Management System: Integrated Performance		
Program Description: Contractor Assurance		
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1.0 Introduction/Purpose

The Prime Contract Clause H-15 requires UT-Battelle to develop a Contractor Assurance System (CAS) program description that is executed by the UT-Battelle Board of Governors and implemented by the Laboratory Management Team. This system provides reasonable assurance that the objectives of the ORNL management systems are being accomplished and that the systems and controls are effective and efficient. The Oak Ridge National Laboratory (ORNL) Contractor Assurance System, as outlined in this Program Description, includes the following key attributes:

1. The methods for verifying/ensuring effective assurance system processes (including third party audits, peer reviews, independent assessments, and external certification such as ISO registration)
2. Rigorous, risk-based, credible self-assessments, and feedback and improvement activities, including utilization of nationally recognized experts, and other independent reviews to assess and improve work processes and to contribute independent risk and vulnerability studies
3. Identification and correction of negative performance/compliance trends before they become significant issues
4. Integration of the assurance system within the ORNL Management System model, including Quality Assurance and Integrated Safety Management
5. Metrics and targets to assess performance, including benchmarking of key functional areas with other Department of Energy (DOE) contractors, industry, and research institutions. The development of metrics and targets is intended to inform and drive efficient and cost effective performance.
6. Continuous feedback and performance improvement

This program description does not establish requirements, but explains how the UT-Battelle management processes, procedures, and programs work together, in conjunction with the DOE oversight processes, to form a comprehensive Contractor Assurance System. It also describes how the UT-Battelle Board of Governors monitors this program.

At the highest level, the Contractor Assurance System is intended to ensure that:

- processes drive improvements;
- management self identifies, corrects, and prevents issues;
- operational awareness activities demonstrate effectiveness that allows DOE oversight activities to be revised;
- third party reviews/independent inspections indicate the systems and processes are effective;
- performance metrics demonstrate acceptable levels and/or consistent improvement of performance;
- resources are appropriately applied to identify issues and solve problems that effect performance or impact mission; and
- a climate of mutual trust exists between DOE, Laboratory Management, and UT-Battelle, LLC.

As part of the Assurance System, timely and appropriate communication is provided to the Contracting Officer, including: (a) electronic access of assurance related information and (b) notification of significant assurance system changes prior to the changes taking effect.

2.0 Approach to Assurance

UT-Battelle's approach to Contractor Assurance (Figure 1) is comprised of three critical and complementary functions: (a) Performance Management, (b) Governance, and (c) Corporate Value.

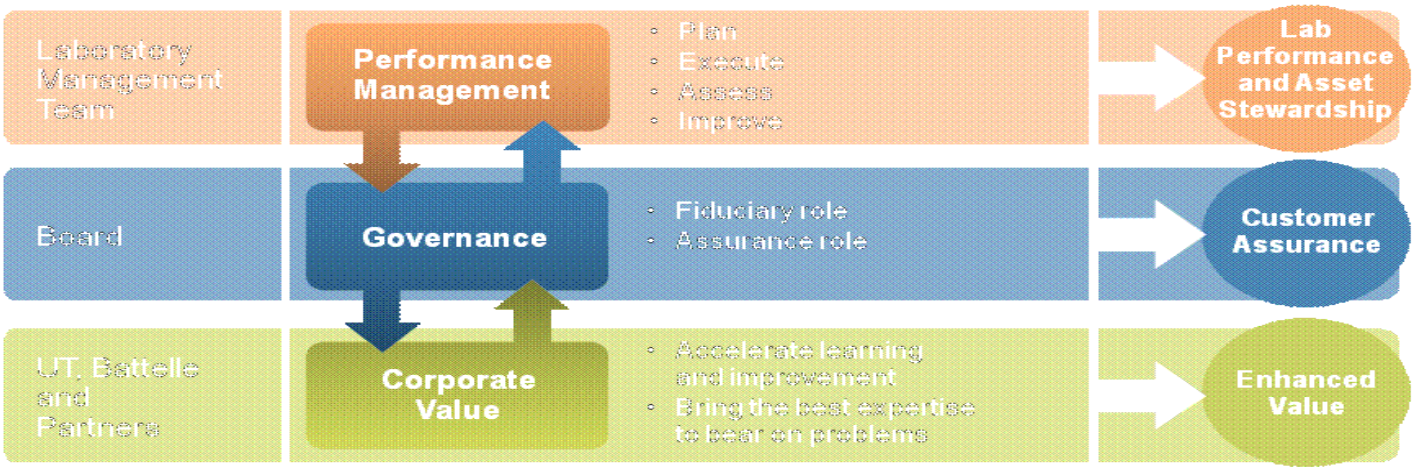

Figure 1 - UT-Battelle Contractor Assurance Model

Laboratory Management is accountable for mission accomplishment, responsible stewardship of assets, and compliance with contractual obligations through deployment of a robust set of management systems and processes. These management processes translate strategic intent into actionable initiatives that are effectively planned, implemented, assessed, and continuously improved.

The *UT-Battelle Board of Governors* (also referred to as the "Board of Governors") oversees Laboratory performance and holds its leaders accountable for mission accomplishment. This governance process provides assurance to DOE that the Laboratory is being managed and operated within approved boundaries and that risks are being appropriately managed.

Battelle and the University of Tennessee provide enhanced corporate value by providing structure and resources that accelerate learning and improvement, and by bringing the best resources to bear in dealing with difficult problems.

3.0 Implementation of Contractor Assurance Requirements

The basis for Contractor Assurance is provided by UT-Battelle's comprehensive system of management controls, extensive self-assessment process, and the confidence provided by the UT-Battelle Board of Governors' oversight and assurance process so that the following conditions exist:

- UT-Battelle's planning, management, and execution of assigned research and development programs are providing the greatest possible impact on achieving DOE's mission objectives.
- UT-Battelle's planning, management, and execution of strategy is assuring:
    1. the continual refreshment of Laboratory assets (work force, facilities, equipment, research portfolio, etc.),
    2. strategic affiliations within the broader research community, and
    3. strong advocacy within the community and the region, as established, tracked, and monitored via the Work Plan.
- UT-Battelle manages and operates the Laboratory in a manner that meets all applicable laws, regulations, and requirements while at the same time emphasizing enhanced research productivity so that the Laboratory produces the greatest possible research output per dollar of research investment.
- UT-Battelle provides the following contractor assurance related deliverables through established means of communications to the Contracting Officer:
    1. UT-Battelle's Contractor Assurance System description;
    2. UT-Battelle's Laboratory Agenda, which provides a multiyear view for Laboratory strategy, a forward-looking planning basis for major programs, and the complimentary staff, facilities, equipment necessary to deliver intended science and technology (S&T) outcomes;
    3. The Self-Evaluation Report, which addresses mission accomplishment, Laboratory stewardship, and program development guided by DOE-SC strategy, as described in the annual Performance Evaluation Plan; and
    4. The Management Control Letter, which addresses operational and financial management as required by the UT-Battelle contract.

3.1 Performance Management

The Contractor Assurance System is intended to provide reasonable assurance that Laboratory performance and risks are being properly identified, effectively managed, and appropriately mitigated. At the highest level, Laboratory Management is accountable for overall performance (Figure 2). Work processes and practices follow the "Plan-Execute-Assess-Improve" cycle help to assure that Laboratory management focuses on mission accomplishment within the terms and conditions of the Prime Contract.

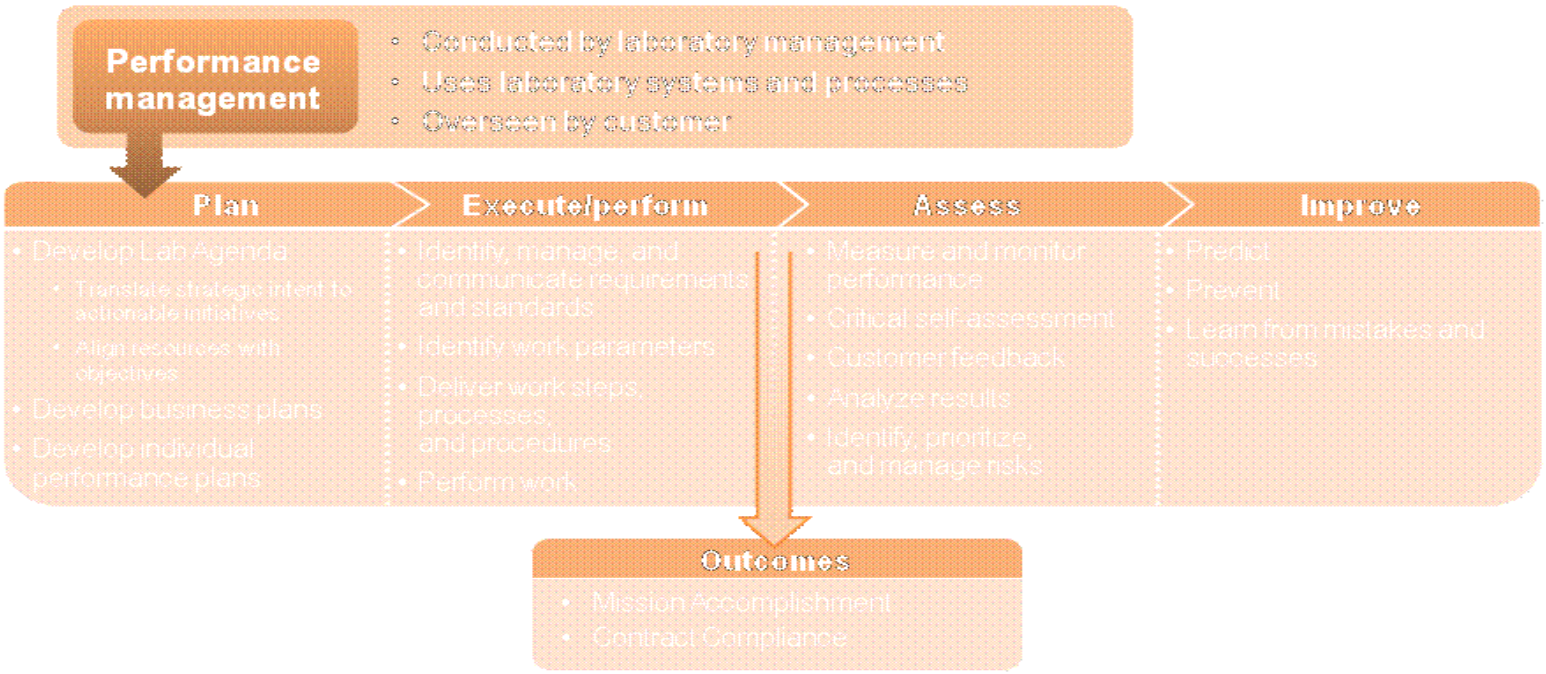

Figure 2 – Performance Management Process

Planning

At UT-Battelle, the Integrated Performance management system description describes the deployment of systems and processes, tools, and programs that enable strategic planning, business (annual) planning, performance assessment and analysis, and improvement (Figure 3). These processes generate a comprehensive, integrated, and continuous performance data stream enabling effective performance analysis, verification of assumed assurance boundaries, and continuous improvement.

The Laboratory Strategy and Planning subject area describes the requirements, processes, guidelines, and tools needed to develop business plans supporting the Laboratory Agenda, the "DOE Laboratory Plan for ORNL," and the Directorates' customers. Business plans clearly describe the business goals and objectives of the organization. They connect the Laboratory vision, as expressed in the DOE Laboratory Plan for ORNL and the Laboratory Agenda, with directorate goals, objectives, and performance measures. This process also drives directorates to integrate assessment planning into their business planning activities in order to leverage the situation and risk analyses that are embodied within a structured business planning environment. Support organizations use this process to outline how Laboratory core processes (management systems) are to perform and what measurements and self-assessment activities will be conducted to assure mission accomplishment and management system effectiveness. Ultimately, the Integrated Performance Management Office serves to review the composite set of Directorate assessment plans to determine that scope and content is comprehensive and that the composite adequately address mission support, ES&H, and operational considerations.

The Facilitating Laboratory Planning procedure drives these Laboratory-level processes.

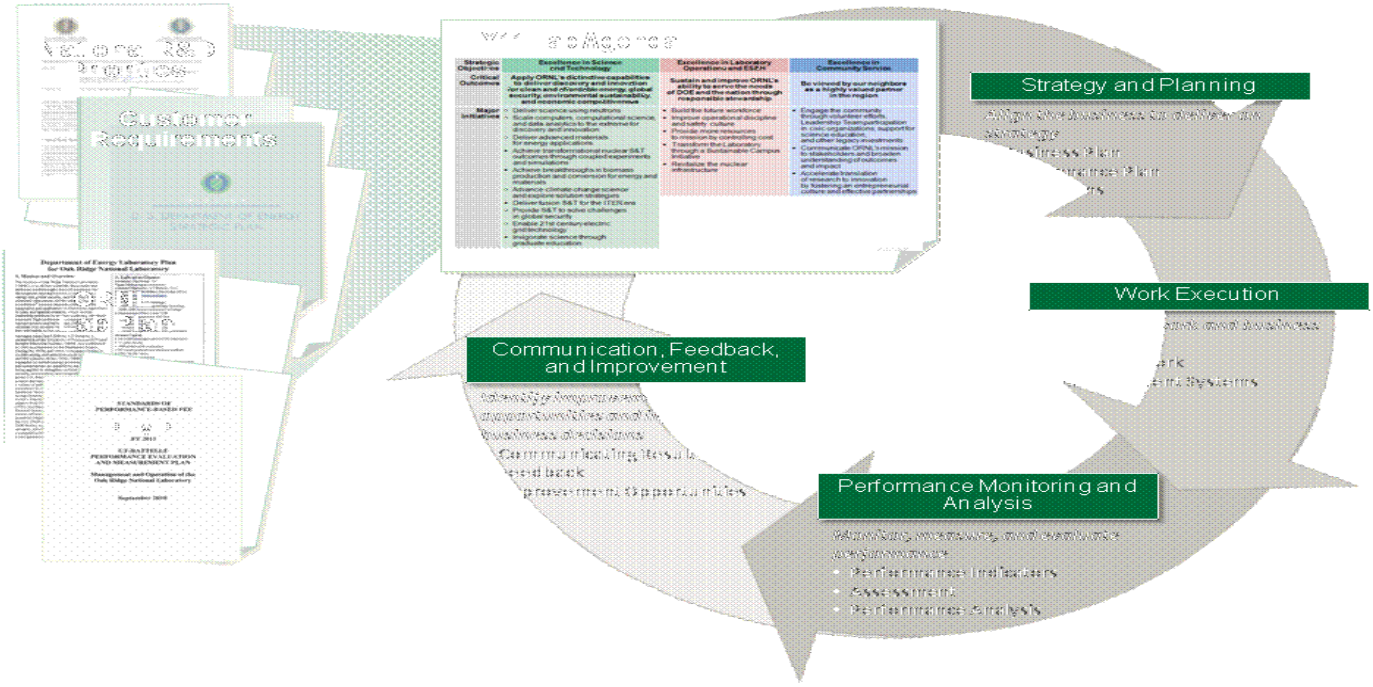

Figure 3 –Institutional Planning and Performance Management Cycle

The DOE-approved Quality Assurance Program reinforces Contractor Assurance by providing a clear description of how UT-Battelle implements quality assurance requirements from 10 CFR Part 830, Subpart A and DOE O 414.1C.

Work Execution/Performance

UT-Battelle employs the Standards-Based Management System (SBMS) to deploy requirements through cross-functional management systems. These cross-functional management systems collectively implement all of the elements and requirements necessary to safely and successfully operate the Laboratory, including all of the Laboratory-managed elements of contractor assurance. SBMS also serves as the tool that delivers policy and procedural requirements to staff.

Assessment

Assessment is composed of two key activities: (1) monitoring processes through assessments and (2) measuring performance through metrics.

The Laboratory Strategy and Planning subject area also describes the requirements, processes, guidelines, and tools needed to develop and implement performance assessment plans and analyze performance results, leading to an accurate performance profile to be used for assurance and reporting purposes, as well as for making updates and improvements in Laboratory processes and direction. This process guides directorates to integrate assessment planning into their business planning activities in order to leverage the situation and risk analyses that are embodied within a structured business planning environment. Support organizations use this process to outline how Laboratory core processes (management systems) are to perform and what measurements and self-assessment activities will be conducted to assure mission accomplishment and management system effectiveness. Ultimately, the Integrated Performance Management Office serves to review the composite set of Directorate assessment plans to determine that scope and content is comprehensive and that the composite adequately address ES&H and operational considerations.

The Laboratory Performance Monitoring and Analysis subject area specifies how results of performance assessment plans, peer reviews, third-party reviews (e.g., ISO, S&T Directorate

Advisory Committees, etc.), and Independent Oversight reviews are used to form an accurate performance profile for assurance, performance reporting, and decision making. Independent oversight is used to provide independent validation of line management self-assessment programs and results. The Audit and Oversight Directorate formally establishes an annual risk-based assessment plan, conducts assessments, and provides assessment results as described in the Independent Oversight and the Internal Auditing (IA) program descriptions. Assessments conducted by the Independent Oversight and Internal Audit organizations are carefully planned and executed by staff who are qualified in accordance with applicable standards and have the requisite skills, knowledge, and experience. Integrated planning of these audits/assessments with the DOE Site Office can frequently result in a decision to collaborate on specific reviews, when deemed appropriate. Assessment and audit results are analyzed, documented, and followed up in accordance with applicable auditing standards.

The Conducting Assessments procedure describes the process for documenting, tracking, and managing assessments, while the Analysis, Issues Improvement, and Feedback subject area describes the processes for documenting performance issues (i.e., deficiencies), analyzing those issues, developing actions, and tracking them to closure. This process facilitates and confirms that the appropriate analysis and response are accomplished for each issue. It also provides a means for Laboratory Management to analyze and understand trends associated with issues the Laboratory is addressing.

The Assessment and Commitment Tracking System (ACTS) is an integrated database tool that is used for documenting and tracking assessment-related findings including commitments and issues. Opportunities for Improvement (OFIs) are tracked either in the ACTS tool or the Comprehensive Monitoring of Performance System (CMPS) tool. Assessments also serve as a tool which can identify noteworthy practices that merit sharing with other groups/organizations within the Laboratory. Such noteworthy practices are captured in the CMPS tool.

There are several subject areas and procedures that provide the mechanisms and tools for reporting and following up on various types of events. These subject areas and procedures include Event Reporting and Follow-Up, Nonconformance Control, Radiological Event Reporting (RSS SOP 02-130-02), Injuries and Illnesses, and Safety and Security Regulatory (SSR) Program.

Periodic trend/pattern analyses are conducted for all Laboratory performance areas (including events, accidents, and injuries) using the Issues Management and Issues Analysis procedures, as well as through the Safety and Security Regulatory Compliance Assurance Program. The Issues Management program description also outlines the Laboratory's corrective action management processes. Issues Management includes all of the actions necessary to understand, evaluate, and determine necessary actions and track and dispose of issues. Issue are problems, deficiencies, or opportunities for improvement, and other items of interest that warrant or demand management attention to correct for the purpose of improving performance and/or tracking to closure. Issues can also be defined as strengths and noteworthy practices that are tracked, shared, and used for performance improvement. Issues are identified through various assessment processes, self-disclosing events, or other means. The purpose of the Laboratory's Issues Management Program is to promote improvement in performance and serve as a vehicle for identifying and implementing needed changes. It also provides assurance to the Laboratory through verification and validation tools that ensure actions taken are working as intended. Issues Management contributes to a healthy, safe, and productive workplace and is a cornerstone of the Laboratory's philosophy that seeks to continually improve the way we perform.

Quantitative and qualitative performance measures are also an important ingredient to effectively assessing Laboratory performance. As described in the Integrated Performance management system description and the Laboratory Strategy and Planning subject area, performance measures are an integral part of all aspects of UT-Battelle strategic and business planning and performance assessment, analysis, assurance, and performance improvement. Starting at the top with Laboratory Strategy and supplemented by the Laboratory Agenda, objectives, performance measures, and targets are developed and communicated throughout the organization. The Laboratory Agenda is the basis for guidance that flows down from the Laboratory Director as part of the annual business planning cycle, which is then translated into directorate business plans.

Directorate business plans are developed to support specific Laboratory-level goals, deliverables, objectives, and performance targets identified in planning guidance. Directorate performance assessment plans

are developed to augment business plans to describe how performance to goals, objectives, and targets will be measured (i.e., measures, metrics, and reportable goals are established.) A portion of these performance goals, objectives, and targets become the basis for Contractual Performance, as documented in the Performance Evaluation and Measurement Plan, which is a DOE-authored document standardized for all the National Laboratories. Level 1 organizations track, trend, and analyze performance measures and targets looking for potential problems and lessons learned. In addition, the Integrated Performance Management Office analyzes operating information to discern potential enterprise-wide improvement opportunities as described in the Facilitating Laboratory Planning procedure.

Under the auspices of the Issues Analysis Process procedure, ORNL Management conducts periodic trending and analysis through direct interaction with key operational program managers. This process has been underway for over a year with meetings held at least on a quarterly (and typically monthly) basis. This forum is held to review operational performance, discuss emerging issues, trends, and concerns, and then communicate results to senior and middle Laboratory Management. The results are intentionally communicated in an action-oriented manner that is designed to promote a positive influence on behaviors and performance, such that low-level performance trends and observations can be corrected.

The forum is chaired by the ORNL Deputy Director for Operations and is attended by the following individuals:

- Deputy Director for Operations
- Director, Integrated Performance Management
- Director, Quality Systems and Services Division
- Director, Audit and Oversight Directorate
- Manager, Independent Oversight Services
- Director, ESH&Q Directorate
- Deputy Director, ESH&Q Directorate
- Director, Safety Services Division
- Director, Nuclear and Radiological Protection Division
- Chief Information Officer
- Director, Business Management Division
- Director, HR Consulting Services
- Group Leader, Performance Monitoring and Analysis
- General Counsel Representative

Feedback and Improvement

The Analysis, Issues Improvement, and Feedback subject area and the Issues Management procedure provide a proactive, comprehensive, and systematic Laboratory-level process to evaluate identified unwanted conditions and to develop, track, and implement appropriate actions designed to prevent the same or similar unwanted conditions from recurring. The procedure also provides a process for those that have a low risk potential, are not systemic, and are easily fixed on the spot or near term. This feature provides line management with the tool to effectively and efficiently manage unwanted conditions with measured response appropriate to the significance of the condition. The procedure implements a graded approach based on the significance of the issue to conduct verification of actions and validation that actions were effective.

Two procedures, Identifying, Analyzing and Disseminating Lessons Learned Information and Developing, Approving and Disseminating ORNL Safety Flashes, within the Operating Experience/ Lessons Learned subject area describe the processes for identifying, analyzing, and sharing lessons learned and best practices. These processes establish a systematic review of operating experiences at the Laboratory and across industry and the DOE complex to identify and share opportunities to improve performance with the Laboratory and other sites. UT-Battelle staff are expected to actively seek and regularly use lessons learned and best practices as input to reduce the risks of performing work and improving performance. These processes provide a systematic approach for using lessons learned and best practices as input to improving performance. Additionally, the Categorizing and Responding to an Event and the Critiques and Investigations procedures require events to be reviewed for potential lessons learned.

The ORNL Lessons Learned web site provides a listing of lessons learned and best practices from a variety of sites that are organized by topical areas. The web site also provides a means for submitting lessons learned and best practices and offers a free subscription service to readers that can be customized to include

any or all of the latest articles and information.

3.2 Governance

The *UT-Battelle Board of Governors* monitors the Laboratory assurance processes with the aid of four Committees (Finance and Audit, Operations, Personnel and Compensation, Science and Technology) that oversee the effectiveness of Laboratory operations (Figure 4). The Committee structure associated with the Board of Governors is a fundamental element of the Contractor Assurance System deployed at ORNL. Each of the Committees is chaired by a member of the Executive Group of the Board of Governors. Charters for the Committees are ratified by the Board of Governors and revised as necessary. Each Committee has one or more liaisons who are senior managers of UT-Battelle. These Committees meet on a recurring basis (typically three times per year) in order to:

- understand performance as well as the systems and controls employed to monitor risk boundaries,
- review the effectiveness and credibility of the Laboratory's assessment processes (e.g., self-assessments performed by line management and applicable Independent Oversight and Internal Audit assessments); and
- review the manner in which line management evaluates, understands, and improves performance.

Measurement against these expectations enables the Governance process to provide reasonable assurance to DOE that Laboratory Management is executing the Laboratory's strategic plan, achieving performance goals, effectively managing risk, and has the capabilities needed to meet current and future mission needs. These assurance committees fulfill an essential role through their ability to integrate, analyze, and evaluate performance information and report trends, risk issues, results, and recommendations. They also raise issues to senior management both within UT-Battelle and the Board of Governors, as appropriate.

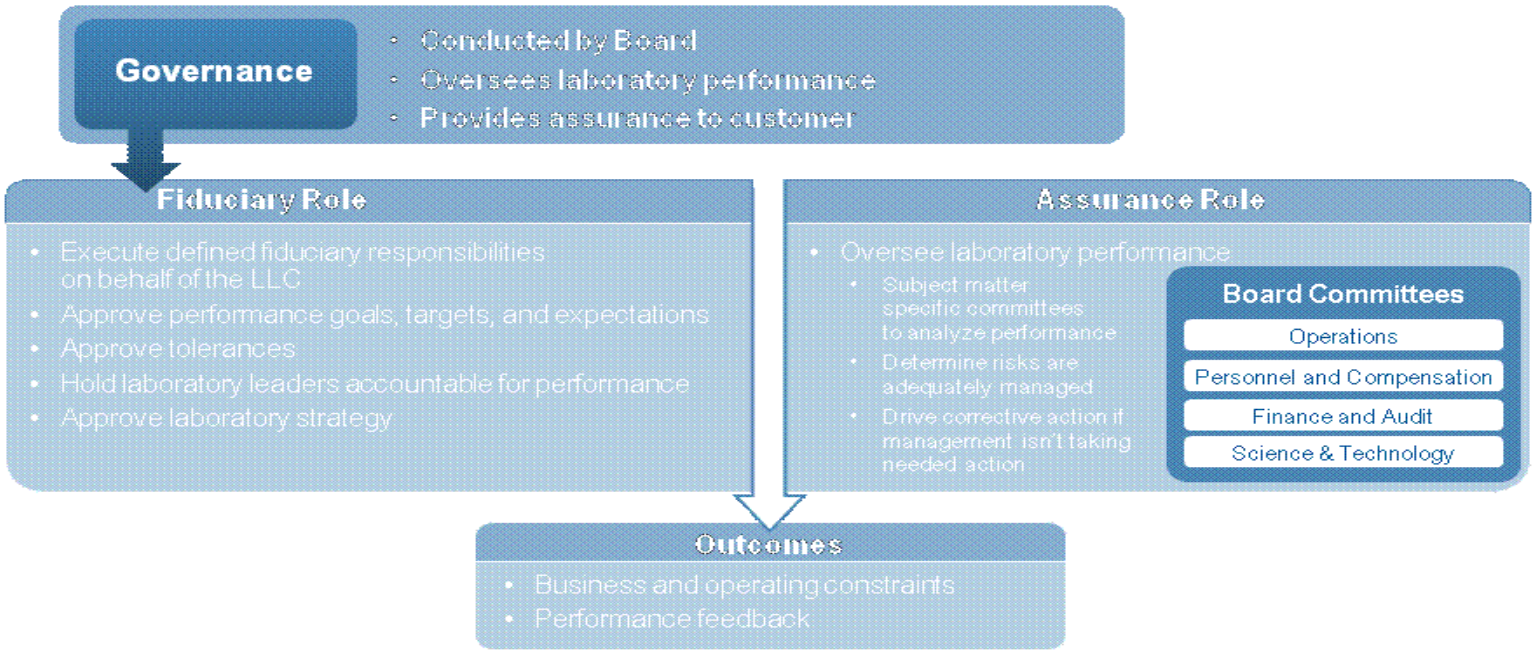

Figure 4 –ORNL Governance Elements

3.3 Corporate Value

The third component of the UT-Battelle Contractor Assurance System focuses on the unique value provided by the corporate partners making up the LLC. This powerful combination of resources provides an important capability to reach back into the strengths and skills of the corporate parents to bring the best experience to bear on problems and challenges that may face the Laboratory. The mechanisms that display how this value is practices include the Battelle Executive Committee and several Councils composed of senior management talent from other Battelle-affiliated Laboratories (Figure 5).

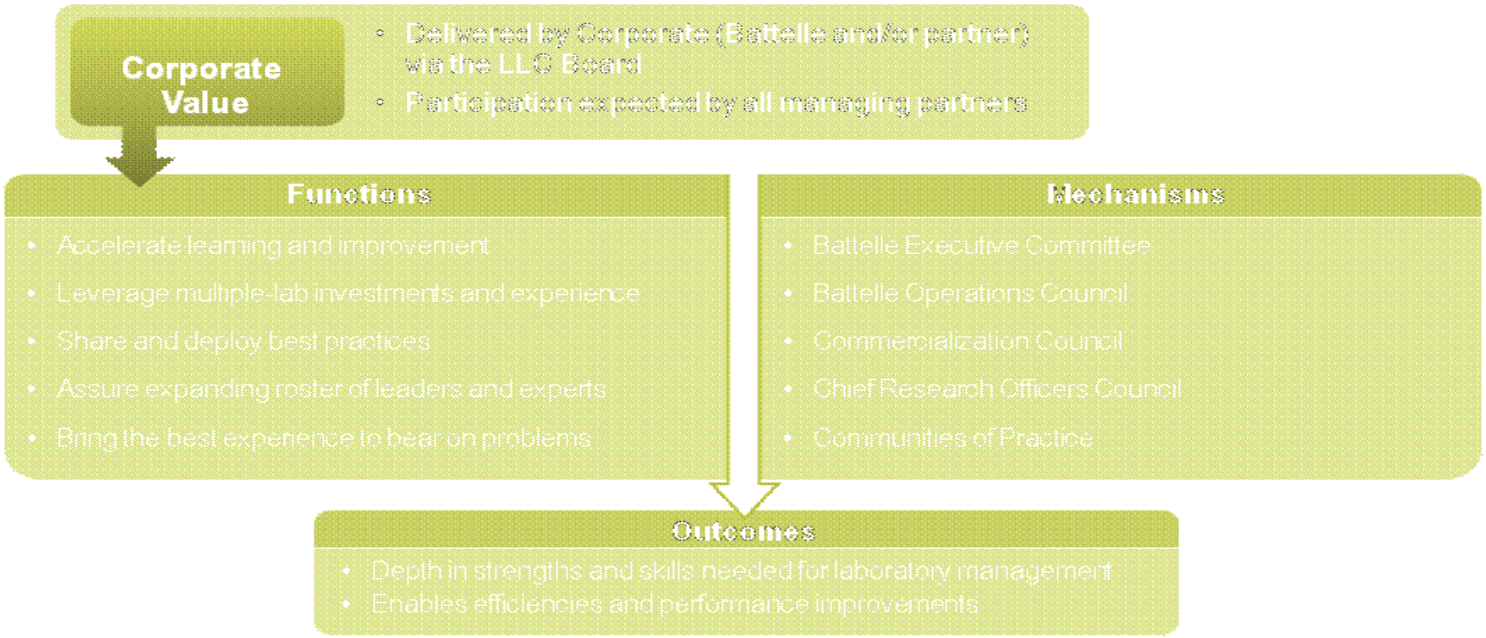

Figure 5 – Corporate Value Functions and Mechanisms

As an element of lessons learned and continuous improvement, Battelle Memorial Institute facilitates a "Community of Practice" initiative among all of the Battelle-affiliated Laboratories as a formal cross-cutting effort designed to help establish Laboratory Operations' standards and expected levels of performance for management system owners. This effort is intended to enable recognition of outstanding management system performance. Specific "communities" are established with input from the Laboratories to address high "value-added" functions (e.g., ES&H, Facilities & Operations, etc.). ORNL management has designated representatives to participate on all of these COPs. The long-term fundamental objective of these communities is to deliver on the following three broad expectations:

- identifying, documenting, and sharing of best practices,
- strengthening capability development and stewardship, and
- ensuring deployment of expertise to meet internal needs.

4.0 Outcomes

The outcome of assurance results from the execution of the Laboratory's performance management functions and the contractor's governance processes. Through these distinct, but interdependent processes, UT-Battelle is able to provide reasonable assurance to DOE that:

- Both DOE and UT-Battelle understand the risks associated with management and operation of the Laboratory and believe they are managed effectively.
- The systems and controls employed to monitor and manage risk relative to acceptable limits are adequate. While the systems and controls will not prevent all untoward events from happening, they will provide line management with a clear understanding of potential impacts to Laboratory performance. Risks and their mitigation are documented sufficiently for UT-Battelle and DOE to advocate their effectiveness with external reviewers and stakeholders.
- Management and quality assurance systems are documented sufficiently to assure their effectiveness and that all levels of management are accountable.
- Corrective and preventive actions are effectively implemented.
- Duplication of efforts and disruption of work are eliminated, and UT-Battelle supports DOE in fulfilling its oversight obligation as owner and regulator.
- Performance is acceptable across the Laboratory.

While this Program Description describes the processes deployed by UT-Battelle, it must work in close collaboration with DOE. As part of the Contractor Assurance construct, DOE provides inherently governmental and essential functions that include (but are not limited to):

- Providing contract direction and specification of performance expectations
- Independently assessing UT-Battelle performance in meeting performance requirements and expectations utilizing the outcomes of the contractor's assurance program to the maximum extent possible
- Holding UT-Battelle accountable for performance
- Working with UT-Battelle as a partner to continually improve the operation and mission delivery of the Laboratory

By design, a robust and effectively functioning Assurance System will afford DOE the opportunity to optimize its oversight function by leveraging the processes and outcomes of the ORNL CAS.

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