Stanford University's Contractor Assurance System
for the
SLAC National Accelerator Laboratory
November 2016

1. Introduction and Purpose

This document provides a description of the Stanford University (Stanford or the University) Contractor Assurance System (SCAS) for the SLAC National Accelerator Laboratory (SLAC or the Laboratory). Other University and Laboratory systems, documents, and procedures augment and supplement the SCAS, described in Section 6, and as such, this document does not "stand alone". SLAC and the Department of Energy (DOE) have self-assessment, oversight systems, policies and procedures that are used to implement their elements of the overall assurance program but are not included in this document.

2. Objectives

The SCAS is intended to demonstrate that the University has a set of systems and processes capable of providing reasonable assurance to address the requirements of Clause H.4.1.3 of the DOE/SU Contract (DE-AC02-76-SF00515) to manage and operate SLAC. This document provides:

1) A comprehensive description of the assurance system with processes, key activities and accountabilities clearly identified.

2) A method for independently verifying/ensuring effective assurance system processes. Third party audits, peer reviews, independent assessments, and external certification (such as VPP and ISO 9001 or ISO 14001) may be used.

3) Timely notification to the DOE SLAC Site Office (SSO) of significant assurance system changes before the changes are implemented.

4) Rigorous, risk-based and credible self-assessments, which may include use of nationally recognized experts and other independent reviews to assess and improve SLAC work processes and to carry out independent risk and vulnerability studies.

5) Identification and correction of negative performance/compliance trends before they become significant issues.

6) Integration of the SCAS with other management systems including Integrated Safety Management (ISM).

7) Metrics and targets to assess performance, including benchmarking of key functional areas with other DOE contractors, industry and research institutions. Assure development of metrics and targets that result in efficient and cost effective performance.

8) Methods for providing continuous feedback, performance improvement, and issues management.

9) An implementation plan (if needed) that considers and mitigates risks.

10) Timely and appropriate communication to DOE SSO of assurance related information and access to electronic assurance systems and processes.

3. Approach to Contractor Assurance

The University's approach to contractor assurance is predicated on the following three key principles, which form the basis for the implementation of SCAS:
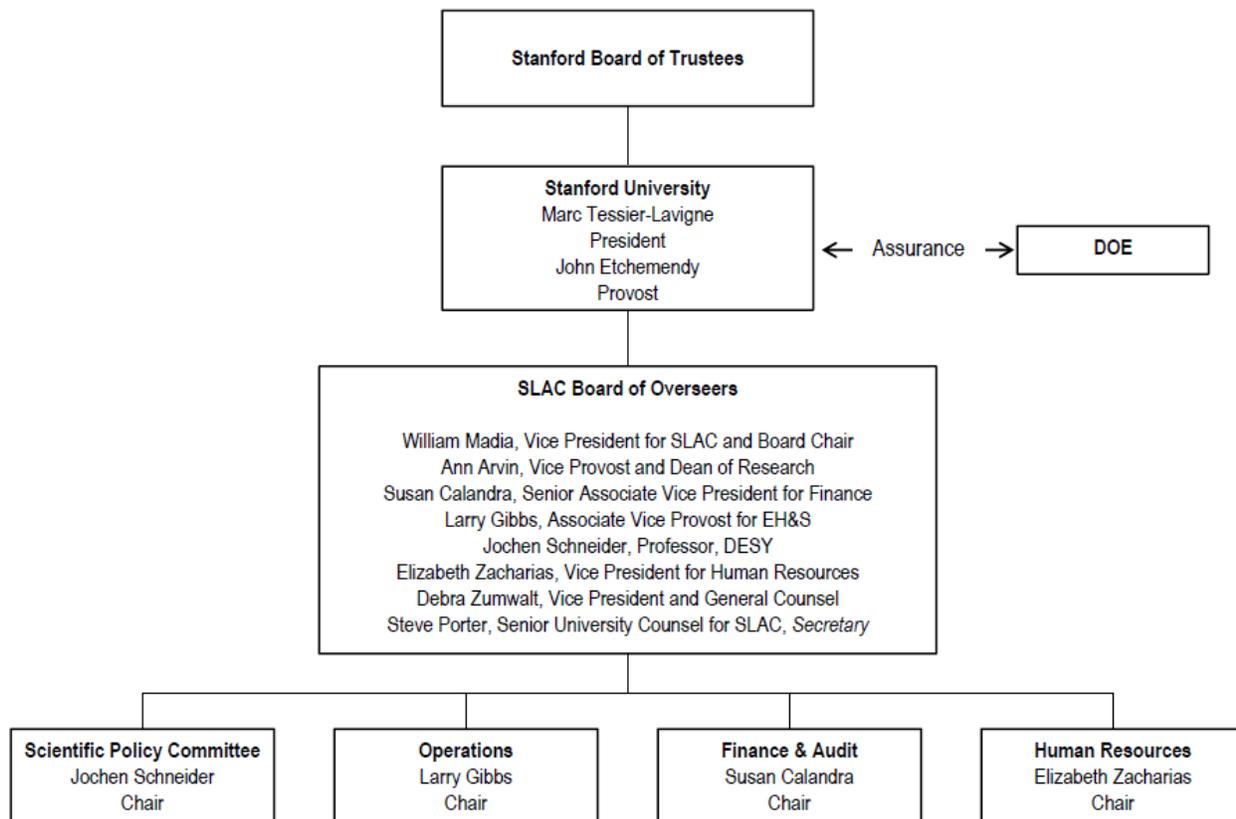
1) The scope of our assurance activities is *comprehensive* and considers every element of SLAC's Scope of Work under the contract.

2) Our assurance is *independent*. SLAC provides the University with any and all information required to fulfill the assurance requirements but the University independently verifies this information in drawing its conclusions.

3) Assurance is *focused on the management systems* SLAC uses to manage and operate the Laboratory for DOE, not on transactions. However, if the University deems it necessary to examine issues at the transactional level, it may do so, but this is the exception not the rule.

4. Organization, Roles, Responsibilities, Authorities and Accountabilities

Stanford, SLAC and DOE have an integrated assurance framework built on trust, transparency, and teamwork that provides defense in depth and enables the mission of SLAC. This assurance model is shown in the figure below.
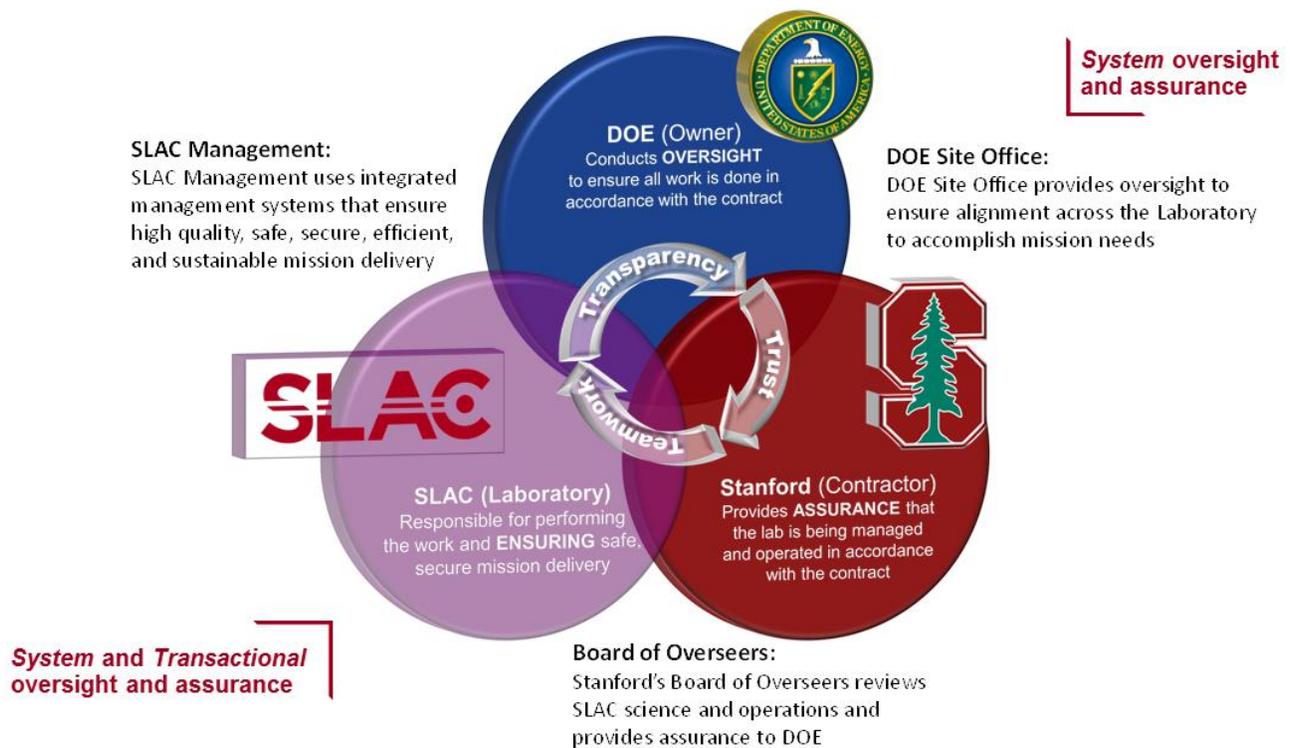
Stanford's portion of the assurance system shown above is implemented via the Stanford Board of Overseers (Board), which is chartered by the Stanford President and approved by the Stanford University Board of Trustees. Membership of the Board is shown in the following organizational chart:

Organizational chart:

- **Stanford Board of Trustees**
  - **Stanford University**
    Marc Tessier-Lavigne
    President
    John Etchemendy
    Provost
    — ← Assurance → **DOE**
    - **SLAC Board of Overseers**

      William Madia, Vice President for SLAC and Board Chair
      Ann Arvin, Vice Provost and Dean of Research
      Susan Calandra, Senior Associate Vice President for Finance
      Larry Gibbs, Associate Vice Provost for EH&S
      Jochen Schneider, Professor, DESY
      Elizabeth Zacharias, Vice President for Human Resources
      Debra Zumwalt, Vice President and General Counsel
      Steve Porter, Senior University Counsel for SLAC, *Secretary*
      - **Scientific Policy Committee**
        Jochen Schneider
        Chair
      - **Operations**
        Larry Gibbs
        Chair
      - **Finance & Audit**
        Susan Calandra
        Chair
      - **Human Resources**
        Elizabeth Zacharias
        Chair

5. Roles of the various components in the assurance process

Board of Trustees of Stanford University: Responsible for the governance of Stanford University, commits the University to its obligations under the DOE Prime Contract and is ultimately accountable to DOE for Stanford and SLAC performance.

President of Stanford University: Chief executive of the University, responsible for all University operations including SLAC, supervises the SLAC Laboratory Director and Vice President for SLAC.

Vice President for SLAC: Chair of the Board of Overseers and primary point of contact with DOE on all Contractor-related matters, manages the assurance process for the University, maintains the SCAS description in accordance with Clause H.4.1.3, provides support and resources as needed for SLAC programs and operations, and provides timely notification to the DOE SSO of significant changes to the assurance system prior to their implementation and access to assurance related materials, as noted in items 1, 3 and 10 in Section 2.

The Board Charter defines the following duties:

- The creation and maintenance of an intellectual environment at SLAC that is conducive to the stimulation of innovative research and development work in support of DOE's missions.

- Assuring SLAC has an operationally effective assurance program for risk identification, evaluation and mitigation to support the long-term viability of the science and mission support programs.

- The development of long-range objectives for the Laboratory, ensuring programs,

infrastructure, staffing and budgets are appropriately established and managed.

- The synergy between SLAC's programs with Stanford research and educational missions.

- The provision of technically competent, productive and efficient scientific, engineering, professional, managerial and support personnel capable of performing outstanding, high quality work.

- A requirement that all SLAC policies, programs and facilities are periodically reviewed thus ensuring that a wide range of information and advice from other laboratories, universities and industry has been obtained and considered, as appropriate.

- The establishment of policies and objectives for cooperative research and educational programs between the scientific and technological community and SLAC, encouraging the training of students, teachers and other research personnel and securing vigorous participation in SLAC's programs by staff from other research institutions and industrial organizations, as appropriate, in a substantial and mutually beneficial manner.

- Ensuring that SLAC operates its facilities and carries on its programs in a manner consistent with the principles of Integrated Safety and Security Management, assuring the safety, operability and functional adequacy of all Laboratory facilities and systems, and the health, safety and security of its employees and the general public, while protecting the environment.

- Providing assurance to DOE that SLAC is operating as intended and within defined risk limits.

The Board operates through four permanent Committees, described below, and each may establish *ad hoc* committees or sub-committees as deemed necessary. Each Committee is responsible for assuring performance and providing value-added support to SLAC in its assigned area. Specifically, each Committee is responsible for carrying out its obligations as noted in items 2, 4, 5, 7, 8 and 9 in Section 2. The methods by which each Committee carries out these duties will vary due to the differing nature of their charters. Committee members are drawn from both within and outside Stanford University. The Board and each permanent Committee meet semi-annually.

Finance and Audit Committee (chair, Stanford University Vice President for Business Affairs): The F&A committee seeks to ensure that SLAC's financial, information technology, and information security administrative policies, processes and systems support the SLAC mission and that Laboratory control systems are working as intended to safeguard DOE and Stanford assets.

Human Resources Committee (chair, Stanford University Vice President for Human Resources): The HR committee seeks to ensure that SLAC's Human Resources Development and Services administrative policies, processes and systems, including the compensation system and the succession planning process, support SLAC's mission while conforming to Stanford's HR policies and practices.

Operations Committee (chair, Stanford University Associate Vice Provost, Environmental Health and Safety): The OPS committee seeks to ensure that SLAC's facilities and infrastructure, environment safety and health, safeguards and security, emergency management and project management (collectively "operations support") administrative policies, processes and systems, including strategic and operational plans, are adequate to enable SLAC's mission and assure safety, security and organizational compliance for staff, the public and the environment.

Scientific Policy Committee (chair selected by the Stanford VP for SLAC in consultation with SPC membership): The SPC reviews the progress and direction of research at SLAC and helps to ensure that SLAC's science policy is aligned with and advances DOE's mission needs and Stanford's educational and research goals, and is being executed in a manner that will advance the boundaries of scientific understanding.

Additionally, the following organizations carry out specific but related roles in this process.

- **SLAC Laboratory Counsel**: Secretary to the Board, provides legal counsel to Stanford and SLAC Director regarding the M&O contract, and is the primary point of contact to DOE for prime contract matters.

- **Stanford Office of Sponsored Research**: Administers the prime contract on behalf of Stanford University.

- **Stanford University Internal Audit**: Conducts internal audits of SLAC and reports their findings independently to the Stanford Board of Trustees.

- **SLAC Management Team**: Uses a risk-based approach to manage the Laboratory through integrated management and assurance systems, processes and tools that monitor all aspects of Laboratory performance and drive improvement.

- **SLAC Legal and the SLAC Contractor Assurance and Contract Management offices**: Assures integration of the SCAS with all SLAC management systems, e.g. Integrated Safety and Environmental Management, and is responsible for oversight and implementation of risk based assurance processes and processing DOE/Stanford Contract modifications.

6. SCAS Document Crosswalk to SLAC program documents and processes

(1)	A comprehensive description of the assurance system with processes, key activities, and accountabilities clearly identified.	SCAS document
(2)	A method for verifying/ensuring effective assurance system processes. Third party audits, peer reviews, independent assessments, and external certification (such as VPP ISO 9001 or ISO 14001) may be used.	SCAS document (section 5), SLAC Management Plan, and SLAC QAP
(3)	Timely notification to the DOE SSO of significant assurance system changes before the changes are implemented.	SCAS document (section 5)
(4)	Rigorous, risk-based and credible self-assessments, which may include use of nationally recognized experts, and other independent reviews to assess and improve SLAC work processes and to carry out independent risk and vulnerability studies.	SCAS document and SLAC QAP

(5)	Identification and correction of negative performance/compliance trends before they become significant issues.	SCAS document and SLAC QAP
(6)	Integration of the assurance system with other management systems including ISM.	SLAC QAP
(7)	Metrics and targets to assess performance, including benchmarking of key functional areas with other DOE contractors, industry and research institutions. Assure development of metrics and targets that result in efficient and cost effective performance.	SCAS document, SLAC Management Plan, SLAC QAP, SLAC Business/Research Plans
(8)	Methods for providing continuous feedback and performance improvement.	SCAS document and SLAC QAP
(9)	An implementation plan (if needed) that considers and mitigates risks.	SCAS document, SLAC Management Plan, and SLAC Enterprise Risk Management Program.
(10)	Timely and appropriate communication to the DOE SSO of assurance related information and access to electronic assurance systems and processes.	SCAS document

7. Revision History

Revision	Date Released	Description of Change
R2		Updated to reflect RWG Contract Modification on 10-1-2016, changes to Board and Stanford leadership, re-inclusion of reference to SLAC Management Plan, and alignment with Board Charter document
R1	January 2015	Updated to reflect changes in Board and SLAC responsibilities, and removal of reference to SLAC Management Plan
R0	May 2011	Initial Issue