



University of California
Contractor Assurance System Description
for
Lawrence Berkeley National Laboratory
Berkeley Lab PUB-5520
Revision 2

October 2016

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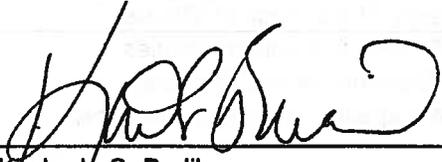
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Record of Revisions

Rev. No.	Date	Description
1	August 2010	Revised to address requirements of Contract 31 Clause H.30. Added overview of CAS roles and responsibilities. Expanded description of UC Governance and Berkeley Lab Organization. Eliminated ES&H-specific references required by DOE Order 226.1A.
2	October 2016	Updated description to current practice as of October 2016. Added description of COO Quad Chart and Integrated Assessment Planning. Updated Governance Section to include change to UC Oversight. New diagrams throughout.

Review and Approval

The University of California and Lawrence Berkeley National Laboratory approve the UC University of California Contractor Assurance System Description for Lawrence Berkeley National Laboratory.



Kimberly S. Budil
Vice President for National Laboratories
University of California

9/28/16

Date



Michael Witherell
Director
Lawrence Berkeley National Laboratory

10/5/16

Date

1.0 Overview

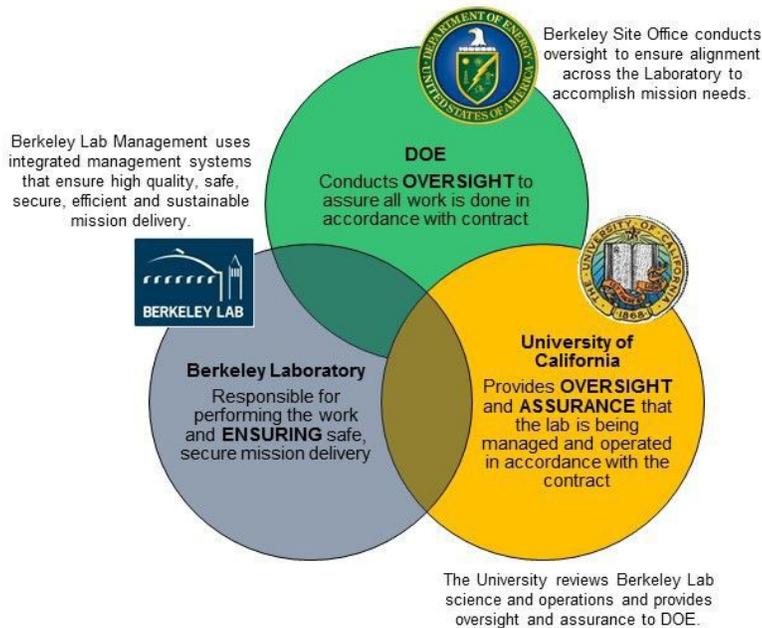
1.1 Introduction

Lawrence Berkeley National Laboratory (Berkeley Lab) is managed and operated by The Regents of the University of California (UC) under U.S. Department of Energy (DOE) Contract No. DE-AC02-05CH11231 (Contract 31).

The UC Contractor Assurance System (CAS) for Berkeley Lab is a system of processes and tools designed to provide assurance that the Laboratory’s mission objectives are achieved; its workers, the public, and the environment are protected; its operational, facility and business systems are effectively managed; and the requirements of the UC/DOE contract are met. The CAS description has been developed jointly between the UC Office of the National Laboratories (UCNL) and Berkeley Lab. The DOE Berkeley Site Office (BSO) is provided timely notification of significant changes to the assurance system prior to implementation.

The CAS has been developed to identify and resolve problems and negative performance trends before they become significant issues, systematically integrate and align work based on risk and performance, and improve work by incorporating lessons learned and best practices. The assurance system is integrated with other management systems like the Integrated Safety Management System and utilizes metrics and other targets to drive efficient and cost effective performance.

A critical element of the UC assurance system for Berkeley Lab is a strong partnership among UC, the Lab, and DOE. This partnership is evident in the frequent formal and informal communications at all levels, transparency of management systems and processes, timely flow of information, and joint resolution of issues.



Implementation of the CAS is evaluated and reflected in the annual DOE Office of Science (SC) Performance Evaluation and Measurement Plan (PEMP) and the Tri-Party Performance Review process—a formal and documented review of key performance results, risks and concerns, and assurance activities. Results for each of Berkeley Lab’s PEMP goals are reviewed regularly by respective managers from UC, Berkeley Lab and SC/BSO. Significant issues and concerns that arise from the functional meetings and other CAS elements are reviewed with senior UC, Berkeley Lab, and SC/BSO management, and improvement actions are implemented, as appropriate. This process results in a comprehensive year-end assessment report by DOE.

1.2 Objectives

The CAS description is designed to fulfill the following main objectives:

- Conform to the requirements of DOE-UC Contract 31, Clause H.30—Contractor Assurance System
- Satisfy the DOE Office of Science Deputy Director for Field Operations’ definition of Assurance at Office of Science Laboratories
- Describe the UC Governance role to oversee and hold Berkeley Lab Management accountable for achieving desired mission outcomes
- Describe the communication and reporting relationship between the University of California and Berkeley Lab, as implemented by the UC Governance process, the Office of Institutional Assurance and Integrity (OIAI) and Berkeley Lab Management
- Describe the processes for assuring acceptable operational performance of Berkeley Lab to DOE, Berkeley Lab Management, and the University of California
- Describe the methodology to promote continuous improvement of Berkeley Lab operating and infrastructure programs and systems.

1.3 Applicability

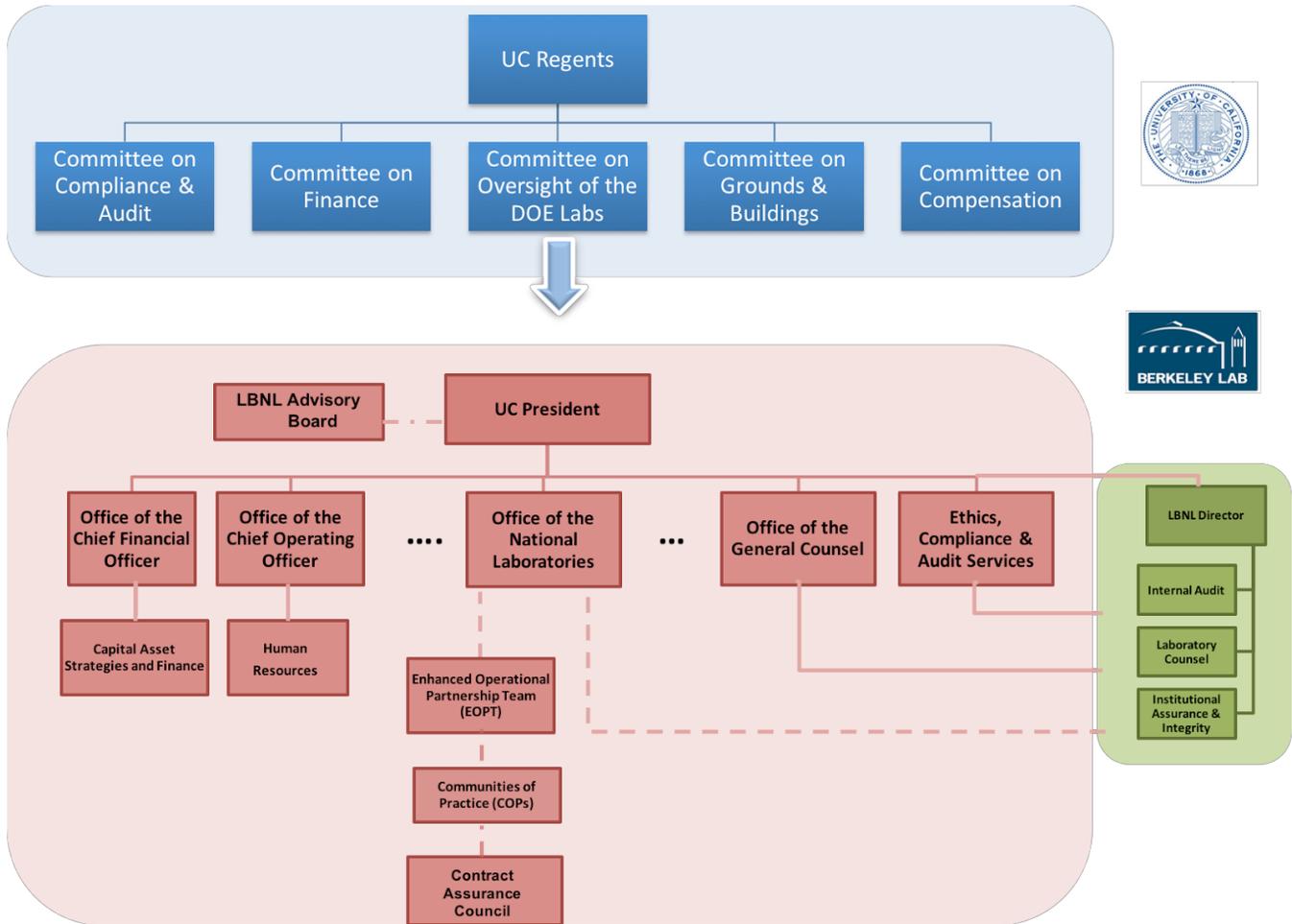
The CAS applies to operations in all Laboratory divisions.

2.0 University of California Governance and Institutional Assurance

The University of California (UC) maintains fiduciary, oversight and assurance responsibilities as the management and operating (M&O) contractor for Berkeley Lab. UC strives to oversee Berkeley Lab operations in a proactive, anticipatory, responsive, mission-enabling and cost-effective manner that is valued by the DOE Office of Science. The governance process enables UC to oversee and provide reasonable assurance that the Berkeley Lab management systems and controls will be effective and efficient.

UC oversight and governance draws broadly from UC resources, starting with the Regents and their Committees and includes many functional services within the Office of the President. Below is a description of some of the key governance functions.

UC Governance and Oversight Structure for Berkeley Lab



2.1 The Board of Regents (The Regents)

The University of California is a public research university chartered under Article IX of the Constitution of the State of California as a separate and independent corporation governed by a Board of Regents. The Regents appoint the President of the University and all officers of the Regents and officers of the University, including the Berkeley Lab Director. The Regents have several standing committees that address various aspects of its corporate responsibilities, including the Committee on Oversight of the DOE Laboratories that is engaged in national laboratory governance and the Committee on Compliance and Audit that oversees the Internal Audit function at Berkeley Lab.

UC is the sole prime contracting entity for Berkeley Lab. The Regents' approval is required for contract modifications that, by the determination of UC General Counsel, constitute a cardinal change to the UC-DOE prime contract as a matter of law. All other changes to the prime contract can be acted on by the UC Office of the National Laboratories (UCNL).

2.2 UC Office of the President (UCOP)

Management responsibility for the University is delegated by The Regents to the University President and from the President to other officers of the University, including the Vice

President for National Laboratories (VPNL) and the Director of Berkeley Lab. The Berkeley Lab Director reports directly to the UC President and is responsible and accountable for the Laboratory's strategic direction and day-to-day management as defined in and consistent with the prime contract and University policy. The VPNL provides management oversight of Berkeley Lab through the activities of the UC Office of the National Laboratories (UCNL), and through governance and oversight processes, including the Berkeley Lab Advisory Board and the Berkeley Lab Contract Assurance Council (CAC).

2.3 UC Office of the National Laboratories (UCNL)

Housed within UCOP and reporting to the VPNL, the UCNL plays the lead role in supporting the University's prime contract and assurance responsibilities associated with Berkeley Lab.

Oversight and assurance functions performed by the UCNL include:

- Developing and managing an institutional governance and oversight process
- Conducting monthly meetings of the Berkeley Lab Contract Assurance Council to provide input on operational risks and performance
- Participating in internal Laboratory assurance activities
- Conducting regular meetings with leadership at DOE, the Office of Science and the BSO to acquire feedback on UC and Berkeley Lab performance
- Providing oversight and fostering critical self-evaluation of Business and Operations (B&O) functions, including UC-chartered management assessments and reviews
- Conducting standing meetings with UCNL staff and Berkeley Lab leadership to increase operational awareness
- Participating in key Berkeley Lab meetings and forums (e.g., Operations Risk and Performance Management Meeting, Internal Audit Advisory Committee, etc.) and semi-annual Tri-Party Performance Evaluation and Measurement Plan (PEMP) reviews
- Managing Berkeley Lab prime contract administration
- Informing The Regents, UC President and other University officers and senior management and the University's Academic Senate leaders regarding performance, important issues, and risks associated with the Laboratory
- Assisting the President in the search and screening process for the Laboratory Director and coordinating the five-year review of the Laboratory Director's performance
- Assuring the contract-compliant, effective and cost-efficient execution of Laboratory Business and Operations (B&O) function in support of the mission
- Assuring the health and vitality of Berkeley Lab's Scientific and Technological (S&T) programs in meeting the Laboratory's DOE mission via a rigorous and robust peer review process.

UCNL maintains close coordination with the Lab's Office of Institutional Assurance and Integrity (OIAI).

2.4 Berkeley Lab Contract Assurance Council

The Berkeley Lab Contract Assurance Council (CAC) is chaired by the VPNL and includes senior managers and experienced B&O professionals. The Council provides input on 1) effective UC governance of Berkeley Lab; 2) effective risk identification and quality of assessments performed by Laboratory B&O functions; 3) adherence to contract requirements and UC policy; and 4) Lab-wide issues that should be raised to the VPNL for UC institutional assurance attention and remedy. CAC meetings are held monthly with one extended meeting held per quarter for more extensive discussion.

Specific CAC activities include review of the following areas:

- Contractor Assurance System (CAS)
- Laboratory policies, systems, procedures and practices to protect DOE and UC assets
- B&O performance measures, metrics and results
- Efficiency and effectiveness of systems in supporting mission accomplishment
- B&O management initiatives and improvements
- Areas that will require third-party assessments
- Significant Lab-wide issues that need IC institutional assurance attention and/or third party assessments.

2.5 Berkeley Lab Advisory Board

The UC President solicits feedback on overall Lab performance via the Berkeley Lab Advisory Board. Board membership consists of distinguished leaders, appointed by the UC President and drawn from academia, industry and government, and one representative of the UC faculty, appointed by the UC Academic Council following consultation with the UC President and the Berkeley Lab Director. The following University officers serve in an ex-officio capacity: the Provost and Executive Vice President for Academic Affairs, VPNL, UC Berkeley Chancellor and Berkeley Lab Director. The Board is co-chaired by members selected by the UC President. The Board meets 2-3 times per year. The Board members are expected to challenge and improve scientific programs and to champion best-in-class management practices and systems.

The charter for the Advisory Board is to:

- Provide advice to the UC President about the scientific and operational aspects of Berkeley Lab
- Evaluate and make recommendations on overall content and direction of Berkeley Lab scientific programs and UC governance of Lab management
- Comment on the vision and strategic roadmap of Berkeley Lab, the effectiveness of the leadership, programs, and projects, the quality of the scientific staff and the intellectual and work environment
- Provide input to the University on significant Lab-wide issues that need UC-affiliated institutional assurance attention and remedy.

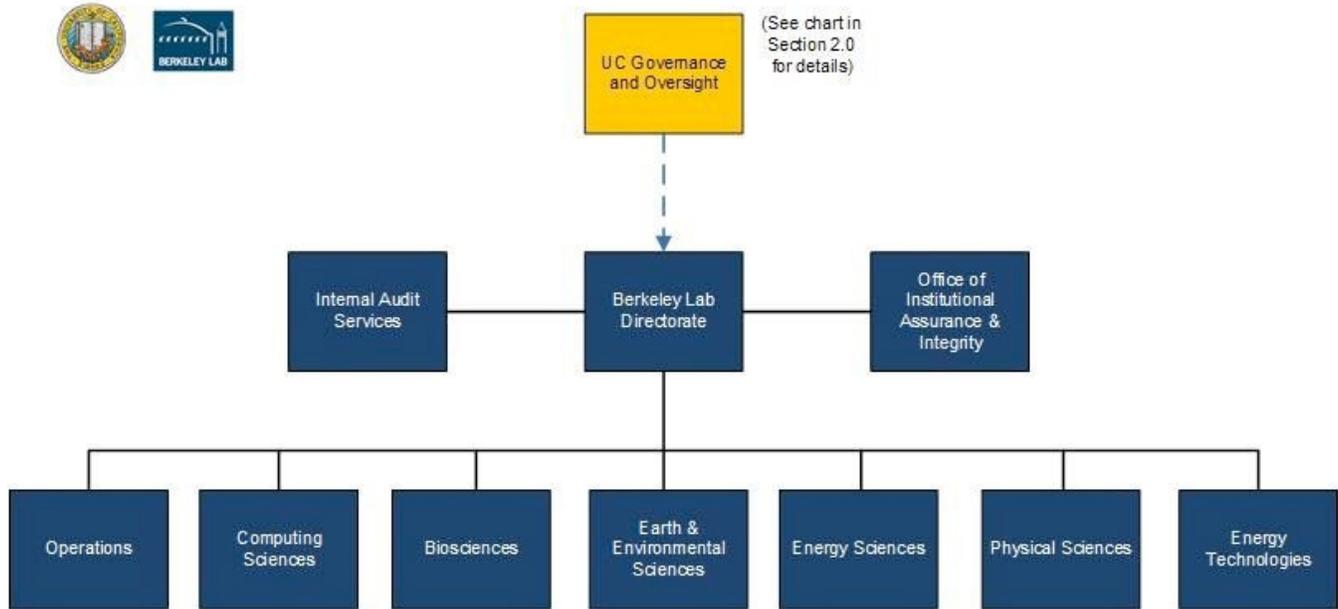
2.6 UC Academic Council Special Committee on Lab Issues (ACSCOLI)

ACSCOLI is a Standing Committee of the University's Academic Senate that provides Academic Senate input and advice on the University's relationship with the UC-affiliated national labs, including but not limited to providing advice to the President and the Regents on general policies relating to the national labs, assisting the national labs in their research and programmatic review procedures by identifying UC faculty with relevant technical expertise, promoting greater intellectual exchange and closer connections between the labs and UC faculty and students, stimulating faculty interaction in research collaborations with the national labs and validating the benefits to UC of participation in management of the labs. The VPNL and Associate VPNL serve as consultants to ACSCOLI, attend meetings and provide input to ACSCOLI on matters related to the three UC-affiliated national labs.

3.0 Berkeley Lab Assurance

UCNL, Berkeley Lab line management and the Lab's independent assurance organizations (Institutional Assurance and Integrity and Internal Audit) produce the management information ultimately used as a basis for the assurance that UC provides to DOE.

Assurance Structure



3.1 Berkeley Lab Management and Staff

The Berkeley Lab Director is an officer of the University with overall responsibility for the strategic direction and day-to-day management of Berkeley Lab. The Director and his or her senior management team set the strategic direction, deploy resources, and develop management systems and process controls to address risks. In fulfilling its duties, this senior management team has the responsibility for Laboratory stewardship, mission accomplishment, program development and operational excellence.

Berkeley Lab line management and staff conduct the daily work, processes and activities of the Laboratory using management systems and process controls to achieve the objectives set by the senior management team. Line managers and staff regularly evaluate performance and assess risks with tools developed by Lab management, line organizations, and the Office of Institutional Assurance and Integrity (OIAI). Assessments are conducted to assure that performance is effective and meets regulatory and contractual requirements. Findings and risks are reported to Lab senior management and the OIAI; corresponding corrective actions are developed and tracked to resolution. Line managers regularly engage DOE, BSO and UCNL regarding performance results, risks, and assurance activities.

3.2 Office of Institutional Assurance and Integrity (OIAI)

Reporting to the Laboratory Director, and indirectly to the VPNL, the Office of Institutional Assurance and Integrity (OIAI) is an internal independent assurance organization that provides oversight of Berkeley Lab's management systems and operating processes. In partnership with line management, the OIAI monitors operational performance, develops and tracks performance metrics, identifies and tracks operational risks and mitigations, and coordinates independent internal and external assessments and investigations. This oversight ensures that Berkeley Lab achieves compliance,

effective and efficient operational support for science, best management practices, and continuous improvement. OIAI provides assistance and expertise in UC/DOE Prime Contract Management, Requirements Management, Risk and Management Performance, Quality Assurance, Price Anderson Amendment Act (PAAA) Enforcement, Issues Management, Employee Concerns, Research Integrity, Conflict of Interest (administrative and research) and protection of Human and Animal Subjects. In partnership with UCNL, Berkeley Lab line management, and Internal Audit Services, OIAI develops and implements Berkeley Lab's contractor assurance system at Berkeley Lab.

3.3 Internal Audit Services (IAS)

The mission of Internal Audit Services (IAS) is to assess and monitor the Berkeley Lab community in the performance of its oversight, management and operating responsibilities in relation to governance processes, systems of internal controls and compliance with laws, regulations, contracts and policies of Berkeley Lab, UC and DOE. The Internal Audit Director reports administratively to the Laboratory Director (or appropriate designee) and functionally to the UCOP Senior Vice President and Chief Compliance and Audit Officer, who reports directly to the Regents through the Committee on Compliance and Audit. The Regents have independent authority in the appointment or dismissal of the Internal Audit Director.

IAS provides an independent and objective assurance and consulting activity guided by a philosophy of adding value to improve Laboratory operations. IAS assists Laboratory Management in accomplishing its objectives by bringing a systematic and disciplined approach to evaluate and improve the effectiveness of the organization's risk-management, control and governance processes.

Based on a formal and ongoing comprehensive risk assessment process, IAS develops an Annual Audit Plan that includes audits suggested by UCNL, Berkeley Lab Management and a limited number of UC system-wide topics. A draft Audit Plan is reviewed by the Berkeley Lab Audit Advisory Committee, which is chaired by the Berkeley Lab Director and attended by Lab Management and representatives of UCNL and the UC Chief Compliance and Audit Officer. The draft audit plan is then submitted for final approval by The Regents Committee on Compliance and Audit. Both the Berkeley Lab Audit Advisory Committee and The Regents Committee on Compliance and Audit meet regularly to discuss audit results, issues raised and status of follow-up on management responses to audit recommendations.

4.0 Berkeley Lab Assurance Processes and Activities

Assurance activities identify and monitor risks, the effectiveness of management systems and process controls and the consistency of performance to DOE contract requirements and missions. These activities promote improvement through corrective action development and implementation and communication of operating experiences. The output provides UCOP and Berkeley Lab management with regular data and information on performance trends and significant or emerging risks.

Collectively, these activities and outputs comprise Berkeley Lab's Contractor Assurance System. The CAS is implemented commensurate with risk and is aligned with Berkeley Lab functions and work processes to promote risk identification and management.

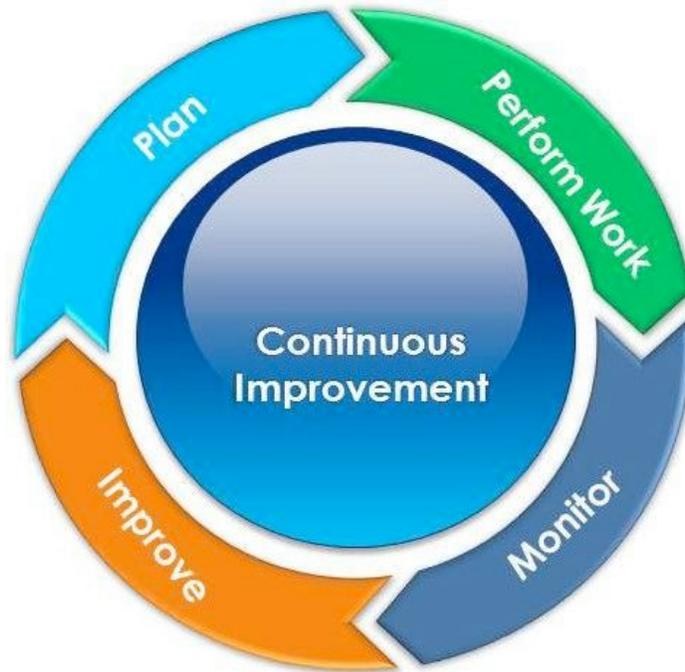
Laboratory organizations regularly evaluate and improve the performance of their units. Key assurance activities performed by Berkeley Lab organizations include:

- Managing contract requirements
- Identifying and managing inherent and emerging risks

- Monitoring performance through performance measures and assessments
- Identifying and effectively correcting deficiencies
- Continuously improving processes, products and services.

The OIAI uses assurance processes to ensure:

- Berkeley Lab policies and institutional procedures address contract requirements
- Berkeley Lab management systems and process controls are working as intended to manage the Laboratory's risks while accomplishing its mission
- Timely and appropriate communication to Berkeley Lab Senior Management, UCOP and DOE, including electronic access to assurance-related information.



4.1 Plan

Berkeley Lab plans work to execute DOE and Laboratory mission. Planning includes ensuring that contractual and regulatory requirements are appropriately considered, and performance goals, objectives and strategic outcomes are established at institutional and organizational levels. Throughout the planning process, risks inherent to the planned work are identified so that effective controls are developed and implemented.

4.1.1 Requirements Management

Berkeley Lab's Requirements Management Program oversees the system and processes for translating Contract 31 and UC requirements into Laboratory policies, programs, and procedures that its workforce uses to effectively and efficiently meet the needs of its customers and stakeholders. The program has three main elements:

- A process to manage new or changed requirements
- A business (or database) system to manage and trace the relationships among Laboratory requirements, policies, programs and other institutional documents and information
- A document management process for managing Laboratory policies, programs and procedures.

4.1.2 Operations and Assurance Planning

Berkeley Lab Operations functions have integrated assurance into their management systems, consistent with their strategic goals and objectives. Assurance activities are implemented for each respective function. These activities include assessments, performance measures, ongoing operational awareness and reporting mechanisms.

Based on the results of executing its operations, each Berkeley Lab Operations function manager regularly prepares a Performance Review Report that is provided to BSO, UCOP and Berkeley Lab Management for review. Additionally, each function holds a semiannual Performance Review Meeting with representatives from BSO, UCOP and Berkeley Lab to discuss the report and related performance.

4.1.3 Integrated Assessments Planning

At the beginning of each fiscal year, Berkeley Lab initiates the Integrated Assessments Planning (IAP) process. The assessment processes play a key role in achievement of CAS, ISMS, and quality assurance goals. The annual Integrated Assessment Schedule includes DOE, UCOP, Berkeley Lab and external assessments. The Integrated Assessment Schedule is updated periodically during the fiscal year as ongoing assessment needs are identified or reprioritized.

The IAP process utilizes a risk-based graded approach to identify and schedule Laboratory initiated assessments to be performed during the current fiscal year. A key component and source of information for the IAP process is the Annual Audit Plan, which is based on a Lab-wide risk assessment survey initiated prior to the end of the third quarter of the previous fiscal year.

Significant sources of input to the IAP process are: (1) DOE headquarters and BSO reviews; (2) UC reviews; (3) scheduled external reviews; (4) Annual Audit Plan; and (5) other assessments identified by Berkeley Lab. All sources are calibrated to ensure that assessment activities planned for the current fiscal year provide reasonable coverage, especially for areas identified as significant, and reduce or eliminate duplicative effort to the extent feasible.

4.1.4 Performance Evaluation and Measurement Plan

The Performance Evaluation and Measurement Plan (PEMP) serves as DOE's primary method to formally evaluate the contractor's performance relative to high priority outcomes and directly ties to the award of fee and contract term extension. Correspondingly, the PEMP is an important planning tool because it expresses high priority initiatives in science, management and operations that Berkeley Lab is expected to pursue in a particular fiscal year performance review period.

The PEMP is used by DOE to evaluate how Berkeley Lab is managing and operating the Laboratory and meeting the mission requirements and performance expectations/objectives of DOE as stipulated within the contract. The appraisal process utilizes a common structure and scoring system across all of the Office of Science laboratories. Structured around eight performance goals, the appraisal process emphasizes the importance of delivering the science and technology necessary to meet the missions of DOE; operating the Laboratory in a safe, secure, responsible and cost-effective way; and providing the leadership, stewardship and value expected by DOE. DOE solicits input from major sponsors of work at Berkeley Lab.

4.2 Monitoring and Feedback

UCNL and Berkeley Lab management and staff monitor the effectiveness of internal controls to ensure that inherent risks are appropriately managed and emerging risks are identified. The Safety Concerns Program provides direct communication to the EHS division regarding safety issues. In addition, OIAI operates an employee concerns program that provides any concerned

individual a means to communicate concerns regarding the operations and management of the Laboratory. The EthicsPoint system includes 24/7 anonymous reporting capability and provides simultaneous notification to OIAI and UCOP.

4.2.1 Assessment

Assessments are a primary mechanism for assuring that Berkeley Lab organizations and activities function effectively in making progress toward strategic goals and satisfying Laboratory mission needs. Two forms of assessment are performed:

- Self-assessments conducted by senior managers, line managers and staff responsible for the assessed areas
- Independent assessments conducted by either UCOP or Berkeley Lab parties independent of the assessed programs or by external parties independent of Berkeley Lab/UC.

Berkeley Lab maintains an Integrated Assessment Schedule, described in more detail elsewhere in this document, that captures all planned self- and independent assessments of Operations functions and includes for each assessment: a description of the assessment, the primary driver of the assessment, when it is scheduled to be performed (if known), the organization conducting the assessment, and the organization being assessed.

4.2.2 Performance Measures

Performance measures aligned with strategic goals and objectives are vital to monitoring operational performance and risks, analyzing data, and identifying emerging trends. Performance measures are used to communicate progress and trends to DOE, UCOP and Berkeley Lab Management. Performance measures may also be used to benchmark Berkeley Lab performance against other organizations.

4.2.3 Operations Risk Registry

The Operations Risk Registry provides Operations senior managers and UCOP with a vehicle to identify and discuss significant Operations risks facing the Laboratory. It is a compilation of significant unmitigated or partially mitigated risks that pose realized or potential threats (i.e., high risks) to Laboratory mission and reputation in the following areas:

- Effectiveness and efficiency of operations
- Worker safety and health
- Community and environmental stewardship
- Financial and asset management
- Physical and cyber security
- Human resources management
- Project management
- Regulatory and contractual compliance.

The registry documents risk mitigation and/or improvement measures, risk severity and the responsible owner of the risk. The primary sources for the Risk Registry are risks identified in Operations Quad Charts, results of Tri-Party Performance Review process, feedback from the CAC governance process, assessment results, high-risk adverse events and conditions and ongoing management awareness.

4.3 Improve

Improvement is an ongoing process that uses feedback to manage risks; improve processes, products, and services; and prevent or minimize operational problems (i.e., contractual, legal, financial and ES&H deficiencies).

Improvement activities involve:

- Engaging management in prioritizing risk management and improvement opportunities
- Learning from our own operating experiences and the experiences of others, and developing and disseminating the associated lessons learned and best practices within specific Laboratory organizations, Lab-wide and/or to the DOE complex.

4.3.1 Issues Management

Through the Issues Management Program, Berkeley Lab promptly identifies and manages issues to:

- Determine risk and severity
- Identify causes and mitigation
- Develop and effectively implement corrective actions to ensure successful resolution and prevent problems from reoccurring.

Issues are managed using a risk-based approach. Depending on risk severity, issues may warrant causal analysis, extent-of-condition review, formal corrective action plan development, and verification and validation of corrective action effectiveness.

OIAI discusses significant issues and concerns with the Berkeley Lab Chief Operating Officer and UCNL as necessary. OIAI elevates concerns to the CAC as appropriate.

4.3.2 Lessons Learned (Operating Experience)

The Berkeley Lab Lessons Learned Program is designed to ensure ongoing performance improvement, prevent the recurrence of significant adverse events/trends, and communicate implementation strategies that will help Berkeley Lab successfully meet the missions and goals set forth by DOE.

OIAI and Berkeley Lab managers review lessons learned and best practices from external sources (e.g., DOE corporate Lessons Learned, industry notifications) for applicability to the Berkeley Lab Operating Experience Program.

4.3.3 Management Reviews

The Operations Quad Charts, Operations Dashboard and Risk Registry (performance measurement tools) provide Operations senior managers with an integrated view of overall operations performance and the significant operations risks facing the Laboratory. Operations senior managers meet on a regular basis to review and discuss these performance measures, and to prioritize risk mitigation and improvement opportunities.

4.3.4 Management Reporting

In addition to ongoing management oversight, Berkeley Lab uses several formal reporting mechanisms to communicate trends, risks, and significant issues to BSO, UCOP and Berkeley Lab Management. Berkeley Lab Management uses this information and, as appropriate, feedback from BSO and UCOP, to prioritize risk mitigation and improvement opportunities. These reporting mechanisms include: the Operations Quad Charts and Risk Registry, the Contract Assurance Council reports, the Performance Analysis Reports, the Performance Review Reports, the Annual Assurance Letter, and the annual DOE Management Representation Letter.

Appendix A. Berkeley Lab Conformance with DOE-UC Contract 31, Clause H.30 Requirements

The Berkeley Lab Contractor Assurance System, as documented in the UC Contractor Assurance System Description for Berkeley Lab (Berkeley Lab/PUB-5520), conforms to all requirements identified in the DOE-UC Contract 31, Clause H.30-Contractor Assurance System.

Contract 31, Clause H.30	UC CAS Description (Berkeley Lab/PUB-5520)
1. A comprehensive description of the assurance system with processes, key activities and accountabilities clearly identified.	Entirety of UC CAS Description, PUB-5520
2. A method for 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.	Section 4.2.1, Assessment
3. Timely notification to the Contracting Officer of significant assurance system changes prior to the changes.	Section 1.1, Introduction
4. Rigorous, risk-based, credible self-assessments and feedback and improvement activities, including use of nationally recognized experts, and other independent reviews to assess and improve the Contractor's work process and to carry out independent risk and vulnerability studies.	Section 4.2.1, Assessment
5. Identification and correction of negative performance/compliance trends before they become significant issues.	Section 4.2.1, Assessment Section 4.2.2, Performance Measures Section 4.2.3, Operations Risk Registry Section 4.3.1, Issues Management
6. Integration of the assurance system with other management systems, including Integrated Safety Management.	Section 1.1, Introduction Section 4.1.3, Integrated Assessments Planning
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.	Section 4.2.2, Performance Measures
8. Continuous feedback and performance improvement.	Section 4.3, Improve
9. An implementation plan (if needed) that considers and mitigates risks for the CAS.	UC Governance Structure and Institutional Assurance Plan for LBNL, September 2016
10. Timely and appropriate communication to the Contracting Officer, including electronic access, of assurance-related information.	Section 1.1, Introduction Section 2.3, UC Office of the National Laboratories (UCNL) Section 3.0, Berkeley Lab Assurance Section 3.2, Berkeley Lab Management and Staff Section 4.0, Berkeley Lab Assurance Process Section 4.1.2, Operations and Assurance Planning Section 4.2.2, Performance Measures Section 4.3.4, Management Reporting

Appendix B. References

Source Documents

1. DOE Contract No. DE-AC02-05CH11231, [Clause H.30—Contractor Assurance System](#)
2. [Berkeley Lab Requirements and Policies Manual](#)
3. [Lawrence Berkeley National Laboratory, University of California, U.S. Department of Energy-Berkeley Site Office Operating Principles, July, 2012](#)

Implementing Documents

1. [Integrated Assessment Schedule Planning and Guidance](#)
2. [Berkeley Lab/PUB 5519, Issues Management Program Manual, rev. 0](#)
3. [Berkeley Lab Advisory Board Charter](#)
4. [Berkeley Lab Contract Assurance Council Charter](#)
5. [Berkeley Lab Internal Audit Services Charter](#)
6. [Requirements Management Process and Tools](#)
7. [Requirements Management Program Overview](#)
8. [FY16 Performance Review Meeting and Reporting Guidelines](#)
9. UC Governance Structure and Institutional Assurance Plan for LBNL, September 2016

Appendix C. Acronyms

ASCOLI	Academic Council Special Committee on Lab issues
BSO	Berkeley Site Office
CAC	Contract Assurance Council
CAS	Contractor Assurance System
DOE	Department of Energy
ESH	Environment, Safety and Health
IAP	Integrated Assessments Planning
IAS	Internal Audit Services
ISMS	Integrated Safety Management System
LBNL	Lawrence Berkeley National Laboratory
OIAI	Office of Institutional Assurance and Integrity
PEMP	Performance Evaluation and Measurement Plan
SC	Office of Science
UC	University of California
UCNL	University of California Office of the National Laboratories
UCOP	University of California Office of the President
VPNL	Vice President for National Laboratories