieved, the new business processes may be sub-optimal and unable to achieve their desired results. Our assessments confirm all relevant business areas are represented in the planned system activities.***
- ***Reviewing the Change Management Approach. We almost always see resistance to change in new system efforts. If not properly managed, this can result in reengineered processes that are rejected by the organization, or it can result in processes that differ little from the processes they are intended to replace. The SLI IV&V Team examines the project's plan for addressing resistance to change to ensure the plan includes an overall communications approach and a plan for consensus building and conflict resolution.***
- ***Performance Management. The Replacement Project Team must develop and implement performance measures to reinforce the new behaviors needed to support the implementation of new business processes and systems, as well as new skills that are required. This should include formally and informally recognizing individuals and groups for behavioral change.***

The SLI IV&V Team works with the State and the project team to ensure the building blocks to move forward with acceptance of new business processes are in-place and the organization that must be implemented to support those processes is clearly defined and communicated.

V.C.3.12.4 Operational Documentation

Operational Documentation	OO-5	Evaluate operational plans and processes.

The SLI IV&V Team verifies and validates the operations plan and process are documented and in place. The project documentation is reviewed to make sure all change management processes and configuration management processes that affect the plans and or processes are updated.

Operational documentation is necessary when quality description of the system possibilities or trainings for final users are required. In some cases, absence of the documentation or irresponsibility in its development affects both efficiency of the system application and return from the intellectual property as a whole.

Typical System Documentation includes:

- ***Technical User Manual,***
- ***System Maintenance Manual,***
- ***System Standards Manual, and***

- ***System Operations Manual.***

If during verification and validation of these plans and processes; a more efficient method is determined, it is documented and submitted to the Replacement Project management team for a possible change.

V.C.3.12.5 Operational Processes and Activity

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.

A continuity of operations plan (COOP) is essential to a state-wide system. The SLI IV&V Team assesses the Business Continuity and associated Disaster Recovery, Business Resumption and Incident Response Plans submitted by each vendor against relevant industry standards and best practices to verify relevant business continuity information is included in the plan.

We compare the plans against the ISO 22301:2012 standards, which is the first international standard for Business Continuity Management, and developed to help organizations minimize the risk of such disruptions. ISO 22301 specifies requirements to plan, establish, implement, operate, monitor, review, maintain, and continually improve a documented management system to prepare for, respond to, and recover from disruptive events when they arise. ISO 22301 is the first standard published which is aligned with the new ISO format for writing management systems standards.

SLI has developed a series of checklists to assess Business Continuity Plans organized around the main clauses of ISO 22301:

- ***Context of the organization,***
- ***Leadership,***
- ***Planning,***
- ***Support,***
- ***Operation,***
- ***Performance evaluation, and***
- ***Improvement.***

In addition to satisfying the requirements ISO 22301, the Business Continuity Plan is assessed with regard to each vendor's understanding of the potential business impacts of service interruption and the underlying risks. This plan is also assessed with regard to the completeness of the solution:

- ***Guidelines for top-management,***
- ***Executive Risk Assessment,***
- ***Impact Analysis,***
- ***Prioritization of the operations to be maintained,***
- ***Staff assignments,***

- ***Identification of Resources,***
- ***Plan Documentation,***
- ***Plan reviewed with key employees testing of the plan, and training of all employees, and***
- ***Definition of the methodology which ensures updates to the Business Continuity Plan.***

The SLI IV&V Team evaluates the Business Continuity Plan as part of our assessment reporting process. We provide an excerpt of SLI's Disaster Recovery Plan Quality Checklist for IV&V Services, as Exhibit V.C-43.

DISASTER RECOVERY PLAN QUALITY CHECKLIST

#	Quality Checklist Item	Criteria Met	SLI Comments	Project Response & Date
1.0	**Personnel**			
1.1	All personnel required to perform disaster recovery are listed in the Disaster Recovery Plan (DRP)			
1.2	The rights and permissions of each employee responsible for disaster recovery are clearly stated			
1.3	All personnel required to perform disaster recovery are listed in the Disaster Recovery Plan (DRP)			
1.4	The DRP clearly states that assignment of responsibilities for management and staff immediately following a disaster and continuing through the period of reestablishment of normal operations			
2.0	**Communications**			
2.1	A Communications Plan is included in the DRP			
2.2	Call trees are in place to notify staff in an emergency			
2.3	Several communication channels are included in the DRP			

Exhibit V.C-43: SLI's Disaster Recovery Plan Quality Checklist for IV&V Services.

An overview of the IV&V Operations Oversight Review is outlined in the exhibit below.

IV&V Operations Oversight Review	
Description	***Operations oversight review is a comprehensive assessment for plans, processes, roles and responsibilities, reporting, communications and the overall strategy for implementation execution of the Replacement Project.***
SLI Approach	***SLI requests and obtains the documentation of implementation strategy and plans to support the planning and subsequent evaluation of implementation execution quality and results. The SLI IV&V Team reviews the documentation leveraging industry standards and best practice; then develops the report, conducts internal review and provides to the State.***
Tasks to Develop the Deliverable	***For the Operations Oversight review, the SLI IV&V Team:*** ➢ ***Develops a detailed schedule of review activities for the ongoing assessment based on the updated work plans for the project*** ➢ ***Identifies meetings that SLI attends during the initial risk assessment*** ➢ ***Identifies project personnel and level of effort required*** ➢ ***Identifies near-term project activities, meetings, and presentations that are important to the assessment***

IV&V Operations Oversight Review	
	➢ ***Identifies specific documentation produced by the Project to be reviewed for the assessment*** ➢ ***Creates and delivers SLI Interview Guides to selected personnel to be interviewed*** ➢ ***Configures SLI checklists specific to the project*** ➢ ***Conducts interviews, attends meetings, and reviews artifacts and processes*** ➢ ***Develops detailed findings and recommendations, ensuring actionable responses are appropriately assigned to specific groups or individuals***
Deliverable Frequency	***One-time review for each module and summary review during the last module; updates to Findings and Recommendations are reporting in the Monthly IV&V Report.***
Delivered to	***State IV&V Contract Officer and Final Deliverable to Federal OCSE***
Report Name	***SLI IV&V Operations Oversight Review***

Exhibit V.C-44: IV&V Operations Oversight Review Overview.

V.C.4. Deliverables (3.6.4)

4.6 IV&V ACTIVITIES DELIVERABLES
*As stated previously, the State's review time begins following the Federal OCSE's review, and is limited to mistakes of fact and comments to be appended

Exhibit V.C-45: IV&V Activity Deliverables for the Replacement Project IV&V Services ***reflects the deliverables defined in section 3.6 IV&V Activities of the RFP's Statement of Work.***

Activity/Task	Deliverable
3.6.2.1 Conduct Initial IV&V Review of the Replacement Project	***Initial IV&V Review***
3.6.2.2 Create the Initial IV&V Review Report	***Initial IV&V Review Report (Draft and Final)***
3.6.2.3 Conduct Periodic IV&V Review Activities	***Periodic IV&V Reviews***
3.6.4.4 Create Periodic IV&V Review Reports	***Periodic IV&V Review Reports (Draft and Final)***
3.6.4.5 Conduct Formal Briefing Presentations	***Formal Briefing Presentations***
3.6.3.5 Create Deliverable Observation Reports	***Performed reviews of project artifacts, processes or deliverables not otherwise defined herein this scope of work, as-needed in a special scope of work between State and IV&V Service Provider to prepare the Deliverable Observation Reports (DOR***
3.6.2.6 Archive Documents	***Document Archive Periodic Archive Creation and Delivery of all project artifacts and research materials and contract deliverables***

Exhibit V.C-45: IV&V Activity Deliverables for the Replacement Project IV&V Services.

Each of these IV&V deliverables are detailed in the sections below. References are included to previous sections in this proposal where the material has previously been detailed.

In all reports, SLI provides the state with quantified information on the progress that the State has made against the recommendations from the previous review. SLI creates a log, printed in reports, with all findings and recommendations traceable from creation to closure.

V.C.4.1. *Initial IV&V Review*

3.6.4.1	Initial IV&V Review	3.6.2.1	NA

SLI's approach to completing an Initial IV&V Review is detailed in *Section V.C.2.1 Conduct Initial IV&V Review of the Replacement Project*. ***A summary of our approach is reflected below*** *in Exhibit V.C.46*.

Conduct Initial IV&V Review	
Task Description	***Our Initial Review compiles analysis results, observations, and identifies key project status milestones and/or shortcomings for the Initial Review Report. SLI reports include positive findings as well as findings and recommendations for areas of improvement.***
SLI Approach	***The SLI approach to the initial IV&V assessment includes looking at the broad aspects of the ongoing project management, quality management, design, development, configuration, and testing and implementation efforts. A baseline assessment of each Replacement Project activity subject to IV&V review is performed during the initial assessment cycle as applicable at the time of the Initial IV&V Review. The planning and organization of these activities implement the game plan established by SLI's approved IV&V MP.***
IV&V Subtasks	***SLI's Initial Review includes:*** ➢ ***Create a detailed schedule of review activities for the Initial Review, including identification of needed project personnel.*** ➢ ***Create and deliver SLI Interview Guides to selected personnel to be interviewed.*** ➢ ***Create a list of specific documentation produced by the Replacement Project that are required for the Initial Review.*** ➢ ***Create a detailed schedule of the meetings that IV&V attends during the review, based on the updated work plans for the project.*** ➢ ***Conduct interviews and collect data using SLI IV&V checklists*** ➢ ***Develop detailed findings and recommendations, including actionable responses assigned to specific groups, that are included in the IV&V Risk Tracking Log within the Review Report.*** ***This organized approach allows SLI IV&V Team to gather the information necessary for evaluating the project's management, artifacts, and activities.***
IV&V Deliverable(s)	***IV&V review activities – on-site and off-site – that result in draft and final IV&V Review Reports submitted for the Initial and Periodic Reviews.***
Timeframe	***Within 60 calendar days after the start of the onsite portion of the initial IV&V review, a draft report is delivered to the State IV&V Contract Officer. Then the***

Conduct Initial IV&V Review	
	comments received within the next 20 calendar days are reviewed for corrections in the final report due within 5 days of receiving comments.

Exhibit V.C-46: Conduct Initial IV&V Review Overview.

V.C.4.2. *Initial IV&V Review Report (3.6.4.2)*

3.6.4.2	Initial IV&V Review Report	3.6.2.2	15

SLI's approach to completing an Initial IV&V Review Report is detailed in *Section V.C.2.2 Create the Initial IV&V Review Report (Draft and Final)*. ***A summary of our approach is reflected below.***

Initial IV&V Review Report	
Task Description	***The Initial IV&V Review Report evaluates and quantifies current project progress and we begin the documentation for the IV&V findings and recommendations log and the Risk log that is included with the report. Sufficient detail is provided within the findings summary of the report to allow the project team to understand the rationale for any identified issues or recommendations.***
SLI Approach	***The work done to produce the Initial Review Report allows the SLI IV&V Team to progress through subsequent reviews with a meaningful baseline. We begin the Initial Review by coordinating with the CBMS/PEAK Project Manager to determine the status of the project.***
IV&V Subtasks	***The SLI IV&V Team prepares the Initial Review Report after completion of the on-site period, to:*** ➢ ***Assess all project documentation and artifacts collected and review against standards, checklists, contract obligations, in adherence with each of the focus areas as detailed in the IV&V Services RFP.*** ➢ ***Review information collected during interviews.*** ➢ ***Consolidate all IV&V team members' findings and recommendations.*** ➢ ***Prepare draft Initial IV&V Review Report.*** ➢ ***Submit draft Initial IV&V Review Report.*** ➢ ***Incorporate appropriate changes into draft Initial IV&V Review Report.*** ➢ ***Submit the Final report.***
IV&V Deliverable(s)	***A draft and final IV&V Review Report are submitted for the Initial Review. The report contains subsections addressing the health and status of each project focus area as defined in the IV&V Services RFP.***
Timeframe	***The comments received within the next 20 calendar days are reviewed for corrections in the final report.***

Exhibit V.C-47: Initial IV&V Review Overview.

V.C.4.3. *Periodic IV&V Review*

3.6.4.3	Periodic IV&V Reviews	3.6.2.3	NA

Details of how SLI's IV&V Team perform Periodic IV&V reviews is found in *Section V.C.2.3 Conduct Periodic IV&V Review Activities*.

V.C.4.4. *Periodic IV&V Review Report*

3.6.4.4	Periodic IV&V Review Reports	3.6.2.4	15

For the Periodic IV&V Review Report, SLI plans to use the same report template as the Initial Assessment Report as noted above in Section V.C.4.2 Initial IV&V Review Report. A summary of our approach is reflected below.

Periodic IV&V Review Reports	
Task Description	***Periodic IV&V Review Reports evaluate and quantify current project progress and reports on status of findings and recommendations in the previous Review Reports. A tracking tool to monitor progress toward resolution of IV&V findings and recommendations is included. Sufficient detail is provided within the findings summary of the report to allow the project team to understand the rationale for any identified issues or recommendations.***
SLI Approach	***The work done to produce the Initial Review Report allows the SLI IV&V Team to progress through subsequent reviews with a meaningful baseline. We begin each Periodic Review by coordinating with the Replacement Project Manager, or designated representative, to determine the status of the project. Prior to each Periodic Review, the required activities are analyzed and prioritized and the SLI IV&V Team begins coordinating project stakeholder interviews and deliverables/artifacts to be reviewed. During the Periodic Review, we determine the status of all IV&V findings and recommendations made in previous review cycles.***
IV&V Subtasks	***The Periodic Review Report is prepared by the SLI IV&V Team after the completion of the on-site period, to:*** ➢ ***Assess all project documentation and artifacts collected and review against standards, checklists, contract obligations, in adherence with each of the focus areas as detailed in the IV&V Services RFP.*** ➢ ***Review information collected during interviews.*** ➢ ***Review status of risks and issues from previous cycle.*** ➢ ***Assess effectiveness of any risk mitigation efforts.*** ➢ ***Consolidate all IV&V team members' findings and recommendations.*** ➢ ***Prepare draft Periodic IV&V Review Report.*** ➢ ***Submit draft Periodic IV&V Review Report.*** ➢ ***Incorporate appropriate changes into draft Periodic IV&V Review Report.*** ➢ ***Submit the Final report.***
IV&V Deliverable(s)	***A draft and final IV&V Review Report is submitted for each Periodic Review. The report contains subsections addressing the perceived health and status of each project focus area, as defined in the solicitation.***
Timeframe	***The draft Periodic IV&V Review Reports are submitted to the Federal OCSE and State IV&V Contract Officer 60 calendar days following the onsite start of the periodic IV&V review. SLI understands that the Federal OCSE and State IV&V Contract Officer provide initial comments regarding the periodic draft report to IV&V. SLI then submit the Draft report to appropriate State and Department reviewers for the 20-calendar day review period. The Final report is submitted within 5 calendar days of the receipt of State review comments.***

Exhibit V.C-48: Periodic IV&V Review Reports Overview.

V.C.4.5. *Formal Briefing Presentations*

3.6.4.5	Formal Briefing Presentations	3.6.2.5	NA

Details of how SLI's IV&V Team performs formal briefing presentations is found in** Section V.C.2.5 Conduct Formal Briefing Presentations**. A summary of our approach is reflected below.

Formal Briefing Presentations	
Task Description	***The SLI IV&V Team works with the Replacement Project Team in the planning, scheduling, and agenda preparation/distribution of the IV&V Briefings. The SLI IV&V Team uses standard SLI meeting attendance forms to capture the names of all attendees. During the briefing, SLI IV&V Team conducts a walk-through of the IV&V Report items and any the development and implementation vendor deliverables that were reviewed during the report period. SLI IV&V Team summarizes the findings of other reviewed documentation, and summarizes the overall IV&V view of the status of the project. The SLI IV&V Team responds to questions regarding the methods employed, findings, and recommendations. The SLI IV&V Team produces the notes and action items of these briefings and distributes them within two business days of the briefing.***
SLI Approach	***Presentations are created using Microsoft PowerPoint, with accompanying handouts for meeting attendees. The presentation itself provides valuable time for the Replacement Project leadership to hear first-hand from our IV&V Team and to engage in further discussion of the project and IV&V recommendations.*** ***For each agenda item where our review identifies a deficiency (or best practice), SLI presents our recommendations for action. A standard agenda is used to structure the IV&V Briefings. In addition, handouts are provided and included in the IV&V Report and other key IV&V deliverables.***
IV&V Subtasks	***Each Briefing requires that planning activities be coordinated with the Replacement Project. The SLI IV&V Team:*** ➢ ***Prepares and submits debriefing agenda to Replacement Project Team for distribution to participants.*** ➢ ***Prepares the MS PowerPoint debriefing presentation.*** ➢ ***Provides copies of the MS PowerPoint presentation to the participants.*** ➢ ***Discusses Findings and Recommendations.*** ➢ ***Discusses Outcomes.*** ➢ ***Reviews status of risks and issues.*** ➢ ***Reviews effectiveness of any risk mitigation efforts.*** ➢ ***Documents the meeting minutes, including action items, and submits to Replacement Project Team for distribution.***
IV&V Deliverables	***A briefing associated with the delivery of an IV&V Review Report is scheduled when requested by key Replacement Project stakeholders.***
Timeframe	***Each briefing, when requested, is provided within 5 calendar days of the submission of the associated Final IV&V Review Report; whether initial or periodic.***

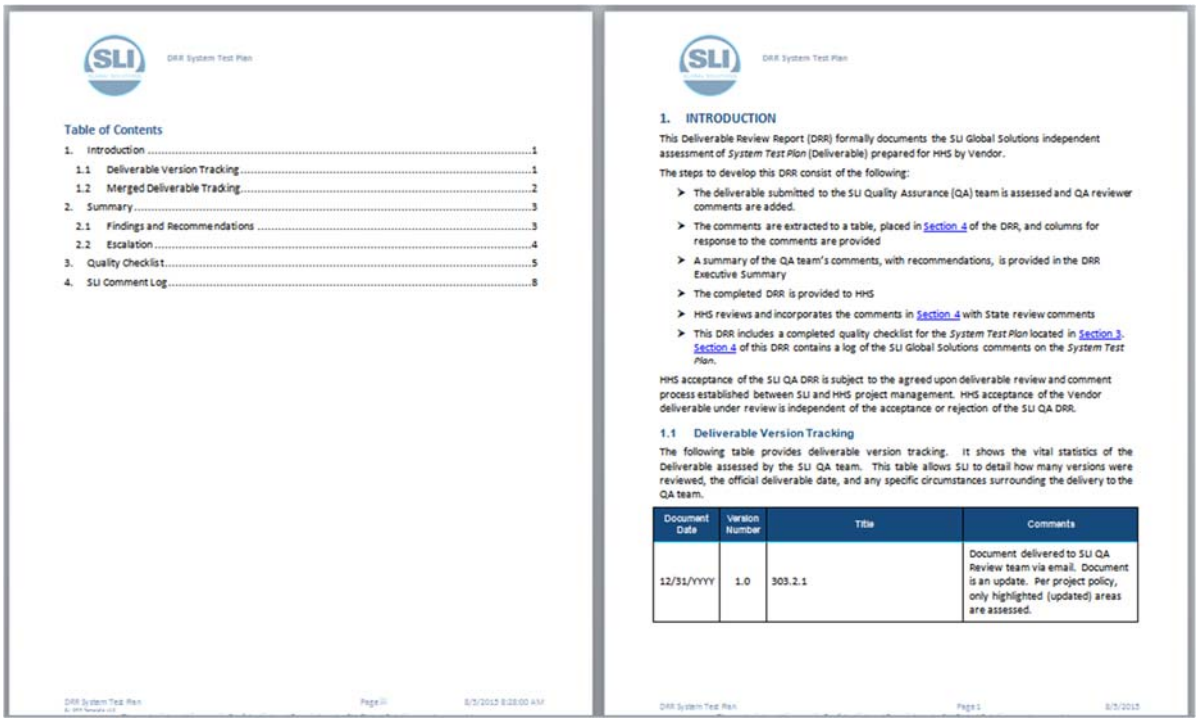
Exhibit V.C-49: Formal Briefing Presentation Overview.

V.C.4.6. *Deliverable Observation Reports (DORs)*

3.6.4.6	Deliverable Observation Reports (DOR)	3.6.2.6	15

SLI has a proven approach for reviewing deliverables and providing feedback in a formal Deliverable Observation Report (DOR). Below, in Exhibit V.C-51, we provide a sample of a DOR for a deliverable under review.

Details of how SLI's IV&V Team performs formal briefing presentations is found in Section V.C.2.5 Conduct Formal Briefing Presentations. A summary of our approach is reflected below.



DRR System Test Plan

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DRR System Test Plan

1. INTRODUCTION

This Deliverable Review Report (DRR) formally documents the SLI Global Solutions independent assessment of *System Test Plan* (Deliverable) prepared for HHS by Vendor.

The steps to develop this DRR consist of the following:

- The deliverable submitted to the SLI Quality Assurance (QA) team is assessed and QA reviewer comments are added.
- The comments are extracted to a table, placed in Section 4 of the DRR, and columns for response to the comments are provided
- A summary of the QA team's comments, with recommendations, is provided in the DRR Executive Summary
- The completed DRR is provided to HHS
- HHS reviews and incorporates the comments in Section 4 with State review comments
- This DRR includes a completed quality checklist for the *System Test Plan* located in Section 3. Section 4 of this DRR contains a log of the SLI Global Solutions comments on the *System Test Plan*.

HHS acceptance of the SLI QA DRR is subject to the agreed upon deliverable review and comment process established between SLI and HHS project management. HHS acceptance of the Vendor deliverable under review is independent of the acceptance or rejection of the SLI QA DRR.

1.1 Deliverable Version Tracking

The following table provides deliverable version tracking. It shows the vital statistics of the Deliverable assessed by the SLI QA team. This table allows SLI to detail how many versions were reviewed, the official deliverable date, and any specific circumstances surrounding the delivery to the QA team.

Document Date	Version Number	Title	Comments
12/31/YYYY	1.0	303.2.1	Document delivered to SLI QA Review team via email. Document is an update. Per project policy, only highlighted (updated) areas are assessed.

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***Exhibit V.C-50: DOR Example**: This graphic depicts the table of contents and the format of the typical output of our deliverable review process*

V.C.4.7. *Document Archive*

3.6.4.7	Document Archive	3.6.2.7	15

Details of how SLI's IV&V Team submits a Document Archive are found in Section V.C.2.7 Archive Documents. A summary of our approach is reflected below.

Document Archive	
Task Description	***All documents that the SLI IV&V Team collects from the State or produces as part of the IV&V activities for the Replacement Project must be archived and given to the State.***
SLI Approach	***Keep all project documentation in a dedicated area of the SLI SharePoint portal. At the closure of the project, burn all documents into a CD and submit to the State along with the final invoice.***

Document Archive	
IV&V Subtasks	***The SLI IV&V Team:*** ➢ ***Retrieve all project documents from SLI SharePoint portal.*** ➢ ***Make a comprehensive organization of the documents.*** ➢ ***Burn a CD and put a label.***
IV&V Deliverables	***Document Archive.***
Timeframe	***At project closure.***

Exhibit V.C-51: Document Archive Overview.

V.D. Project Management (4.7)

Vendors shall describe the project management methodology and processes utilized for:

The effectiveness of an IV&V Team is determined by its ability to ensure that its activities, tasks, milestones, and completion dates are planned, monitored, and executed with a consistent level of quality. SLI's Project Management Approach and Methodology requires that we understand, utilize, and adapt to our customer's policies, standards, and guidelines while maintaining an independent perspective.

SLI applies a set of project management procedures based on the practices and methods recommended by the Project Management Institute and described in its Project Management Body of Knowledge, Fifth Edition (PMBOK®) – documents and describes practices and methods that are widely accepted in the project management profession.

Our Project Management Methodology, SLI employs PMBOK® principles and standards to facilitate effective project management, both as we plan and execute our scope of work AND evaluate the Project Management aspects of the overall project. SLI's Project Management purpose depends on the following core principles:

- ***Customer Focus. Deliver high quality IV&V services that address stakeholder business objectives, and meet end user requirements, and strive to exceed customer expectations***
- ***Process Approach. Effective management through proven, repeatable processes for both resources and activities. Constant communication to all client and vendor participants and stakeholder for duration of the project.***
- ***Continual Improvement. SLI recognizes that processes must evolve and adapt to address new standards and project priorities***
- ***Factual Approach to Decision Making. Effective decisions are based on the logical and rational analysis of data***

A project lifecycle consists of the following five integrated processes:

1. ***Initiation. Defining the project and securing buy-in by appropriate stakeholders***
2. ***Planning. Detailing the tasks, resources, and schedule necessary to accomplish the project***
3. ***Execution. Carrying out the planned tasks***

4. ***Control.*** ***Managing the scope of the project and reporting progress***
5. ***Closeout.*** ***Wrapping up the completed project, releasing resources, and documenting lessons learned***

Exhibit V.D-1, SLI Project Management Components / RFP Requirements, ***below briefly describes the Replacement Project relevant project management components and your associated Project Management requirements along with their intended objectives. The SLI IV&V Team applies these components to our own IV&V project management efforts and to determine whether the Replacement Project vendor(s) has addressed them adequately, as part of our IV&V assessments.***

PM Component RFP Requirement	Description
Project Management 4.7.1 Project integration to ensure that the various elements of the project are properly coordinated; 4.7.5 Responding to and covering requested changes in the project time frames;	***To ensure that the various elements of the project are properly coordinated, which includes:*** ➢ ***Project Plan Development. Integrating and coordinating all project plans to create a consistent, coherent document*** ➢ ***Project Plan Execution. Executing the project plan by performing the activities included therein*** ➢ ***Integrated Change Control. Coordinating changes across the project*** ➢ ***Project Closure. Perform the closeout activities of the project***
Scope Management 4.7.2 Project scope to ensure that the project includes all the work required and only the work required to complete the project successfully;	***To ensure that the project includes all the work required, and only the work required, to complete the project successfully, which includes:*** ➢ ***Initiation. Authorizing the project or phase*** ➢ ***Scope Planning. Develop a written scope statement scope definition – subdividing the major project deliverables into smaller, more manageable components*** ➢ ***Scope Verification. Formalizing acceptance of the project scope*** ➢ ***Scope Change Control. Controlling changes to project scope***
Time Management 4.7.3 Time management to ensure timely completion of the project. Include defining activities, estimating activity duration, developing and controlling the project schedule;	***To ensure timely completion of the project, which includes:*** ➢ ***Activity Definition. Identifying the specific activities that must be performed to produce the various project deliverables*** ➢ ***Activity Sequencing. Identify and document interactive dependencies*** ➢ ***Activity Duration Estimating. Estimating the number and duration of work periods needed to complete individual activities*** ➢ ***Schedule Development. Analyzing activity sequences, activity durations, and resource requirements to create the project schedule*** ➢ ***Schedule Control. Controlling changes to the project schedule***
Cost Management 4.7.7 Cost management to ensure that the project is completed within the approved budget. Include resource planning, cost estimating, cost budgeting and cost control;	***To ensure that the project is completed within the approved budget, which includes:*** ➢ ***Resource Planning. Determining resources (people, equipment, materials) and quantities needed to perform project activities*** ➢ ***Cost Estimating. Developing an estimate of the costs of the resources needed to complete project activities*** ➢ ***Cost Budgeting. Allocate estimates to individual work activities*** ➢ ***Cost Control. Controlling changes to the project budget***

PM Component RFP Requirement	Description
Quality Management SLI understands that DWSS's QA Contractor is providing QA services. SLI intends to apply Quality Management to our delivery of IV&V services and deliverables	***To ensure that the project satisfies the needs for which it was undertaken, which includes:*** ➢ ***Quality Planning. Identifying quality standards relevant to the project and determining how to satisfy them*** ➢ ***Quality Assurance. Evaluate project performance on a regular basis*** ➢ ***Quality Control. Monitor specific project results to determine compliance with relevant quality standards and identify ways to eliminate causes of unsatisfactory performance***
Resource Management 4.7.8 Resource management to ensure the most effective use of people involved in the project including subcontractors;	***Project Resource Management to make the most effective use of the people involved with the project, which includes:*** ➢ ***Organizational Planning. Identifying, documenting, and assigning project roles, responsibilities, and reporting relationships*** ➢ ***Staff Acquisition. Assign the needed human resources to the project*** ➢ ***Team Development. Developing individual and group skills to enhance project performance***
Communication Management 4.7.9 Communications management to ensure effective information generation, documentation, storage, transmission and disposal of project information	***Project Communications Management to ensure timely generation, collection, dissemination, storage, and final disposition of project information, which includes:*** ➢ ***Stakeholder Identification. The process of identifying all people and organizations impacted by the project and documented their information needs*** ➢ ***Communications Planning. The process of determining the project stakeholder information needs and defining a communication approach*** ➢ ***Information Distribution. Making needed information available to project stakeholders in a timely manner*** ➢ ***Manage Stakeholder Expectations. Communicate and work with stakeholders to meet their needs and address issue as they occur.*** ➢ ***Performance Reporting. Collect and disseminate performance information such as status reports, progress reporting and forecasting***
Risk Management 4.7.10 Risk management to ensure that risks are identified, planned for, analyzed, communicated and acted upon effectively.	***Project Risk Management to identify, analyze, and respond to project risk, including maximizing the probability and consequences of positive events and minimizing the probability and consequences of adverse events to project objectives, which includes:*** ➢ ***Risk Management Planning. Planning and establishing risk management activities for a project*** ➢ ***Risk Identification. Determining which risks might affect the project and documenting their characteristics*** ➢ ***Qualitative Risk Analysis. Performing a qualitative analysis of risks and conditions to prioritize their effects on project objectives***

PM Component RFP Requirement	Description
	➢ ***Quantitative Risk Analysis. Measuring the probability and consequences of risks and estimating their implications for project objectives*** ➢ ***Risk Response Planning. Develop procedures and techniques to reduce threats from risk to the project's objectives*** ➢ ***Risk Monitoring and Control. Monitor residual risks, execute risk reduction plans, and evaluate their effectiveness***

Exhibit V.D-1: SLI Project Management Components. *SLI IV&V team uses each of these knowledge areas to effective manage our responsibilities and assess the work of others.*

V.D.1. Project Integration (4.7.1)

4.7.1 Project integration to ensure that the various elements of the project are properly coordinated;

The SLI IV&V Team is constructed to provide clear and visible ownership of assigned IV&V activities and deliverables. Our Project Manager, Carl Blanchette is responsible for all IV&V PM activities and deliverables and is the point of contact for DWSS. In addition to his PM responsibilities, Carl is a full member of the IV&V Team participating in quarterly assessments and leading the IV&V Management Briefings.

Carl assigns IV&V project resources to align with the Replacement Project Plan(s) to ensure complete coverage of project activities and coordination of our IV&V delivery with all project actors. This is an on-going effort and incorporates updates to the Replacement Project Plan(s) into SLI's IV&V Management Plan and Detailed Project Plan. The IV&V PM verifies the team structure is well defined, that the critical roles are included and staffed, and the lines of reporting and responsibility provide adequate technical and functional assessments of the project.

In the case of the Replacement Project, the IV&V organization charts and responsibility matrices are visible to all project actors and help facilitate coordination with other stakeholders (e.g., DWSS, CSEP, State IV&V Contract Officer, project vendors, and external stakeholders such as the Federal OCSE).

Each project has unique characteristics and the SLI IV&V Team considers the overall project structure, organizational environment, agency goals in which it operates, and the level of involvement the IV&V project is afforded in recommending an integration approach. IV&V integration can take on various forms with each version having its own advantages and disadvantages. The structure defines the relationships between the IV&V team and members of the overall Replacement Project team and project stakeholders. While IV&V necessarily has a compliance and "audit" function, we believe that a truly effecting IV&V integration approach is that of a "quality partner" where positive aspects of the project are identified and encouraged to be expanded upon.

In addition to ensuring that our delivery of IV&V is appropriately and effectively integrated into the Replacement Project, our IV&V assessments address Replacement Project integration and that multiple project teams are properly coordinated. SLI compares and analyzes plans, processes, and deliverables across the project as a means of identifying where dependencies and gaps exist. We also assess how effective the Project Communication Plan is in promoting project integration and coordination.

V.D.2. Project Scope (4.7.2)

4.7.2 Project scope to ensure that the project includes all the work required and only the work required to complete the project successfully

SLI has carefully studied your IV&V requirements and deliverables and we are confident that our plans and processes for performing this engagement address and accomplish all the IV&V work required and only the work required to complete the Replacement Project's IV&V reviews successfully. One area where scope overlap sometimes occurs is when there are concurrent Quality Assurance and IV&V initiatives on the same development project. SLI appreciates that the IV&V scope of work has been carefully established by DWSS to ensure there is no overlap between services provided by the current Project Management consultant and the successful IV&V contractor. SLI understands that the IV&V contractor shall conduct a quality review of the project processes.

Another area of IV&V responsibilities where there is a potential for scope issues is testing. SLI is highly experienced in providing Independent Assessment of Testing, Test Management, and Independent Testing. SLI clearly understands the differences in these activities and understands that DWSS requires an Independent Assessment of the Replacement Project testing of its IV&V contractor and not Test Management or Independent Testing. The Federal OCSE' recent publication of IV&V roles and responsibilities for CSES actually prohibit the IV&V contractor from Independent Testing.

SLI's Project Manager works with DWSS management as part of project start-up to ensure there are no misunderstandings regarding the scope of IV&V activities and deliverables. We confirm our scope within the IV&V Management Plan and the Detailed Project Plan as well as in all updates to those deliverables.

SLI incorporates an assessment of the Replacement Projects plans and execution of Scope Management. SLI's approach to minimizing scope issues involves five basic principles.

- ***SLI recognizes that gaps in project staff understandings of how key objectives link to specific work scope creates risks for scope creep***
- ***SLI's IV&V experience shows that early indicators of possible scope issues can be missed without broad and clear visibility across project activities.***
- ***SLI's project management experience finds that projects must have specific scope boundary management principles and adherence.***
- ***SLI's "hands-on" problem-solving expertise clarifies that, once found, duplicated work issues can be quickly and effectively managed via a duplication "parsing/pruning" triage protocol.***
- ***SLI's years of IV&V collaborating with executive sponsors, vendors/providers, state clients, and internal/external user communities shows scope issues are best resolved via specific management roles situated below executive sponsorship, yet above and/or in tandem with project management.***

SLI delivers highly successful IV&V support to project management by translating our experience and insights with these principles into tangible, practical practices via these specific and readily implemented processes.

Gauge and Extend 'High Visibility' throughout the Project

Issues can occur wherever scope visibility is obscured, whether in project design materials, schedules, or "siloed" operating practices, even for co-located teams and partners. Due to the wide variety of unique needs found on each project though, it is not always possible to know upfront where such visibility gaps occur. For that reason, scope visibility assessments should incorporate both typical risk areas and an ongoing survey to look for and identify emerging project-unique scope visibility gaps.

SLI's IV&V methodology for assessing and resolving scope management visibility reflects a mix of project process management approaches and real-world operational tactics. During Project Management and Requirements Assessments, the SLI IV&V Team checks both clarity of scope assignments to the various Replacement Project vendors, as well as each team's awareness of and attention to how their owned assigned work compares with and aligns to other teams involved in common integration tasks. As scope management hinges on the project's management style and SDLC, SLI draws on both PMI PMBOK and multiple SDLCs to structure its assessments. SLI targets ambiguities due to unclear scope allocation due to parallel needs in unrelated areas, "fuzzy-boundary" situations, and delivery delays triggering dependent teams to take extra steps in order to stay on schedule. SLI starts with WBS audits focusing on possible unrecognized parallel operational needs across multiple work areas, as well as checking for realistic delivery timelines for dependency deliveries. SLI also suggests that each team publish a brief bullet-point list of its scope activities along with the reference source(s). For scope implementation, SLI suggests that each team publish a summary timeline of its scope activities, including first-order dependencies on other teams or partners.

Appraise and Foster Scope 'Boundary' Management Practices and Adherence

SLI's IV&V strategy for assessing scope boundary management is straight-forward: audit project scope statements, deliverable scope statements and project requirements allocations by assessing scope effort descriptions to verify that underlying scope implications are understood and addressed by the project staff involved. IV&V Assessments explore and appraise the Replacement Project vendors and other partner teams for practical, real-world adherence to assigned work and effective communication and collaboration with other teams that provide and/or are dependent on timely delivery and key work products.

Moreover, to foster cross-team scope boundary management awareness and adherence beyond IV&V audits and assessments, SLI recommends that a "quick reference" set of scope boundary practices be publicized throughout the project staff. By coaching and mentoring both scope boundary awareness and practice steps for coordinating related cross-team work effort "begin/end" points, in-depth awareness of duplicate, omitted, or unapproved change effort risks can be encouraged and directed toward effective resolution as early as possible.

V.D.3. Time Management (4.7.3)

4.7.3 Time management to ensure timely completion of the project. Include defining activities, estimating activity duration, developing and controlling the project schedule;

The timing of delivering the right IV&V staff at the right time is achieved by continuously monitoring the overall project schedule throughout the contract. This information is gathered in project meetings and reviewing the Replacement Project vendors' status reports and work plans. This, in turn, provides input into both the timing of when the reviews need to take place and estimating the time required to complete a full IV&V assessment and prepare formal reports or

DORs for delivery to DWSS. In the process of preparing the initial work plan contained in Section VI. Preliminary Project Plan, of this proposal, SLI made use of Project Management Institute (PMI) standards for project time management as well as our deep experience in performing these same tasks on similar engagements. This began with defining activities for the IV&V tasks and associated deliverables, developing our work plan that detail tasks, resources, durations, and sequencing to execute the IV&V Management Plan.

After completing the activity definition undertaking, activity sequencing, resource estimating, duration estimating, schedule development, and schedule control follow. The IV&V Management Plan and Detailed Project Plan are finalized during the IV&V Project Initiation Phase using these same techniques to ensure that work can be accomplished in the given required time period.

Time Tracking

Time tracking for SLI's IV&V Projects follows the standard process defined below:

- ***IV&V Project team members use their regular time sheets. Predetermined individuals are authorized to use the project NV charge code.***
- ***IV&V Project team members submit a weekly time sheet to the IV&V Project Manager for review.***
- ***Time spent on activities is tracked in a manner that allows the PM to evaluate the actual time spent on an activities or deliverable against the estimates.***

This systematic approach to monitoring impact of actual time spent on IV&V tasks ensures early identification of risk impact to schedule, budget, and/or resources based on delays or inaccurate estimates.

A critical component of our IV&V of the Replacement Project is assessment of the development and implementation Contractor's ability to accurately estimate the time and resources required to perform tasks and deliver working products. We compare actuals to estimates for a cross-section of development and implementation Tasks to calibrate the accuracy of their estimation processes and algorithms and based on our findings provide recommendations for improvement.

SLI tailors its WBS Completion Checklist and our Project Scheduling Checklists to the specifics of the Replacement Project. We use the configured checklists as part of our quarterly assessments to gauge the accuracy and reliability of the development and implementation WBS and Project Schedule.

V.D.4. Issue and Resolution Management (4.7.4)

4.7.4 Management of contractor and/or subcontractor issues and resolution process;

SLI does not require any subcontractors to perform this engagement.

As part of our assessment of Replacement Project Management, we review the plans and processes in-place to manage project contractors and their sub-contractors as appropriate. We ensure that a comprehensive Issue Management and Issue Resolution Plan is in place and being followed as part of an overall Replacement Project Communication Plan and Strategy. By definition, issues differ from risks. An issue is a condition or event that has either already occurred or is currently happening which has a significant effect on the functions or performance of the project if left unattended. An example of an issue is when a delay in an activity is causing a resource to be unavailable. A risk, which is an uncertain event or condition that may have a

positive or negative effect on a project's objectives, is handled according to the Risk Management Plan. Risks that occur become issues and are tracked according to the processes defined in the Issue Management Plan. Issue Management and Risk Management are carried out in parallel.

SLI subscribes to the PMBOK™ recommendation that an Issue Management Plan be developed as part of the Project Management Plan development process. An Issue Management Plan provides process and procedure for organizing, maintaining, and tracking active issues on the project. The plan enables the project team members to identify, prioritize, and address issues before they become a barrier to project success. SLI ensures that Issue Management is an iterative process employed throughout the IV&V project on a regular basis.

Reviews by the SLI IV&V Team ensure that the Issue Management activities associated with the project adequately address the critical areas of Issue Management; Identification, Documenting & Recording, Communication, Escalation and Resolution. Ongoing, SLI reviews and assesses these processes to ensure that all project issues move toward resolution on a timely basis.

V.D.5. Responding to Changes (4.7.5)

4.7.5 Responding to and covering requested changes in the project time frames;

SLI's IV&V PMP and our internal management processes are prepared to quickly respond to and accommodate DWSS requested changes in the IV&V project's time frames. We understand that changes on a project of this complexity must be anticipated and accommodated. We work with DWSS to determine if the change impacts our contract and take appropriate steps to communicate the impact of any requested change to all actors. SLI's IV&V of CSES Implementation required a series of contract extensions due to delays in development and implementation delivery over its extended 8-year duration. None of these changes disrupted our delivery of IV&V services.

With regard to change requests involving the development and implementation contractor's tasks, SLI's IV&V assessments review the project's change control process. Change control is a method for implementing only those changes that are worth pursuing, and for preventing unnecessary or overly costly changes from derailing the project. Change control is essentially an agreement between the Development Team and the Project Sponsors and managers, usually the Project Steering Committee, that are responsible for decision-making on the project to evaluate the impact of a change before implementing it.

The sources of changes vary and many changes that initially sound like good ideas are re-considered once the true cost and timeframe of the change is known. The potential benefit of the change is documented, and the project manager works with the team to estimate the potential impact the change will have on the project. This gives the project sponsor the information necessary to do a cost-benefit analysis. If the benefit of the change is worth the cost, the project management office updates the plan to reflect the new estimates. Otherwise, the change is rejected and the team continues with the original plan.

The purpose of a Change Management Plan is to ensure the project records requested changes to approved scope, budget, and schedule, determines and evaluates the impact of those requested changes, employs a systematic approval process, implements approved changes, records the decisions made and the reasons for them, and communicates those decisions. By consciously following the process for each change request, the project can successfully accommodate and implement change and avoid the chaos that unplanned change can inflict upon a project.

From a project management perspective, the SLI IV&V Team verifies that a Change Management Plan is created and being followed. Specific change requests are reviewed and assessed to assure the following:

- ***The change has been adequately detailed***
- ***The impact to both schedule and budget are evaluated***
- ***Executive level approval was obtained***
- ***The project plan was updated with any impact***
- ***The change was implemented***
- ***Test scripts were modified to test the approved change***

SLI brings significant experience and expertise in the review and verification of Change Management Plans and processes. *Exhibit V.D-2: Program Management Quality Checklist for Integrated Change Control* ***is used as a starting point for assessing Change Management Plans.***

Project Management Quality Checklist				
Checklist Number	Quality Checklist Item	Criteria Met	Comments	Project Response and Date
9.0	Integrated Change Control			
9.1	The change process has been communicated to the client and project team.			
9.2	There are change request forms in use.			
9.3	There is regular stakeholder involvement in major project decisions.			
9.4	All project deliverables and software configuration management are changed only through the change control process			
9.5	All change requests are tracked through the Change Control process.			
9.6	All change requests and updates are logged.			
9.7	All tasks resulting from approved changes are entered into the project plan and tracked through the plan.			
9.8	New change requests move through the Change Management Process in a timely manner.			
9.9	A method and change process for requirement tracking has been developed.			

Exhibit V.D-2: SLI's Project Management Quality Checklist Integrated Change Control.

Often a Change Control Board (CCB) is engaged to manage change requests. Conflict can exist regarding whether certain items are within scope and this board can divert these discussions from the main project team to a body whose responsibility it is to ultimately determine whether each change request is needed and that sufficient reason and justification has been appropriately documented.

Whether an independent CCB is employed or some other mechanism is established to ensure conflict resolution, the SLI Team assesses the adequacy of the plan and ensures that the plan is rigorously implemented. Our assessment specifically focuses on:

- ***Whether the Change Management process is being followed***
- ***Whether the approvals for change are at the right level of authority***

Throughout the lifecycle of any project, change occurs. A change in a project context, is defined as any material deviance from the agreed upon scope of work. A project change may result from a number of internal or external events:

- ***Evolving business-critical needs***
- ***Refinement of scope due to project maturity***
- ***Addition or deletion of major deliverables***
- ***Changes to time, scope, or resources***
- ***Changes in regulation or law forcing a change in the project plan***
- ***The function of change control is to provide a comprehensive, consistent method for controlling the project and ensuring its success.***

The purpose of change control is to provide a formal, structured approach to continuously manage change and to understand its impact on the established schedule, cost, quality, staffing, and approved project deliverables. SLI work with DWSS to develop an effective Integrated Change Control Plan that describes the roles and responsibilities, policies, processes, and procedures necessary for controlling and managing changes during the development and implementation phases. This document identifies how changes are identified, defined, evaluated, approved, and tracked through completion. In this process, we work with the State to identify responsibilities and define the composition, function, and procedures for a Change Control Board (CCB).

V.D.6. Responding to State Issues (4.7.6)

4.7.6 Responding to State generated issues;

In our capacity as a Tier-1 provider of IV&V services to the States, we have at times responded to State-generated issues regarding our IV&V findings. When this occurs, we work with the state to ensure that all parties understand our findings and that we understand the state's objections and/or concerns. If our findings missed relevant facts or include factual errors, we identify and analyze those items that were overlooked or factually incorrect and reissue our findings. However, if the state generated issue is that they do not agree or accept an IV&V finding, SLI must, in order to maintain its independence, let the finding stand. An important point about IV&V that is sometimes misunderstood is that IV&V is not "bossing" anybody on the project. If the state decides not to implement an IV&V recommendation, that is the state's prerogative. What is not in the state's or anyone else's best interest is to not be aware of the IV&V finding and recommendations or to "shape" them. Our findings and recommendations are a permanent part of the project's record and so should the state's decision to go an alternate course, if they choose.

It is a characteristic of a mature IV&V provider that they know how to deliver bad news and inconvenient facts so that their findings and IV&V recommendations are taken seriously. SLI seeks to build credibility with our clients by providing fact-based findings that are tied to industry best practices and standards and by providing actionable recommendations with defined progress points.

V.D.7. Cost Management (4.7.7)

4.7.7 Cost management to ensure that the project is completed within the approved budget. Include resource planning, cost estimating, cost budgeting and cost control)

As the Detailed Project Plan is updated to reflect the status of all current project conditions and progress, we also track costs and expenditures in the project budget. This ensures continuous budget monitoring and timely identification of problems.

A key aspect of our cost management approach is to encourage capturing actual effort hours and costs, and updating the project management software (MS Project) with this information. The SLI IV&V Team assesses this information to help ensure that the Detailed Project Plan and project budget reflects activities that were completed and costs incurred during the previous time period.

To ensure that the project is completed within the approved budget, this includes:

- ***Resource Planning. Determining IV&V resources needed to perform project activities***
- ***Cost Estimating. Developing an estimate of the costs of the resources needed to complete IV&V scope and project activities***
- ***Cost Budgeting. Allocating estimates to individual IV&V work activities***

Our approach to cost management is tightly coupled with the integration and time management activities. SLI IV&V Project Manager works with the DWSS and the project vendors to establish a baseline budget with appropriate forecasting data. As the Detailed Project Plan is updated to reflect the status of all current project conditions and progress, we also track costs and expenditures in the project budget. This ensures continuous budget monitoring and timely identification of problems.

V.D.8. Resource Management (4.7.8)

4.7.8. Resource management to ensure the most effective use of people involved in the project including subcontractors;

Project Resource Management is concerned with making the most effective use of the IV&V staff involved with the project, which includes:

- ***Organizational Planning. Identifying, documenting, and assigning roles, responsibilities, and reporting relationships***
- ***Staff Acquisition. Assigning additional human resources to the IV&V project when needs are identified***
- ***Individual and Team Development. Developing individual and group skills to enhance performance***

Organizational Planning includes a detailed plan of the number of resources needed to deliver the Replacement Project IV&V services and deliverables. An IV&V Staffing Plan identifies

resources for the project, which includes the identification of the management, development, and support staff necessary for project completion. These planning artifacts often include:

- ***Name or role of team resources and contact information.***
- ***Responsibilities Matrix with defined responsibilities required to complete work.***
- ***Skills with level of expertise of each staff member or role.***
- ***The number of proposed staff needed to complete the scope of work***

Staffing Acquisition (i.e., Human Resources Management) is a fundamental aspect of any project and identifies the various project roles and how those roles contribute to effective project delivery.

Further, to sustain smooth and effective team operations, alternates for key roles are identified along with processes to cover periods when IV&V project personnel are away from the project or when staffing of key roles is in transition.

V.D.9. Communications Management (4.7.9)

4.7.9 Communications management to ensure effective information generation, documentation, storage, transmission and disposal of project information

Communications planning begins with an analysis of stakeholder communities who have a stake in the project and its outcomes. In Nevada, these groups could include DWSS, CSEP, and with other contracted vendors and stakeholders associated with the project including the Federal OCSE. Identifying and analyzing the communications requirements of each of these groups encourages executive support and promotes Agency implementation of specific IV&V findings and recommendations. The SLI IV&V Team develops specific communication artifacts, such as weekly/monthly status reports, deliverable review reports, and dashboards that report, not only, on our IV&V activities but also the status of the primary project as well.

With each project communication or set of communications, there are seven (7) key processes that we follow. The SLI IV&V Team ensures that the IV&V Communications Planning process includes the following:

- ***Identify Stakeholders. This process is for identifying all people or organizations impacted by the project. This includes documenting relevant information regarding their interests, involvement, and impact on the project's success.***
- ***Plan Communications. This process is for determining the project stakeholder information needs and defining a communications approach.***
- ***Distribute Information. This process is for making relevant information available to project stakeholders as required.***
- ***Manage Stakeholder Expectations. This process is for communicating and working with stakeholders to meet their needs and addressing issues as they occur.***
- ***Report Performance. This process is for collecting and distributing performance information, including status reports, progress measurements, and forecasts.***
- ***Documentation Storage. Effective archiving and retrieval of status reports, meeting minutes, project communications, and work products***

- ***Administrative Closure.*** ***Generating, gathering, and disseminating information to formalize and document the phase or project completion process***

V.D.10. Risk Management (4.7.10)

4.7.10 Risk management to ensure that risks are identified, planned for, analyzed, communicated and acted upon effectively.

SLI brings a standards-based Risk Management Methodology; an approach that has been developed and deployed by our staff certified in Risk Management (CRISC). We provide details on our Risk Management Methodology in Section 5.8 of this response.

In addition to our methodology, SLI brings real world experience in practicing risk identification and mitigation on large statewide automation projects, including CSES Implementation projects. SLI is a strong contributor in identifying and providing mitigation strategies for risks in all aspects of the Replacement Project as our staff has significant experience in CSE system deployments, web eligibility portals, and requirements to meet the Federal OCSE's Seven Standards and Conditions including agile development efforts. We use this same approach when assessing and managing IV&V specific risk. In addition, when appropriate, we integrate IV&V specific risks with the overall project risks.

The purpose of risk management is to identify threats to project success and to mitigate or eliminate the negative impacts to the project.

SLI IV&V Risk process:

- ***Identify IV&V related risks that might impact success of IV&V but also the success of the primary Replacement Project***
- ***Jointly determine if the risk should be added to the overall the project Risk Log***
- ***Identify and document a mitigation***
- ***Maintain and update the risk***

Our team comes to the project with a knowledge base of typical risk areas that are likely to occur and effective strategies for addressing them. In this way, our contributions to risk management processes are efficient, effective, and deliver real value.

Evaluation of Project Risk Management Activities

The SLI IV&V Team reviews and recommends updates to the projects existing risk management processes and tools as necessary to ensure that the policies and procedures for managing risks for the Replacement Project are adequate and effective. SLI expects, at a minimum, the fundamentals of risk management (Planning and Identification, Assessment, Response Planning, Monitor and Control) are in place for the Replacement Project, and that the project stakeholders have the appropriate processes, procedures, and documentation in place to fully support each.

Our team comes to the project with a knowledge base of typical risk areas that are likely to occur and effective strategies for addressing them. In this way, our contributions to risk management processes are efficient, effective, and deliver real value.

This practical experience means that our team comes to the project with a knowledge base of typical risk areas that are likely to occur and effective strategies for addressing them. In this way,

our contributions to the risk management processes are efficient, effective, and deliver value that is specific to your project, not a generic approach that could apply anywhere.

V.E. Quality Assurance (4.8)

4.8 Vendors shall describe the quality assurance methodology and processes utilized to ensure that the project will satisfy State requirements as outlined in Section 3, Scope of Work of this RFP.

SLI has a wealth of experience in performing IV&V services. Our IV&V approach is built on SLI's Core Principals of Service Delivery and executed using SLI's IV&V Methodology SQM³ – SLI Quality Management, Methods, and Models.

V.E.1. SLI's Core Principals of Service Delivery

Collaboration: ***IV&V must prove its value to the project's success by delivering credible assessments that can be incorporated into the development project's plans and schedule. To achieve this level of credibility SLI's IV&V Team works side-by-side with the Replacement Project Team on the ground in Nevada through a combination of onsite and offsite reviews. This enables us to provide timely and actionable assessments of interim work products and deliverables to minimize the need for rework that is often associated with retrospective IV&V audits performed after deliverables have been completed. This is our preferred method of IV&V service delivery.***

We collaborate with the State staff members and the community of vendors to the best interest of the project.

SLI takes great care to avoid requiring the Project Team to develop materials or deliverables whose sole purpose is to provide input to IV&V assessment. We work with the Replacement Project Team to identify outputs of the project design, development, and implementation (development and implementation) that can be used as input for IV&V assessments. This includes the use of Application Lifecycle Management (ALM) and Test Automation Software.

Configuration: ***SLI's approach to IV&V is guided by our ISO 9001:2008 certified Quality Management System, SQM³ – SLI Quality Management, Methods, and Models. SLI invests significant resources to maintain this certification through annual audit conducted by an independent certified ISO auditor. SQM³ provides a framework for each of our engagements to ensure alignment with appropriate standards and reduce the administrative burden on our consultants. However, SLI understands that each of our client projects is unique and we configure our approach within the framework of SQM³ to the strategic objectives as well as the specific software development approach of each project. For the Replacement Project, we understand the primary focus areas to be on integration of core processing modules and an Electronic Data Interchange into the Project Technical Architecture in a manner that achieves the Federal OCSE certification. Emphasis of our assessment is on those areas of known risks associated with modular development efforts, system transfers, and the Federal OCSE Certification.***

SLI intends to configure our Project Management Plan and Schedule to the Replacement Project Management Plans to ensure that we deploy our resources in alignment with project activities. We configure our Quality Checklists, Interview Guides, Process Observations, Reporting, and Dashboards to assess the risk and progress points of the Replacement Project. SLI understands that a one-size-fits-all approach does not work for this engagement. SQM³ is designed to facilitate this type of configuration though the use of automated tools and a SharePoint Knowledge Center.

Communication: ***SLI recommends and practices open communication in the delivery of our IV&V services. We intend to add IV&V communication channels and processes to the Project's overall Communication Plan. SLI adds issues and risks identified in our risk assessments to the Project's Risk Register and Issues Log. We publish and adhere to established reporting distribution and risk escalation hierarchies.***

It is the nature of IV&V to report any identified deficiencies from the perspective of an independent assessment. We know that if our findings and recommendations are to be acted on, how they are presented is just as important as the findings themselves. In other words, to be an effective IV&V service provider we must stay tactful at delivering bad news and inconvenient truths. SLI believes that it is essential when reporting our findings that they be fact-based and accompanied by actionable recommendations. This, along with our collaborative approach cited above, builds credibility for the State and the Replacement Project Team and facilitates acceptance of our findings and implementation of our recommendations. SLI also reports positive findings so project best practices are acknowledged and replicated, again building credibility with the project team and stakeholders.

Commitment: ***SLI's 20+ years of continuous delivery of IV&V services to large and complex State IT projects reflects our commitment to the objective of delivering systems of high quality that meet their intended business and technical purpose. Our commitment to this objective is further demonstrated in our investments in our ISO-certified methodology SQM³ and in our experienced IV&V experts. SLI is a nationally recognized thought leader in the IV&V services industry especially for large and complex State IT Implementations that are subject to federal oversight and regulations.***

SLI believes the role of IV&V is to be a quality partner in the overall success of the project. IV&V must see their overarching goal to be a project that ends on-time, on-budget, and fulfills to needs of the agency. In doing so, IV&V must find a balance between reviewing process and products where we check for contract compliance and adherence to standards, where the focus is on finding defects, recommending ways to fix them, and providing guidance and counsel on best practices, lessons learned, and acknowledging the positive aspects of the project to encourage getting it right the first time.

IV&V vendors who take a purely auditor approach are often ineffective, because their findings are seen as out-of-step with current project activities and whose recommendations are provided too late to add real value. This results in an "us against them" mentality that is difficult to overcome. SLI's philosophy it to be a "trusted partner" and an "advocate for quality", where our staff are willingly invited to meetings, brought into the decision making process early in the game, and proactively offer new ideas and proven methods to reduce risk and avoid issues.

However, SLI does not shy away from pointing out problems and recommending solutions. However, even when delivering bad news and "inconvenient truths", it is done in a professional and collegial manner. We believe you can confront issues without being combative. Our fact-based findings and actionable recommendations are delivered in the context of our role as a "trusted partner", not as a detached auditor.

We also understand that IV&V of the Replacement Project plays an important role in assisting the agency in securing or maintaining funding from the Federal OCSE. In doing so, our team assesses the Replacement Project and its deliverables against the criteria specified in the Federal OCSE SCS throughout the Replacement Project solution development and implementation. We do this early and often to identify non-compliance, which enables the State to take corrective

actions needed to secure or maintain federal funding at either 75% (in the case of operations) or 90% for development efforts.

SQM³– SLI Quality Management, Methods, and Models.

SLI performs all of its engagements within the framework of a proven IV&V methodology SQM³. This approach provides our clients with confidence that SLI's findings and recommendations are aligned with appropriate industry standards and best practices. In this section, we provide an overview of our methodology to set the context for evaluating SLI's approach to the specific project tasks.

A key to our success is a proven quality management methodology that provides our staff with a framework of standard procedures, process guidelines, templates, and checklists to conduct assessments of virtually any process or product of a complex development effort.

Our methodology is derived from the most current industry standards and aligns with:

- ***ISO, PMI, COBIT, and CMMI for project governance, project management, and quality standards.***
- ***IEEE/SWEBOK for software engineering standards.***
- ***IEEE/CSTEBOK for test management standards.***

Our methodology allows SLI to begin delivering value from the first day of your project, since our repeatable processes let us focus on the details of the project and not the mechanics of project start-up and execution. We are especially proud that SQM³ has earned an ISO 9001:2008 certification, was audited in August 2017 and meets ISO 9001:2015 certification for Quality Management System; which means that the methodology we bring to each engagement has been independently audited and confirmed:

- ***To contain all ISO required quality management system features.***
- ***To be deployed consistently throughout the company (including staff training).***
- ***To be continuously improved to leverage lessons learned and reflect changes to the underlying standards and industry trends.***

As a company whose main line of business is determining if System Integrators are meeting agreed-to industry standards, SLI firmly believes that our work and deliverables should be held to these same standards. This commitment to a certified quality management system is rare in our industry and a major differentiator to what we offer our clients compared to our competitors.

Exhibit V.E-1: SQM³ Methodology Overview, ***below illustrates the components of SQM³, as well as, how the parts of our methodology fit into an ISO 9001 certified quality management system.***

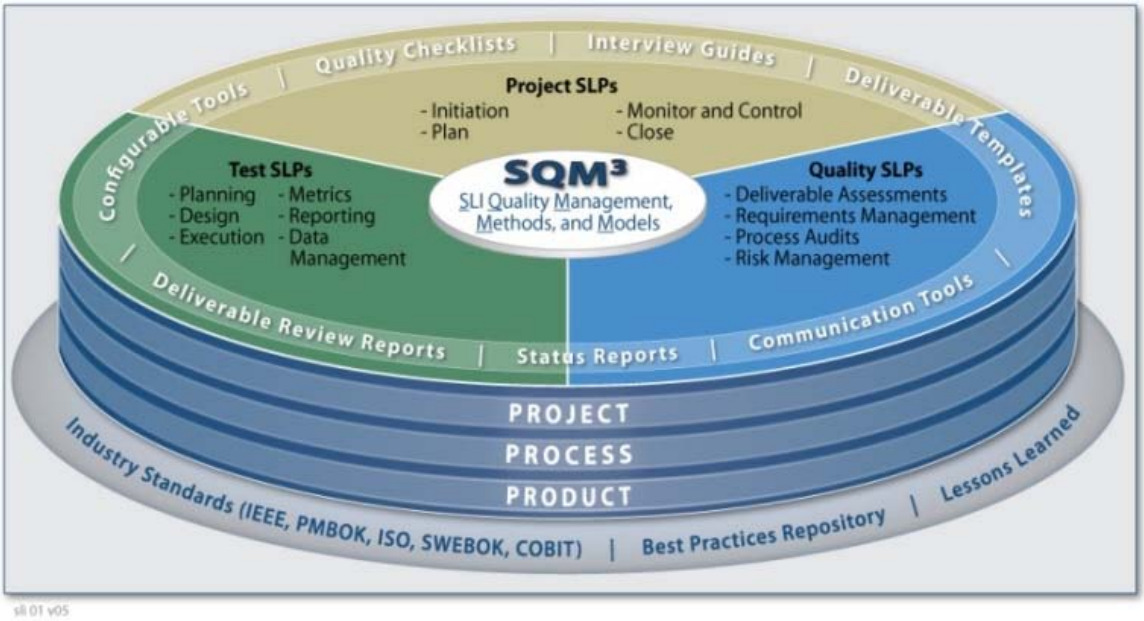


Exhibit V.E-1: SQM³ Methodology Overview. *The SLI quality management system is built to provide a structured approach to improving project outcomes, while allowing flexibility to meet the unique needs of each project's environment.*

Standards are the foundation upon which our methodology is built. What brings real value to our clients is the elaboration and refinement of SQM³ by SLI service delivery experts though the application of lessons learned and best practices from our delivery of IV&V services on dozens of State Health and Human Services IT projects that include State Transfers, COTS and Agile SDLC's as well as traditional Waterfall implementations. Complex systems development efforts require reviews and assessment in three primary areas: overall project quality, process quality, and product quality. SQM³ has been built to provide structured, repeatable, and defensible procedures to address each of these key areas:

- ***Project Quality – Projects require careful initiation and planning. Then they need to be executed according to an approved plan and diligent monitoring and controlling activities must be in place to ensure the desired results are being achieved. Finally, all projects must be closed appropriately, with an emphasis on capturing lessons learned, releasing resources, and archiving documentation. SLI applies a deep understanding of PMI-based standards to assess project management activities to identify project governance, schedule, communication, resources, cost, risks, and issues at the beginning of the project and throughout its life.***
- ***Process Quality – All projects, especially software development efforts, need to have well documented processes that are deployed effectively, used uniformly, and assessed for potential improvements. Many defects in system development products can be traced to poorly documented, misunderstood, or outdated processes. SLI reviews process documentation, attends process training, and reviews the adequacy of the process to help projects identify quality issues at this stage, before they manifest into defective products.***
- ***Product Quality – SLI invests a significant amount of time reviewing the work products, documentation, and formal deliverables for a project. Providing objective assessments***

of the quality of a product, based on agreed upon acceptance criteria, helps projects stay on track and avoids costly and time-consuming rework throughout development. These product assessments also help to hold all parties accountable to understand and meet contractual requirements. Using SLI's IV&V quality checklists, modified to meet project specific requirements, our staff provides fact-based deliverable review reports upon which the State and its vendors can rely.

From a practical standpoint, each of these quality review areas must have repeatable processes and procedures so that each project and team member has a roadmap to conduct assessments. To that end, SQM³ contains a catalog of separately articulated techniques, called Standard Lab Procedures (SLPs) that cover a project's oversight lifecycle from planning throughout deployment. Each SLP contains specialized tools, checklists, interview guides, templates, and reporting guidelines, which are tailored and deployed, as needed to drive assessment activities and provide project management with the information required to understand project status and make informed decisions.

Our SLPs are categorized into subgroups Project, Quality, and Test, which fit naturally with assessment activities.

- ***Project SLPs allow the SLI IV&V Project Manager to establish our own IV&V project management processes and artifacts; as well as, conduct project management assessment activities of the project.***
- ***Quality SLPs provide the SLI IV&V Team with the tools necessary to assess the application of quality management activities associated with a system development lifecycle effort.***
- ***Test SLPs are used by the SLI IV&V Team to assess the critically important phases of application testing, with a special emphasis on user acceptance testing and implementation readiness/end-to-end testing. These procedures are aimed at all testing phases from Unit to UAT, and include specialized areas for test automation, performance, and security.***

Exhibit V.E-2: SQM³ SLP Organization, ***is a high-level view of the SLP categories tied to the IV&V tasks and deliverables for the Replacement Project.***

SQM³ Methodology Project		SQM³ Methodology Quality		SQM³ Methodology Test	
SLP Name	IV&V Task / Deliverable Area	SLP Name	IV&V Task / Deliverable Area	SLP Name	IV&V Task / Deliverable Area
P-Init	IV&V Project Initiation	Q-Plan	Planning	T-Plan	UAT Test Planning
P-Plan	IV&V Project / Work Plans	Q-Assess	Initial, Ongoing, and Final IV&V Assessments	T-Dsgn	UAT Test Design
P-Contr	IV&V Project Monitor and Control IV&V Status Reports	Q-Req	Requirements Management	T-Data	UAT Test Data Management
P-Close	IV&V Project Close	Q-Test	the Federal OCSE Support	T-Exec	UAT Test Execution
		Q-Risk	Risk and Issue Management	T-Metr	Test Metrics
				T-Rep	Test Reporting

Exhibit V.E-2: SQM³ SLP Organization. *Our procedures are aligned to support the assessment of all facets of a project and aspects of a systems development effort.*

The consistent application of SQM³ allows us to monitor risk and help to safeguard that the project remains on time and on budget, the system is built according to approved technical standards, and that the application fulfills the users' requirements.

SLI's methodology is continually updated to align with new SDLC's like Agile as well as with System Transfers, COTS, and SaaS implementations. We are committed to align our approach to your chosen SDLC(s) for the Replacement Project in a collaborative manner while maintaining our independent perspective.

V.E.2. SLI's Methodology and Process for Agile (SpARC™)

Most IV&V methodologies are designed to assess traditional Waterfall system development lifecycles (SDLC) even as new iterative SDLC's like Agile are increasingly becoming the norm for complex IT projects.

SLI recognizes that the Replacement Project may use Agile software development processes. SLI is the premiere quality assurance and independent verification and validation organization for Agile development projects. We have developed a proprietary set of Agile process guidelines tailored for Agile software development efforts. Most importantly, we ensure that we focus our resources on monitoring those characteristics of agile development, such as meeting the planned velocity of each Sprint and making sure that each User Story has a clear definition of done. Our Agile specialists work with the Replacement Project Team to develop and report on software development metrics that are aligned with the project's agile development approach, as appropriate.

As a component of the SQM³, methodology, SLI applies our proprietary approach to agile/SCRUM quality reviews, called SpARC – SLI Process for Agile in a Regulated Context.

Our S SpARC protocol allows our IV&V Specialists to evaluate the Replacement Project's Agile/SCRUM work products to ensure quality outcomes. The SpARC approach checks multiple aspects of the development and implementation Contractor's ability to apply its agile process in the context of the Replacement Project software project.

SpARC protocol is a set of in-depth, integrated practices, approaches, artifacts, quality assurance (QA) checklists and process guidelines that SLI has specifically developed to assess, monitor, and support agile development projects.

SpARC protocol enables the Replacement Project teams to successfully anticipate and manage potential project risks that can arise when working with an agile/SCRUM process.

SpARC protocol applies a multi-dimensional approach to check the maturity of the Replacement Project' agile methodology. Among the key aspects, SLI explores whether the Agile/SCRUM process:

- ***Incorporates generally accepted agile manifesto/lean development standards as described by leading experts***
- ***Provides a Road Map to complete all of the scope of the project in the planned timeframe***
- ***Measures the software development progress rate, (known as velocity in agile) during each Sprint and that a process exists to complete any outstanding User Stories from the prior Sprint.***

V.E.3. IV&V Tools

SLI uses two automated tools that are unique to our SQM³ methodology that are deployed in our delivery of the Replacement Project IV&V Services:

- ***SLI Interview Guide Notes and Library (SIGNaL) Tool***
- ***SLI Comment Origination and Reporting (SCORe) Tool***

These tools have definitively demonstrated improved effectiveness in the delivery of IV&V services, as well as efficiency gains for project leadership, while enhancing the State and the Replacement Project's ability to review and respond to IV&V observations. These tools are made available to the State of Nevada at no additional costs.

SIGNaL: SLI Interview Guide Notes and Library Tool

- ***SIGNaL is a structured, effective interview guide and checklist development database tool used for our IV&V assessments. Its features include:***
- ***SIGNaL database contains over 1,800 interview questions covering 21 Project Task Areas.***
- ***SIGNaL database allows the SLI IV&V team members to search for relevant questions that have elicited valuable information in the past, by topic area.***
- ***SIGNaL database allows the SLI IV&V team members to easily add new questions based on the requirements of the Replacement Project.***
- ***SIGNaL allows SLI team members to easily manage the interview process to generate and update specific questionnaires.***

The benefits of the SIGNaL tool to the Replacement Project include:

- ***SIGNaL interview guides keep the Replacement Project stakeholders from having to revisit discussions on the same topics.***

- ***SIGNaL creates an effective interview process, designed to produce a structured output from the relatively unstructured process of human conversation.***
- ***SIGNaL allows SLI IV&V team members to deliver an Interview Guide prior to an interview; giving the interviewee an opportunity to prepare information that needs to be researched for the discussion.***
- ***SIGNAL provides a written record of the gathered information for SLI team members that is accurate, pertinent, and useful.***

SCORe: SLI Comment Tool Comment Origination and Reporting Tool

The SCORe tool is used to combine and organize reviewer comments on a deliverable into a single document that is efficient to review and assess. SCORe features include:

- ***SCORe provides standardized process for documenting errors, omissions, and other defects directly into the deliverable (including Word, Excel, and PowerPoint)***
- ***SCORe extracts all edits, comments, format changes from the deliverable document and consolidates them into a single standardized table included as an appendix with the Deliverable Observation Report (DOR)***
- ***SCORe draws additional information from the document such as page number and reviewers ID***

The benefits of the SCORe tool to the Replacement Project include:

- ***SCORe saves considerable time in the collection, assembly, and distribution of deliverable review comments***
- ***SCORe provides a forum for collaborative review and assessment of deliverable comments***
- ***SCORe provides a forum for capturing and monitoring responses and actions related to updating the deliverable***

An example of the output produced from SCORe is show in *Exhibit V.E-3: SCORe Comment Log.*

Deliverable Review Comment Log							
Comment Number	Reviewer	Review Date	Section and Paragraph	Cosmetic	Reviewer Comment	Vendor Response	Date Resolved
SJL1	Sue Lewis	8/1/2015	Appendix A; page 7; 2.1; bullet 3		Federal released earlier this month a Program Instruction that requires APD approval of any COTS prior to planning or implementation. Please describe any consideration of this requirement for this project.		
AG2	Andy Guy	7/30/2015	Appendix A; page 9; 2.3; paragraph 1		Please document where these risk are documented and managed.		
MDE3	Mark Eddy	8/2/2015	Appendix A; page 10; 3; bullet 1	✓	Not all subsections are identified in this list. Add the missing subsections.		
SJL4	Sue Lewis	8/1/2015	Appendix A; page 11; 3.2; paragraph 1		Previously only one donor state was mentioned. Please ensure consistency with the source of the transfer solution.		
SJL5	Sue Lewis	8/1/2015	Appendix B; page 4; 2.0 Use Case Diagram	✓	There is a disconnect with the numbering/ names in this diagram and the information in the individual Use Cases. Please Review each use case name and number within each use cases against this diagram and correct.		

Exhibit V.E-3: SCORe Comment Log. *SLI's SCORe Tool automatically generates a consolidated table of comments, which saves time for both the reviewers of the deliverables and the authors who respond to the findings.*

These SLI tools grew from our delivery team's experience on other projects and their need for tools to make them more efficient. We have delivered these tools and used them on many of our projects to improve staff efficiency but also to improve the quality of the deliverables. SLI operates and maintains a Knowledge Center on our SharePoint portal that is used by all of our teams to make sure that the most current SQM³ documentation is accessible across all projects.

In addition to our own automated tools developed specifically for IV&V services, SLI recognizes that Vendors typically employ application lifecycle management (ALM) software (e.g., IBM Rational Suite) and we strive to incorporate the output of these development tools into our IV&V assessments to reduce the administrative burden on the development teams and to enable a more meaningful assessment and recommendations.

V.E.4. Standards

Standards are at the core of objectively assessing the quality of project processes and artifacts. Our staff members are trained and often certified in the use and application of standards. However, standards must be applied in the context of the value they add and the nature of the work being conducted. Blind adherence to "text book" standards is often not required or even helpful. SLI works with project leadership and stakeholder to ensure that right standards are selected and deployed intelligently and then assessed through that same lens.

In developing our SQM³ methodology, SLI leveraged numerous sources. Our SLPs and Industry Standards are illustrated in *Exhibit V.E-4: Industry Standards Mapped to SQM³ SLPs, Tools, and*

Quality Checklists, ***which maps the genesis of many SQM³ processes and industry standards to the artifacts in our toolkit. Additionally, SQM³ is in complete alignment with IV&V regulatory requirements detailed in 45 CFR 95.626.***

SLI Standards Cross Reference Document		
Planning Oversight	*ANSI/PMI 99-001-2004, A Guide to the Project Management Body of Knowledge (PMBOK® Guide) - Fifth Edition, 2013* *IEEE 1058-1998 Standard for Software Project Management Plans* *IT Governance Institute, Series from the IT Governance Domain Practices and Competencies – COBIT 5, ISACA 2009*	(SLP-P-Init) Project Initiation (SLP-P-Plan) Project Plans Agile Process Guidelines SIGNaL – SLI Interview Guide and Checklist Database Deliverable Review Reports Process Observation Reports Project Management Quality Checklist
Project Management	*ANSI/PMI 99-001-2004, A Guide to the Project Management Body of Knowledge (PMBOK® Guide) - Fifth Edition, 2013* *PMI Practice Standard for Earned Value Management, 2nd edition* *PMI Practice Standard for Project Estimation, 2nd edition* *PMI Practice Standard for Scheduling, 2nd ed.* *PMI Practice Standard for Work Breakdown Structures, 2nd ed.*	(SLP-Plan) Project Plans (SLP-P-Contr) Project Monitor and Control (SLP-P-Close) Project Close Agile Process Guidelines SCORe – SLI Comment Origination and Reporting Deliverable Review Reports Project Management Quality Checklist
Quality Management	*IEEE 1012-2012 Standard for System and Software Verification and Validation* *IEEE 730-2002 Standard for Software Quality Assurance Plans* *IEEE 1059-1993 Guide for Software Verification and Validation Plans* *ISO9004-2009, Managing for the sustained success of an organization - A Quality Management Approach* *ISO9001-2008, Quality Management Systems - Requirements*	(SLP-Q-Assess) Quality Assessments (SLP-Q-Reqs) Requirements Management (SLP-Q-Test) Test Management (SLP-Q-Audit) Quality Audits Agile Process Guidelines Deliverable Review Reports Process Observation Reports Quality Management Checklist
Training	*Software Engineering Institute, Technical Report CMU/SEI-95-TR-007- Training Guidelines: Creating a Training Plan for a Software Organization* *IEEE 1063-2001 Standard for Software User Documentation*	(SLP-Q-Assess) Quality Assessments (SLP-Q-Audit) Quality Audits Deliverable Review Reports Process Observation Reports Quality Management Checklist
Requirements Management	*SWEBOK – Guide to the Software Engineering Body of Knowledge, Version 3.0* *Project Management Institute – Business Analysis for Practitioners, A Practice Guide, published 2015* *IEEE 830-1998 Recommended Practice for Software Requirements Specifications*	(SLP-Q-Assess) Quality Assessments (SLP-Q-Reqs) Requirements Management Agile Process Guidelines Deliverable Review Reports Process Observation Reports

SLI Standards Cross Reference Document		
	IEEE 1233-1998 Guide for Developing System Requirements Specifications	Requirements Traceability Analysis
Security Requirements	*NIST Special Publication 800-14 and 27, Generally accepted principles and practices for Securing Information Technology Systems, published by NIST in 2001* *NIST 800-39, Manage Information Security Risk, March 2011* *NIST Cyber Security Framework for Improving Critical Infrastructure Cybersecurity, 2014*	(SLP-Q-Assess) Quality Assessments Deliverable Review Reports Process Observation Reports Information Security Plan Quality Checklist Disaster Recovery Plan Quality Checklist Configuration Management Quality Checklist Systems Operations & Maintenance Checklist
Operating Environment	*SWEBOK – Guide to the Software Engineering Body of Knowledge, Version 3.0* *IEEE 12207-2008 Systems and Software Engineering - System Life Cycle Processes*	(SLP-Q-Assess) Quality Assessments Technical Process Guidelines Hardware Performance Analysis Environment Management Quality Checklist Information Security Plan Quality Checklist Disaster Recovery Plan Quality Checklist
Development Environment	*SWEBOK – Guide to the Software Engineering Body of Knowledge, Version 3.0* *IEEE 12207-2008 Systems and Software Engineering - System Life Cycle Processes*	(SLP-Q-Assess) Quality Assessments Technical Process Guidelines Hardware Performance Analysis Environment Management Quality Checklist Information Security Plan Quality Checklist Disaster Recovery Plan Quality Checklist
Software Development	*SWEBOK – Guide to the Software Engineering Body of Knowledge, Version 3.0* *IEEE 12207-2008 Systems and Software Engineering — Software Life Cycle Processes* *IEEE 1028-2008 Standard for Software Reviews*	SLP-Q-Assess) Quality Assessments Software Development Assessment Guidelines Agile Process Guidelines Technical Process Guidelines Design Standards Quality Checklist Coding Standards Guidelines Quality Checklist System Interfaces Quality Checklist Help Desk Assessment Quality Checklist
System and Acceptance Testing	*CSTEBOK – Guide to the Software Engineering Body of Knowledge, Version 3.0, IEEE Computer Society, 2014* *IEEE 829-2008 Standard for Software and System Test Documentation*	(SLP-T-Plan) Test Planning (SLP-T-Design) Test Design (SLP-T-Data) Test Data Management (SLP-T-Exec) Test Execution (SLP-T-Metr) Test Metrics (SLP-T-Rep) Test Reporting Test Management Plan Quality Checklist Test Reporting Quality Checklist User Acceptance Test Quality Checklist

SLI Standards Cross Reference Document		
Data Management	*SWEBOK – Guide to the Software Engineering Body of Knowledge, Version 3.0* *IEEE 12207-2008 Systems and software engineering — Software Life Cycle Processes* *IEEE 1028-2008 Standard for Software Reviews*	(SLP-Q-Assess) Quality Assessments Technical Process Guidelines Deliverable Review Reports Process Observation Reports Data Conversion Quality Checklist System Interfaces Quality Checklist
Operations Oversight	*IEEE 1063-2001 Standard for Software User Documentation* *Software Engineering Institute, Technical Report CMU/SEI-95-TR-007- Training Guidelines: Creating a Training Plan for a Software Organization*	(SLP-Q-Assess) Quality Assessments Operational Readiness Assessment Deliverable Review Reports Process Observation Reports Implementation Plan Quality Checklist Turnover Plan Quality Checklist Training Management Quality Checklist User's Manual Quality Checklist Help Desk Quality Checklist
Federal OCSE Certification	*45 Code of Federal Regulations (CFR) Part 95.626 and 95 (f)* *42 CFR Part 433 (c)* *Federal regulations at 45 CFR Part 307.15*	the Federal OCSE Certification Checklist Attestation Letter Template

Exhibit V.E-4: Industry Standards Mapped to SQM3 SLPs, Tools, and Quality Checklists.

V.E.5. The Federal OCSE Oversight and Certification

The Replacement Project is subject to the Federal OCSE oversight and certification. SLI intends to work with DWSS and the Federal OCSE to define a Certification strategy and approach that anticipates and incorporates evolving the Federal OCSE certification requirements and to drive those requirements into our assessment tools and processes for the Replacement Project. For example, SLI has already added the Federal OCSE certification checklist categories and items to our SIGNaL database/repository, so that we are prepared to apply the Federal OCSE criteria to our IV&V reviews.

The SLI IV&V Team reviews the Replacement Project oversight processes and procedures to ensure that appropriate reviews and approvals are in-place to and in compliance with the IT memorandum on project oversight and certification. The SLI IV&V Team works with DWSS and CSEP to verify that there are processes and controls in place to monitor project costs, schedule, scope, and quality.

The SLI IV&V Team verifies that State staff has the ultimate responsibility for monitoring project cost and schedule. SLI ensures the Replacement Project obligations are clearly defined, staffed properly, and provide for ongoing reviews of project deliverables, issues management, schedule and scope adjustments, and that the proper review and approval documentation is in place.

The SLI IV&V Team reviews the Implementation Contractor's technical architecture against the DWSS Enterprise Architecture and verifies it is in compliance. If the Implementation Contractor's technical architecture is not in compliance, there is a high-risk the new CSE System will not be

able to easily integrate into the enterprise architecture. In addition, DWSS may need to obtain resources with special skills to support the Implementation Contractor's technical architecture if it not in compliance with the DWSS Enterprise Architecture.

Today, information security is of paramount importance. Given the atmosphere of protecting client data and the security surrounding the protection of this information, it is important that the Implementation Contractor's security plan and features align with the DWSS Information Security Plan. Differing security steps provide potential points of intrusion at the points of the differences, either providing unsecured access into CSES data or into other DWSS data.

The SLI IV&V Team reviews the Implementation Contractor's information technology plans and processes to verify they are in compliance with the DWSS information technology platforms and processes standards as well as other applicable standards.

System Development Strategies

Modern system development strategies have moved away from a monolithic Waterfall approach that requires millions of lines of custom code and takes years before any value is delivered. Iterative SDLC's like agile that deliver working software quickly, are increasingly becoming the norm rather than the exception. COTS that offer a core solution and can be configured to a customer's specific needs have also gained acceptance in the market as well as now being eligible for enhanced federal funding from the Federal OCSE. Each of these approaches demands the IV&V approach be tailored to the points of risks that are inherent to each.

> *"Historically, the big-bang approach has resulted in systems that take longer to deploy and are more expensive than initially scoped. We've said we don't want to pay for that approach anymore."*
>
> Jessica Kahn, Director of the Data and Systems Group, CMS

The use of a modular/incremental replacement approach for the Replacement Project demands that our IV&V assessment focus on configuration for Replacement Project, release management, and regression testing. SLI is skilled at adapting our assessment to the specifics of the target implementation. We anticipate obtaining details on the Replacement Project SDLC(s) and quickly tailoring our assessment approach and tools to specifics of the projects development methodologies and the Application Lifecycle Management (ALM) toolset (such as Rationale Team Concert).

V.F. Metrics Management (4.9)

4.9 Vendors shall describe the metrics management methodology and processes utilized to satisfy State requirements as outlined in Section 3, Scope of Work of this RFP. The methodology shall include the metrics captured and how they are tracked and measured.

SLI employs a full suite of metrics in our assessments of the health of complex IT projects. SLI recognizes that effective metrics management is dependent on ensuring that stakeholder's objectives for the system are reflected in the metrics chosen for the project. Metrics management must also recognize that the type of SDLC employed for design, development and implementation drives the selection of metrics that are appropriate to the selected SDLC.

Metrics that measure cost and schedule performance are most likely effective over all phases of the SDLC. Other performance measures are effective only at specific phases of the SDLC, like testing.

SLI intends to work closely with the Replacement Project stakeholders at the beginning of the project to develop a set of metrics that are aligned with their strategic objectives. We embed selected performance measures into our IV&V Management Plan along with how they are captured, tracked, measured, and reported. SLI intends to use management dashboards to clearly and effectively communicate metric reporting as part of our quarterly IV&V Management Briefings. SLI works with the Replacement Project Team to define data collection points and instruments to support metrics management.

SLI strives to use output from the Replacement Project wherever possible to collect performance data rather than requiring the Project Team to generate data solely for IV&V purposes.

V.F.1. Key Performance Indicators

Work performance data (sometimes referred to as Key Performance Indicators or KPI's) are often viewed as the lowest level of detail from which project performance information is derived. Data is gathered through work execution and passed to the controlling processes (Project Management) for further analysis and disposition.

The following four software project categories have been found to be "best practice" KPI's to apply to software development and systems integration projects. These process categories represent key focus areas that should be monitored and managed by the Project Management Team. They help to establish early warning systems and metrics in order address the triple constraint of scope, time/schedule, cost and ultimately quality.

Scope and Time Management: ***metrics such as work completed and the quality of work; cost and time performance indicators such as actual costs and actual durations, and start and finish dates of scheduled activities;***

Technical Performance: ***measures such as software development, release management statistics, number of change requests;***

Test Management Performance Indicators: ***such as number of test cases/test scripts completed vs expected, number of defects and defect severities, % of recurring defects, and test cases passed; and***

Operational Readiness: ***such as preparation of staff for change, training and knowledge transfer, systems and operations transition readiness and operational monitoring.***

KPI's provide quantitative measurements wherever possible; however, qualitative data can also be used and expressed to illustrate a need for a process improvement which may lead to improved metrics in one or more areas. Since each project and each project's risk profile is different, what is important to be measured and monitored in one project may not be the same measurements as another. Acceptable thresholds (parameters that a set of measurements may be within and still be considered in an acceptable range) for one project may differ from another. These are common project metrics that all projects should strive to apply but each set of metrics should be discussed and agreed to in advance of their use.

The following two KPI's provide a detailed example of best practice KPI's for software development and system integration projects that should be monitored and managed by the Project Management Team.

Project Scope Management	KPI Thresholds and Targets	KPI Indicator
Verify and Control Scope/Deliverables: Verify Project Management Plans (10) = % completed on time & degree of quality: 1. Scope Management Plan 2. Change Management Plan 3. Requirements Management Plan 4. Configuration Management Plan, etc.	Green - > 85% - 100% Yellow - > 70% to 84% Red - < 70% PMP's = actual / planned (i.e., if you have 10 plans and 7 are completed on time, i.e., 10 days (7 / 10 = .70 / 10 = 70%) over time	Yellow
Verify Requirements: Verify Requirements = % completed on time & degree of quality 1. Requirements Specification/ Elaboration 2. Requirements Traceability	RS/E = actual / planned (i.e., if you have 1600 requirements and 1400 are detailed and completed on time (10 days), (1400 / 1600 = .875 / 10 = .0875), you are 87% complete. if these were completed in 5 days (1400 / 1600 = .875 / 5 = .0.175), on day 5 you are ahead of schedule by 600 requirements or 37% RTM = actual / planned (i.e., if you have 1600 requirements and traceability is present on 1250 (1250 / 1600 = .781 = 78%)	Green Yellow

Calculate Work Performance Data:

1. (Deliverables and Requirements) - % complete on time & degree of quality
    a. Degree of compliance with requirements
    b. Number and Severity of non-conformities/deliverable
    c. Number of validation cycles performed in a period of time/deliverable
2. Submitted Deliverables / Accepted Deliverables - - % complete on time & degree of quality
    a. Number of Change Requests in a period of time
    b. Severity (Timing and Impact) of Change Requests

Exhibit V.F-1: Best practice KPI's. *A detailed example of best practice KPI's for software development and system integration projects that should be monitored and managed by the Project Management Team.*

In** Exhibit V.F-2: Additional Process Area KPI's **below we provide additional process areas that should be included in the determination of each project's KPI's:

KPI Category	KPI Benefits
Control Costs:	***Track Budgets – Planned to Actual*** ***Track Procurements – Planned to Actual***
Project Time Management:	***Plan and Develop Schedule*** ***Define Activities – Sequence Activities*** ***Estimate Activity Resources – Estimate Activity Durations*** ***Develop Schedule – Control Schedule*** ***Planned vs Actual Schedule Performance***

KPI Category	KPI Benefits
	Planned vs Actual Milestone Performance
Project Support Processes:	***Project Quality*** ***Project Communications*** ***Project Human Resources*** ***Risk and Issues Management*** ***Stakeholder Management***
Project Technical Management:	***Verify Technical Management Plans*** ***Solution Architecture*** ***Software Development*** ***Environment Deployment*** ***Product Management*** ***Configuration Management*** ***Release Management*** ***Data Management*** ***Interface Management*** ***Security Compliance*** ***Operations Management*** ***Standards Compliance***
Project Test Management:	***Validate Test Management Plans*** ***Validate Test Management Processes*** ***Validate Test Outcomes***
Operational Readiness:	***Verify Operational Readiness Plans*** ***Verify Operational Transition Plans*** ***Monitor Operational Transition***

Exhibit V.F-2: Additional Process Area KPI's.

V.F.2. Technical Performance Metrics

The assessment of the technical aspects of the project involves an examination of the defect metrics and trends. SLI makes a qualitative and quantitative determination of the technical health of the project. Defect trending should show a sharp increase in new defects at each major functional release and a decrease in new defects with a bug fix or minor release, hence the trending chart visually shows if a new release is following standard trends. The qualitative portion of this analysis is to determine if mitigating circumstances have been introduced that modify the trending data from what is expected.

By reviewing the weekly defect tracking report, the SLI IV&V Team assesses:

- ***the number of defects that are in-test and not being addressed.***
- ***the number of defects that are being failed.***
- ***the number of defects that are being deferred.***
- ***the number of defects that are being closed with explanation.***

The analysis of the metric and potential impact is provided in the table below.

Metric	Potential Impact	Metric Analysis
# of Open Defects	***Schedule Impact***	***A large number of open defects can indicate a major release or a backlog of known problems not being addressed. A functional release generating a large number of defects is acceptable. A backlog not following a major release may indicate a resource issue.***
# of Open Defects in one functional area only	***Schedule Impact***	***The effects are similar to that listed above with the addition of the impact on other functional areas dependent on the timely implementation and integration of this functionality.***
# of Open Defects in one functional area only	***Inadequate Developer Staff***	***A large number of open defects that have not been addressed in a timely manner can be an early indication that the development staff for this functional area is not adequate in size or experience.***
# of In-Test Defects	***Schedule Impact***	***(Defects should be placed in the Completed status when the developer has corrected and tested and then only moved to in-test when the code is released to test.) A backlog of in-test defects prior to any delivery is an indication that the test group is lagging behind the development group's progress. All in-test defects should be scheduled to be retested prior to the next release.***
# of In-Test Defects	***Inadequate Test Staff***	***A large number of in-test defects that have not been addressed in a timely manner can be an early indication that the test staff is not adequate in size or experience.***
# of Failed Defects	***Lack of Communication between Test and Development Groups***	***A large number of failed defects could indicate that the test group and development group are only communicating through the defect tracking log.***
# of Failed Defects	***Inadequately Trained Test Staff***	***A large number of failed defects could indicate that the test staff are not trained sufficiently in the documentation of defects and are therefore not communicating the defect with enough detail to the development staff.***
# of Failed Defects	***Schedule Impact***	***A large number of failed defects may indicate that there is additional development work to be completed that may or may not***

Metric	Potential Impact	Metric Analysis
		have been accounted for in the development project plan.
# of Closed with Explanation Defects	***Lack of Communication between Test and Development Groups***	***A large number of defects that are closed with explanation may indicate that the Test and Development Groups are not communicating prior to defects being recorded in the system.***
# of Closed with Explanation Defects	***Inadequate or Insufficiently Trained Test Staff***	***A large number of defects that are closed with explanation may indicate that the testers are not sufficiently trained on the application under test, in test procedures, or are understaffed.***

Exhibit V.F-3: Technical Performance – Metrics and Potential Impact.

The following graphics are examples of SLI's communication of technical performance measures for a State client.

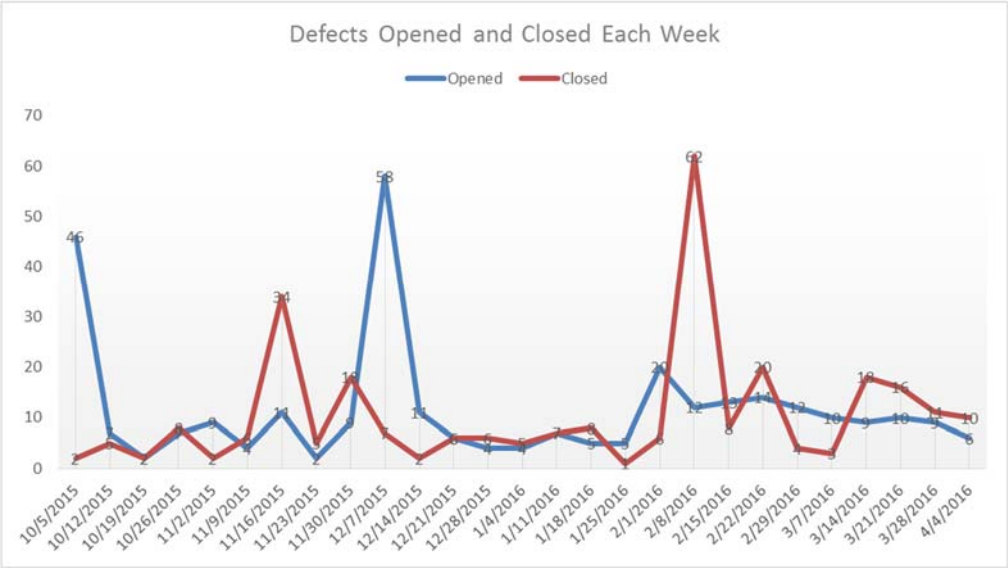


Exhibit V.F-4: Count Defects Opened and Closed Each Week. *The graph includes all severities and types. It shows gross weekly defect detections and closures.*

This graph provides insight into the balance between defect detection and resolution. A positive defect handling occurs when the close rate is consistently close to or greater than the open rate.

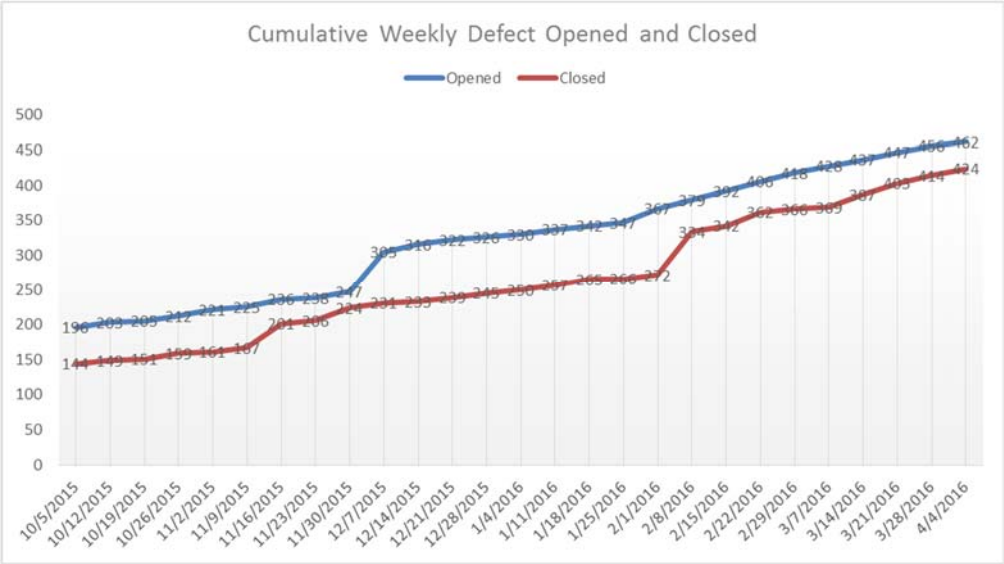


Exhibit V.F-5: Cumulative Open and Close Each Week. *The graph shows the total number of defects found and fixed. Each week the numbers grow based on new defect detection and closure.*

The two lines should follow a similar curve over the project life. A good indicator defect closure is moving in the right direction is the Closed line approaching the Opened line because closures are exceeding opens.

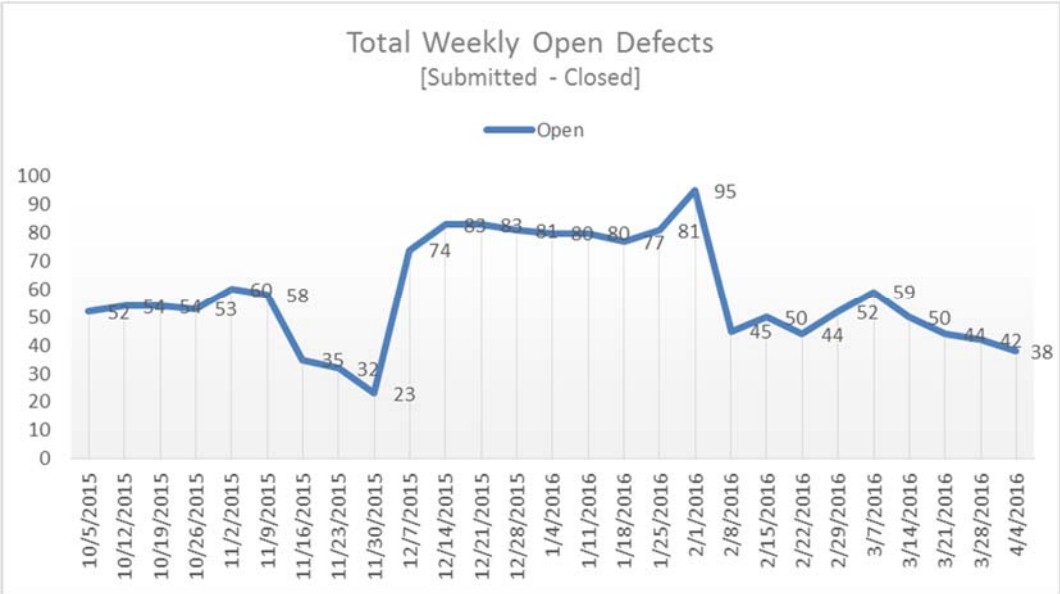


Exhibit V-F.6: Total Open Defects Each Week. *The graph includes all severities providing a snapshot in time. Each week shows the number of defects that were open that week.*

This graph usually rises to a peak, levels off, and then goes down. A good sign occurs when successive weeks consistently show fewer open defects.

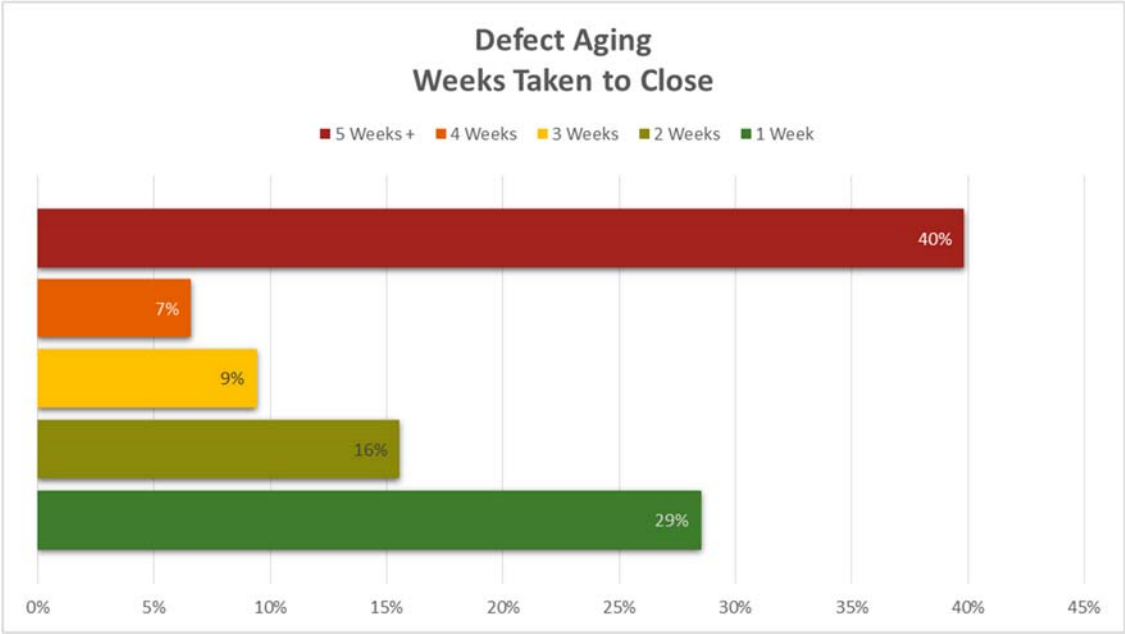


Exhibit V.F-7: Defect Aging. *The graph provides a visualization of the time defects take to close.*

It is common for defects to take from 1 to 3 weeks from detection to closure. It can be a troubling sign if defect closure is greater than 4 weeks. Project management should explain slow defect closure if the quantity exceeds 25% of all defects.

V.F.3. Performance Metrics for Agile Software Development

Agile's emphasis on working software over comprehensive documentation requires that IV&V apply metrics that are aligned with this Agile principal. SLI is currently delivering IV&V services on several Agile projects and has developed the following metrics to measure performance.

Key Metrics:

- ***Sprint Velocity-related***
- ***User Story Churn Rate Per Sprint-related***
- ***% Test Cases Passed Per Sprint-related***
- ***Defects Injected Per Sprint-related***

Metric Title	Purpose of the Metric	Reporting	Frequency of Updating the Data	Formula	Source	Owner
Required Sprint Velocity	*To refresh on Story Points delivery rate required from the Agile Development Team to complete the Release as scheduled*	*NA – used in the meeting by the team for improvement purposes*	*At the conclusion of each Sprint*	*(Total Story Points planned for the Release) – (Total Story Points delivered as of last Sprint) /*	*Metrics Tool*	*Scrum Master*

Metric Title	Purpose of the Metric	Reporting	Frequency of Updating the Data	Formula	Source	Owner
				(Sprints remaining)		
Sprint Velocity	*To track number of Story Points completed against the Plan in the current Sprint by the Agile Development Team*	*NA – used in the meeting by the team for improvement purposes*	*At the conclusion of each Sprint*	*Story Points delivered by the Agile Development Team in the last Sprint*	*Metrics Tool*	*Scrum Master*
Velocity Rate Delta	*To clarify any change in delivery rate potentially required from the Agile Development Team*	*NA – used in the meeting by the team for improvement purposes*	*At the conclusion of each Sprint*	*(Required Sprint Velocity) – (Sprint Velocity)*	*Metrics Tool*	*Scrum Master*
Velocity Rate Delta Trend Line	*To clarify the Agile Development Team's progress in addressing the Velocity Rate Delta*	*NA – used in the meeting by the team for improvement purposes*	*At the conclusion of each Sprint*	*Sprint-level increments of the trend line for the Agile Development Team's Velocity Rate Delta*	*Metrics Tool* *MS Excel*	*Scrum Master*
User Story Churn Rate Per Sprint	*To track impacts to the Agile Team's User Story Sprint Plan*	*NA – used in the meeting by the team for improvement purposes*	*At the conclusion of each Sprint*	*(Total Points due to User Story changes, in the last Sprint) / (Total User Story Points in the last Sprint's Plan)*	*Requirement Repository Tool* *Metrics Tool* *MS Excel*	*Scrum Master*
User Story Churn Rate Per Sprint Trend Line	*To clarify the Agile Development Team's burden in ongoing User Story Churn*	*NA – used in the meeting by the team for improvement purposes*	*At the conclusion of each Sprint*	*Sprint-level increments of the trend line for the Agile Development Team's User Story Churn Rate Per Sprint*	*Metrics Tool* *MS Excel*	*Scrum Master*
% Test Cases Passed Per Sprint-	*To track the ratio, for the last Sprint, of "passed" test cases to the total number of test cases developed*	*NA – used in the meeting by the team for improvement purposes*	*At the conclusion of each Sprint*	*(Test cases passed in the last Sprint) / (Test cases developed in the last Sprint) * 100*	*Requirement Repository Tool*	*Scrum Master*

Metric Title	Purpose of the Metric	Reporting	Frequency of Updating the Data	Formula	Source	Owner
% Test Cases Passed Trend Line	*To track the Agile Development Team's record for % Test Cases Passed*	*NA – used in the meeting by the team for improvement purposes*	*At the conclusion of each Sprint*	*Sprint-level increments of the trend line for the Agile Development Team's % Test Cases Passed*	*Requirement Repository Tool*	*Scrum Master*
Defects Injected Per Sprint	*To track defects, by criticality level, still open at the end of the Sprint and/or found in the Review / Demonstrations*	*NA – used in the meeting by the team for improvement purposes*	*At the conclusion of each Sprint*	*Sum of defects as described in the Purpose of this metric*	*Metrics Tool*	*Scrum Master*

Exhibit V.F-8: Agile Key Metrics.

In summary, SLI's approach to effective metrics management requires:

- ***Alignment of metrics with stakeholder objectives and concerns***
- ***Choosing metrics that are appropriate to the SDLC being used on the project***
- ***Developing metrics that are aligned with the phase of the SDLC that is occurring when metrics are being applied***
- ***Using organic project outcomes wherever possible to avoid requiring the team to capture and report data solely for IV&V***
- ***Using graphics and management dashboards to clearly communicate the health of the project***

V.G. Design and Development Processes (4.10)

Vendors shall describe the methodology, processes and tools utilized for:

The SLI IV&V Team works with the development and implementation vendor and State Staff to perform IV&V activities pertaining to the assessment of the design and development processes that the Replacement Project follows. Section V.C.3.8 of this process describes how the SLI IV&V Team performs this activity.

V.H. Configuration Management (4.11)

Vendors shall describe the methodology, processes and tools utilized for:

The SLI IV&V Team works with the development and implementation vendor and State Staff to perform IV&V activities pertaining to the assessment of the design and development processes that the Replacement Project follows. *Section V.C.3.3.8* ***of this response describes how the SLI IV&V Team performs this activity.***

V.I. Peer Review Management (4.12)

Vendors shall describe the methodology, processes and tools utilized for:

From the project documents collected and interviews of the development team, the SLI IV&V Team determines if adequate peer reviews were done by the vendor staff members.

V.J. Project Software Tools (4.13)

4.13.1 Vendors shall describe any software tools and equipment resources to be utilized during the course of the project including minimum hardware requirements and compatibility with existing computing resources as described in Section 2.4, Current Computing Environment.

Every software development environment is supported by a set of tools for coding and debugging and testing. This may include COTS and other in-house utilities. These tolls may also help support the needs for version control, automated compiling of source code, parallel testing, etc. The SLI IV&V Team works with the development vendor staff members to determine if the development process is adequately equipped with automation tools and if the development staff are using them effectively.

VI. COMPANY BACKGROUND AND REFERENCES

VI.A. Vendor Information (4.1)

VI.A.1. Vendors shall provide a company profile in the table format below. (4.1.1)

Question	***Response***
Company name:	***SLI Global Solutions, LLC***
Ownership (sole proprietor, partnership, etc.):	***Corporation***
State of incorporation:	***Delaware***
Date of incorporation:	***2015***
# of years in business:	***While SLI was incorporated in 2015 as an LLC, we have been in continuous business for over 19 years with our predecessor companies, SysTest Labs and SLI Global Solutions, Inc.***
List of top officers:	***Mark Phillips, President*** ***Steven Esposito, Senior Vice President, State and Local Government Solutions***
Location of company headquarters:	***Silver Spring, MD***
Location(s) of the company offices:	***8555 16th Street, Suite 800*** ***Silver Spring, MD***
Location(s) of the office that will provide the services described in this RFP:	***8555 16th Street, Suite 800*** ***Silver Spring, MD***
Number of employees locally with the expertise to support the requirements identified in this RFP:	***SLI does not currently have projects or staff in NV, however our parent company, GLI, has over 100 technical staff, including testers, QA specialists, and related project skills in our Las Vegas offices.***
Number of employees nationally with the expertise to support the requirements in this RFP:	***30***
Location(s) from which employees will be assigned for this project:	***8555 16th Street, Suite 800*** ***Silver Spring, MD***

4.1.2 Please be advised, pursuant to NRS 80.010, a corporation organized pursuant to the laws of another state must register with the State of Nevada, Secretary of State's Office as a foreign corporation before a contract can be executed between the State of Nevada and the awarded vendor, unless specifically exempted by NRS 80.015
4.1.3 The selected vendor, prior to doing business in the State of Nevada, must be appropriately licensed by the State of Nevada, Secretary of State's Office pursuant to NRS76. Information regarding the Nevada Business License can be located at http://nvsos.gov.

Question	Response
Nevada Business License Number:	***SLI will register with the State of NV if selected***
Legal Entity Name:	***SLI Global Solutions, LLC***

Is "Legal Entity Name" the same name as vendor is doing business as?

Yes	***XX***	No	

If "No", provide explanation.
4.1.4 Vendors are cautioned that some services may contain licensing requirement(s). Vendors shall be proactive in verification of these requirements prior to proposal submittal. Proposals that do not contain the requisite licensure may be deemed non-responsive.

Acknowledged

4.1.5 Has the vendor ever been engaged under contract by any State of Nevada agency?

Yes		No	***XX***

If "Yes", complete the following table for each State agency for whom the work was performed. Table can be duplicated for each contract being identified.

Question	Response
Name of State agency:	***N/A***
State agency contact name:	***N/A***
Dates when services were performed:	***N/A***
Type of duties performed:	***N/A***
Total dollar value of the contract:	***N/A***

4.1.6 Are you now or have you been within the last two (2) years an employee of the State of Nevada, or any of its agencies, departments, or divisions?

Yes		No	***XX***

If "Yes", please explain when the employee is planning to render services, while on annual leave, compensatory time, or on their own time? If you employ (a) any person who is a current employee of an agency of the State of Nevada, or (b) any person who has been an employee of an agency of the State of Nevada within the past two (2) years, and if such person will be performing or producing the services which you will be contracted to provide under this contract, you must disclose the identity of each such person in your response to this RFP, and specify the services that each person will be expected to perform.

N/A

4.1.7 Disclosure of any significant prior or ongoing contract failures, contract breaches, civil or criminal litigation in which the vendor has been alleged to be liable or held liable in a matter involving a contract with the State of Nevada or any other governmental entity. Any pending claim or litigation occurring within the past six (6) years which may adversely affect the vendor's ability to perform or fulfill its obligations if a contract is awarded as a result of this RFP must also be disclosed.
Does any of the above apply to your company?

Yes		No	***XX***

If "Yes", please provide the following information. Table can be duplicated for each issue being identified.

Question	Response	
Date of alleged contract failure or breach:	***N/A***	
Parties involved:	***N/A***	
Description of the contract failure, contract breach, litigation, or investigation, including the products or services involved:	***N/A***	
Amount in controversy:	***N/A***	
Resolution or current status of the dispute:	***N/A***	
If the matter has resulted in a court case:	Court	Case Number
	N/A	***N/A***
Status of the litigation:	***N/A***	

4.1.8 Vendors shall review and provide if awarded a contract the insurance requirements as specified in Attachment D, Insurance Schedule for RFP 3475.

VI.A.2. Company Background/History and Qualifications (4.1.9)

4.1.9 Company background/history and why vendor is qualified to provide the services described in this RFP. Limit response to no more than five (5) pages.

SLI Global Solutions, LLC (SLI) brings the relevant experience, a standards-based methodology, and a highly qualified professional staff that are prerequisites for meaningful IV&V engagements on complex state IT initiatives.

With a mission of "helping organizations manage their technology risk to optimize business success," SLI brings a 19-year history of offering solutions that promote quality in Government IT projects, including project management, IV&V, QA, and testing.

SLI is certified to the strict standards of ISO 9001:2008. ISO 9000 is a family of standards for quality management systems and the 'ISO 9001:2008 certified' designation validates that SLI applies formalized processes, checklists, and templates to support achieving positive outcomes on technology initiatives.

SLI has designed and executes a proprietary, standardized quality management methodology, SLI Quality Management, Methods, and Models™ or SQM³ for governing all our services and activities. To support our quality programs, SLI employs a well-defined, field-tested methodology across all projects that is tailored to the unique needs and requirements of each engagement.

SLI recently acquired The Center for the Support of Families (CSF), which adds over 30 employees with deep child support enforcement (CSE) subject matter expertise to our firm. CSF has served child support enforcement agencies in all 50 states, helping to ensure excellent customer service, efficient and effective parent locate services, paternity establishment, payment distributions, and program support from the employer community. This level of program knowledge is critical to help ensure that delivered system fulfill the ultimate needs of the state agencies and the families they serve.

SLI brings highly qualified resources to all of our engagements. Our staff is our most important asset. We carefully recruit, reward, and retain individuals who are committed to the mission of providing high quality IV&V services. SLI has a proven track record of delivering both business area subject matter experts and technology professionals on complex IT projects for government agency clients. For this project, we have selected a combination of staff with a proven track-record supporting other Child Support Enforcement systems efforts, certified in Project and Risk Management, experienced with applying and customizing our IV&V methodology, and are knowledgeable of OCSE's expectations for IV&V reporting.

SLI's Value Proposition to the Replacement Project

- ✓ ***Proven Tools and Methodologies based on Industry Standards enable repeatable, predictable product quality***
- ✓ ***Strong, Recent Qualifications performing similar work for another State Transfer of the California Child Support System provide s relevant best practices and lessons learned that reduce risk***
- ✓ ***Experienced dedicated IV&V team fluent in our methodologies and your requirements provides faster, more meaningful start-up***
- ✓ ***SLI's experience in supporting states on federal certification means Nevada is fully prepared to assist DWSS reduce risk and ensure the Replacement Project goals and objectives are met.***

SLI been providing IV&V services comparable to those described in this RFP for over 10 years. SLI is currently engaged in complex enterprise-level IT systems projects for several state agencies including Colorado, Iowa, Maryland, Mississippi, Missouri, North Dakota, Oregon, and Washington. In Oregon, SLI is providing IV&V services on their Child Support Enforcement modernization/ replacement effort, and is working closely with OCSE to identify and mitigate project risks.

SLI is committed to assisting our State clients in their efforts to procure and develop quality automated systems. A key objective of our services is to identify and mitigate risks as early as possible in the System Development Life Cycle (SDLC) to minimize their impact on our clients' projects. Our mission is the delivery of oversight and consulting services as an independent advocate for quality. SLI does not build systems and we refrain from teaming with Systems Development vendors on DDI projects to maintain our independence.

SLI brings a significant portfolio of successful state project management and assessment engagements to this endeavor** Exhibit VI.A-1, SLI Global Solutions By the Numbers, **below provides a graphical representation of the depth and breadth of our services across the nation.

Exhibit VI.A-1: SLI Global Solutions by the Numbers. *SLI has assisted 46 States with project management and oversight services in a dozen program areas, with a focus on HHS agencies proving SLI has the capabilities and capacity to deliver tier-one level IV&V Assessment Services the State of Nevada.*

Within** Section V - Statement of Work **of this Response Submission, we present our line of attack to assess the Replacement Project activities. Our ability to completely and comprehensively respond to those requirements is based not on theory or an academic approach to IV&V, but is grounded in our background and experience providing these consulting, management, and testing services to our government clients.

In this section, we summarize SLI's knowledge and experience to perform the activities related to the IV&V task areas described in your Statement of Work

VI.A.2.1. *SLI Corporate Profile – IV&V Task Area Experience*

SLI has supported dozens of engagements for state agencies in the role of IV&V since its founding in 1996. By consistently applying industry best practices, as embodied in our proprietary methodology, SLI has earned high marks from our current and former clients. SLI has direct experience performing the activities outlined in the eleven (11) IV&V Task Areas on large government IT projects that match the magnitude, nature, and complexity, scope, and skill level of the CSES Replacement Project.

VI.A.2.1.1 Project Management and Oversight

SLI brings significant experience in assessing project management on complex State IT engagements including IV&V on the Oregon CSE engagement. At a project level, SLI employs a suite of tools and standards to the assessment of the Replacement Project project management, tools, and processes. Our assessment is performed within the context of our SQM³ methodology. The SLI approach to project management and oversight is based on working in a collaborative manner with our clients and with all contractor organizations. Providing independent assessments does not negate the need for collaboration. For the Replacement Project, this alignment is refined after project initiation discussions and meetings with the IV&V Contract Manager, OCSE, and the DDI vendor. As we are doing in Oregon, SLI envisions a collaborative team approach to all tasks that have State and/or DDI vendor involvement for the overall project effort. While some tasks should remain independent to a particular group, it is critical that open and cooperative communications exist, to the maximum extent possible, between all team members. SLI not only supports, but also encourages, full collaboration between and among all project teams. The application of project-wide standards, processes, procedures and controls contribute to the collaboration between project team members, provide a framework for quality products, and support a common discipline for the preparation, review, and improvement/approval of processes and deliverables.

VI.A.2.1.2 Testing

SLI was established as a testing organization 19 years ago as SysTest Labs. To this day, we maintain a core competence in software testing and are an accredited lab under the National Voluntary Accreditation Program (NVLAP) of the National Institute of Standards and Technology (NVLAP Lab Code 200733-0). In Iowa, SLI provides a dedicated Test Manager on our Eligibility replacement project, who directs the testing efforts of the state team and oversees the plans and execution of the DDI vendor. In North Dakota, we were responsible for executing a core set of test scripts to validate results as well as assist the state with the execution of its UAT test cases. In North Carolina, we were the MMIS Project's Test Management team, responsible for preparing the Test Strategy, Test Scripts, and Test Results as well as assessing DDI contractor and client prepared Test Strategy, Scripts, and Results. In addition, SLI has conducted complete Electronic Health Record (EHR) and/or EHR Module testing for over 40 clients as an US Department of Health and Human Services' Office of the National Coordinator Accredited Test Lab (ONC-ATL).

VI.A.2.1.3 Legacy System Environments

SLI has provided IV&V, QA and Testing services on systems being migrated from virtually all legacy environments – from COBOL/VSAM to NATURAL/ADABAS to JAVA/DB2, as well as more

recent client/server environments. Our technical analysts understand the challenges and risks of migrating functionality and data from these environments to modern technical architectures. Our System Development Environment, Operations Environment, and Conversion Checklists each contain subsections that guide in the assessment of plans and other deliverables that help avoid risks in this often overlooked area of system modernization. On the Mississippi MRM Project, our IV&V Team is focusing significant attention on Data Migration and Technical Architecture; since this project is refactoring an application working in one state so that it works for three different states.

SLI is also experienced in assessing Legacy/Waterfall SDLC methodologies, as well as modern iterative and Agile SDLCs. We have recently invested in and rolled out our Agile IV&V protocol called SpARC™, which helps guide the review of projects where typical system development deliverables and artifacts are not required. SpARC has been used on our Iowa, Oregon, and Colorado projects.

5.1.1.1 CSF Profile

The Center for the Support of Families (CSF), a division of SLI Global Solutions LLC since August 1, 2016, was originally incorporated in the State of Maryland in 1991. CSF is well known as a thought leader in consulting and program redesign for health and human services agencies.

CSF's Value Proposition to The Replacement Project

- ✓ ***Nationally recognized Child Support thought-leaders***
- ✓ ***Proven Tools and Methodologies to improve Child Support outcomes and Child Support agencies' capacity to serve their customers***
- ✓ ***Leverages proven strategies for automated system training supporting child support to ensure your staff is optimally prepared to utilize NCSEAS***
- ✓ ***Strong, Recent Qualifications performing similar work for other State Child Support Programs***

CSF is composed of nationally-known experts in human services programs, especially those that relate to children and families. CSF staff form partnerships with staff in federal, state and local human service agencies to improve their ability to deliver effective and efficient services in areas of child support, welfare-to-work transition, child welfare, childcare, and other programs relating to children and families. CSF's work for children, youth, and families' places emphasis on child support, paternity and custody, child abuse and child welfare, children in poverty, adolescent pregnancy and parenting, and juvenile justice. Within these fields, CSF delivers a variety of services, including strategic planning, organizational change management for program improvement, implementation assistance, and training for policy and program delivery staff at the federal, state, and local level.

CSF offers a strong base of senior staff with vast experience in public service delivery. CSF staff have expertise in the areas of initiating and implementing operational enhancements and training human service professionals to improve job performance by using advanced program techniques, automated systems, and enhanced skills. CSF's staff and associates have worked with and for government at all levels in a variety of human service delivery organizations. In all, CSF staff have worked with state and local agencies in more than 44 states and has been engaged in work with the federal government, several national foundations, as well as numerous professional organizations. Our team includes organizational, fiscal, and management analysts; policy, legislative, service, and training specialists; data processing experts; writers, researchers, and

evaluation specialists; and conveners/facilitators. CSF's large resource bank allow us to bring the right person to the project at the right time to ensure quality and timely deliverables. We are also proud of CSF's reputation for working as part of a team with other vendors and state partners in cooperative endeavors to move projects to successful completion.

VI.A.2.1.4 CSF Areas of Relevant Expertise

Since its inception in 1991, CSF has been one of the nation's top consulting and program redesign authorities for child support, serving customers on the local, state, national, and international levels. CSF's child support consulting team consists of seasoned veterans and nationally known experts in public policy, federal and state child support law, children's rights, business process redesign, strategic planning, and CSE privatization issues. Over the years, CSF has successfully supported our customers through critical program enhancements and service delivery changes through such services as:

- ***Program Evaluation and Improvement - CSF subject matter experts work with CSE agency stakeholders to conduct in-depth analysis of service delivery systems at the local, regional and state levels, and provide detailed strategies to improve system efficiency, effectiveness, and the quality of customer service.***
- ***Training - CSF training specialists use a 5-D Instruction Design Model to provide classroom and multimedia based instruction to CSE agency workers learning new automation systems and new policies. This methodology allows CSF to work with clients and tailor programs that Define Needs, Design Curriculum, Develop Materials, Deliver Training, and Determine Success.***
- ***Legislative Policy and Gap Analysis - Analysis of existing State statutes related to the child support program and provides a comparison with federal mandates and regulations to ensure that all State child support statues explicitly met federal IV-D requirements. After the analysis, CSF develops proposed statutory language for debate and passage by the State's Legislature.***
- ***Child Support Program Improvement (BPR) - CSF brings its unique skills and experience in child support policy, operations, and systems together to assess child support programs, make recommendations for improvement in every function, and assist states and counties in implementing changes to improve service delivery. CSF has a proven methodology designed for child support programs.***
- ***Outreach and Training - CSF designs and delivers targeted training on policy and process to a wide audience of child support professionals and stakeholders. Using a 5-D training methodology and modeling training on real world experience, CSF training has been conducted in programs across the nation. CSF also has a proven track record of designing and implementing outreach campaigns for implementation of new programs with audiences including employers, courts, hospitals, health care organization, and the public.***
- ***Strategic Planning - Strategic planning consultation for federal, state and local child support programs through the development of a multi-year strategic plan that encompasses the national vision for the program and each jurisdiction's unique characteristics.***

- ***System Consulting Services* - CSF uses its Life of the Case™ System Design and Testing Model, a structured approach that organizes requirements analysis, design, testing, and implementation support in a logical sequence by program and functional areas.**

VI.A.2.2. *Experience Summary Table*

Exhibit VI.A-2, SLI's Projects and IV&V Task Areas of Experience Comparison, ***below provides a representative summary of SLI's recent and ongoing contracts where the task areas are identical or substantially similar to the Replacement Project.***

Client	Project	IV&V Tasks										
		IV&V Project Management	Project Management	Quality Management	Training	Requirements Management	Operating Environment	Development Environment	Software Development	System & Acceptance Testing	Data Management	Operations Oversight
Alabama Medicaid Agency	*Eligibility and Enrollment IV&V/QA*	✓	✓	✓		✓		✓	✓	✓		✓
Alabama Department of Human Resources	*Statewide Automated Child Welfare Information System IV&V/QA*	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
California Consortium (C-IV), Joint Powers Authority	*Statewide Automated Welfare System, Consortium Migration Project QA*		✓	✓				✓	✓	✓	✓	
Colorado Department of Labor and Employment	*Unemployment Insurance System IV&V*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Iowa Department of Human Services	*Integrated Eligibility (ELIAS) QA*	✓	✓	✓		✓	✓	✓	✓	✓	✓	
Louisiana Department of Children and Family Services (DCFS)	*One DCFS Transformation (CAFÉ, Legacy Replacement, Document Imaging & Content Management, and Customer Service Center) QA*	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Maryland Department of Information Technology	*Unemployment Insurance Modernization Independent Assessment Services IV&V*	✓	✓			✓	✓	✓				
Missouri Department of Labor & Industrial Relations	*Unemployment Insurance Modernization Oversight and Technical Audit*	✓		✓		✓		✓	✓	✓	✓	
Michigan Department of Technology and Business Management	*Business Application Modernization – Vehicle Registration and Driver License IV&V*	✓	✓	✓		✓	✓	✓	✓	✓	✓	
Mississippi Division of Medicaid	*Electronic Health Records (MEHRS/eScript) IV&V*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Client	Project	IV&V Tasks										
		IV&V Project Management	Project Management	Quality Management	Training	Requirements Management	Operating Environment	Development Environment	Software Development	System & Acceptance Testing	Data Management	Operations Oversight
North Dakota Department of Human Services	*Medicaid Project System IV&V*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oregon Department of Justice	*Child Support Enforcement System Modernization - CSEAS 2.0 IV&V*	✓	✓	✓		✓	✓	✓	✓	✓	✓	
Pennsylvania Department of Labor & Industry	*Unemployment Modernization Project IV&V*					✓	✓	✓	✓	✓		
Washington Department of Social and Health Services / Health Care Authority	*ProviderOne / Medicaid Management Information System IV&V*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wyoming Department of Health	*Pharmacy Benefit Management System / MMIS IV&V*	✓	✓			✓	✓	✓	✓	✓		
The Center for Employment Security Education and Research	*Mississippi, Rhode Island, Maine Unemployment Insurance Consortium IV&V*	✓	✓				✓			✓	✓	

Exhibit VI.A-2: SLI's Projects and IV&V Task Areas of Experience Comparison. *A representative summary of SLI's recent and ongoing contracts where the task areas are identical or substantially similar to the Replacement Project IV&V Services requirements.*

VI.A.3. Length of Time SLI has been Providing RFP Services (4.1.10)

4.1.10 Provide a brief description of the length of time vendor has been providing services described in this RFP to the public and/or private sector.

SLI has over ten years of experience specifically providing IV&V and QA services as described in this RFP to State programs across the nation. SLI's experience spans CSES, MMIS, Eligibility and Enrollment and Transportation implementations.

Our assessments have addressed all phases of the SDLC as well as both waterfall and Agile development methodologies. SLI excels in providing IV&V, QA, and Test Oversight including UAT, functional testing, test automation and load and performance testing for State clients. In addition, SLI is well versed in working with OCSE on CSE modernization projects. We highlight three recent IV&V projects where SLI served as the IV&V provider below.

VI.A.3.1. *Recent Relevant IV&V Projects*

E.13.1.2 Bidder shall submit descriptions of the last three (3) projects awarded to Bidder that were the same or similar to the Project described in this Solicitation and descriptions about past and current contracts that Supplier considers relevant in demonstrating its experience. Descriptions of Bidder"s contracts with
other state health and human services programs, if any, are especially encouraged.

During 2015 and 2016 SLI has achieved significant success in winning new HHS IV&V contracts. This increase in new business is a testament to our ability to deliver value-add services on existing contracts and provides us with confirmation that our efforts to align our methodologies with modern software development approaches and changing federal requirements is finding traction in the HHS marketplace. SLI provides brief descriptions of three recently awarded large state HHS IV&V contracts that are highly relevant to the specifics of the Replacement Project IV&V Project. These include:

- ***Oregon's CSEA 2.0 – Child Support Replacement Project***
- ***Colorado DOT Program, Project and Cash Management Solution (PPCM) IV&V***
- ***North Dakota MSP IV&V***

VI.A.3.1.1 Oregon's CSEA 2.0 (aka ORIGIN) – IV&V of Child Support Replacement System

Department of Administrative Services / Department of Justice 09/2015 – Present

Oregon's DAS, acting on behalf of the State's Department of Justice (DOJ), Division of Child Support Enforcement has selected SLI to deliver Independent Verification and Validation (IV&V) services for the Child Support Enforcement Automated System (CSEAS) Project. DAS/DOJ in consultation with the federal Office of Child Support Enforcement (OCSE) has chosen an IV&V approach that calls for periodic "health checks" of the project, where SLI core staff and subject matter experts review the management and development processes and products that are specific to each phase of the System Development Life Cycle on a semi-annual basis.

DOJ manages and operates the Child Support Enforcement (CSE) program that manages over 230,000 cases and collects in excess of $350 million in payments. To modernize their program, the Agency has selected a hybrid approach to CSEAS implementation that has at its core, a modern production proven certified child support system from California, and integrates components from Michigan's and New Jersey's systems. Integration of these three components into a single CSEAS for Oregon requires a system development approach that leverages the donor systems technical assets. SLI has worked on several State IT projects that utilized a state system transfer and will apply lessons learned in customizing its IV&V services for the CSEAS project.

SLI IV&V Team is providing DAS/DOJ and OCSE with a longitudinal assessment of the quality and risks associated with this highly complex system development and implementation effort. The scope of work includes IV&V Project Management, and assessments of Planning Oversight, Project Management, Quality Assurance, Training, Requirements Management, Security Requirements, Operating Environment, Development Environment, Software Development, System and Acceptance Testing, Data Management, and Operations Oversight is done in such a manner that the delivered CSEAS meets the functional and technical requirements of the State and federal government. For each 6 to 8-week assessment cycle, SLI's IV&V Team reports their findings and recommendations simultaneously to the State and OCSE providing truly independent assessments as well as transparency to the status of the project to all parties.

As the project progresses to the development and deployment phases, SLI focuses on the security and privacy aspects of the system. The SLI team assesses and recommends improvements, as needed, to assure application code, data, and facilities are adequately protected through review of design documents, test plans, test execution deliverables, and disaster recovery/business continuity plans and tests.

SLI IV&V Deliverables include:

- ***IV&V Management Plan***
- ***IV&V Checklists***
- ***Initial IV&V Review Report***
- ***Periodic IV&V Review Reports***
- ***IV&V Management Briefings (Department, Agency, Project, and OCSE)***
- ***IV&V Status Reports***
- ***Deliverable Observation Reports (DOR) (As needed)***

Relevance to the Replacement Project IV&V engagement:

- ***OR CSEA 2.0 includes the IV&V of Legacy Child Support System Replacement – this same scope is part of the Replacement Project IV&V***
- ***Like the Replacement Project IV&V, OR CSEA has Federal OCSE Reporting and Certification Requirements***
- ***SLI's IV&V of OR CSEA 2.0 is a bi-annual periodic assessment model, like the Replacement Project IV&V***

VI.A.3.1.2 Colorado Department of Transportation, Program, Project and Cash Management Solution (PPCMS) IV&V.

SLI is providing periodic IV&V assessments for the CDOT's Colorado Program, Project and Cash Management Solution (PPCMS) Project. This PPCMS project consists of the implementation and configuration of a third-party software package and complimentary changes to state processes used to develop and manage major capital construction projects.

SLI is responsible for the assessment of project deliverables, documentation, and work plans submitted by the project vendor and process changes proposed by the state to improve project planning and cash management in conjunction with the configuration and implementation of the software package. SLI's IV&V Team develops findings and recommendations intended to reduce risk and ensure that the application configuration and state process changes remain in scope, on schedule, and on budget.

SLI interviews and observes PPCMS Project Management staff, the PPCMS Project Development Contractor staff; observe project meetings and activities to understand the processes, procedures, and tools used in the Program and Project environments. Additional activities include monitoring and evaluating vendor and state success in managing the software configuration and process changes to mitigate project risks. SLI also helps ensure that appropriate analytical data is captured for the production of necessary reporting to demonstrate compliance with federal and state financial and environmental regulations.

SLI's IV&V Tasks areas include Project Management; Risk Management, Change Management; Communication Management; Configuration Management; Project Estimating and Scheduling; Quality Management; Training; Requirements Management; Operating Environment; Development Environment; Software Development; System and Acceptance Testing; Data Management; and Operations Oversight.

SLI IV&V Deliverables include:

- ***IV&V Management Plan***
- ***IV&V Checklists***

- ***Initial IV&V Review Report (Draft and Final)***
- ***Periodic IV&V Review Reports (Draft and Final)***
- ***Monthly Status Reports***
- ***Formal debriefing presentation(s)***
- ***Deliverable Observation Reports***
- ***Archive Documents***

VI.A.3.1.3 North Dakota MSP IV&V

The North Dakota Medicaid Systems Project (ND MSP) is a replacement of the legacy Medicaid Management Information System (MMIS), Pharmacy Point of Sale, and Data Warehouse. ND MSP is being created through a full software development lifecycle, beginning with requirements determination through Joint Application Design sessions and ending with delivery of a custom web-based software application for North Dakota.

SLI is providing full-time IV&V for the replacement of the legacy MMIS and Pharmacy Point of Sale pieces. During the duration of the contract, SLI has provided oversight on the Data Warehouse requirements.

The SLI IV&V Team provides detailed recommendations for organizational, process, and artifact changes to achieve successful implementation within CMS, HIPAA, and North Dakota guidelines.

SLI IV&V tasks and activities for this project include:

- ***Conduct requirements review and prioritization***
- ***Identify, track, and report risks / issues***
- ***Review the DDI vendor's system test plan, monitor testing activities, and perform batch job and interface test planning***
- ***Monitor ND's UAT activities and recommend improvements***
- ***Manage the defect tracking process for both ND's and the DDI vendor's testing activities***
- ***MMIS operational readiness planning and related testing***
- ***North Dakota organizational readiness planning and related testing***
- ***Provider enrollment operational readiness planning and related testing***
- ***Perform implementation cutover and transition planning and preparation***
- ***Review all test scripts submitted by the DDI vendor, and overseeing testing staff as they execute the end-to-end test scripts***
- ***Identify opportunities for ND staff to execute specific test scenarios.***
- ***Monitor processes to identify, track, and resolve defects, after which all modified system functionality is retested***
- ***Conduct CMS Certification readiness planning and provide support for CMS reviews***

"SLI has been a tremendous help as the IV&V vendor in review and evaluation of project process, documents, and reports. They have provided an independent review of project issues and risks as well as recommendations to reduce these issues and risks. They have provided necessary staff and assistance to help the State with project activities. Their leadership role has been a great advantage and help to the State."

Karalee Adam
ND MSP Project Manager

SLI IV&V deliverables for the duration of this project include:

- ***Deliverable Reviews:***
  - ***Reviews of all Documents / Deliverables from all participating vendors from the inception of the project (2007), to include recommendations for state acceptance or rejection of submissions. This effort started with the initial submission of each vendor's multiple management plans and has continued through all phases of the SDLC.***
  - ***Review and coordinate multiple vendors' plans and processes to ensure coordination of efforts between vendors to maintain schedule and requirements.***
- ***Formal Assessments:***
  - ***Reviewed and assessed the Technical Environment Plan. This looked at the adequacy of the proposed infrastructure solution (hardware and software) and how the vendor proposed infrastructure updates and changes guided initial 4010 to 5010 and ICD9 to ICD10 impact assessments, with recommendations for ND state strategy for coordination of implementation of the new MMIS with 5010 and ICD-10 requirements.***
  - ***Interface strategy assessment (both internal ND systems, and external systems).***
  - ***Data conversion strategy assessment.***
  - ***ND ITD (state information technology) readiness assessments.***
  - ***MITA compliance review.***
  - ***Generation of MFR (Memoranda for the Record) as necessary as IV&V identified critical project issues.***
  - ***Assessment of processes proposed by MMIS vendor for execution of System Integration Test, UAT, and reporting of associated defects from each phase of the testing lifecycle.***
  - ***Periodic review of the MMIS vendor's solution, specifically evaluating whether the product modifications proposed by the MMIS vendor were adequate to meet ND specific requirements.***
- ***Continuous Improvement:***
  - ***SLI recommended, and the state instituted, a third-party source code review after repeated project delays to ensure that code from the MMIS vendor was being developed to required standards and to provide additional visibility into development process maturity.***
  - ***SLI determined that initial deliverables from the MMIS vendor, especially those related to requirements and testing, were inadequate. In these cases, we provided further specification and training both for state and vendor personnel on what constitutes adequate documentation.***
  - ***The SLI IV&V Team provided training to ND state personnel in all aspects of the SDLC***

- ***Presentations were given to DHS senior management, legislative committees and state legislature as needed.***
- ***SLI conducted a functional assessment of MMIS Enterprise product onsite at vendor's facilities.***
- ***SLI conducted ongoing assessments of vendor adherence to the state approved management plans.***
- ***Assessments of MMIS vendor proposal for ND Post-Implementation support and licensing were conducted at the request of the state.***

- ***Technical Requirements:***
  - ***The SLI IV&V Team actively participated and evaluated JAD sessions and design walkthroughs conducted by the MMIS vendors. In many cases, SLI personnel moderated these JAD sessions.***
  - ***The SLI IV&V Team evaluated materials coming out of the JAD sessions, and requested significant improvements in the documentation of requirement changes. Our guidance directly led to the DDI standardizing design artifacts and implementation of rigorous revision control standards.***
  - ***The SLI IV&V Team evaluated all vendors' approaches to management of ND requirements (included DSS, DW and ND state processes), including full traceability of individual requirements from inception through final validation testing.***
  - ***The SLI IV&V Team's recommendations to MMIS vendor for content changes ensured adequate development and maintenance of the Requirement Traceability Matrix.***
  - ***SLI constructed a tool to align specific ND requirements with CMS Certification checklists and the MITA maturity model.***
- ***Other Services:***
  - ***IV&V services were expanded to include providing guidance in the creation of the Disaster Recovery and Business Continuity Plans required in advance of CMS certification.***
- ***Operational Readiness Testing (ORT):***
  - ***Providing structure for ORT processes including information about the roles, relationships, environment, tools and techniques, test plans, and execution of procedures***
  - ***The ORT tests the ability of the Department of Human Services (DHS) and NDMSP contractors as appropriate to utilize the new systems when performing operational tasks and verifies operational readiness for implementation.***
  - ***The ORT tests whether operational procedures are adequate to allow a smooth transition to live processing***

The new North Dakota Medicaid Project System was implemented on October 5, 2015. The State had set an internal goal of achieving certification within 9 months' post Go Live. The MMIS

certification process requires a minimum of two full quarters of operational reporting prior to the formal certification review. In support of this effort, Xerox/Conduent (as the DDI vendor) and North Dakota have initiated the effort to collect artifacts and prepare checklists covering all areas of the MMIS.

In preparation for the federal certification review, SLI is working closely with the Department of Human Services to identify and review each of the required artifacts, including the requirements traceability matrix, claims payment cycle data, operational reports, and all the supporting documentation for the certification functional area checklists. SLI provides a comprehensive assessment of each deliverable and artifact to ensure that the certification documentation is complete, correct, and organized properly to facilitate the certification process. Documentation includes reports, system screen shots and other proofs of compliance.

SLI will lead the ND State team activities to review and assemble the required documentation for the CMS reviewers' site visit. In addition to assembling the documentation, the SLI team works with the ND MMIS functional area approvers to prepare presentations that demonstrate the system and business functionality for each area and for the MMIS as an integrated system. SLI is remaining onsite during the CMS certification site visit to provide assistance and conduct certification IV&V.

VI.A.4. Financial Information for Part III – Confidential Information (4.1.11)

4.1.11 Financial information and documentation to be included in accordance with Section 11.5, Part III – Confidential Financial Information.
4.1.11.1 Dun and Bradstreet Number
4.1.11.2 Federal Tax Identification Number
4.1.11.3 The last two (2) years and current year interim:
A. Profit and Loss Statement
B. Balance Statement

The information requested in 4.1.11 has been provided as requested within PART III – Confidential Financial Information.

VI.B. Subcontractor Information (4.2)

4.2 Subcontractor Information
Subcontractors are defined as a third party, not directly employed by the contractor, who shall provide services identified in this RFP. This does not include third parties who provide support or incidental services to the contractor.

4.2.1 Does this proposal include the use of subcontractors?

Yes		No	***XX***

If yes, vendor shall:

4.2.1.1 Identify specific subcontractors and the specific requirements of this RFP for which each proposed subcontractor shall perform services.

4.2.1.2 If any tasks are to be completed by subcontractor(s), vendors shall:
A. Describe how the work of any subcontractor(s) shall be supervised, channels of communication shall be maintained and compliance with contract terms assured; and
B. Describe your previous experience with subcontractor(s).

4.2.1.3 Provide the same information for any proposed subcontractors as requested in *Section 5.1, Vendor Information*.

4.2.1.4 Business references as specified in *Section 5.3, Business References* shall be provided for any proposed subcontractors.

4.2.1.5 Provide the same information for any proposed subcontractor staff as specified in *Section 5.4, Vendor Staff Skills and Experience Required*.

4.2.1.6 Staff resumes for any proposed subcontractors as specified in *Section 5.5, Vendor Staff Resumes*.

4.2.1.7 Vendor shall not allow any subcontractor to commence work until all insurance required of the subcontractor is provided to the vendor.

4.2.1.8 Vendor shall notify the using agency of the intended use of any subcontractors not identified within their original proposal and provide the information originally requested in the RFP in *Section 5.2, Subcontractor Information*. The vendor shall receive agency approval prior to subcontractor commencing work.

4.2.1.9 All subcontractor employees assigned to the project shall be authorized to work in this country.

VI.C. Business References (4.3)

4.3.1 Vendors should provide a minimum of three (3) business references from similar projects performed for private, state and/or large local government clients within the last three (3) years.

SLI has a rich portfolio of referenceable clients who can and have attested to the quality of our work, staff and findings. We have carefully selected the following three projects to serve as our references for the State of Nevada based on their similarity to the tasks and deliverables required to provide IV&V services for the Replacement Project.

Reference questionnaires were sent to the following clients. SLI has received verification from all business references verifying they have completed and submitted Attachment E: Reference Questionnaire to the State of Nevada. SLI encourages the evaluation team to contact these and any other SLI clients regarding the quality of service delivery. We are confident they will attest to our expertise in providing value-add IV&V of complex state IT projects.

Agency / Project	Business Reference POC
Oregon Department of Administrative Services (DAS) ***Independent Verification and Validation (IV&V) services for the Child Support Enforcement Automated System (CSEAS) Project***	***Oregon Department of Administrative Services (DAS)*** ***1225 Ferry Street, U140*** ***Salem, OR 97301-4285*** ***Karen Coleman / (971) 915-5175*** ***karen.coleman@state.or.us***
Colorado Department of Transportation (CDOT) ***Independent Verification and Validation (IV&V) services for the Program, Project and Cash Management Solution (PPCMS) Project***	***Governor's Office of Information Technology*** ***4201 E Arkansas Ave, Suite 164,*** ***Denver, CO 80222*** ***Brian Banks, PMP, CSM, ITIL / (303) 757-9651*** ***Brian.Banks@state.co.us***
North Dakota Department of Human Services ***Independent Verification and Validation (IV&V) services for North Dakota Medicaid Systems Project (ND MSP)***	***ND Department of Human Services*** ***3451 North 14th St.*** ***Bismarck, ND 58503*** ***Karalee Adam / (701) 328-4884*** ***kadam@nd.gov***

Exhibit VI.C-1: SLI Past Performance References. *Business references for SLI.*

VII. ATTACHMENT H – PROPOSED STAFF RESUME(S)

10.2.2.7.A Vendors shall include all proposed staff resumes per *Section 4.5, Vendor Staff Resumes* in this section.
10.2.2.7.B This section shall also include any subcontractor proposed staff resumes, if applicable.

VII.A. Staffing Approach

Nevada needs an IV&V partner that can deliver real value to the CSES Replacement Project through the application of a certified methodology and the early identification of risks. First, your IV&V partner must supply a proven approach for accomplishing the full scope of work envisioned by the RFP, helping the State to deliver the project successfully, on-time and on-budget. Second, the use of systematic, industry accepted and standards-based processes and methodologies is equally important to dependable IV&V services. Last, and perhaps most important, the personnel assigned to the project need to have the necessary experience, acumen, and skill sets to apply those approaches, processes and methodologies to the specifics of your CSES Replacement Project. SLI brings a solid staffing approach, backed by relevant experience, credentials, and highly qualified professionals in our delivery of IV&V services to Nevada.

The SLI IV&V staffing approach offers the following benefits:

- ***Flexibility to Meet the Dynamic Needs of the Project. Our approach provides for a combination of project management, IV&V and CSE subject matter experts to help ensure that Nevada's and OCSE's stated requirements are met. In addition, because of the duration of the project, our organizational structure has identified backup staff for key positions. SLI's CSF Division has a long-standing relationship with OCSE where we are providing technical assistance and training services.***
- ***Direct and Relevant Experience with IV&V and CSE Projects. SLI is proposing a talented, experienced, and accomplished team of consultants. All our team members have supported large engagements providing services on projects with similar scope and size as the CSES Replacement Project. SLI's IV&V Team brings experience gained on the Oregon CSEAS project where we are providing the exact IV&V services as Nevada is requesting. We will apply the lessons learned from Oregon in Nevada, which will allow our team to begin providing real value starting on Day One.***
- ***A Team of Subject Matter and Technical Experts. SLI is delivering Child Support Subject Matter Experts recognized for their broad knowledge of all aspects of the program. Specific areas of expertise include detailed knowledge of federal regulations and child support system certification requirements, distribution and disbursement of payments, business process analysis and improvement, and training. Our Technical team members have experience with Waterfall and Agile SDLCs and have had direct involvement with the development of CSE systems and transfer solutions, specifically the transfer of the California system that is currently being deployed and customized in Oregon.***

SLI's proposed team of IV&V professionals meet or exceed the years of experience required to effectively perform this project. All our proposed staff are seasoned professionals with years of experience working with State clients and their federal partners.

The selection and assignment of SLI's IV&V Project staff began with a thorough assessment of the Nevada RFP and our solution to your response. The RFP requirements were synthesized into a detailed Project Schedule. Initially, the tasks are driven by the IV&V RFP and our experience allowing us to align with, at a high level, the tasks of the DDI Contractor. Using past experiences and best practices, we load the project schedule to ensure the correct resources are assigned at the right time. For the Nevada project, we propose a team of four (4) positions.

SLI understands that a diversified team helps ensure the success of our engagements by having all the necessary skills and capabilities readily available throughout the entire engagement.

SLI's proposed IV&V Team has been selected from our pool of qualified resources due to the close alignment of their skills and abilities with specific Replacement Project IV&V tasks, activities, and deliverables. We are committed to delivering the staff we have proposed, in Carson City, for as long as they are needed. Each member of our proposed team has dedicated large portions of their careers to managing and supporting human service programs and the information technology project/tools that enable effective service delivery.

We understand staff consistency is important, so that institutional knowledge is not lost from one review cycle to the next. In addition, we appreciate the shifting demands over the course of a major project. Therefore, should additional staff be required we have the company stability, staff and resources to respond to the projects' requirements.

SLI has assembled an exceptional team that collectively provide the wide range of business and technical expertise required for this engagement. Our team brings the precise balance of skill sets needed to support DWSS across the entire lifecycle of each component of the Replacement Project. From planning to solution development and implementation to maintenance and operations SLI's flexible and responsive staffing approach ensures we have the right people on the ground in Caron City at the right time to support the State of Nevada in achieving the goals and objectives of the Replacement Project.

Our team is excited about the opportunity to deliver value-added IV&V services on the Replacement engagement.

VII.A.1. Key Personnel

12.3.18 Key Personnel

SLI proposes the following IV&V professionals as key personnel:

- ***IV&V Project Manager*** — ***Carl Blanchette***
- ***Senior Subject Matter Expert*** — ***Barry Blackburn***
- ***Senior IV&V Analyst*** — ***Jon Kanas***
- ***IV&V Technical Analyst*** — ***Owen Plaster***

We are confident that this team has the skills to address NV requirements. Mr. Blanchette is the IV&V project manager for the Oregon CSEAS project. Mr. Blackburn has been consulting in the Child Support Enforcement space for over 25 years and brings a remarkable breadth and depth of knowledge in CSE, which he is applying on the Oregon CSEAS Project. Mr. Kanas is also working on the Oregon CSEAS project where he is the Senior IV&V Analyst responsible for creation and maintenance of the checklists, building out the monthly and periodic review reports, and oversight of the implementation and rollout processes. Finally, Mr. Plasters' expertise in oversight of the development, conversion and testing process makes him invaluable in ensuring

that the requirements are adequately documented, implemented and tested. He has experience working on two CSEAS projects during his career.

SLI ensures that all key personal roles are filled throughout the contract. SLI recognizes the State reserves the right to approve key personnel assigned to the Contract as well as request removal of any Contractor staff and/or subcontractor staff, if applicable. SLI agrees to all provisions for replacement as detailed in the RFP in Section 12.3.18.2. SLI agrees that key personnel are critical to the performance of the contract and, therefore, the State has the right of refusal for any personnel replacements, substitutions, or reassignments of duties of key personnel assigned to the IV&V contract.

VII.A.2. Team Structure

The organization chart for our proposed CSE Replacement project IV&V Team is illustrated in *Exhibit VII.A-1: SLI's IV&V Team Organization Chart.*

Exhibit VII.A-1: SLI's IV&V Team Proposed Organization Chart.

We are confident that our proposed team possesses the expertise to support the CSE Replacement project and are committed to stay the course over the six (6) year time frame on the contract. DWSS can be confident that SLI's IV&V Team is ready to deliver value-added IV&V on day one and every day after contract award. SLI's staffing model relies on full-time SLI employees, not consultants or 1099 subcontractors. Every member of our team is experienced in delivering on Child Support Enforcement projects and is an expert in configuring our SQM³ methodology to the specifics of the Replacement Project engagement.

In the following narratives, we are pleased to introduce the skills and experience of the SLI IV&V Team.

VII.A.2.1. *Carl Blanchette – IV&V Project Manager*

"As the IV&V Project Manager on the Replacement Project IV&V project, I am eager to bring my recent experience obtained from SLI's Oregon CSEAS project leading our IV&V Team and ensuring all IV&V tasks and activities are completed. I not only bring years of senior leadership and CSE experience, but also my commitment to the child support enforcement program objectives to Nevada."

- *25+ years Child Support (Title IV-D) Leadership Roles in Public and Private Section across 13 States*
- *Nationally Recognized for Child Support Program Knowledge*
- *Deep knowledge of CSE certification requirements*
- *Current IV&V Project Manager for Oregon CSES IV&V Project*
- *PMP Certified*

Carl Blanchette has 30 years of senior leadership experience in both the public and private sector specializing in the Human Services fields. He has over 25+ years Child Support (Title IV-D) of Public and private sector leadership roles in 13 states. Carl is nationally recognized for his broad knowledge of all aspects of the child support program, his ability to develop and implement creative solutions and as a problem solver. Specific areas of expertise include detailed knowledge of federal regulations and child support system certification requirements, business process analysis and improvement, testing, training, organizational change management, quality assurance, team leadership, strategic planning, contracts, staff management and project management.

Carl's experience includes Eligibility (Title IV-A) Quality Assurance and Project Management Office roles as well as welfare fraud and recoupments.

Carl is PMP certified with an emphasis in Project Management Office Operations and Quality Assurance.

His Government software development experience includes:

- ***Child Support Federal Certification Review preparation – Michigan, Missouri and Hawaii***
- ***Review of Child Support Programs in 13 States***
- ***Requirements & Design Michigan Child Support, Massachusetts, Idaho, Missouri***
- ***Quality Assurance Michigan Child Support, Colorado Eligibility, Oregon Child Support Enforcement***
- ***Project Management Office duties North Dakota, Colorado, Texas, Oregon***
- ***Quality Assurance-testing North Dakota, Wisconsin, California and Florida***
- ***RFP Development in MN and MA***
- ***Medicaid Eligibility System North Dakota***

VII.A.2.2. *Barry Blackburn – Senior Subject Matter Expert*

"I come to Nevada with years of consulting and direct state experience in child support. Recently I have utilized my knowledge of Child Support Enforcement Systems to assist with IV&V of the Oregon CSEAS project. I have a genuine commitment to ensuring NCEAS is a useful tool for all users."

- *30+ years HHS Program Experience*
- *HHS projects in 25 States*
- *Currently performing IV&V Tasks for Oregon CSES*
- *Expertise in child support program policy, procedures, workflow and overall operations*

Mr. Blackburn has provided training and technical assistance to more than 25 states in a variety of human service programs, including child support, child welfare and child protective services. He has managed numerous automated system training engagements in child support and child welfare, including the design, development and delivery of training. He has also performed several child support program assessments, including analysis of policies, procedures, workflow, and overall operations.

Mr. Blackburn has written numerous research-based project reports, training and user manuals.

Barry is a member of the Western Interstate Child Support Enforcement Council. He developed the following publications:

- ***McMahon, Patricia, and Barry Blackburn. Getting Off the Ground: Early Implementation Findings About Child Support Enforcement, Head Start, and Child Care Collaboration Demonstrations. Washington, D.C.: American Institutes for Research, March 2000.***
- ***"Reagan's AFDC Policy Changes: The Georgia Experience", Wodarski, John S., Parham, T.M. Jim, Lindsey, Elizabeth W., Blackburn, Barry W., Social Work, Vol. 31, Number 4, July 08/1986.***

VII.A.2.3. *Jon Kanas - Senior IV&V Analyst*

"As Senior Technical Consultant for the Oregon Child Support system replacement effort, I reviewed and assessed overall project health and performance and periodically reported to OSCE. My specific experience with CSE system requirements and testing issues would be particularly relevant my role as a Senior IV&V Analyst on the CSES Replacement project."

- *30+ years IT System Experience*
- *10 years IV&V Experience on State IT Systems*
- *Currently performing IV&V Tasks for Oregon CSES*
- *PMP, ISTQB and CTFL Certified*
- *Certified Risk Management Expert (CRISC)*

Jon has significant and diverse experience Independent Verification and Validation, Risk Management, Competitive Assessments; requirements analysis/validation/testing; and total cost of ownership (TCO).

Jon has been engaged as Senior Technical Consultant for the Oregon Child Support system replacement effort (OR CSEAS), replacing the existing Oregon Child Support system with transfer systems from California (Child Support Processing), Michigan (Data Warehouse) and New Jersey (Document Generation). Activities include review and assessment activities of the overall project health and performance periodically reported to OSCE and OSCIO.

Jon Kanas is certified in Risk and Information Systems Control (CRISC), and is PMP, ISTQB, and CTFL certified Senior Consultant with more than 30 years of experience in Risk Management IV&V, IT Process Best Practice, and Benchmarking.

Other IV&V engagements where Jon has been tasked with the IV&V assessments include three projects with the Colorado Department of Transportation, State of Washington DSHS, and North Dakota DHS. Activities include monitoring and evaluating vendor and state success in managing software implementation efforts and mitigating related ongoing project risks.

Prior engagements include State of Iowa, Medicaid Integrated Data Administration Solution (MMIS replacement) as the State Risk Manager (Iowa state management team supplemental personnel). In that role he ensured that risks and issues are identified, documented and continuously tracked using the state-approved tools.

VII.A.2.4. *Owen Plaster –IV&V Technical Analyst*

"As IV&V Technical Analyst, I review and assess overall project health and performance. My specific experience with Child Support Enforcement system requirements, development, and testing issues would be particularly relevant to my role as a Senior IV&V Technical Analyst on the Replacement Project IV&V project. I bring a wealth of relevant Lessons Learned from my experience technical analyst and programmer on Arizona's and Minnesota's CSE systems."

Over thirty-five years of experience in Information Technology covering all aspects of application development, SDLC methodologies and technical environments for business and government applications. Experienced predominately in the roles of business analyst, technical architect, data analyst and process and data modeler. Experience includes mainframe, distributed and web, providing enhanced expertise in interfaces and data conversion.

- *20+ years HHS Technology Experience*
- *SDLC/SCRUM/Agile Master*
- *CSE SDLC experience including design, code, job control & testing*
- *Certified Agile SCRUM master*

Owen has Child Support experience in all business areas from both a business and technical standpoint and was the technical architect for building Arizona's ATLAS II child support system, which was federally certified in 1996 and subsequently transferred to Minnesota.

The State of Nevada and the Stakeholders of the Replacement Project benefit from Owen's qualifications:

- ***SDLC/SCRUM/Agile Master***
- ***CSE development experience including design, coding, job control, and unit testing***
- ***Over 20 years of experience with health and human services technology projects***
- ***Experienced Technical Architect, Database Administrator, Data Analyst, Systems Programmer, Application, Tester, and Technical Trainer***
- ***Knowledgeable in assessing data conversion and interface testing strategies***
- ***Certified SCRUM Master (CSM), 2014***

VII.A.2.5. *Staffing Level and Expertise*

. B. The Contractor must provide sufficient staffing and expertise to support the proposed IV&V project team structure for this engagement and to address the specific project environment, strategy and planned implementation approach.

VII.A.2.5.1 Staff Roles and Responsibilities

Our IV&V Team are experienced with their defined roles and responsibilities on an IV&V project of the scope defined within the RFP. We detail our staff roles and responsibilities on the project in** Exhibit VII.A-2: SLI Staff Project Roles/Responsibilities **and map the primary and secondary owners of the deliverables and phases in** Exhibit II.B-3**:

Resource Name/Title	Project Role/Responsibilities
Carl Blanchette ***IV&V Project Manager***	***Carl, as the Project Manager, is responsible for the day-to-day activities of the IV&V Team and works closely with the State and all Replacement Project vendors to ensure the IV&V Team and the Project's team's mission are aligned. He also works with the SLI Director of Operations to ensure that staffing is maintained, specialist resources have been scheduled as needed, and the project is sufficiently resourced.*** ***Carl is assigned to the project for its entirety. Carl works with the Replacement Project Project Manager to provide day-to day coordination of all IV&V project activities. In addition, Carl has ultimate responsibility for the on-time delivery and quality of SLI's IV&V deliverables. With regard to project activities and deliverables, Carl is responsible for these categories:*** ➢ ***Overall IV&V Project Management - day-to day coordination of the IV&V Team and their activities*** ➢ ***Point person on the IV&V Team for monitoring the overall project schedule especially with regard to module status and updating the IV&V Work Plan*** ➢ ***IV&V Deliverables Management and Quality Control of all IV&V deliverables to include*** o ***IV&V Project Plan*** o ***Initial and Ongoing Project Management Assessments*** o ***Monthly IV&V Contractor Status***
Barry Blackburn Sr. Subject Matter Expert	***Barry brings over 30 years of HHS Experience to his role as Sr. Subject Matter Expert. He serves as the Sr. Subject Matter Expert for the team and takes the lead with regard to all SME related areas, conformance to standards, requirements management, and training.*** ***With regard to the project activities and deliverables, Barry is responsible for:*** ➢ ***Initial and Ongoing Project Requirements Report*** ➢ ***Initial and Ongoing Project Report*** ➢ ***Interim Project Progress Report*** ➢ ***Training Review*** ***Barry works closely with the IV&V Technical Analyst, to ensure requirements are defined and traceable. He also ensures there is adequate testing coverage of the requirements during all testing periods.***

Resource Name/Title	Project Role/Responsibilities
Jon Kanas ***Sr. IV&V Analyst***	***As the IV&V Analyst, Jon's focus is assisting the other IV&V team members in reviewing and assessing required IV&V areas that include: project management, requirements analysis, and change management.*** ***Jon is also responsible for reviews of the deliverables, processes, and procedures for project management and SDLC phase activities, and state processes and procedures.*** ***Jon also focuses on data quality and data management from the conversion process to the management of data in the production environment.*** ***With regard to the deliverables, Jon is responsible for:*** ➢ ***Checklist preparation and management*** ➢ ***Data Management Review*** ➢ ***Conversion Review*** ➢ ***SLA/Service Preparedness/Service Delivery Review*** ➢ ***Operations Oversight***
Owen Plaster – IV&V Technical Analyst	***Owen is a certified SCRUM master and brings direct CSE SDLC experience to the project as the IV&V Technical Analyst and takes the lead for the IV&V Team with regard to risk assessments. Owen also works with Barry to ensure the requirements of all modules are well defined and testable.*** ***He is also assigned to the technical aspects of the overall project under the IV&V scope and oversees leading our Agile process assessments. He ensures there is appropriate focus on monitoring characteristics of agile development, such as meeting the planned velocity of each Sprint, and making sure that each User Story has a clear 'definition of done'. Owen also monitors the implementation of the systems and operational aspects after implementation.*** ***With regard to the project activities deliverables, Owen is responsible for these categories:*** ➢ ***Initial and Ongoing Risk Assessments*** ➢ ***Requirements, Traceability, and Testing*** ➢ ***Code Review/Software Development Review***

Exhibit VII.A-2: SLI Staff Roles/Project Responsibilities.

VII.A.3. Staff Roles and Responsibilities

Exhibit VII.A-3: SLI IV&V Resource Assignments to Specific Tasks and Deliverables, ***the following table depicts the SLI's IV&V key team members' roles and responsibilities mapped to the anticipated IV&V Duties, Tasks, and Deliverables listed in your RFP's Scope of Work. We have listed our key personnel team members' responsibilities as the designated Primary Owner (PO) and/or one or more designated Supporting Contributors (SC) for each duty, task, and deliverable.***

IV&V Duties, Tasks, and Deliverables (RFP Req Ref#) *PO= Primary Owner* *SC=Supporting Contributor*	Carl Blanchette, IV&V Project Manager	Barry Blackburn Sr. Subject Matter Expert	Jon Kanas Sr. IV&V Analyst	Owen Plaster IV&V Technical Analyst
Planning and Administration Activities				
– ***IV&V Management Plan (3.5.1.1)***	***PO***	***SC***		
– ***Attend Monthly Project Status Meetings (3.5.1.2)***	***PO***	***SC***	***SC***	***SC***
– ***Participate in Project Meetings (3.5.1.3)***	***PO***	***SC***	***SC***	***SC***
– ***Provide Written Monthly Status Reports (3.5.1.4)***	***PO***	***SC***		
– ***Prepare and Deliver IV&V Quality Checklists (3.5.1.5)***	***SC***	***SC***	***PO***	***SC***
– ***Compile and Deliver IV&V Quality Checklists (3.5.1.6)***	***SC***	***SC***	***PO***	***SC***
– ***Prepare and Deliver Invoices (3.5.1.7)***	***PO***			***SC***
IV&V Activities				
– ***Conduct Initial IV&V Review of the Replacement Project (3.6.2.1)***	***PO***	***SC***	***SC***	***SC***
– ***Create the Initial Review Report -Draft and Final (3.6.2.2)***	***SC***	***PO***	***SC***	***SC***
– ***Conduct Periodic IV&V Review Activities (3.6.2.3)***	***PO***	***SC***	***SC***	***SC***
– ***Create the Periodic IV&V Review Report -Draft and Final (3.6.2.4)***	***SC***	***PO***	***SC***	***SC***
– ***Conduct Formal Briefing Presentations (3.6.2.5)***	***PO***	***SC***		
– ***Create Deliverable Observation Reports (3.6.2.6)***	***PO***	***SC***	***SC***	***SC***
– ***Archive Documents (3.6.2.7)***				***PO***
IV&V Requirements (Areas to be Assessed)				
– ***IV&V Project Management (3.6.3.2)***	***PO***	***SC***		
– ***Replacement Project Management (3.6.3.3)***	***PO***	***SC***		
– ***Quality Management (3.6.3.4)***	***PO***	***SC***		
– ***Training (3.6.3.5)***		***PO***	***PO***	***SC***
– ***Requirements Management (3.6.3.6)***		***PO***		***SC***
– ***Operating Environment (3.6.3.7)***			***SC***	***PO***
– ***Development Environment (3.6.3.8)***			***SC***	***PO***
– ***Software Development (3.6.3.9)***			***SC***	***PO***
– ***System and Acceptance Testing (3.3.3.10)***		***SC***	***SC***	***PO***
– ***Data Management Oversight (3.6.3.11)***			***PO***	***SC***
– ***Operation Oversight (3.6.3.12)***		***SC***	***PO***	***SC***
IV&V Contract Deliverables				
– ***Detailed Project Plan (3.5.2.1)***	***PO***	***SC***		
– ***Attendance at all Scheduled Meetings (3.5.2.2)***	***PO***	***SC***		
– ***Written Monthly Project Status Reports (3.5.2.3)***	***PO***	***SC***	***SC***	***SC***
– ***IV&V Checklists (3.5.2.4)***	***SC***	***PO***	***SC***	***SC***

IV&V Duties, Tasks, and Deliverables (RFP Req Ref#) *PO= Primary Owner* *SC=Supporting Contributor*	Carl Blanchette, IV&V Project Manager	Barry Blackburn Sr. Subject Matter Expert	Jon Kanas Sr. IV&V Analyst	Owen Plaster IV&V Technical Analyst
– ***Initial IV&V Review (3.6.4.1)***	***PO***	***SC***	***SC***	***SC***
– ***Initial IV&V Review report (3.6.4.2)***	***SC***	***PO***	***SC***	***SC***
– ***Periodic IV&V Reviews (3.6.4.3)***	***PO***	***SC***		
– ***Periodic IV&V Review Reports (3.6.4.4)***	***PO***			
– ***Formal Briefing Presentations (3.6.4.5)***	***PO***	***SC***	***SC***	***SC***
– ***Deliverable Observation Report (DOR) (3.6.4.6)***	***PO***	***SC***	***SC***	***SC***
– ***Document Archive (3.6.4.7)***				***PO***

Exhibit VII.A-3: SLI IV&V Resource Assignments to Specific Tasks and Deliverables. *The anticipated tasks and deliverables listed in RFP Scope of Work are assigned to each resource.*

VII.B. Vendor Staff Skills and Experience Required (4.4)

4.4 The vendor shall provide qualified personnel to perform the work necessary to accomplish the tasks defined in *Section 3 Scope of Work*. The State shall approve all awarded vendor resources. The State reserves the right to require the removal of any member of the awarded vendor's staff from the project.

SLI understands that providing personnel with the correct experience in the required disciplines is essential to the success of the Replacement Project IV&V engagement.

VII.B.1. Team Member Qualifications

3.5.5 The IV&V Contractor shall possess the corporate knowledge and experience demonstrating the following capabilities and capacities:

In this section, SLI highlights the specific projects where the proposed Key Personnel have demonstrated the expertise required in each of the IV&V areas.

VII.B.2. IV&V Project Manager Qualifications

4.4.1 Project Manager Qualifications

Our proposed IV&V Project Manager, Carl Blanchette, exceeds the experience qualifications outlined within RFP section 4.4.1 as shown below in *Exhibit VII.B-1: IV&V Project Manager Experience.*

RFP Req#	Experience Requirement	Write-up of project(s) duration and type of project that validates experience in that area.
4.4.1.1	***A minimum of four (4) years of project management experience, within the last ten (10) years, in government or the private sector;***	***Oct 2015 to Present – Oregon Child Support System Project IV&V, North Dakota Eligibility Management Services, WY WINGS Project.*** ****These projects involved all aspects of Project Management as established by PMI.Org.***

RFP Req#	Experience Requirement	Write-up of project(s) duration and type of project that validates experience in that area.
		July 2010 to September 2015. South Carolina CSE Systems Project, Florida CSE Systems Project, WI DocGen Project. ***These projects involved all aspects of Project Management as established by PMI.Org.***
4.4.1.2	***A minimum of three (3) years of experience, within the last ten (10) years, managing systems architecture and development projects;***	***Oct 2015 to Present – Oregon Child Support System Project IV&V, North Dakota Eligibility Management Services, WY WINGS Project.*** ****These projects involved all aspects of development project (SDLC).*** ***July 2010 to September 2015. South Carolina CSE Systems Project, Florida CSE Systems Project, WI DocGen Project.*** ***These projects involved all aspects of the SDLC***
4.4.1.3	***A minimum of two (2) years of experience with systems analysis and design;***	***Oct 2015 to Present – Oregon Child Support System Project IV&V,*** ***January 2017 to Present, WY WINGS Project*** ***November 2009 – March 2010 MA CSE Project*** ***May 2009 – September 2009 MN CSE Project*** ***January 1998 – November 2002 MI CSE Project*** ***These projects require the role of Business Analyst, including where Carl created and reviewed Technical Design Documents, UAT Test Cases/Scripts and Training materials. These projects required analysis of the as-is functionality and designing systems to support the to-be functionality.***
4.4.1.4	***A minimum of two (2) years of experience with systems development and implementation;***	***Oct 2015 to Present – Oregon Child Support System Project IV&V, North Dakota Eligibility Management Services, WY WINGS Project.*** ***November 2009 – March 2010 MA CSE Project*** ***May 2009 – September 2009 MN CSE Project*** ***January 1998 – November 2002 MI CSE Project*** ***All these projects involved being part of the full Systems Development Life Cycle (SDLC). My roles have touched development and System Integration Testing (SIT) and developing Implementation Checklists and executing those checklists.***
4.4.1.5	***Completed at least one (1) project within the past three (3) years that involved designing business processes and procedures and developing new systems***	***Oct 2015 – Sept. 2016 North Dakota Eligibility Management Services.*** ***Carl was involved in every aspect of the SDLC. The first phase was released into production in January 2016. Carl was involved in Requirements Elicitation and review of As-is and To-be processes and procedures. In addition, he monitored the Requirements Traceability Matrix through the SDLC and***

RFP Req#	Experience Requirement	Write-up of project(s) duration and type of project that validates experience in that area.
	to support the new business processes; and	***managed UAT to ensure the system delivered on the requirements as designed and contracted.***
4.4.1.6	***Completed at least one (1) project within the past three (3) years that involved communication and coordination of activities with external stakeholders.***	***Oct 2015 – Sept. 2016 North Dakota Eligibility Management Services.*** ***Carl was the Project Manager assigned to manage the Project's Communications. Carl worked with internal and external stakeholders developing communication channels and selecting and coordinating the appropriate media relevant to the type of communication delivered.***

Exhibit VII.B-1: SLI's IV&V Project Manager Qualifications Key Personnel Required Experience.

VII.B.3. IV&V Team Member Experience Qualifications

4.4.2 Individual Verification Services Team Member Qualifications
Amendment 2- Q 1 Each IV&V team member must have all of the qualifications listed in sections 4.4.2.1, 4.4.2.2, 4.4.2.3 and 4.4.2.4. The combined qualifications of all team members can be used to fulfill the qualifications listed in sections 4.4.2.5 through 4.4.2.14. However, the experience of different individuals cannot be combined to meet a particular qualification.

This section maps SLI's proposed Key Personnel to the IV&V Activities defined in Federal Regulations title 45 CFR 95.626(b).

Three of our four proposed team members are currently performing IV&V tasks and activities similar to your SOW for the Oregon CSEAS IV&V project.

RFP Req#	Experience Requirement	Carl Blanchette, IV&V Project Manager	Barry Blackburn Sr. Subject Matter Expert	Jon Kanas Sr. IV&V Analyst	Owen Plaster IV&V Technical Analyst
4.4.2.1	***Significant experience with industry standard and best practices regarding quality, quality assurance, and quality control principles and techniques:***	✓	✓	✓	✓
4.4.2.2	***A minimum of two (2) years of IV&V experience on projects involving the implementation of new business processes and procedures and new automated systems to support the new business processes;***	✓		✓	✓
4.4.2.3	***A minimum of two (2) years of IV&V experience on projects relating to the implementation of secure Internet applications;***	✓		✓	✓
4.4.2.4	***Completed at least one (1) project within the past three (3) years that involved the receipt, installation, operation and maintenance of computer equipment and software for a Child Support Enforcement or similar large systems;***	✓	✓	✓	✓

RFP Req#	Experience Requirement	Carl Blanchette, IV&V Project Manager	Barry Blackburn Sr. Subject Matter Expert	Jon Kanas Sr. IV&V Analyst	Owen Plaster IV&V Technical Analyst
4.4.2.5	***Completed at least one (1) project within the past three (3) years that involved a phased implementation where systems activities were coordinated between the old and new system environments;***	✓	✓	✓	✓
4.4.2.6	***Completed at least one (1) project within the past three (3) years that assessed training plans involving the development of course outlines and materials and organizing and conducting classes to support the implementation of new business processes and systems;***	✓	✓	✓	
4.4.2.7	***A minimum of two (2) years of IV&V experience related to system and user acceptance tests utilizing automated testing tools for a similar sized project;***	✓		✓	✓
4.4.2.8	***Completed at least one (1) project within the past three (3) years that involved determining the readiness of the system production;***	✓		✓	✓
4.4.2.9	***Broad experience with technical writing;***	✓	✓	✓	✓
4.4.2.10	***Demonstrated knowledge of Title IV, Part D of the Social Security Act;***	✓	✓	✓	✓
4.4.2.11	***Detailed knowledge of the Automated Systems for Child Support Enforcement: A Guide for States 2009;***	✓	✓	✓	
4.4.2.12	***Completed at least (1) project within the past three (3) years that involved determining the readiness of the system production;***	✓		✓	✓
4.4.2.13	***A minimum of five (5) years of experience leading or providing oversight of data cleansing and conversion for a similar sized project;***	✓		✓	✓
4.4.2.14	***A minimum of four (4) years of experience conducting or providing oversight of systems or user acceptance tests for a similar sized project;***	✓		✓	✓

Exhibit VII.B-2: SLI's IV&V Teams Experience. *SLI's proposed team of IV&V professionals have years of experience across a wide variety of disciplines and subject areas to effectively perform the tasks and duties required to complete IV&V for the Replacement Project.*

The Tables below provide the experience of each of the SLI IV&V Team member in each qualification requirement.

VII.B.3.1. *Carl Blanchette, IV&V Project Manager*

RFP Ref#	Experience Requirement	Carl Blanchette, IV&V Project Manager
4.4.2.1	***Significant experience with industry standard and best practices regarding quality, quality assurance, and quality control principles and techniques:***	***Oct 2015 to Present – Oregon Child Support System Project IV&V, North Dakota Eligibility Management Services, WY WINGS Project.*** ***July 2010 – May 2012 Colorado Benefit Management System*** ***January 2006 – May 2006 VA Child Support Call Center*** ***January 1998 – January 1999 MI Child Support System Project*** ***These projects include responsibilities for creating, implementing and monitoring Quality Assurance programs, principles and conducting Quality Control activities. SLI IV&V projects require the use of QA checklists based on Industry Standards as part of our methodology. In role, Carl has functioned as the Quality Assurance Manager, UAT Manager and as a Quality Assurance Analyst.***
4.4.2.2	***A minimum of two (2) years of IV&V experience on projects involving the implementation of new business processes and procedures and new automated systems to support the new business processes;***	***Oct 2015 to Present – Oregon Child Support System Project IV&V, North Dakota Eligibility Management Services, WY WINGS Project.*** ***November 2009 – March 2010 MA CSE Project*** ***May 2009 – September 2009 MN CSE Project*** ***January 1998 – November 2002 MI CSE Project*** ***All these projects involved being part of the full Systems Development Life Cycle (SDLC) for new Child Support Systems and one two other Health and Human Services Programs. These projects involved creating As-is and To-be process flows, creating Feasibility Study documentation, drafting RFPs, drafting Requirements, conducting requirement elicitation sessions, creating Functional and Technical Design Documents, and validating SIT Results and Creating UAT Test Scripts and conducting UAT testing. Validating requirements via the RTM and UAT that Contractual Requirements have been satisfied.***
4.4.2.3	***A minimum of two (2) years of IV&V experience on projects relating to the implementation of secure Internet applications;***	***Oct 2015 to Present – Oregon Child Support System Project IV&V, North Dakota Eligibility Management Services, WY WINGS Project.*** ***May 2013 – March 2014 Texas Child Support System*** ***May 2005 – March 2009 Texas Employer Repository Project*** ***Recent projects involve modular design with Internet access for customers through One Stop Portals. Customer PII must be protected, therefor secure internet connections that meet or exceed industry standards are applied and verified. The later projects involved contract compliance validation through testing web based applications using industry tools for Vulnerability and Penetration Testing.***
4.4.2.4	***Completed at least one (1) project within the past three (3) years that involved the receipt,***	***Oct 2015 to Present – Oregon Child Support System Project IV&V, North Dakota Eligibility Management Services, WY WINGS Project.*** ***July 2010 – May 2012 Colorado Benefit Management System***

RFP Ref#	Experience Requirement	Carl Blanchette, IV&V Project Manager
	installation, operation and maintenance of computer equipment and software for a Child Support Enforcement or similar large systems;	***January 2006 – May 2006 VA Child Support Call Center*** ***January 1998 – January 1999 MI Child Support System Project*** ***These projects include responsibilities for creating, implementing and monitoring Quality Assurance programs, principles and conducting Quality Control activities. SLI IV&V projects require the use of QA checklists based on Industry Standards as part of our methodology. In role, Carl has functioned as the Quality Assurance Manager, UAT Manager and as a Quality Assurance Analyst.***
4.4.2.5	***Completed at least one (1) project within the past three (3) years that involved a phased implementation where systems activities were coordinated between the old and new system environments;***	***Oct 2015 - September 2016 – North Dakota Eligibility Management Services, WY WINGS Project.*** ***May 2013 – March 2014 Texas Child Support System*** ***The North Dakota project involved a phase approach and was implemented into production with the support of the Legacy System while the Phase 2 was being developed. Coordination between systems was a critical part of M&O activities.*** ***The Texas Child Support System involved the management of two contracted projects simultaneously while implementing the modular/incremental renewals alongside the Legacy System. This involved coordination between the new module applications with legacy activities.***
4.4.2.6	***Completed at least one (1) project within the past three (3) years that assessed training plans involving the development of course outlines and materials and organizing and conducting classes to support the implementation of new business processes and systems;***	***Oct 2015 to Present – Oregon Child Support System Project IV&V, North Dakota Eligibility Management Services, WY WINGS Project.*** ***These projects involved the development of Training materials and validating training materials deliver the intended objectives of the training program. Currently, Carl's the Oregon Child Support System Project and WY WINGS activities include evaluating DDI Vendor Training Materials for contract compliance, quality of materials and training plans and Schedule for delivery. In North Dakota, Carl was the Training Project Manager working with the DDI and Agency Stakeholders to deliver training. Carl has worked as a Training Manager and a Trainer in his career.***
4.4.2.7	***A minimum of two (2) years of IV&V experience related to system and user acceptance tests utilizing automated testing tools for a similar sized project;***	***Oct 2015 to Present – Oregon Child Support System Project IV&V, WY WINGS Project.*** ***These Projects are currently in phases involving System Test and UAT testing activities. As the IV&V Project Manager, Carl has direct IV&V oversight responsibilities.*** ***Oct 2015 - September 2016 – North Dakota Eligibility Management Services, WY WINGS Project.*** ***Carl was the UAT Manager for the North Dakota Project. Carl had oversight duties for SIT testing by the DDI and validating SIT Exit Criteria and UAT Entrance Criteria. Carl worked with JIRA and JAMA applications to perform AUT Testing duties. In addition,***

RFP Ref#	Experience Requirement	Carl Blanchette, IV&V Project Manager
		Carl hosted daily Defect Management meetings. The Oregon Child Support System Project uses DOORS which IV&V has access for RTM and Testing validation.
4.4.2.8	***Completed at least one (1) project within the past three (3) years that involved determining the readiness of the system production;***	***Oct 2015 - September 2016 – North Dakota Eligibility Management Services, WY WINGS Project.*** ***As part of the PMO Team, Carl had specific Implementation duties. Phase 1 of this project was implemented in January of 2016. Carl was the PM responsible for signing off the completion of UAT and specific assigned Implementation task checklists were completed prior to and during Go-Live weekend.***
4.4.2.9	***Broad experience with technical writing;***	***Oct 2015 to Present – Oregon Child Support System Project IV&V, North Dakota Eligibility Management Services, WY WINGS Project.*** ***November 2009 – March 2010 MA CSE Project*** ***May 2009 – September 2009 MN CSE Project*** ***January 1998 – November 2002 MI CSE Project*** ***These Project are just a small sampling of 27 years with the Child Support Program and being associated with Technical Writing. Carl has been involved writing, editing and evaluating technical documents. Some of the technical writing involved, Process Improvement, Feasibility Studies, RFPs, Functional and Technical Design, Requirement solicitation, JAD Sessions, UAT testing, Training materials, and Contract development and monitoring.***
4.4.2.10	***Demonstrated knowledge of Title IV, Part D of the Social Security Act;***	***Oct 2015 to Present – Oregon Child Support System Project IV&V November 2009 – March 2010 MA CSE Project*** ***May 2009 – September 2009 MN CSE Project*** ***January 1998 – November 2002 MI CSE Project*** ***At a minimum, these projects involved addressing Title IV-D program requirements and regulations. For 27 years, Carl has been involved with the CSE program at all levels including Gov't and Private Sector. In roles with the Government sector, Carl has been directly responsible for IV-D Program compliance. In the Private Sector, Carl has been recognized as a trusted advisor when addressing IV-D program improvements and policy.***
4.4.2.11	***Detailed knowledge of the Automated Systems for Child Support Enforcement: A Guide for States 2009;***	***Oct 2015 to Present – Oregon Child Support System Project IV&V November 2009 – March 2010 MA CSE Project*** ***May 2009 – September 2009 MN CSE Project*** ***January 1998 – November 2002 MI CSE Project*** ***At a minimum, these projects involved addressing Title IV-D System Certification Requirements. For 27 years, Carl has been involved with the CSE program at all levels including Gov't and Private Sector ensuring CSE Systems comply with CSE System Certification Guide Requirements. In Michigan, Carl was the CSE Certification Expert for the MICSES Project. Currently the Oregon***

RFP Ref#	Experience Requirement	Carl Blanchette, IV&V Project Manager
		Child Support System Project is preparing documentation for System Certification and IV&V is involved in that process.
4.4.2.12	***Completed at least (1) project within the past three (3) years that involved determining the readiness of the system production;***	***Oct 2015 - September 2016 – North Dakota Eligibility Management Services, WY WINGS Project.*** ***As part of the PMO Team, Carl had specific Implementation duties. Phase 1 of this project was implemented in January of 2016. Carl was the PM responsible for signing off the completion of UAT and specific assigned Implementation task checklists were completed prior to and during Go-Live weekend.***
4.4.2.13	***A minimum of five (5) years of experience leading or providing oversight of data cleansing and conversion for a similar sized project;***	***Oct 2015 to Present – Oregon Child Support System Project IV&V November 2009 – March 2010 MA CSE Project*** ***Oct 2015 - September 2016 – North Dakota Eligibility Management Services, WY WINGS Project.*** ***July 1996 – August 1998 Missouri MACSS*** ***May 1991-June 1996 Idaho ICSES*** ***These Project involved oversight of data cleansing and conversion activities. Recent projects involve oversight activities as part of IV&V. North Dakota Project was direct oversight of Conversion Testing and Results. The MACSS and ICSES projects involved direct oversight of data cleanup activities performed directly by Carl's staff through Field Operations in preparation of new system implementations under FSA 88 and PRWORA 1996 requirements.***
4.4.2.14	***A minimum of four (4) years of experience conducting or providing oversight of systems or user acceptance tests for a similar sized project;***	***Oct 2015 to Present – Oregon Child Support System Project IV&V, WY WINGS Project.*** ***These Projects are currently in phases involving System Test and UAT testing activities. As the IV&V Project Manager, Carl has direct IV&V oversight responsibilities.*** ***Oct 2015 - September 2016 – North Dakota Eligibility Management Services, WY WINGS Project.*** ***Carl was the UAT Manager for the North Dakota Project. Carl had oversight duties for SIT testing and results by the DDI and validating SIT Exit Criteria and UAT Entrance Criteria were satisfied. Carl worked with JIRA and JAMA applications to perform AUT Testing duties. In addition, Carl hosted daily Defect Management meetings.***

VII.B.3.2. *Barry Blackburn, Senior Subject Matter Expert*

RFP Req#	Experience Requirement	Barry Blackburn, Senior Subject Matter Expert
4.4.2.1	***Significant experience with industry standard and best practices***	***July 2015 -12/2015 Santa Clara County, California Division of Child Support Services Operational Assessment***

RFP Req#	Experience Requirement	Barry Blackburn, Senior Subject Matter Expert
	regarding quality, quality assurance, and quality control principles and techniques:	***Mr. Blackburn was a Lead Analyst on a comprehensive operational assessment of the Santa Clara DCSS (SCDCSS). CSF was engaged to complete the assessment with three primary areas of focus: cost savings, increasing operational efficiency, and improving the customer service experience, which required a variety of activities. These included: reviewing, documenting and analyzing the agency's existing processes; evaluating the effectiveness of those processes to inform decisions on where modifications to operations should occur; identifying and reviewing relevant best practices in child support from California and other jurisdictions, to provide potential operational enhancements for SCDCSS; recommending improvements to effectiveness and efficiency across technological, organizational, staffing, and policy and procedural components; identifying the necessary data metrics (both workload and performance) to track the agency's progress and improvement above the baseline; conducting a budgetary analysis for each recommendation; and documenting the findings from these activities through a variety of formal reports.*** ***01/2014 –06/2015 Federal Office of Child Support Enforcement New IV D Director Training As the Training Developer, Mr. Blackburn developed instructional materials for new state and large jurisdiction IV D directors in the areas of partnering with private providers and incentives.*** ***07/2013 01/2014Maryland Child Support Business Process Re engineering Project*** ***Mr. Blackburn was a Lead Analyst on a business process re engineering project for Maryland's child support program. The project's focus was on those areas of program operation that can be improved in the short term in order to improve the state's standings on the federal performance measures with the goal of moving into the top 10 nationally on all measures. Mr. Blackburn collected data from a wide variety of sources, including reports, interviews with child support staff, and others, analyzed those data, and made recommendations on program improvement based on the findings. In addition, he had responsibility for the monthly update of the Business Process Re Engineering Plan.***
4.4.2.2	***A minimum of two (2) years of IV&V experience on projects involving the implementation of new business processes and procedures and new automated systems to support the new business processes;***	***July 2015 -12/2015 Santa Clara County, California Division of Child Support Services Operational Assessment*** ***Mr. Blackburn was a Lead Analyst on a comprehensive operational assessment of the Santa Clara DCSS (SCDCSS). CSF was engaged to complete the assessment with three primary areas of focus: cost savings, increasing operational efficiency, and improving the customer service experience, which required a variety of activities. These included: reviewing, documenting and analyzing the agency's existing processes; evaluating the effectiveness of those processes to inform decisions on where modifications to operations should occur; identifying and***

RFP Req#	Experience Requirement	Barry Blackburn, Senior Subject Matter Expert
		reviewing relevant best practices in child support from California and other jurisdictions, to provide potential operational enhancements for SCDCSS; recommending improvements to effectiveness and efficiency across technological, organizational, staffing, and policy and procedural components; identifying the necessary data metrics (both workload and performance) to track the agency's progress and improvement above the baseline; conducting a budgetary analysis for each recommendation; and documenting the findings from these activities through a variety of formal reports.
4.4.2.3	***A minimum of two (2) years of IV&V experience on projects relating to the implementation of secure Internet applications;***	***December 2010 – June 2011 Louisiana Call Center Training*** ***Mr. Blackburn was the Project Manager and managed this project providing training to customer service center agents who respond to inquiries on behalf of the State of Louisiana's Department of Children and Family Services. CSF, as a subcontractor to Affiliated Computer Services (ACS), is responsible for developing and delivering training in all of the human services program areas, including FITAP, SNAP, Child Care, Kinship Care, Fraud and Recovery, Medicaid, Child Support Enforcement, Disaster Food Stamps, Child Welfare, and Vocational Rehabilitation. In addition, CSF developed and delivers training on the Oracle On Demand call center technology that provides call distribution and call management for agents.***
4.4.2.9	***Broad experience with technical writing;***	***January 2017 – June 2017 – California Quadrennial Review of Child Support Guidelines*** ***Among Mr. Blackburn's responsibilities on this project was writing portions of the final report presenting research findings related to the child support guideline in California. Report topics included analysis on the cost of raising children, case file sampling and review, and special topics concerning the guideline, including the low-income adjustment, and zero-dollar and minimum orders. Since the report would eventually be made available to the public for review and comment, it was essential that highly technical concepts and findings be written in a way that could be understood by persons without a high level of knowledge about the child support program.***
4.4.2.10	***Demonstrated knowledge of Title IV, Part D of the Social Security Act;***	***July 2015 – December 2015 - Santa Clara County, California Division of Child Support Services Operational Assessment*** ***As Lead Analyst on this project, Mr. Blackburn was responsible for data collection and analysis on a broad range of child support functions in the Santa Clara County Child Support Office, all of which are administered under Title IV-D of the Social Security Act. It was essential that Mr. Blackburn have a strong working knowledge of Title IV-D in order to be able to determine if the program in Santa Clara County was operating consistent with the Act.***

RFP Req#	Experience Requirement	Barry Blackburn, Senior Subject Matter Expert
4.4.2.11	***Detailed knowledge of the Automated Systems for Child Support Enforcement: A Guide for States 2009;***	***July 2015 – December 2015 - Santa Clara County, California Division of Child Support Services Operational Assessment*** ***As Lead Analyst on this project, Mr. Blackburn was responsible for data collection and analysis on a broad range of child support functions in the Santa Clara County Child Support Office, all of which are administered under Title IV-D of the Social Security Act. It was essential that Mr. Blackburn have a strong working knowledge of Title IV-D in order to be able to determine if the program in Santa Clara County was operating consistent with the Act.***

VII.B.3.3. *Jon Kanas, IV&V Senior Analyst*

RFP Req #	Experience Requirement	Jon Kanas, IV&V Senior Analyst
4.4.2.1	***Significant experience with industry standard and best practices regarding quality, quality assurance, and quality control principles and techniques:***	***January 2016 – Present; Colorado Connected Vehicle*** ***Evaluation of vendor adherence to ISO, SAE, COBIT, SWEBOK, FHWA standards during development of requirements for autonomous vehicle infrastructure*** ***9/2015 – Present; Oregon Child Support System Replacement*** ***Evaluation / Assessment of vendor practices assuring certification by federal OCSE, adherence to PMBOK, COBIT, ISO, NIST, OR state IT Standards*** ***1/2015 – 3/2017: Colorado Program Process and Cash Management*** ***Assessment of compliance of CDOT & Vendor to FHWA, ISO, COBIT, SWEBOK and CO standards assuring software application draws and distributes funding for capital construction projects*** ***11/2014 – 11/2016: Washington State Behavioral Health EMR*** ***Evaluation of vendor adherence to ISO, SAE, COBIT, SWEBOK, CMS standards throughout the SDLC in support of CMS certification*** ***2/2012 – 6/2015: Iowa MMIS Replacement project*** ***Project Risk Manager as state supplemental personnel. Establish risk management processes, monitor risk, mitigate risk***
4.4.2.2	***A minimum of two (2) years of IV&V experience on projects involving the implementation of new business processes and procedures and new automated systems to support the new business processes;***	***January 2016 – Present; Colorado Connected Vehicle.*** ***Senior IV&V Technical Analyst*** ***9/2015 – Present; Oregon Child Support System Replacement*** ***Senior IV&V Technical Analyst*** ***1/2015 – 3/2017: Colorado Program Process and Cash Management*** ***Senior IV&V Technical Analyst***

RFP Req #	Experience Requirement	Jon Kanas, IV&V Senior Analyst
		11/2014 – 11/2016: Washington State Behavioral Health EMR ***Evaluation of vendor implementation strategies transitioning manual medical record keeping to Electronic Medical Records*** ***1/2008 – 4/2015; North Dakota MMIS Replacement Project*** ***Senior IV&V Technical Analyst***
4.4.2.3	***A minimum of two (2) years of IV&V experience on projects relating to the implementation of secure Internet applications;***	***January 2016 – Present; Colorado Connected Vehicle.*** ***Secure Web-enabled application and infrastructure*** ***9/2015 – Present; Oregon Child Support System Replacement*** ***Web-enabled application processing HIPAA, PII, and IRS sensitive data*** ***1/2015 – 3/2017: Colorado Program Process and Cash Management*** ***Secure Web-enabled application and infrastructure, FHWA sensitive data (finance, physical security)*** ***1/2008 – 4/2015; North Dakota MMIS Replacement Project*** ***Web-enabled application processing HIPAA, and PII sensitive data***
4.4.2.4	***Completed at least one (1) project within the past three (3) years that involved the receipt, installation, operation and maintenance of computer equipment and software for a Child Support Enforcement or similar large systems;***	***9/2015 – Present; Oregon Child Support System Replacement*** ***Installation and validation of 3 physical and 9 virtual environments supporting transfer system, development, test, production, & functional prototyping*** ***1/2008 – 4/2015; North Dakota MMIS Replacement Project*** ***Installation and validation of WinTel environment(s) in replacement of mainframe***
4.4.2.5	***Completed at least one (1) project within the past three (3) years that involved a phased implementation where systems activities were coordinated between the old and new system environments;***	***2/2017 – Present: Wyoming WINGS MMIS Replacement Project*** ***Replacement of monolithic MMIS with individual business function modules***
4.4.2.6	***Completed at least one (1) project within the past three (3) years that assessed training plans involving the development of course outlines and materials and organizing and***	***9/2015 – Present; Oregon Child Support System Replacement*** ***Review and assess training plan(s), hardcopy materials, online materials, online help modules and methods for evaluating training quality and outcomes.*** ***1/2015 – 3/2017: Colorado Program Process and Cash Management*** ***Senior IV&V Technical Analyst***

RFP Req #	Experience Requirement	Jon Kanas, IV&V Senior Analyst
	conducting classes to support the implementation of new business processes and systems;	***11/2014 – 11/2016: Washington State Behavioral Health EMR*** ***Evaluation of vendor and state training and knowledge transfer strategies facilitating the transition from manual medical record keeping to Electronic Medical Records*** ***1/2008 – 4/2015; North Dakota MMIS Replacement Project*** ***Senior IV&V Technical Analyst.***
4.4.2.7	***A minimum of two (2) years of IV&V experience related to system and user acceptance tests utilizing automated testing tools for a similar sized project;***	***9/2015 – Present; Oregon Child Support System Replacement*** ***Review and assess test plan & strategy, tools, cases, scripts and defect management and reporting for String, System, Migration, Integration and Acceptance test phases.*** ***1/2015 – 3/2017: Colorado Program Process and Cash Management*** ***Review and assess test plan & strategy, tools, cases, scripts for System, Interface and Acceptance Test.*** ***11/2014 – 11/2016: Washington State Behavioral Health EMR*** ***Review and assess test plans & strategies, tools, cases, scripts for System, Interface and Acceptance Test.*** ***1/2008 – 4/2015; North Dakota MMIS Replacement Project*** ***Review and assess test plan & strategy, tools, cases, scripts and defect management and reporting for String, System, Migration, Integration and Acceptance test phases.***
4.4.2.8	***Completed at least one (1) project within the past three (3) years that involved determining the readiness of the system production;***	***1/2015 – 3/2017: Colorado Program Process and Cash Management*** ***Review and assess implementation readiness based upon Acceptance Test criteria (system was not deployed).*** ***1/2008 – 4/2015; North Dakota MMIS Replacement Project*** ***Review and implementation plan & strategy, knowledge transfer, M&O preparations, transition from Acceptance Test to Production.***
4.4.2.9	***Broad experience with technical writing;***	***January 2016 – Present; Colorado Connected Vehicle*** ***Preparation of periodic reports and presentations. Client-requested presentations and orientation.*** ***9/2015 – Present; Oregon Child Support System Replacement*** ***Preparation of periodic reports and presentations based upon research and observations. Prepare / present client-requested technical information as appropriate for intended audience.*** ***1/2015 – 3/2017: Colorado Program Process and Cash Management*** ***Preparation of periodic reports and presentations based upon research and observations. Prepare / present client-requested technical information as appropriate for intended audience.*** ***11/2014 – 11/2016: Washington State Behavioral Health EMR***

RFP Req #	Experience Requirement	Jon Kanas, IV&V Senior Analyst
		Preparation of periodic reports and presentations based upon research and observations. Prepare / present client-requested technical information as appropriate for intended audience. ***2/2012 – 6/2015: Iowa MMIS Replacement project*** ***Establish and document risk management processes. Monitor and prepare materials for status of project-wide risk mitigation activities.***
4.4.2.10	***Demonstrated knowledge of Title IV, Part D of the Social Security Act;***	***9/2015 – Present; Oregon Child Support System Replacement*** ***Assess and evaluate conformance of project materials and application to federally mandated requirements.***
4.4.2.11	***Detailed knowledge of the Automated Systems for Child Support Enforcement: A Guide for States 2009;***	***9/2015 – Present; Oregon Child Support System Replacement*** ***Assess and evaluate conformance of project materials and application to federally mandated requirements.***
4.4.2.12	***Completed at least (1) project within the past three (3) years that involved determining the readiness of the system production;***	***1/2015 – 3/2017: Colorado Program Process and Cash Management*** ***Review and assess implementation readiness based upon Acceptance Test criteria (system was not deployed).*** ***11/2014 – 11/2016: Washington State Behavioral Health EMR*** ***Review and assessment of vendor adherence to Acceptance Test Exit Criteria, documentation and Knowledge Transfer in advance of system transition to production.*** ***1/2008 – 4/2015; North Dakota MMIS Replacement Project*** ***Review and implementation plan & strategy, knowledge transfer, M&O preparations, transition from Acceptance Test to Production.***
4.4.2.13	***A minimum of five (5) years of experience leading or providing oversight of data cleansing and conversion for a similar sized project;***	***January 2016 – Present; Colorado Connected Vehicle*** ***Evaluation of vendor and state approach and activities preparing historical data in advance of conversion, assessment of conversion approach and business rules, assessment of conversion testing.*** ***9/2015 – Present; Oregon Child Support System Replacement*** ***Evaluation of vendor and state data migration management and approach in advance of conversion, assessment of migration approach, evaluate business rules for data transformation, assessment of conversion testing.*** ***11/2014 – 11/2016: Washington State Behavioral Health EMR*** ***Oversight and assessment of approaches, strategies, resources and scheduling of manual and scanned data entry effort to transition from manual to automated medical records system.*** ***2/2012 – 6/2015: Iowa MMIS Replacement project***

RFP Req #	Experience Requirement	Jon Kanas, IV&V Senior Analyst
		Project Risk Manager as state supplemental personnel; Evaluate and assess project risk associated with approach employed to transition historical MMIS data into replacement system. Evaluate conversion testing approach and activities, evaluate conversion business rules
4.4.2.14	***A minimum of four (4) years of experience conducting or providing oversight of systems or user acceptance tests for a similar sized project;***	***9/2015 – Present; Oregon Child Support System Replacement*** ***Review and assess UAT plan, strategy, resources and schedule. Assess test tools, cases, scripts for UAT. Monitor UAT outcomes. Monitor and evaluate defect management, retest and regression activities. Evaluate and assess special UAT approach for District Attorney offices*** ***1/2015 – 3/2017: Colorado Program Process and Cash Management*** ***Review and assess UAT plan, strategy, resources and schedule. Assess test tools, cases, scripts for UAT. Monitor UAT outcomes. Monitor and evaluate defect management, retest and regression activities.*** ***11/2014 – 11/2016: Washington State Behavioral Health EMR*** ***Review and assess test plans & strategies, tools, cases, scripts and conduct of UAT.*** ***1/2008 – 4/2015; North Dakota MMIS Replacement Project*** ***Review and assess UAT plan, strategy, resources and schedule. Assess test tools, cases, scripts for UAT. Monitor UAT outcomes. Monitor and evaluate defect management, retest and regression activities.***

VII.B.3.4. *Owen Plaster, IV&V Technical Analyst*

RFP Req#	Experience Requirement	Owen Plaster, IV&V Technical Analyst
4.4.2.1	***Significant experience with industry standard and best practices regarding quality, quality assurance, and quality control principles and techniques:***	***11/2012 – 6/2014 – Iowa Medicaid Integrated Data Administration Solution (MIDAS) QA/QC Services*** ***As Technical Manager representing the State, reviewed all development vendor deliverables for adherence to industry best practices and IEEE standards utilizing Guide to the Software Engineering Body of Knowledge (SWEBOK Version3). Submitted several technical and procedural recommendations for improvements.***
4.4.2.2	***A minimum of two (2) years of IV&V experience on projects involving the implementation of new business processes and procedures and new***	***11/2014 – 12/2016 – Missouri Unemployment Insurance Modernization Oversight & Technical Audit*** ***As IV&V technical analyst, evaluated end-state functional environment and made numerous recommendations on functional roles and procedures to be implemented.***

RFP Req#	Experience Requirement	Owen Plaster, IV&V Technical Analyst
	automated systems to support the new business processes;	
4.4.2.3	***A minimum of two (2) years of IV&V experience on projects relating to the implementation of secure Internet applications;***	***11/2014 – 12/2016 – Missouri Unemployment Insurance Modernization Oversight & Technical Audit*** ***As IV&V technical analyst, reviewed and assessed on internet application designs, both hardware and software configurations to determine adherence to State and Federal requirements and security standards and best practices.***
4.4.2.4	***Completed at least one (1) project within the past three (3) years that involved the receipt, installation, operation and maintenance of computer equipment and software for a Child Support Enforcement or similar large systems;***	***09/2008 -9/2008 -Arizona Division of Child Support Enforcement*** ***Provided project management and analysis functions as Technical Lead for the development and delivery of technical and business rule documentation of the Arizona Tracking and Location Automated System (ATLAS). The Arizona DCSE uses the ATLAS system to identify and track child support cases. Implemented department-wide Business Analyst system for enhancement procedures utilizing PowerDesigner CASE tool.***
4.4.2.5	***Completed at least one (1) project within the past three (3) years that involved a phased implementation where systems activities were coordinated between the old and new system environments;***	***11/2014 – 12/2016 – Missouri Unemployment Insurance Modernization Oversight & Technical Audit*** ***As IV&V technical analyst, evaluated end-state technical environment and made numerous recommendations on technical roles and procedures to be implemented.***
4.4.2.7	***A minimum of two (2) years of IV&V experience related to system and user acceptance tests utilizing automated testing tools for a similar sized project;***	***11/2014 – 12/2016 – Missouri Unemployment Insurance Modernization Oversight & Technical Audit*** ***Provided IV&V technical oversight for system and user testing ensuring comprehensive technical test cases, the use of converted and interfaced data and performance testing using Rational testing tools.***
4.4.2.8	***Completed at least one (1) project within the past three (3) years that involved determining the readiness of the system production;***	***11/2013 – 12/2016 – Missouri Unemployment Insurance Modernization Oversight & Technical Audit*** ***Within IV&V oversight activities, tracked and reported on system readiness using predetermined readiness categories with weighted factors on functional and non-functional requirements.***
4.4.2.9	***Broad experience with technical writing;***	***11/2013 – 12/2016 – Missouri Unemployment Insurance Modernization Oversight & Technical Audit***

RFP Req#	Experience Requirement	Owen Plaster, IV&V Technical Analyst
		As IV&V technical analysis, developed numerous assessments, and recommendations concerning complex technical subjects reporting to executive management and technical staff including Configuration and Release Management Plans, implementation and deployment processes and procedures and web, batch and interface architectures.
4.4.2.10	***Demonstrated knowledge of Title IV, Part D of the Social Security Act;***	***09/1993 – 10/1995 – Arizona Division Child Support Enforcement Project*** ***Management of application development of all functional areas required for federal certification. Developed data model and process model to fully implement the requirements of all functional areas.***
4.4.2.12	***Completed at least (1) project within the past three (3) years that involved determining the readiness of the system production;***	***11/2013 – 12/2016 – Missouri Unemployment Insurance Modernization Oversight & Technical Audit*** ***Within IV&V oversight activities, tracked and reported on system readiness using predetermined readiness categories with weighted factors on functional and non-functional requirements.***
4.4.2.13	***A minimum of five (5) years of experience leading or providing oversight of data cleansing and conversion for a similar sized project;***	***11/2014 – 12/2016 – Missouri Unemployment Insurance Modernization Oversight & Technical Audit*** ***Provided IV&V technical oversight of data cleansing and conversion efforts from mainframe VSAM, MS Excel spreadsheets and MS Access databases to Linux Oracle database.*** ***11/2012 - 06/2014 Iowa Medicaid Integrated Data Administration Solution (MIDAS) QA/QC Services*** ***As Technical Manager representing the State, provided oversight of development vendor data conversion efforts from mainframe VSAM, MS Excel spreadsheets and MS Access databases to MS SQL Server database.*** ***09/1993 – 10/1995 – Arizona Division Child Support Enforcement Project*** ***Management of application development and data conversion efforts from VSAM to ADABAS.***
4.4.2.14	***A minimum of four (4) years of experience conducting or providing oversight of systems or user acceptance tests for a similar sized project;***	***11/2014 – 12/2016 – Missouri Unemployment Insurance Modernization Oversight & Technical Audit*** ***Provided IV&V oversight for system and user testing ensuring comprehensive technical test cases, the use of converted and interfaced data and performance testing.***

VII.C. Vendor Staff Resumes (4.5)

A resume shall be completed for each proposed individual on the State format provided in *Attachment H, Proposed Staff Resume,* including identification of key personnel per *Section 12.3.18, Key Personnel*.

A resume for each of our proposed staff members has been provided on the following pages for our proposed IV&V Team:

- ***Carl Blanchette – IV&V Project Manager***
- ***Barry Blackburn – SR. Subject Matter Expert***
- ***Jon Kanas – Sr. IV&V Analyst***
- ***Owen Plaster – IV&V Technical Analyst***

VII.C.1. Carl Blanchette, IV&V Project Manager

Company Name Submitting Proposal:		***SLI Global Solutions, LLC.***	
Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	
The following information requested pertains to the individual being proposed for this project.			
Name:	***Carl Blanchette***	**Key Personnel: (Yes/No)**	***Yes***
Classification; i.e., Project Manager, Implementation Lead, etc.		***IV&V Project Manager***	
# of Years in Classification:	***30***	**# of Years with Firm:**	***2***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE
Information should include a brief summary of the proposed individual's professional experience.

Carl Blanchette has 30 years of senior leadership experience in both the public and private sector specializing in the Human Services fields. Carl has over 25+ years Child Support (Title IV-D) of Public and private sector leadership roles in 13 states. Carl is nationally recognized for his broad knowledge of all aspects of the child support program, his ability to develop and implement creative solutions and as a problem solver. Specific areas of expertise include detailed knowledge of federal regulations and child support system certification requirements, business process analysis and improvement, testing, training, organizational change management, quality assurance, team leadership, strategic planning, contracts, staff management and project management.

Carl's experience includes Eligibility (Title IV-A) Quality Assurance and Project Management Office roles as well as welfare fraud and recoupments. Carl is PMP certified with an emphasis in Project Management Office Operations and Quality Assurance. Government software development experience includes:

- Requirements & Design Michigan Child Support, Massachusetts, Idaho, Missouri
- Quality Assurance Michigan Child Support, Colorado Eligibility
- Child Support Federal Certification Review preparation – Michigan, Missouri and Hawaii
- Project Management Office duties North Dakota, Colorado, Texas, Oregon
- Review of Child Support Programs in 13 States
- Quality Assurance-testing North Dakota, Wisconsin, California and Florida
- RFP Development in MN and MA
- Medicaid Eligibility System North Dakota

RELEVANT EXPERIENCE ***Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.***	
Experience #	1
Timeframe	2016 – present
Company Name, Location	SLI Global Solutions, LLC. Silver Spring, MD
Client	Oregon Department of Administrative Services (DAS)
Position	Project Manager/Child Support SME
Project	Oregon CSEAS 2.0 IV&V
Description	Carl serves as the Project Manager and Child Support SME on the SLI IV&V Team for the Oregon Department of Justice – Division of Child Support's new Child Support Enforcement system CSEAS 2.0. He is responsible for the assessment of project deliverables, documentation, and work plans submitted by the project vendor, responding with findings and recommendations intended to reduce risk and ensure that the application development effort remains in scope, on schedule, on budget and is compliant with all requirements. Additional activities include monitoring and evaluating vendor and state success in managing the software implementation effort and mitigating project risks. Carl recently was moved into the Project Manager role for SLI and now leads the IV&V team and interacts with DAS, OCSE and the DoJ Child Support Program leadership on the bi-annual IV&V contract.
Software/hardware used:	Microsoft Office Suite, DOORS, SharePoint, MS Project
Experience #	2
Timeframe	10/2015 – 09/2016
Company Name, Location	SLI Global Solutions, LLC. Silver Spring, MD
Client	North Dakota Department of Human Services
Position	Project Manager
Project	North Dakota Eligibility Project Management Services
Description	Carl served as a Project Manager on the SLI Team which providing project management oversight for User Acceptance Testing (UAT), Training, Organizational Change Management, Communications Management and Implementation Readiness on North Dakota Department of Human Services' Eligibility Systems Modernization Project. The system replacement includes eligibility determination systems for Medicaid/CHIP, SNAP, TANF, Child Care, and LIHEAP. Carl's roles included Project Management of the User Acceptance Test (UAT) team and delivering UAT services for the SPACES project as well managing the Organizational Change Management, Change Request, Federal Reporting and Communication processes. In addition, Carl functioned in role as Project Management consultant to the project's Executive Sponsor team and liaison with the Executive Steering Committee and with the Development Implementation vendor.
Software/hardware used:	Microsoft Office Suite, SharePoint, MS Project

Experience #	3
Timeframe	2010 – 2015
Company Name, Location	CapTech Partners Madison, WI
Client	Child Support Service-Dept. of Information Technology
Position	Sr. Project Manager
Project	Document Generation
Description	**Wisconsin State Agency Child Support Services,** **01/2015 – 07/2015** Carl served as PMO Manager on the Implementation of the Wisconsin Child Support Services Document Generation Project. He provided Project Management duties regarding Implementation of the complex Document Generation System. He performed PMO duties with an emphasis on schedule, costs, risks and contract management. Ensured Deliverables met Acceptance Criteria and Quality Standards. Capitol Technology Partners- IT Outsourcing for HHS, 03/2014 -01/2015 Carl resumed his HHS IT Outsourcing line of business duties for Capital Technology Partners. He provided team leadership oversight for project staff; client customer services including contract and trusted advisory leadership; and developed strategic partnerships. **Texas Attorney General Office – Child Support Services,** **05/2013 – 03/2014** Carl served as PMO Manager on the Implementation of two concurrent contracts. He provided Project Management duties for two concurrent Implementation Projects (National Medical Support Enforcement and Data Management Services). He performed PMO duties with an emphasis on schedule, costs, risks and contract management. Ensured Deliverables met Acceptance Criteria and Quality Standards. **Capitol Technology Partners- IT Outsourcing for HHS,** **05/2012 – 05/2013** Carl launched the HHS IT Outsourcing line of business for Capital Technology Partners. He provided team leadership oversight for project staff; client customer services including contract and trusted advisory leadership; and developed strategic partnerships. **Colorado State Agency, Colorado Benefit Management System, 07/2010 – 05/2012** Carl served as QA and PMO Manager for Colorado's Eligibility System. His role included management duties for Quality Assurance and Project Management Office. He established the Quality Assurance program and worked collaboratively with the State.
Software/hardware used:	Microsoft Office Suite,
Experience #	4
Timeframe	05/2009-03/2010
Company Name, Location	Deloitte Consulting, LLC Denver, CO

Client	States of Minnesota and Massachusetts
Position	Business Analyst and Subject Matter Expert
Project	Child Force Enforcement
Description	Carl worked as a Business Analyst and Child Support Subject Matter Expert performing duties associated with new system Feasibility Studies for Minnesota and DDI RFP development for Massachusetts on behalf of Deloitte Consulting. In general, Carl facilitated Requirements Gathering Sessions with State staff, drafted requirements and subsequently drafted RFP requirements for a Implementation contractor. Carl was also responsible to document Federal System Certification requirements and ensure derived requirements were not in violation of these federal system requirements. Specifically: Carl served as a Business Analyst and as a Child Support Enforcement Subject Matter Expert for the project. Carl's duties included determining the best methodology used by the MN CSED in delivering service to their customers. Carl participated in the delivery of project Deliverables and the Benchmarking process of five states with the MN program. Carl served as Business Analyst Team Lead and SME for the State of Massachusetts. The project objective was the preparation and development of a Request for Response (RFR) for the Division of Child Support Enforcement's new automated case management system. The project tasks included a review of current system's functionality and business requirements and the development of a comprehensive set of requirements to be included in the RFR.
Software/hardware used:	Microsoft Office Suite,

EDUCATION ***Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.***	
Institution Name: ***City:*** ***State:*** ***Degree/Achievement:*** ***Date Received:***	Colorado State University Global Campus, Pueblo, Colorado BS Business Management June 2013
Institution Name: ***City:*** ***State:*** ***Degree/Achievement:*** ***Date Received:***	North Idaho College, Coeur d Alene, Idaho AAS Law Enforcement May 1977

CERTIFICATIONS ***Information required should include: type of certification and date completed/received.***	
Project Management Professional (PMP) Certification Expires Dec 2018 PMP Number 1309484	
Information Technology Infrastructure Library (ITIL)-Foundation Certification February 2011 Cert # GR750001537CB	2/2011

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) *Information required should include: environments, hardware, software, tools and databases.*		
Description		***# of Year's Experience***
Environments:		
Hardware:		
Software:		
Tools:	MS Office Suite, MS Project, JIRA, JAMA, DOORS, MS Project -Server	30 20 05 02 01 01
Databases:		

REFERENCES *A minimum of three (3) references are required, including name, phone number, fax number and email address.*
Karen Coleman, Project Executive Oregon Child Support System Project O: 971.915.5175 | M: 503.385.3759 Coleman Karen <karen.coleman@doj.state.or.us> *Attest to IV&V Project Management
Nicholas Betsacon, JD, LLM DAS Procurement Services| IT Procurement Strategist 97301 | (503) 267-6636 BETSACON Nicholas * DAS Nicholas.BETSACON@oregon.gov *Attest to IV&V Project Manager and Contract Management
Desi Ottmar North Dakota, Eligibility Systems Modernization Project Director 701-328-4840 dottmar@nd.gov *Attest to Project Management

VII.C.2. Barry Blackburn, Senior Subject Matter Expert

Company Name Submitting Proposal:		***SLI Global Solutions, LLC.***	
Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	
The following information requested pertains to the individual being proposed for this project.			
Name:	***Barry Blackburn***	**Key Personnel: (Yes/No)**	***No***
Classification; i.e., Project Manager, Implementation Lead, etc.		***Sr. Subject Matter Expert***	
# of Years in Classification:	***30***	**# of Years with Firm:**	***21***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Mr. Blackburn has provided training and technical assistance to more than 25 states in a variety of human service programs, including child support, child welfare and child protective services. He has managed numerous automated system training engagements in child support and child welfare, including the design, development and delivery of training. He has also performed several child support program assessments, including analysis of policies, procedures, workflow, and overall operations. Mr. Blackburn has written numerous research-based project reports, training and user manuals.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

Experience #	1
Timeframe	03/2017 – present
Company Name, Location	SLI Global Solutions, LLC.(CSF) Silver Spring, MD
Client	Oregon Department of Justice Child Support Program
Position	Analyst
Project	Oregon Origin Automated System IV and V
Description	Barry is a member of the SLI Independent Verification and Validation team on the Oregon Origin automated system project. He is responsible for analysis concerning training, online policy manuals and change management.
Software/hardware used:	Microsoft Office Suite
Experience #	2
Timeframe	08/2016 – 4/2017
Company Name, Location	SLI Global Solutions, LLC.(CSF) Silver Spring, MD
Client	Maryland Child Support Enforcement Administration
Position	Training Developer

Project	Maryland Child Support Customer Service Training
Description	CSF is providing "technical services in identifying specific subject matter for improving customer service options for customer service training to selected local office child support staff."
Software/hardware used:	Microsoft Office Suite
Experience #	3
Timeframe	05/2016 - 09/2016
Company Name, Location	SLI Global Solutions, LLC.(CSF) Silver Spring, MD
Client	Florida Child Support Enforcement
Position	Lead Trainer,
Project	Florida State Disbursement Unit Training
Description	Barry was a lead trainer on a project providing soft skill instruction to state disbursement unit staff in Florida under a subcontract to System and Methods, Inc. In this capacity, he is responsible for designing, developing and delivering instruction on customer service and related topics.
Software/hardware used:	Microsoft Office Suite
Experience #	4
Timeframe	07/2015 - 12/2015
Company Name, Location	SLI Global Solutions, LLC.(CSF) Silver Spring, MD
Client	Santa Clara County, California, Department of Child Support Services
Position	Lead Analyst
Project	Santa Clara County, California, Department of Child Support Services Operational Assessment
Description	Barry was a lead analyst on a comprehensive operational assessment of the Santa Clara DCSS (SCDCSS). CSF was engaged to complete the assessment with three primary areas of focus: cost savings, increasing operational efficiency, and improving the customer service experience, which required a variety of activities. These included: reviewing, documenting and analyzing the agency's existing processes; evaluating the effectiveness of those processes – to inform decisions on where modifications to operations should occur; identifying and reviewing relevant best practices in child support – from California and other jurisdictions, to provide potential operational enhancements for SCDCSS; recommending improvements to effectiveness and efficiency – across technological, organizational, staffing, and policy and procedural components; identifying the necessary data metrics (both workload and performance) – to track the agency's progress and improvement above the baseline; conducting a budgetary analysis for each recommendation; and documenting the findings from these activities through a variety of formal reports.
Software/hardware used:	Microsoft Office Suite
Experience #	5
Timeframe	01/2013 - 06/2015

Company Name, Location	SLI Global Solutions, LLC.(CSF) Silver Spring, MD
Client	Federal Office of Child Support Enforcement
Position	Training Developer
Project	Federal Office of Child Support Enforcement New IV-D Director Training
Description	Barry developed instructional materials for new state and large jurisdiction IV-D directors in the areas of partnering with private providers and incentives.
Software/hardware used:	Microsoft Office Suite
Experience #	6
Timeframe	06/2013 - 01/2014
Company Name, Location	SLI Global Solutions, LLC.(CSF) Silver Spring, MD
Client	Maryland Child Support Enforcement Administration
Position	Lead Analyst
Project	Maryland Child Support Business Process Re-engineering Project
Description	Barry was a lead analyst on a business process re-engineering project for Maryland's child support program. The project's focus was on those areas of program operation that can be improved in the short term in order to improve the state's standings on the federal performance measures with the goal of moving into the top 10 nationally on all measures. Mr. Blackburn collected data from a wide variety of sources, including reports, interviews with child support staff, and others, analyzed those data, and made recommendations on program improvement based on the findings. In addition, he had responsibility for the monthly update of the Business Process Re-Engineering Plan.
Software/hardware used:	Microsoft Office Suite
Experience #	7
Timeframe	12/2010 - 09/2013
Company Name, Location	SLI Global Solutions, LLC.(CSF) Silver Spring, MD
Client	DE Department of Health and Social Services
Position	Training Developer
Project	Delaware Child Support Enforcement System (DACSES) Replacement Training Project
Description	Barry developed instructor-led training courses and training materials for the Delaware DASCES Replacement System, which supports over 300 users in eight locations around the State. Users include child support professionals, court personnel, mediators, and Dept. of Justice attorneys and paralegals.
Software/hardware used:	Microsoft Office Suite

EDUCATION ***Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.***	
Institution Name: ***City:*** ***State:*** ***Degree/Achievement:*** ***Date Received:***	The University of Chicago Chicago Illinois M.A., Social Service Administration (Concentration in Policy Analysis), 1983
Institution Name: ***City:*** ***State:*** ***Degree/Achievement:*** ***Date Received:***	Indiana University Bloomington Indiana B.A. Anthropology 1979

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) ***Information required should include: environments, hardware, software, tools and databases.***		
Description		***# of Year's Experience***
Environments:		
Hardware:		
Software:	Microsoft Office Suite	25
Tools:		
Databases:		

REFERENCES ***A minimum of three (3) references are required, including name, phone number, fax number and email address.***
Ignacio Guerrero, Director Santa Clara County, California, Department of Child Support Services 880 Ridder Park Drive, San Jose, CA 95131 408-503-5390; 408-503-5319 (fax) Ignacio.Guerrero@css.sccgov.org
Veronica Riley, Deputy Director San Joaquin County, California Department of Child Support Services PO Box 50, Stockton CA 95201 209-468-9559; 209-468-2577 (fax) vriley@sjgov.org
Larry Desbien, Director Division of Child Support Services Colorado Department of Human Services 1575 Sherman St., 4th floor Denver, Colorado 80203-1714 303-866-4460; 303-866-4360 (fax) larry.desbien@state.co.us

VII.C.3. Jon Kanas, IV&V Senior Analyst

Company Name Submitting Proposal:		***SLI Global Solutions, LLC.***	
Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	
The following information requested pertains to the individual being proposed for this project.			
Name:	***Jon Kanas***	**Key Personnel: (Yes/No)**	***Yes***
Classification; i.e., Project Manager, Implementation Lead, etc.		***Sr. IV&V Analyst***	
# of Years in Classification:	***25***	**# of Years with Firm:**	***9***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Jon Kanas is Certified in Risk and Information Systems Control (CRISC), and is PMP, ISTQB, and CTFL certified Senior Consultant with more than 30 years of experience in Risk Management IV&V, IT Process Best Practice, and Benchmarking. Jon has significant and diverse experience Independent Verification and Validation, Risk Management, Competitive Assessments; requirements analysis/validation/testing; and total cost of ownership (TCO).

Jon has been engaged as Senior Technical Consultant for the Oregon Child Support system replacement effort (OR CSEAS), replacing the existing Oregon Child Support system with transfer systems from California (Child Support Processing), Michigan (Data Warehouse) and New Jersey (Document Generation). Activities include review and assessment activities of the overall project health and performance periodically reported to OSCE and OSCIO.

Other IV&V engagements where Jon has been tasked with the IV&V assessments include three projects with the Colorado Department of Transportation, State of Washington DSHS, and North Dakota DHS. Activities include monitoring and evaluating vendor and state success in managing software implementation efforts and mitigating related ongoing project risks.

Prior engagements include State of Iowa, Medicaid Integrated Data Administration Solution (MMIS replacement) as the State Risk Manager (Iowa state management team supplemental personnel). In that role he ensured that risks and issues are identified, documented and continuously tracked using the state-approved tools.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

Experience #	1
Timeframe	10/2015 – present
Company Name, Location	SLI Global Solutions, LLC. Silver Spring, MD
Client	Oregon Department of Administrative Services (DAS)
Position	IV&V Technical Analyst
Project	Oregon CSEAS Modernization
Description	Jon serves as Senior IV&V Technical Analyst for SLI team providing periodic IV&V assessments for the Oregon CSEAS modernization initiative Project.

	This project consists of the vendor implementation and configuration, combining three disparate transfer systems into a single coherent application replacing the existing Oregon Child Support System. Jon is responsible for the assessment of project deliverables, documentation, and work plans submitted by the project vendor. Jon develops findings and recommendations presented to OSCE, intended to reduce project risk and ensure that the application implementation remains in scope and on budget. Additional activities include monitoring and evaluating vendor technical approach to merging the three transfer systems into a single system, evaluate mitigations proposed for project risks and ensure that appropriate analytical data is captured for the production of necessary reporting to demonstrate compliance with federal and state financial and environmental regulations.
Software/hardware used:	Microsoft Office Suite, Rational DOORS
Experience #	2
Timeframe	9/2014 – present
Company Name, Location	SLI Global Solutions, LLC. Silver Spring, MD
Client	Colorado Department of Transportation
Position	Senior IV&V Analyst
Project	Colorado CDOT Enhanced Traffic System IV&V
Description	Jon served as Senior IV&V Analyst for the SLI Team providing ongoing IV&V assessments for CDOT's Enhanced Traffic Incident Management System Project. This project is a merge of data from disparate platforms into a common and coherent operational picture of incidents on Colorado's highways and interstates. CDOT is implementing Situational Awareness Software (SAS) as the core component of the Enhanced Traffic Incident Management System. He was responsible for the assessment of project deliverables, documentation, and work plans submitted by the project vendor, responding with findings and recommendations intended to reduce risk and ensure that the application development effort remains in scope, on schedule, on budget and is compliant with all state requirements. Additional activities include monitoring and evaluating vendor and state success in managing the software implementation effort and mitigating project risks.
Software/hardware used:	Microsoft Office Suite, JAMA
Experience #	3
Timeframe	06/2012 – 09/2014
Company Name, Location	SLI Global Solutions, LLC. Silver Spring, MD
Client	Iowa Department of Human Services
Position	State Risk Manager (Iowa supplemental personnel)
Project	IOWA MIDAS IV&V
Description	Jon served as the State Risk Manager (Iowa supplemental personnel – part of SLI's services contract) on a multi-year effort to replace Iowa Department of Human Services' Medicaid and Pharmacy Point-of-Sale systems. His responsibilities included review of deliverables, documentation, and work plans submitted by MIDAS project vendors, responding with findings and

	recommendations intended to reduce overall project risk. Jon ensured that risks and issues associated with the MIDAS efforts were identified, documented, and continuously tracked using the state-approved tools. Reviewed, monitored, coordinated, and approved state and vendor risk-assessment activities, models, and methodologies. Activities included the coordination of risk identification, ranking, and mitigation efforts conducted by the multiple vendors and state IT departments participating in the project. Developed mitigation plans and detailed contingency plans for identified risks. Monitored and evaluated the vendor and state success in managing and mitigating identified risks. Jon produced reports, presentations, and management briefings as appropriate to outline findings, explain risk positions, and recommend changes. His participated in Certification Gate Reviews and Consults for the pilot of the CMS progressive certification effort.
Software/hardware used:	Accenture MMIS software application, Multiple interfacing COTS products associated with claims processing to external entities. Multiple interfacing Iowa state systems. Microsoft Office Suite
Experience #	4
Timeframe	04/2008 – 06/2012
Company Name, Location	SLI Global Solutions, LLC. Silver Spring, MD
Client	North Dakota Department of Human Services
Position	Lead Technical IV&V Analyst
Project	North Dakota MSP IV&V
Description	Jon served as Lead Technical IV&V Analyst on SLI's IV&V Team for ND Medicaid Systems Project (ND MSP), a replacement of the legacy Medicaid Management Information System (MMIS), Pharmacy Point of Sale, and Data Warehouse. His activities consisted of evaluation of the work products, requirements, and processes of the DDI Vendor. IV&V deliverables were detailed recommendations for organizational, process, and artifact changes to achieve successful implementation within CMS, HIPAA, and North Dakota guidelines including the design of the Data Warehouse to support analytical services necessary for reporting in the efficacy and efficiency of services provided to the Medicaid population. Jon reviewed and validated the requirements definition process including traceability of requirements from inception to final implementation via business rule; identified gaps between recognized best practices and implemented development and operational activities; User Acceptance Test planning and validation; Operational Readiness Test planning and validation; and CMS Certification support. His IV&V activities and extensive background in benchmarking and best practice consulting included the assessment and evaluation of where Medicaid fell within the MITA maturity matrix, as well as identify and promote candidate initiatives to advance MITA maturity in each of the defined MITA business areas.
Software/hardware used:	Xerox (formerly ACS) MMIS application, Multiple interfacing COTS products associated with claims processing and reporting to external entities. Microsoft Office Suite
Experience #	5

Timeframe	09/2007– 01/2008
Company Name, Location	SLI Global Solutions, LLC. Silver Spring, MD
Client	North Dakota Information Technology Department
Position	Senior Consultant
Project	ND ITD QA Program Development Assessment
Description	Jon served as Senior Consultant on the SLI QA Assessment services project for the North Dakota's Information Technology Department (ITD). Performed evaluation of existing Quality Assurance processes and related artifacts in an established software development environment. Provided detailed recommendations for organizational, process, staffing, and artifact changes to achieve best practice with minimal disruption to client business model. Jon gathered and provided assessment of current software development practices and quality standards. He conducted interviews to ascertain unidentified / non-published quality processes present in current environment. Identify gaps between QA best practices and current environment quality effects. He worked on the development of recommendations for staff and process enhancements to facilitate client creation of a Quality Assurance Department
Software/hardware used:	Microsoft Office Suite

EDUCATION ***Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.***	
Institution Name: ***City:*** ***State:*** ***Degree/Achievement:*** ***Date Received:***	University of Phoenix Boulder CO Masters of Business Administration 1992
Institution Name: ***City:*** ***State:*** ***Degree/Achievement:*** ***Date Received:***	University of Colorado Colorado Springs CO BA; Geography 1978

CERTIFICATIONS ***Information required should include: type of certification and date completed/received.***	
Project Management Professional (PMP)	2010
Certificate in Risk and Information Systems Control (CRISC)	2011
Certified Test Foundation Level (CTFL)	2010

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) *Information required should include: environments, hardware, software, tools and databases.*		
Description		***# of Year's Experience***
Environments:	IBM-AIX, SGI / Irix, HP-MPEix, HP / UX, Sun / Solaris, MicroSoft Windows, Data General, DEC.	30+
Hardware:	HP, Sun, IBM, IBM-AIX, WinTel, SGI,	30+
Software:	Aurigo Masterworks, ACS/Xerox MMIS, Cerner Millennium, Qognify SAS, Microsoft Office, VxWorks, others	30+
Tools:	Microsoft, JIRA, Rational, Rational Doors, Visual Basic, Accenture TVS, IBM IT Process Modeling,	30+
Databases:	Oracle, Informix, Access	30+

REFERENCES *A minimum of three (3) references are required, including name, phone number, fax number and email address.*
Brian Banks Senior IT Project Manager Colorado Department of Transportation P 303-575-9651 F no fax Brian.Banks@state.co.us
Kate Cooper Richardson Project Manager Oregon Department of Justice P 503-947-4357 F no fax kate.richardson@doj.state.or.us
Mary Tavegia Department of Human Services State of Iowa; MIDAS Quality Project Director P 515-256-4645 F no fax mtavegi@dhs.state.ia.us

VII.C.4. Owen Plaster, IV&V Technical Analyst

Company Name Submitting Proposal:		***SLI Global Solutions, LLC.***	
Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	
The following information requested pertains to the individual being proposed for this project.			
Name:	***Owen Plaster***	**Key Personnel: (Yes/No)**	***No***
Classification; i.e., Project Manager, Implementation Lead, etc.		***Sr. IV&V Technical Analyst***	
# of Years in Classification:	***4***	**# of Years with Firm:**	***4***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Over thirty-five years of experience in Information Technology covering all aspects of application development, SDLC methodologies and technical environments for business and government applications. Experienced predominately in the roles of business analyst, technical architect, data analyst and process and data modeler. Experience includes mainframe, distributed and web, providing enhanced expertise in interfaces and data conversion.

Owen has Child Support experience in all business areas from both a business and technical standpoint and was the technical architect for building Arizona's ATLAS II child support system, which was federally certified in 1996 and subsequently transferred to Minnesota.

He has worked in many different areas of state government, including Child Support Enforcement, Unemployment Insurance, Business Tax, and Medicaid, proving his ability to quickly understand and implement federal and state specific business and system requirements.

Qualifications:

- SDLC/SCRUM/Agile Master
- CSE development experience including design, coding, job control, and unit testing
- Over 20 years of experience with health and human services technology projects
- Experienced Technical Architect, Database Administrator, Data Analyst, Systems Programmer, Application, Tester, and Technical Trainer
- Knowledgeable in assessing data conversion and interface testing strategies
- Certified SCRUM Master (CSM), 2014

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the project/position and software/hardware used during the project engagement.

Experience #	1
Timeframe	0/12017 to Present
Company Name, Location	SLI Global Solutions, LLC. Silver Spring, MD
Client	Puerto Rico, Department of Health
Position	Process and Technical Analyst.
Project	PR MMIS PMO

Description	For the Medicaid Management Information System (MMIS) development, design and implementation project, Owen is working within the Project Management Office developing process procedures, such as procedures for Action Items, Decisions, Risk / Issues and Dashboard. He is also working in an oversight role in the Data Conversion and Interface areas. He is working in conjunction with the PMO UAT planning and execution team to ensure that data delivery schedules are met by the Implementation contractor.
Software/hardware used:	Office 365: Outlook, Word, Excel, SharePoint, Project, Visio, PowerPoint. Oracle Database.
Experience #	2
Timeframe	7/2013 – 12/2016
Company Name, Location	SLI Global Solutions, LLC. Silver Spring, MD
Client	Missouri Department of Labor and Industrial Relations
Position	Sr. Technical Analyst
Project	Missouri Unemployment Insurance Modernization Oversight & Technical Audit,
Description	Owen served as a Senior Technical Analyst on the SLI IV&V Team on the Unemployment Insurance Modernization (UIM) project for the Missouri Department of Labor and Industrial Relations (DOLIR). He has performed a comprehensive review of the systems' operational database, assessing compliance to the project requirements, standards and industry best practices. He made several key recommendations that have been implemented by the development vendor. Additionally, Owen has assessed the development vendor's Configuration and Release Management Plans and related implementation and deployment processes and procedures. Owen also provided recommendations and guidance for batch and interface architectures, as well as the transfer of technical knowledge from the development vendor to the State.
Software/hardware used:	Microsoft Office Suite: Outlook, Word, Excel, SharePoint, Project, Visio, PowerPoint. Jira Issue & Project Tracking Software. Linux and Windows Servers. DB2 LUW.
Experience #	3
Timeframe	07/2014 – 09/2014
Company Name, Location	SLI Global Solutions, LLC. Silver Spring, MD
Client	Michigan Department of State
Position	Technical Analyst
Project	Michigan Business Application Modernization (BAM) Project
Description	Owen served as a Technical Analyst on the SLI IV&V Team for a periodic IV&V Cycle Assessment of the Michigan Business Application Modernization (BAM) Project. BAM provides Driver License Issuance, Vehicle Titling & Registration, Financials & Investigations, and Driver Activity/Record functionality. For the most recent IV&V Cycle he performed assessments of Configuration Management, Security and Interface Requirements, System Software, Database Software, System Capacity, High Level Design, Detailed

	Design, Job Control and Database Design. Owen reviewed project artifacts and interviewed project staff, developing and presenting findings and recommendations to department executives.
Software/hardware used:	Microsoft Office Suite: Outlook, Word, Excel, SharePoint, Project, Visio, PowerPoint. Windows Server.
Experience #	4
Timeframe	11/2012 – 06/2014
Company Name, Location	SLI Global Solutions, LLC.
Client	Iowa Department of Human Services
Position	Technical Manager
Project	Iowa Medicaid Integrated Data Administration Solution (MIDAS) QA/QC Services
Description	Owen served as the Technical Manager on the State Management Team for the Iowa MIDAS QA/QC Project. His role was to oversee and manage all technical details of the MIDAS (Medicaid Integrated Data Administration Solution) project during the design, development, and implementation of the concurrent Medicaid Management Information System (MMIS) and Pharmacy Point-of-Sale (POS) replacement systems. This position reported directly to the IA DHS Department's Project Director. Owen provided technical guidance to the department during requirements, design, development, and testing phases. Owen assessed technical risk and mitigation strategies; ensured all requirements were accurately reflected in test planning and test execution; and that traceability to each requirement was maintained during design, development, and implementation. He provided application, data conversion and interface development oversight. He ensured that technical details complied with MITA 3.0 Framework. He provided technical direction for development, design, and systems integration; and ensured technical procedures, documentation, and standard policies were implemented. Owen identified weak software systems that needed code improvement and scheduled corrective actions.
Software/hardware used:	Microsoft Office Suite: Outlook, Word, Excel, SharePoint, Project, Visio, PowerPoint. Windows Server.
Experience #	5
Timeframe	03/1996 - 03/1998
Company Name, Location	Systems Technology Group, Inc.
Client	Arizona Division Child Support Enforcement
Position	Project Manager
Project	Arizona Division Child Support Enforcement Project
Description	Owen provided project management and planning activities for on-going development projects that were initiated because of federal and state mandates, process improvements, and performance goals and objectives. In conjunction with the DCSE Project Manager, Owen directed a team of more than 20 programmer analysts providing project planning and management, technical assistance, facilitation of Joint Application Design (JAD) sessions, technical architectural designs, system performance analysis, database administration, software development training, software

	development, language and database standards, and model code management.
Software/hardware used:	Microsoft Office Suite: Outlook, Word, Excel, SharePoint, Project, Visio, PowerPoint. Software AG Development Suite: Natural, ADABAS, Natural Construct, Predict. IBM Mainframe.
Experience #	6
Timeframe	09/1993 – 10/1995
Company Name, Location	Software AG
Client	Arizona Division Child Support Enforcement
Position	Technical Architect
Project	Arizona Division Child Support Enforcement Project
Description	Owen assisted in proposal development, project initiation, work plan development and estimating, software tools evaluation and selection for the developed and implemented Federal Government Child Support and Enforcement initiative for the state of Arizona. As Lead technical manager, Owen provided training for all Software AG software products including ADABAS, NATURAL, PREDICT and NATURAL CONSTRUCT. He led in the design and development of the technical architecture standards and platform, provided JAD facilitation for data and process modeling, technical support for all Software AG software, database administration and technical management of all development efforts.
Software/hardware used:	Software AG Development Suite: Natural, ADABAS, Natural Construct, Predict. IBM Mainframe.

CERTIFICATIONS ***Information required should include: type of certification and date completed/received.***	
Certified SCRUM Master	2014

HARDWARE/SOFTWARE SUMMARY (BE SPECIFIC) ***Information required should include: environments, hardware, software, tools and databases.***		
Description		***# of Year's Experience***
Environments:	IBM mainframe Unix/Linux Windows	20 5 10
Hardware:	IBM Mainframe Various server-based systems	20 15
Software:	IBM Mainframe Software: MVS/ESA, VSE/ESA, VM/ESA, CICS, CMS, TSO/ISPF, COMPLETE, NATURAL, Assembler, COBOL, ACF2, RACF, Top Secret, NATURAL/DB2, ADAPREP, NATURAL CONSTRUCT, PREDICT, NATURAL Security	15 15

	Microsoft: Classic ASP, ASP.NET, C#.NET, VB.NET, ADO.NET, .NET Framework 1.1, 2.0, 3.5, 4.0, Visual Studio, IIS, SharePoint, Team Foundation Server (TFS), SSIS, SSRS Unix/Linux: Shell Scripting, MicroFocus COBOL	3
Tools:	CASE Software: IBM Rational Requirements Composer, IBM Rational Software Architect, ERwin/BPwin, PowerDesigner, System Architect, Natural Architect	30
Databases:	Oracle DB2 LUW Microsoft SQL Server IBM Mainframe (ADABAS, DB2, VSAM)	3 5 10 20
REFERENCES ***A minimum of three (3) references are required, including name, phone number, fax number and email address.***		
John Thurman InterVoice (623) 451-7207 JThurman@InterVoicePR.com		
Barry Young, President Software AG 602.234.3131 byoung@stglink.com		
Curt McLelland Independent Contractor 612-772-3501 crmclelland@gmail.com		

VIII. PRELIMINARY PROJECT PLAN (4.6)

Vendors must include the preliminary project plan in this section.
Section 4.6 requires a Preliminary Project Plan to be included in the vendor's proposal whereas section 3.5 requires a Detailed Project Plan as a Planning and Administration activity to be delivered by the selected IV&V vendor.

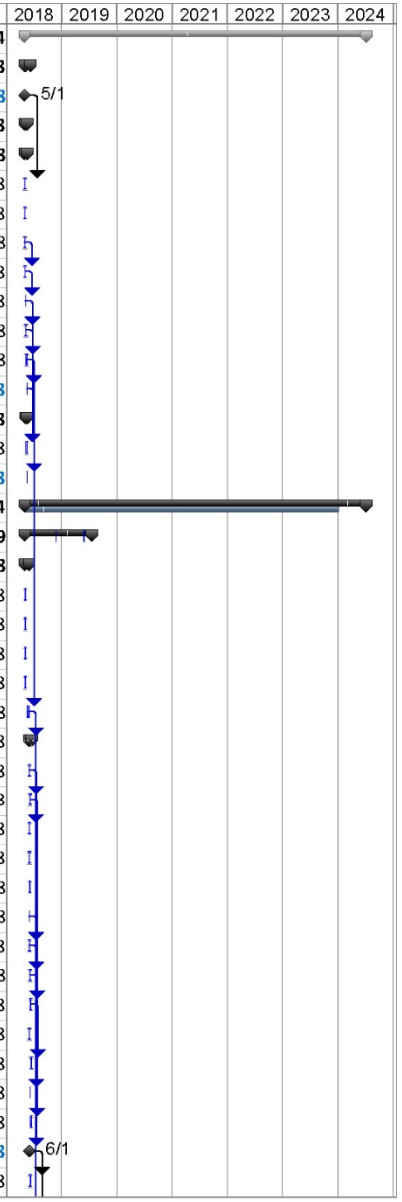
The proposer should respond to each section or sub-section as they deem appropriate. For example, the proposer should include all of the requirements of sub-sections 4.6.1 through 4.6.6 in their proposed Preliminary Project Plan as provided under section 4.6.

VIII.A. Preliminary Project Plan (4.6.1)

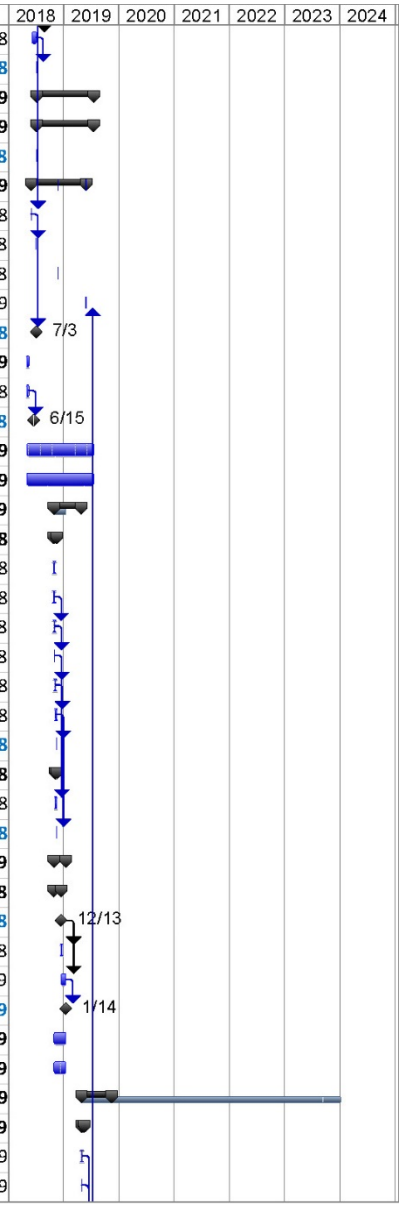
4.6.1 Vendors shall submit a preliminary project plan as part of the proposal, including, but not limited to:
4.6.1.1 Gantt charts that show all proposed project activities;
4.6.1.2 Planning methodologies;
4.6.1.3 Milestones;
4.6.1.4 Task conflicts and/or interdependencies;
4.6.1.5 Estimated time frame for each task identified in *Section 3, Scope of Work*; and
4.6.1.6 Overall estimated time frame from project start to completion for both vendor and State activities, including strategies to avoid schedule slippage.

The following pages contain SLI's preliminary project plan.

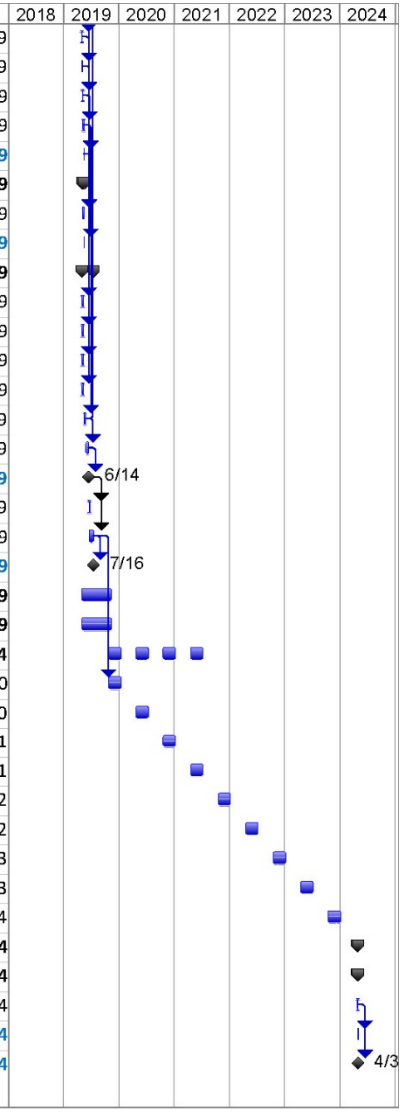
ID	Task Name	Start	Finish
0	**CSES Replacement Project IV&V Preliminary Plan**	**Tue 5/1/18**	**Fri 7/5/24**
1	**CSES Replacement Project IV&V Start-Up Initiation & Planning Stage**	**Tue 5/1/18**	**Thu 6/7/18**
2	**Milestone: IV&V Contract Commences**	**Tue 5/1/18**	**Tue 5/1/18**
3	**Planning and Administration (3.5)**	**Tue 5/1/18**	**Thu 5/17/18**
4	**Task 3.5.1.1 - Develop IV&V Management Plan (30 days)**	**Tue 5/1/18**	**Wed 5/16/18**
5	Develop and conduct IV&V Kick-off Meeting	Tue 5/1/18	Thu 5/3/18
6	Update Resumes and Organization Chart	Tue 5/1/18	Thu 5/3/18
7	Update IV&V schedule for next two review cycles	Tue 5/1/18	Wed 5/2/18
8	Update narrative of IV&V Management Plan	Thu 5/3/18	Fri 5/4/18
9	Update Appendices and Checklists for next two cycles	Mon 5/7/18	Mon 5/7/18
10	Develop and Submit IV&V Management Plan - Draft	Tue 5/8/18	Wed 5/9/18
11	Correct any deficiencies identified by State & resubmit	Thu 5/10/18	Wed 5/16/18
12	**Deliverable: Detailed Project Plan (3.5.2.1)**	**Thu 5/17/18**	**Thu 5/17/18**
13	**Task 3.5.1.5 - Develop IV&V Review Checklists**	**Tue 5/8/18**	**Thu 5/17/18**
14	Customize / Develop and Submit IV&V Review Checklists	Tue 5/8/18	Thu 5/17/18
15	**Deliverable: IV&V Checklists (3.5.2.4)**	**Thu 5/17/18**	**Thu 5/17/18**
16	**CSES Replacement Project IV&V Execution & Control Stage**	**Tue 5/1/18**	**Fri 7/5/24**
17	**Task 3.6.2.1 Conduct Initial IV&V Review of the Replacement Project**	**Tue 5/1/18**	**Wed 7/17/19**
18	**Prepare for On-site portion Initial Review Activities**	**Tue 5/1/18**	**Tue 5/29/18**
19	Submit schedule of on-site review activities to perform	Tue 5/1/18	Mon 5/7/18
20	Submit list of project team and stakeholder interviews to perform	Tue 5/1/18	Mon 5/7/18
21	Submit list of project documentation required for IV&V review	Tue 5/1/18	Mon 5/7/18
22	Submit list of project meetings to attend and observe	Tue 5/1/18	Mon 5/7/18
23	On-site data collection, interviews and observations	Fri 5/18/18	Tue 5/29/18
24	Task 3.6.2.2 Create the Initial IV&V Review Report	Wed 5/30/18	Fri 6/15/18
25	Assess Planning Oversight	Wed 5/30/18	Fri 6/1/18
26	Assess Project Management	Mon 6/4/18	Thu 6/7/18
27	Assess Quality Management	Wed 5/30/18	Fri 6/1/18
28	Assess Training	Wed 5/30/18	Thu 5/31/18
29	Assess Requirement Management	Wed 5/30/18	Tue 6/5/18
30	Assess Security Requirements	Wed 5/30/18	Wed 5/30/18
31	Assess Operating Environment	Thu 5/31/18	Fri 6/1/18
32	Assess Development Environment	Mon 6/4/18	Wed 6/6/18
33	Assess Software Development	Thu 6/7/18	Mon 6/11/18
34	Assess System and Acceptance Testing	Wed 5/30/18	Thu 5/31/18
35	Assess Data Management	Tue 6/12/18	Thu 6/14/18
36	Assess Operations Oversight	Mon 6/4/18	Mon 6/4/18
37	Draft Initial Review Report	Fri 6/8/18	Fri 6/15/18
38	**Task 3.6.4.2 Deliverable Initial IV&V Review Report - Draft**	**Fri 6/1/18**	**Fri 6/1/18**
39	Incorporate ACF Comments of IV&V Initial Review Report - Draft	Mon 6/4/18	Fri 6/8/18



ID	Task Name	Start	Finish
40	Incorporate State Comments - of IV&V Initial Review Report - Draft	Mon 6/4/18	Tue 7/3/18
41	**Deliverable: Initial IV&V Review Report - Final (3.6.4.2)**	**Wed 7/4/18**	**Wed 7/4/18**
42	**Task 3.6.2.5 Conduct Formal Briefing Presentations**	**Thu 7/5/18**	**Wed 7/17/19**
43	**Prepare formal briefing presentation of Periodic Review Reports**	**Thu 7/5/18**	**Wed 7/17/19**
47	**Deliverable Formal Briefing Presentations (3.6.4.5)**	**Fri 7/6/18**	**Fri 7/6/18**
48	**Task 3.5.1.7 Prepare and Deliver Initial Invoices**	**Wed 5/30/18**	**Tue 5/28/19**
49	Prepare & submit Initial Monthly Invoice	Wed 5/30/18	Wed 5/30/18
50	Prepare & submit Initial Monthly Invoice - second 30 days	Fri 6/29/18	Fri 6/29/18
51	Prepare & submit Periodic Monthly Invoices Report #1	Mon 11/26/18	Mon 11/26/18
52	Prepare & submit Periodic Monthly Invoices Report #2	Tue 5/28/19	Tue 5/28/19
53	**Deliverable: Monthly Contract Invoicing**	**Tue 7/3/18**	**Tue 7/3/18**
54	**Task 3.5.1.4 Prepare & submit IV&V Monthly Status Report**	**Tue 5/1/18**	**Wed 7/17/19**
55	Prepare & submit Initial Monthly Status Report - first 30 days	Tue 5/1/18	Tue 5/15/18
56	**Deliverable: Monthly IV&V Status Reports (3.5.2.3)**	**Fri 6/15/18**	**Fri 6/15/18**
57	**Task 3.5.1.2 Attend Monthly Project Status Meetings**	**Tue 5/1/18**	**Wed 7/17/19**
58	**Task 3.5.1.3 Participate in Project Meetings**	**Tue 5/1/18**	**Wed 7/17/19**
59	**Task 3.6.2.3 Conduct Periodic IV&V Review #1**	**Mon 10/29/18**	**Fri 4/26/19**
60	**Task 3.5.1.1 - Update IV&V Management Plan and Review Checklists (30 days)**	**Mon 10/29/18**	**Tue 11/13/18**
61	Update Resumes and Organization Chart	Mon 10/29/18	Wed 10/31/18
62	Update IV&V schedule for next two review cycles	Mon 10/29/18	Tue 10/30/18
63	Update narrative of IV&V Management Plan	Wed 10/31/18	Thu 11/1/18
64	Update Appendices and Checklists for next two cycles	Fri 11/2/18	Fri 11/2/18
65	Develop and Submit Updated IV&V Management Plan - Draft	Mon 11/5/18	Tue 11/6/18
66	Correct any deficiencies identified by State & resubmit	Wed 11/7/18	Tue 11/13/18
67	**Deliverable: IV&V Management Plan (3.5.2.1)**	**Wed 11/14/18**	**Wed 11/14/18**
68	**Task 3.5.1.5- Develop IV&V Review Checklists**	**Mon 11/5/18**	**Wed 11/14/18**
69	Customize / Develop and Submit IV&V Review Checklists for Cycle #1	Mon 11/5/18	Wed 11/14/18
70	**Deliverable: IV&V Checklists (3.5.2.4)**	**Wed 11/14/18**	**Wed 11/14/18**
71	**Task 3.6.2.3 Conduct Periodic Review #1**	**Mon 10/29/18**	**Mon 1/14/19**
72	**Prepare for On-site portion Periodic Review #1 Activities**	**Mon 10/29/18**	**Thu 12/13/18**
79	**Deliverable Periodic Review Report #1 - Draft (3.6.2.4)**	**Thu 12/13/18**	**Thu 12/13/18**
80	Incorporate ACF Comments - of IV&V Periodic Review Report #1 - Draft	Fri 12/14/18	Thu 12/20/18
81	Incorporate State Comments - of IV&V Periodic Review Report #1 - Draft	Fri 12/14/18	Mon 1/14/19
82	**Deliverable: Final Periodic Review Report #1 (3.6.2.4)**	**Mon 1/14/19**	**Mon 1/14/19**
83	**Task 3.5.1.2 Attend Monthly Project Status Meetings**	**Mon 10/29/18**	**Mon 1/14/19**
84	**Task 3.5.1.3 Participate in Project Meetings**	**Mon 10/29/18**	**Mon 1/14/19**
85	**Task 3.6.2.3 Conduct Periodic IV&V Review #2**	**Mon 4/29/19**	**Wed 11/13/19**
86	**Task 3.5.1.1 - Update IV&V Management Plan and Review Checklists (30 days)**	**Mon 4/29/19**	**Fri 5/17/19**
87	Update Resumes and Organization Chart	Mon 4/29/19	Wed 5/1/19
88	Update IV&V schedule for next two review cycles	Mon 4/29/19	Tue 4/30/19



ID	Task Name	Start	Finish
89	Update narrative of IV&V Management Plan	Wed 5/1/19	Thu 5/2/19
90	Update Appendices and Checklists for next two cycles	Fri 5/3/19	Fri 5/3/19
91	Develop and Submit Updated IV&V Management Plan - Draft	Mon 5/6/19	Tue 5/7/19
92	Correct any deficiencies identified by State & resubmit	Wed 5/8/19	Tue 5/14/19
93	**Deliverable: IV&V Management Plan (3.5.2.1)**	**Wed 5/15/19**	**Wed 5/15/19**
94	**Task 3.5.1.5 - Develop IV&V Review Checklists**	**Mon 5/6/19**	**Wed 5/15/19**
95	Customize / Develop and Submit IV&V Review Checklists for Cycle #2	Mon 5/6/19	Wed 5/15/19
96	**Deliverable: IV&V Checklists (3.5.2.4)**	**Wed 5/15/19**	**Wed 5/15/19**
97	**Prepare for On-site portion Periodic Review #2 Activities**	**Thu 5/2/19**	**Tue 7/16/19**
98	Submit schedule of on-site review activities to perform	Thu 5/2/19	Wed 5/8/19
99	Submit list of project team and stakeholder interviews to perform	Thu 5/2/19	Wed 5/8/19
100	Submit list of project documentation required for IV&V review	Thu 5/2/19	Wed 5/8/19
101	Submit list of project meetings to attend and observe	Thu 5/2/19	Wed 5/8/19
102	On-site data collection, interviews and observations	Thu 5/16/19	Mon 5/27/19
103	Develop the IV&V Review Report	Tue 5/28/19	Fri 6/14/19
104	**Deliverable Periodic Review Report #2 - Draft (3.6.2.4)**	**Fri 6/14/19**	**Fri 6/14/19**
105	Incorporate ACF Comments - of IV&V Periodic Review Report #2 - Draft	Mon 6/17/19	Fri 6/21/19
106	Incorporate State Comments - of IV&V Periodic Review Report #2 - Draft	Mon 6/17/19	Tue 7/16/19
107	**Deliverable: Final Periodic Review Report #2 (3.6.2.4)**	**Tue 7/16/19**	**Tue 7/16/19**
108	**Task 3.5.1.2 Attend Monthly Project Status Meetings**	**Mon 4/29/19**	**Tue 11/12/19**
109	**Task 3.5.1.3 Participate in Project Meetings**	**Mon 4/29/19**	**Tue 11/12/19**
110	**Periodic Report Cycles**	**Thu 10/24/19**	**Fri 1/5/24**
111	Periodic Report Cycle #3	Thu 10/24/19	Wed 1/15/20
112	Periodic Report Cycle #4	Tue 4/21/20	Mon 7/13/20
113	Periodic Report Cycle #5	Mon 10/19/20	Fri 1/8/21
114	Periodic Report Cycle #6	Mon 4/19/21	Fri 7/9/21
115	Periodic Report Cycle #7	Mon 10/18/21	Fri 1/7/22
116	Periodic Report Cycle #8	Mon 4/18/22	Fri 7/8/22
117	Periodic Report Cycle #9	Mon 10/17/22	Fri 1/6/23
118	Periodic Report Cycle #10	Mon 4/17/23	Fri 7/7/23
119	Periodic Report Cycle #11	Mon 10/16/23	Fri 1/5/24
120	**CSES Replacement Project IV&V Close-Out Stage**	**Fri 4/26/24**	**Wed 5/1/24**
121	**Task 3.6.2.7 Archive Documents and Project Closeout Stage**	**Fri 4/26/24**	**Tue 4/30/24**
122	Complete archive of all documents and materials	Fri 4/26/24	Tue 4/30/24
123	**Deliverable: CD ROM with all IV&V documents and materials (3.6.4.7)**	**Wed 5/1/24**	**Wed 5/1/24**
124	**Deliverable Submit IV&V Project Closeout Summary Report for State Review and Comment**	**Tue 4/30/24**	**Tue 4/30/24**



VIII.B. Communications with Subcontractor(s) (4.6.2)

4.6.2 Vendors shall provide a written plan addressing the roles and responsibilities and method of communication between the contractor and any subcontractor(s).

The SLI Team does not require any subcontractor resources to perform the scope of work for the Replacement Project IV&V engagement.

VIII.C. Preliminary Project Plan Incorporated into Contract (4.6.3)

4.6.3 The preliminary project plan shall be incorporated into the contract.

SLI understands the Replacement Project IV&V Preliminary Project Plan submitted in this proposal is incorporated into the contract should it be awarded to us.

VIII.D. First Project Deliverable (4.6.4)

4.6.4 The first project deliverable is the finalized detailed project plan that shall include fixed deliverable due dates for all subsequent project tasks as defined in *Section 3, Scope of Work*. The contract shall be amended to include the State approved detailed project plan.

SLI delivers a finalized Detailed Replacement Project IV&V Project Plan as our first contractual deliverable. This finalized Project Plan includes fixed deliverable due dates for all IV&V tasks and deliverables included in the Scope of Work. SLI understands that our contract is amended to include the State approved Detailed Project Plan.

VIII.E. Mitigation and Management of Potential Project Risks (4.6.5)

4.6.5 Vendors shall identify all potential risks associated with the project, their proposed plan to mitigate the potential risks and include recommended strategies for managing those risks.

Our team comes to the project with a knowledge base of typical risk areas that are likely to occur and effective strategies for addressing them. In this way, our contributions to risk management processes are efficient, effective, and deliver real value.

Exhibit VIII.E-1, ***outlines common risks and successful strategies that have been effective in reducing their impact on projects similar to the Replacement Project.***

Risk Description	SLI's Response Strategies to Reduce Risk and Increase Quality for the Replacement Project
Aggressive Timelines ***Without a scoping assessment, the timely completion of the Replacement Project may be at risk***	➢ ***Build a resourced work plan that is reasonable and achievable and baseline it to manage progress*** ➢ ***Actively address schedule slippages and have a plan to bring the scheduled activities back in line with the plan*** ➢ ***Actively manage the scope of the project with a focus on high priority requirements and goals.***
Resource Availability ***The success of a given project depends significantly on the specific individuals on the project and their unique contributions***	➢ ***Ensure resources are prepared for sessions by providing advanced planning and notice of data collection activities*** ➢ ***Develop a process for full visibility into the resources of the project, their skills, abilities and strengths, over the life of the project***

Risk Description	SLI's Response Strategies to Reduce Risk and Increase Quality for the Replacement Project
	➢ ***Continually assess the progress rate of the business process outsourcing and technology implementation activities to ensure key resources are available***
Meeting Future State Technology Requirements ***It is important that the future state not be too constrained by current system structures and operations to take full advantage of new technologies***	➢ ***Review and document DWSS key business processes and information systems with a focus on risks to operations, data integrity, data availability, and potential information security risks*** ➢ ***Ensure a full and complete inventory of all critical systems and technical support functions and document a roadmap to the future state*** ➢ ***Ensure a robust SOA is designed and implemented early in the project***
Organizational Change Management ***DWSS work processes are mature and supported by legacy systems that were designed to accommodate these processes. New modules and outsourced services demand organizational changes as well as process change. Organizations have a natural resistance to change that must be recognized, managed and overcome.***	➢ ***Assess stakeholder buy-in to the need for Organizational Change Management (OCM) and process change.*** ➢ ***Identify where resistance to change is strongest and develop a OCM Plan*** ➢ ***Execute OCM Plan and monitor progress*** ➢ ***Ensure training addresses DWSS users as well as recipients and providers*** ➢ ***Review and revise DWSS organization and job classifications, as necessary***
Bringing Legacy Systems to the Future State ***It is important that risks and opportunities for technology improvements are a key part of the review and assessment process***	➢ ***Identify risks that are present with current systems and process designs*** ➢ ***Determine early and long-term mitigation strategies and contingency plans for replacement or technology refresh*** ➢ ***Address data management and system interface requirements early in the process so that operations on data and expectations for conversion of critical data is understood and accounted***
Staff Commitment ***The availability of DWSS staff for development and implementation initiatives.***	➢ ***Review resources needs and commitment.*** ➢ ***Make the effort a priority*** ➢ ***Monitor the schedule and adjust staff time and session schedules, as needed to stay on track***

Exhibit VIII.E-1: Common Risk and Mitigation Strategies.

This practical experience means that our team comes to the Replacement Project with a knowledge base of typical risk areas that are likely to occur and effective strategies for addressing them. In this way, our contributions to the risk management processes are efficient, effective, and deliver value that is specific to your project.

VIII.F. Exchanging Information between On-Site and Remote SLI Staff (4.6.6)

4.6.6 Vendors shall provide information on the staff that shall be located onsite in Carson City. If staff shall be located at remote locations, vendors shall include specific information on plans to accommodate the exchange of information and transfer of technical and procedural knowledge. The State encourages alternate methods of communication other than in person meetings, such as transmission of documents via email and teleconferencing, as appropriate.

SLI is committed to maintaining a constant presence on-site in Carson City available to State and the Replacement Project Vendor staff during regular business hours. Our plan is to deliver approximately 75% of our staffing on-site. We do not envision any of our key staff as 100% off-site but it is a common practice to have some staff on-site and others off-site at any point in time.

We appreciate the Department's flexibility and encouragement of alternate methods of communication other than in person meetings. SLI has developed a number of strategies to accommodate a mobile workforce. These strategies are designed to facilitate a free flow of information, collaboration, and knowledge transfer. In addition to email and teleconferences, SLI uses a SharePoint portal that is established for every project. Authorized SLI and Project personnel use the portal to work on documents together, access project artifacts (contracts, deliverables, etc.), review project standards and templates, and utilize SQM³ checklists, questionnaires, procedures, and tools. An example of a SharePoint portal for a current project is provided below in *Exhibit VIII.F-1: SharePoint Collaboration Site.*

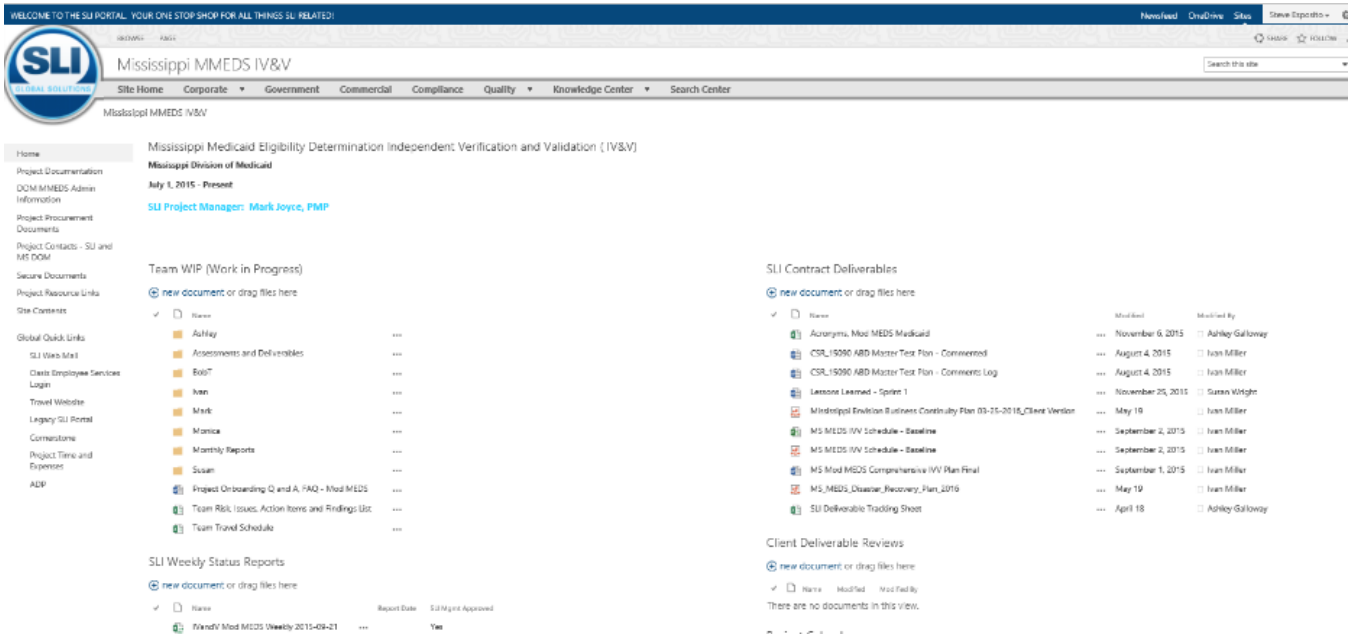


Exhibit VIII.F-1: SharePoint Collaboration Site. *SLI establishes a SharePoint portal for every project to facilitate team collaboration, document version control, and artifact security.*

SLI establishes a SharePoint project site for all our projects. SLI SharePoint Project/Division access is controlled by access control lists that break up into three main characteristics Contribute, Full Control, Read. The projects in the government field are limited to government only employees for contribute access. Only SharePoint administrators have full control, and Read access for all other employees unless otherwise specified by project requirements. There are usually secure document libraries that are limited to senior management as well as project

managers for each project, all other access to these sensitive libraries are restricted. Each project can be locked down to lesser or more stringent restrictions as is determined by project requirements. All Web traffic is protected by SSL communications.

All backend management of the Virtual SharePoint Virtual machine infrastructure is controlled and accessed by secure VPN connectivity. Physical servers for the SharePoint infrastructure are stored offsite at a secure data center with restricted access, each SharePoint server is backed up nightly utilizing a virtualization backup and recovery software called Veeam. The Backups are held over a rolling one-month period with extra measures to keep data offsite for an extended period of time.

The project sites are divided into different library sections for tracking of different documents this includes Status Reports, Contract Deliverables, Client Documents and Project Calendar. These are all changeable within the SharePoint application and can be customized for each project. Each project also has version control functionality in place to retain historic versions of documents, as well as a record of when and who changed the documents.

The State of Nevada would have multiple benefits using SharePoint:

- ***Knowledge Management/Document Management***
- ***Team collaboration***
- ***Workflow and process automation***
- ***Corporate communications/Intranet***
- ***Personalized portal and workspace***

In addition, all SLI Project Managers have an assigned Conference Call number that they use for both IV&V team calls and project team collaboration. SLI also has subscriptions to GoTo Meeting and GoTo Webinar, which are routinely used to communicate in ways other than in-person meetings. If DWSS uses other means for teleconferences such as Skype Meetings we are happy to use whatever tools are in-place.

Most importantly, SLI standard operating procedures assume a mobile workforce and demands a high degree of communication among our engagement teams to ensure the quality of our services.

IX. OTHER INFORMATIONAL MATERIALS

Vendors shall include any other applicable reference material in this section clearly cross referenced with the proposal.

Mission Statement

SLI Global Solutions helps organizations manage their technology risk to optimize business success

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