

Lawrence Livermore National Laboratory

LLNL Contractor Assurance System (CAS)

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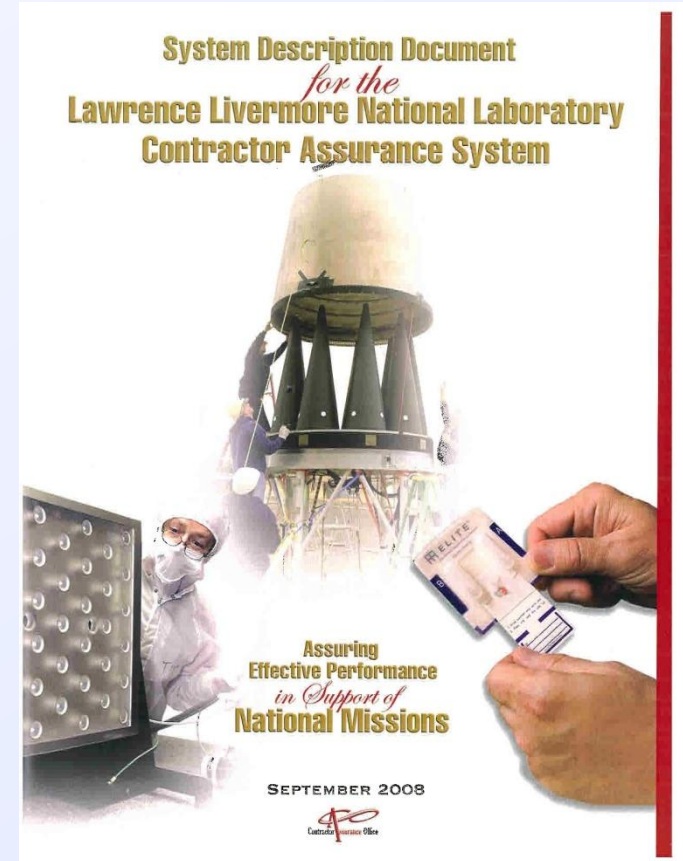
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The LLNS Contractor Assurance System is in place

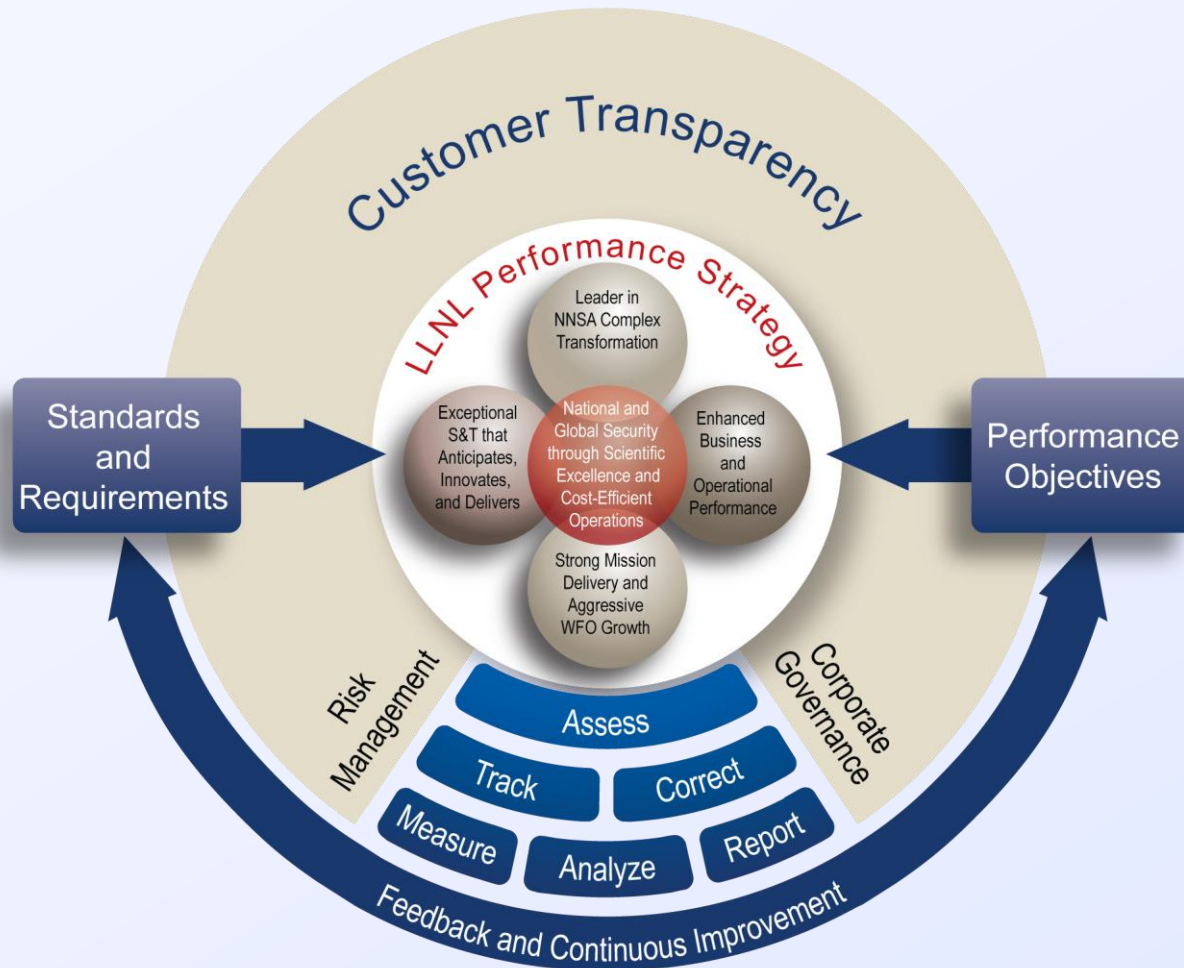
The LLNL Contractor Assurance System “Drives safe, secure mission performance with the same or better output at lower cost. It provides transparency to NNSA and the Board of Governors and reasonable assurance that performance objectives are being met and systems are effective.”

George H. Miller

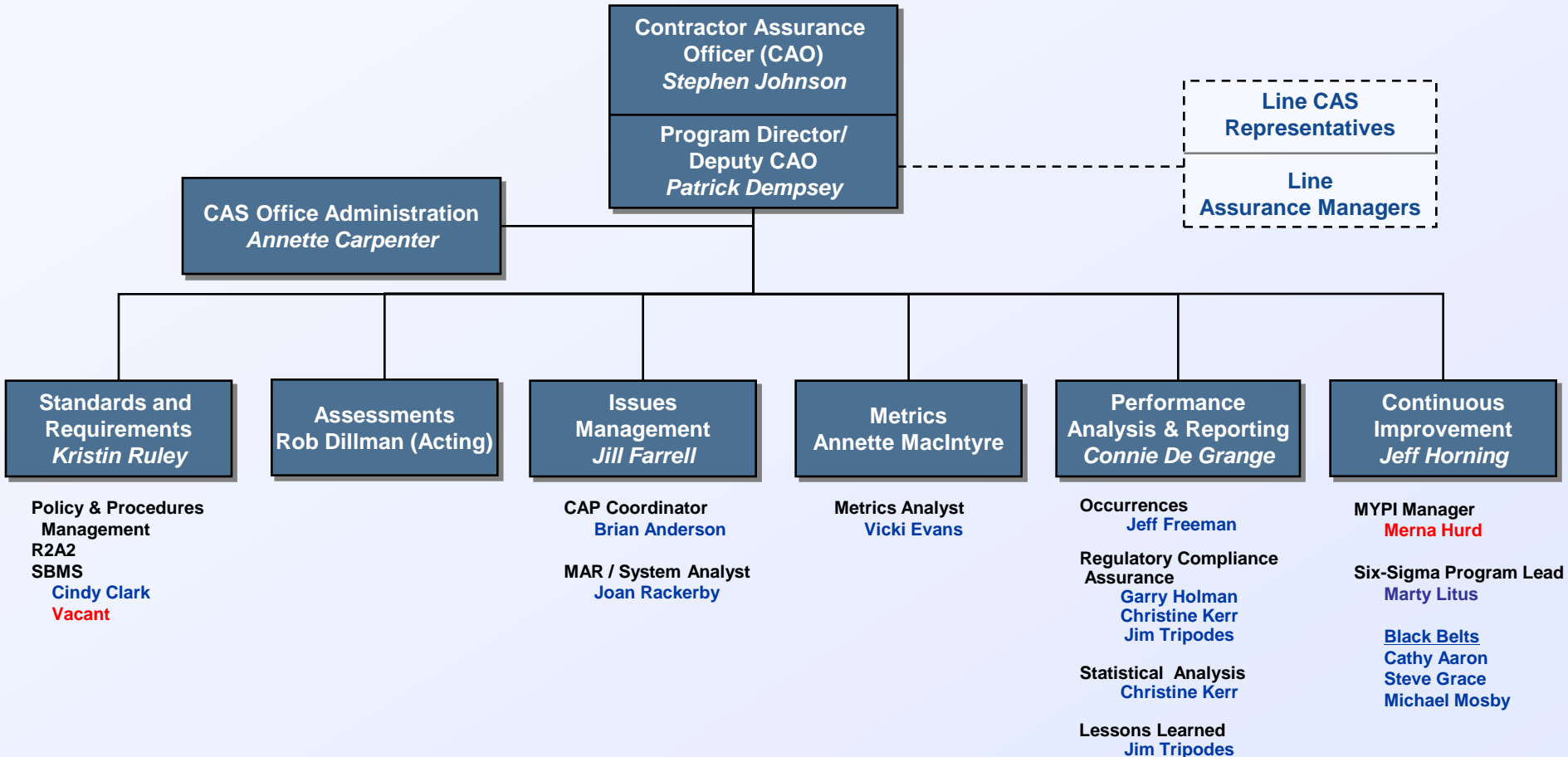
**Director, Lawrence Livermore National Laboratory
President, Lawrence Livermore National Security,
LLC**



The LLNL integrated CAS supports the LLNL performance strategy



Contractor Assurance Office Organization



Goals of the requirements management process are defined

Develop the business processes and tools to:

- Facilitate the acceptance and implementation of requirements
- Provide traceability of requirements from the source to the implementing document
- Centralize, standardize and eliminate redundancies in policies and procedures

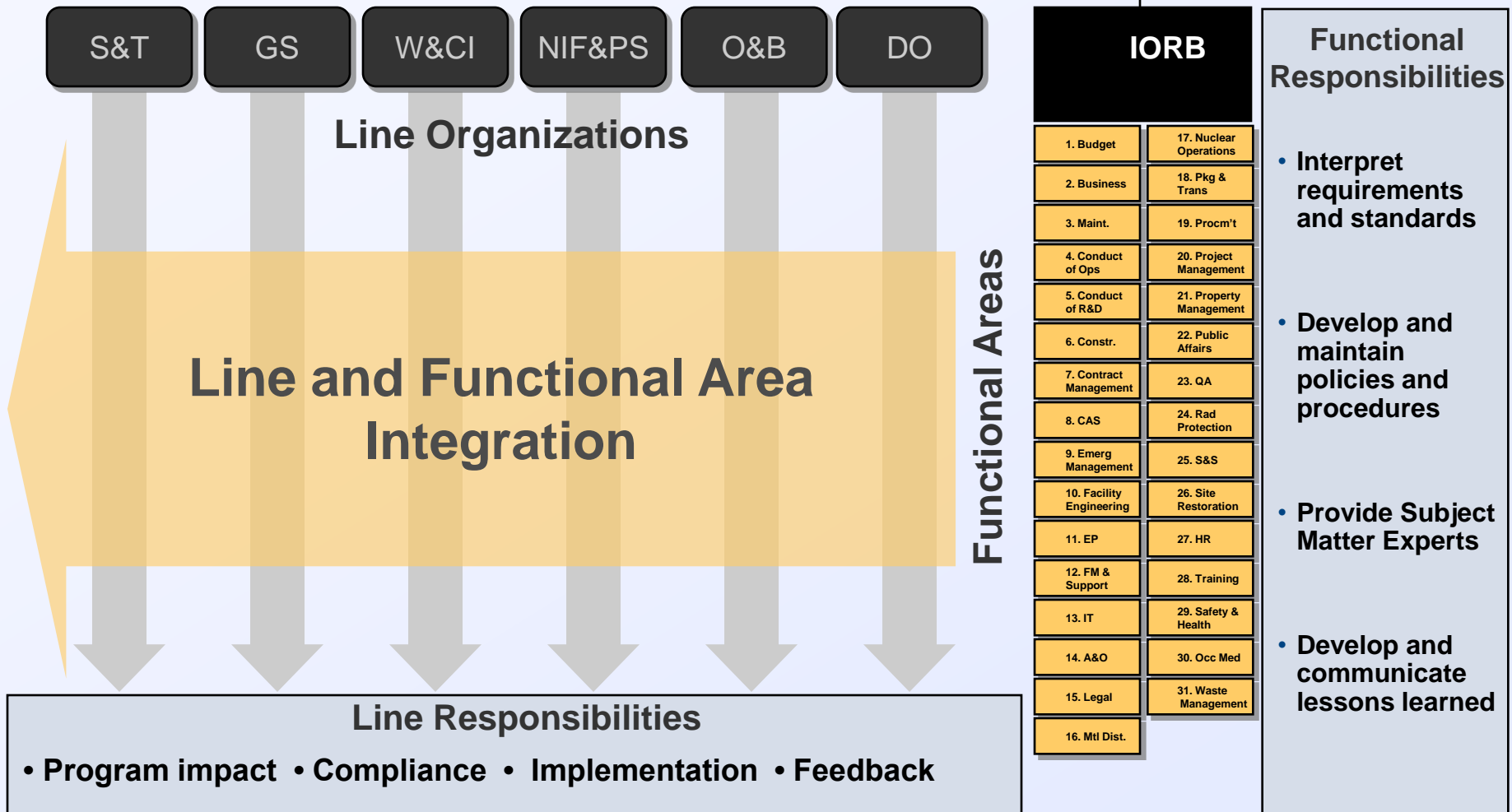
Benefits

- **Establishes requirement accountability**
- **Establishes a standardized risk-based approach for accepting requirements**
- **Establishes an institutional approach to the flow-down and implementation of requirements**

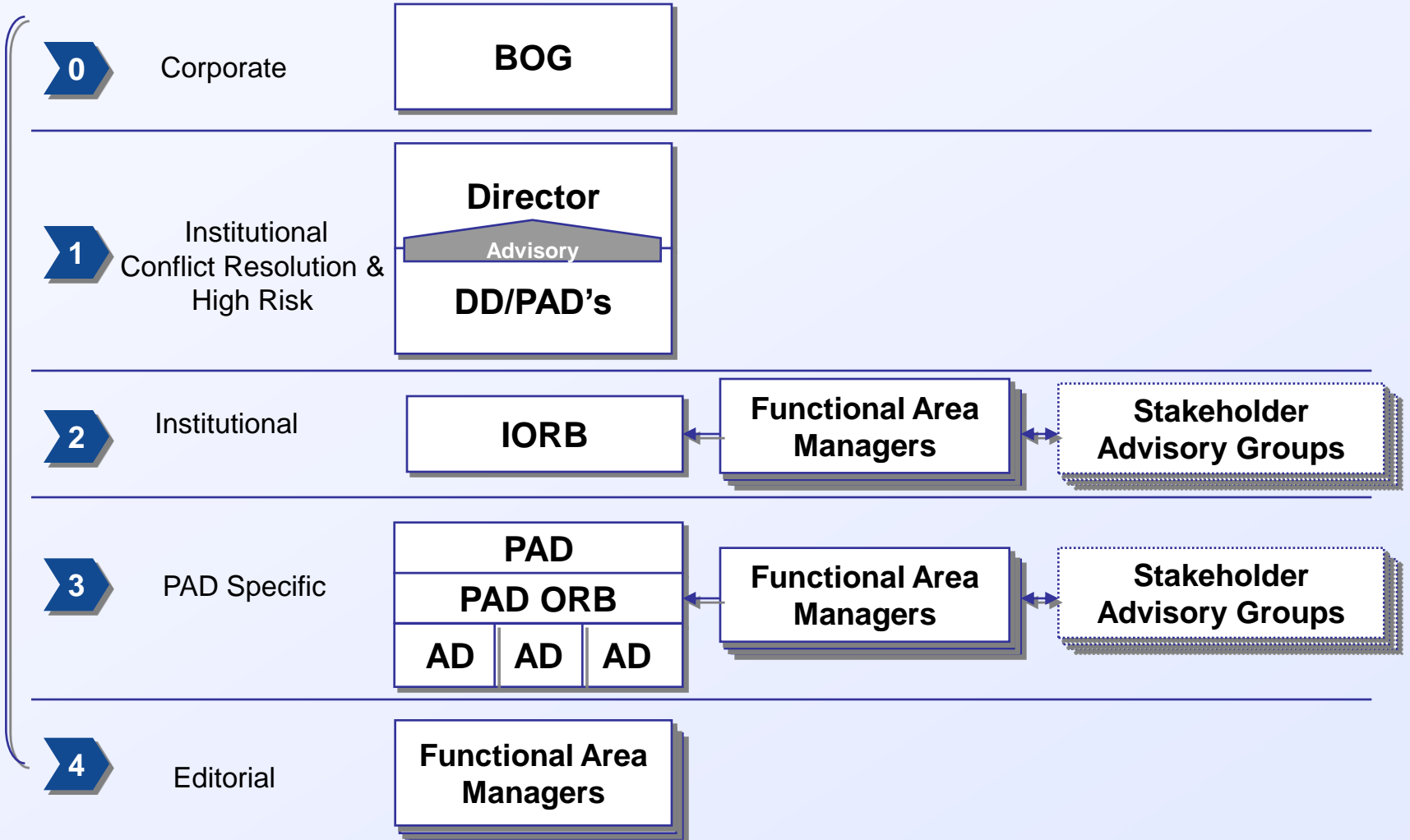
The IORB manages risk at the interface between the line organizations and functional manager

Manage Risk by Reconciling:

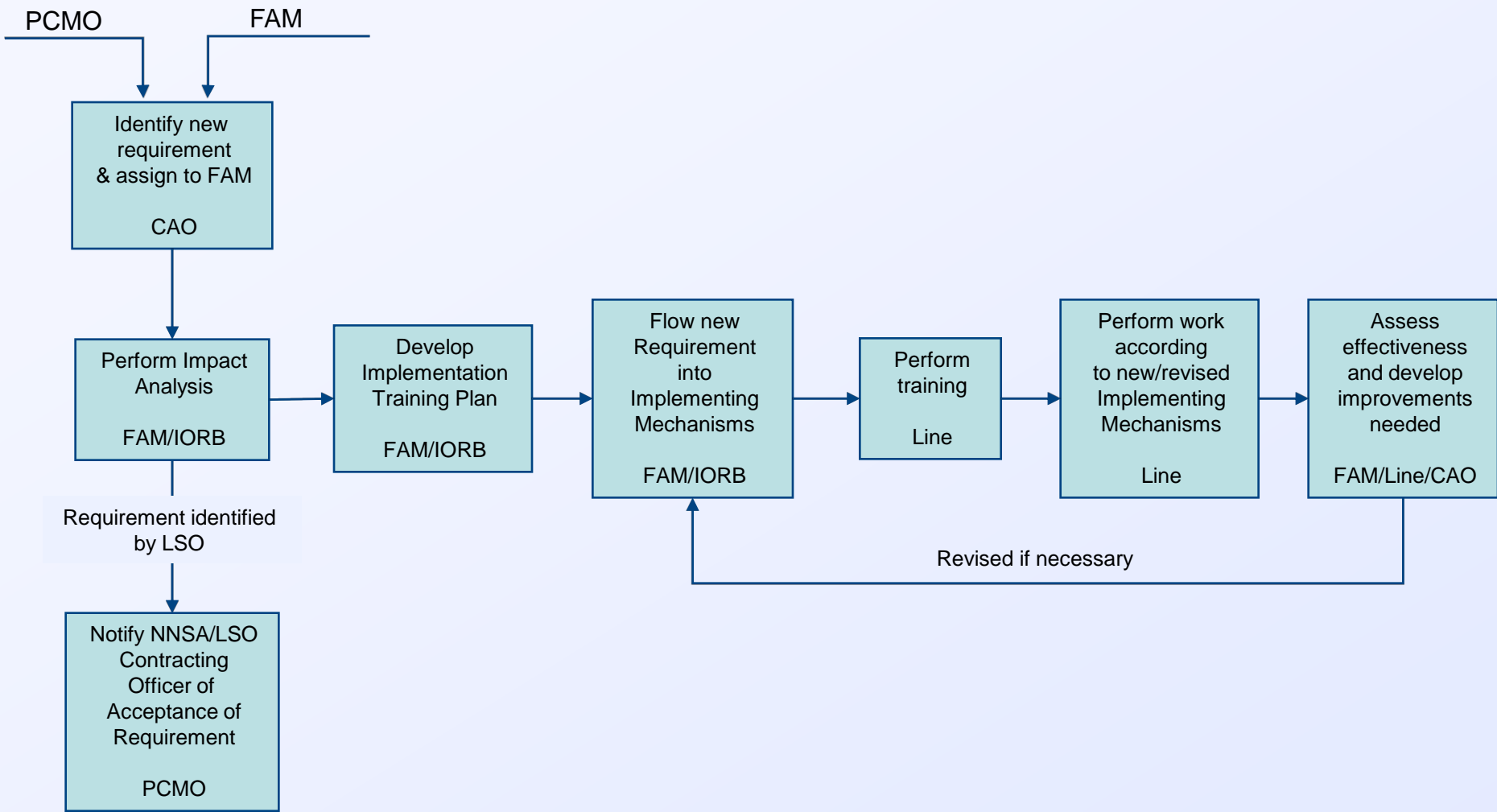
- Reasonableness
- Ability to Implement
- Graded Approach
- Use of Resources
- Integration of Line and FA



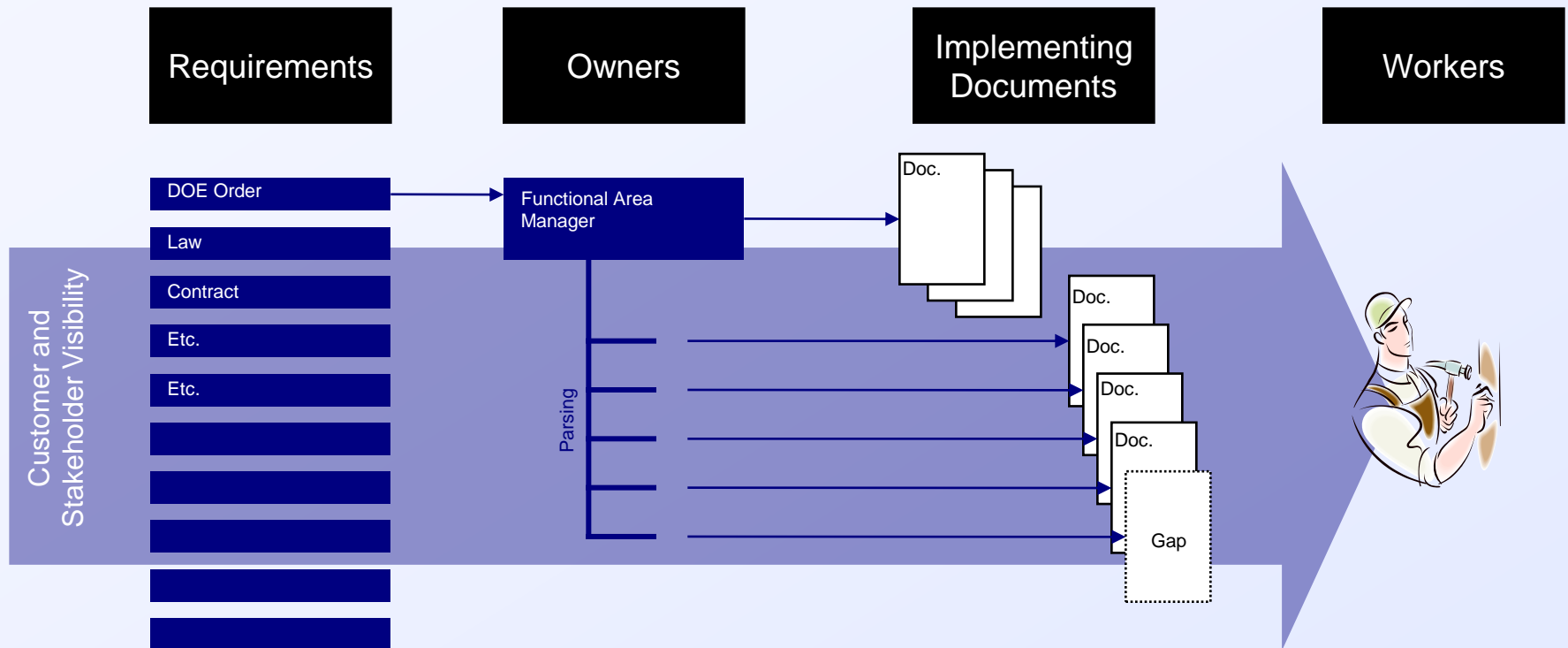
The Governance structure includes disciplined change control



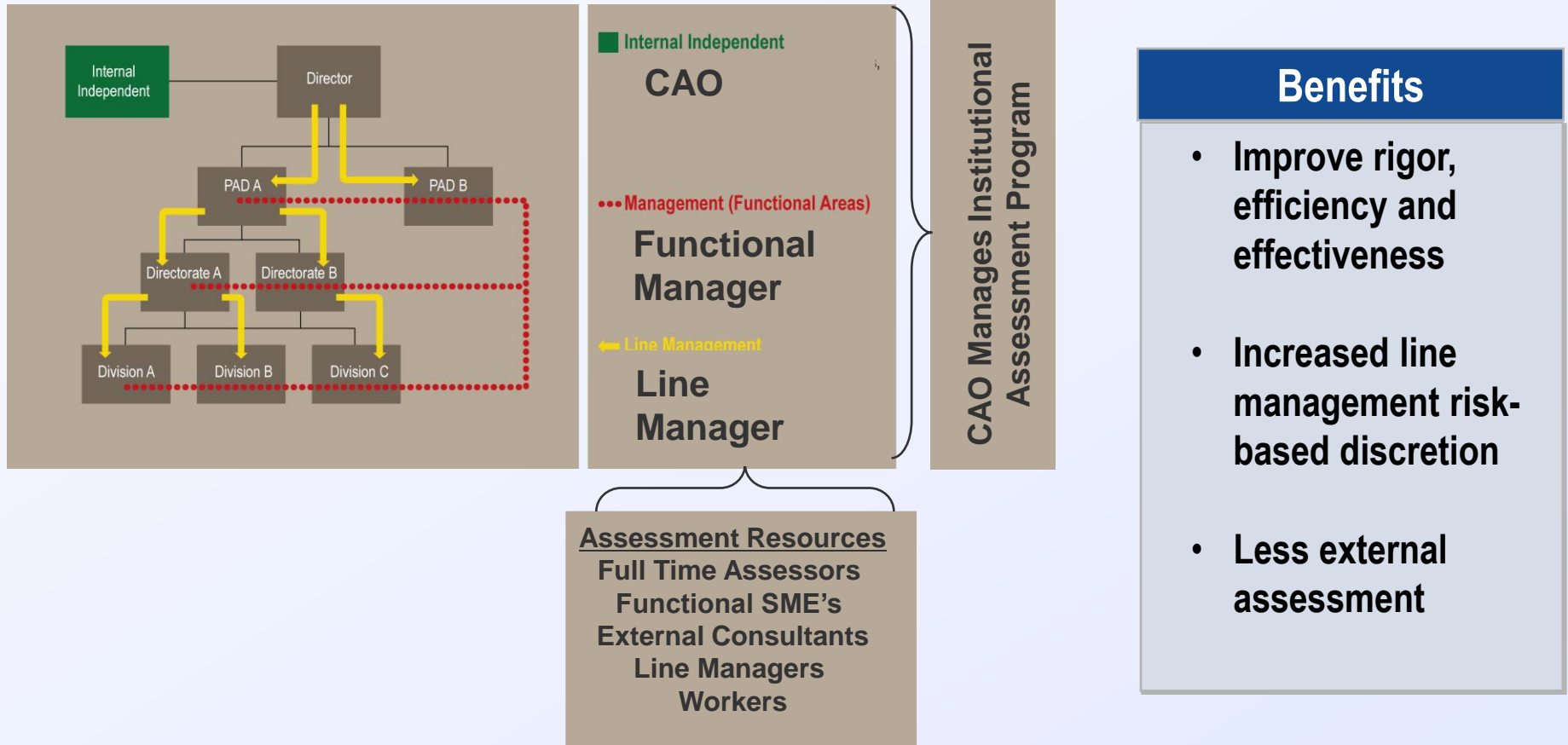
LLNL has established a requirements management process



LLNL is facilitating the process using a Standards Based Management System (SBMS)



The Contractor Assurance Office (CAO) has structured and will coordinate the overall assessment program



LLNL has improved Issues and Corrective Action Management

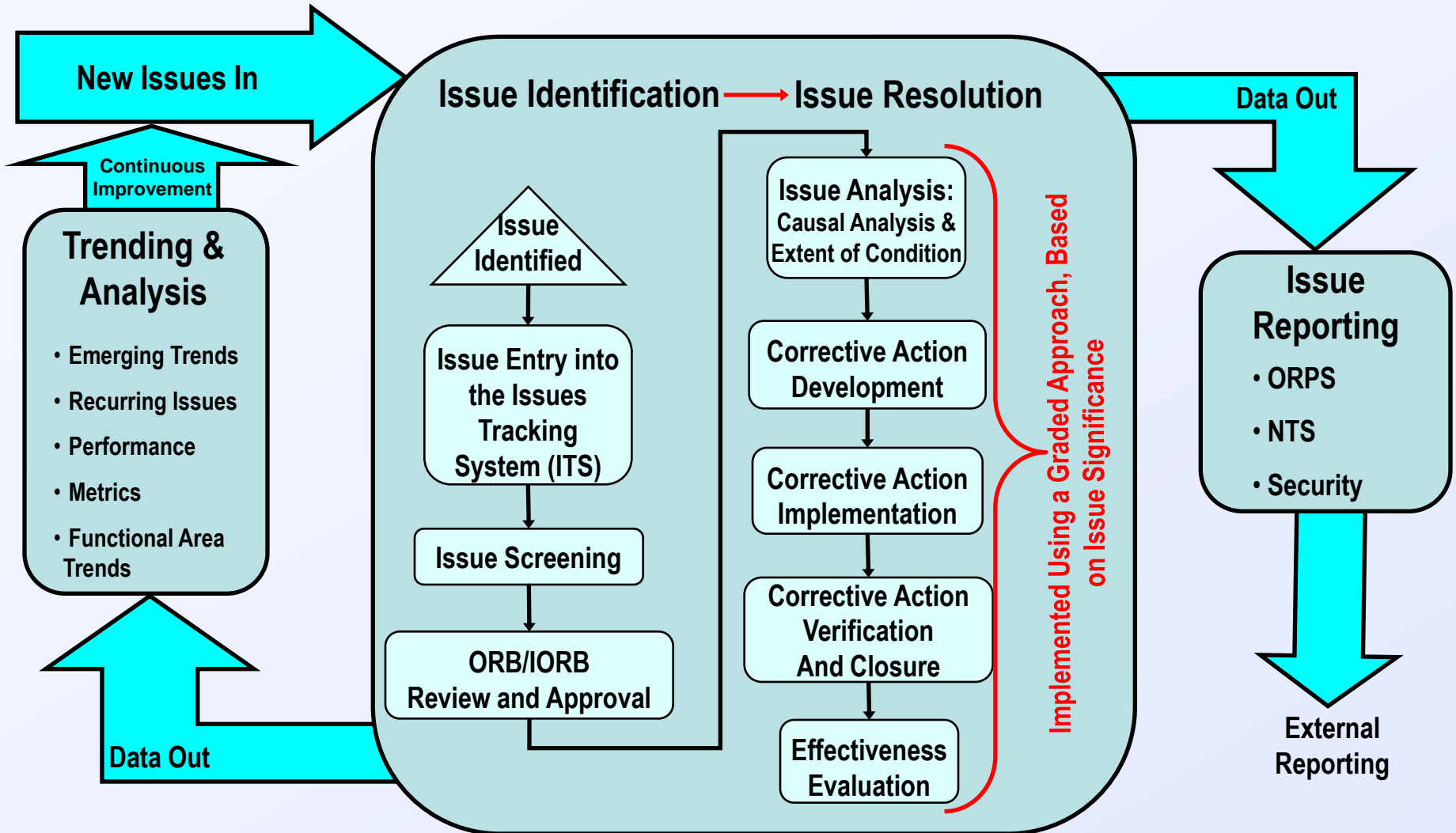
- **Goal to improve the:**
 - **Consolidation, binning, and trending of incoming issues**
 - **Timeliness and accountability of assigned corrective actions**
- **Contract deliverables**
- **HS-64 corrective actions**
- **PEP 10.1.3 deliverables**
- **DOE Order 226.1A**

Benefits of Changes

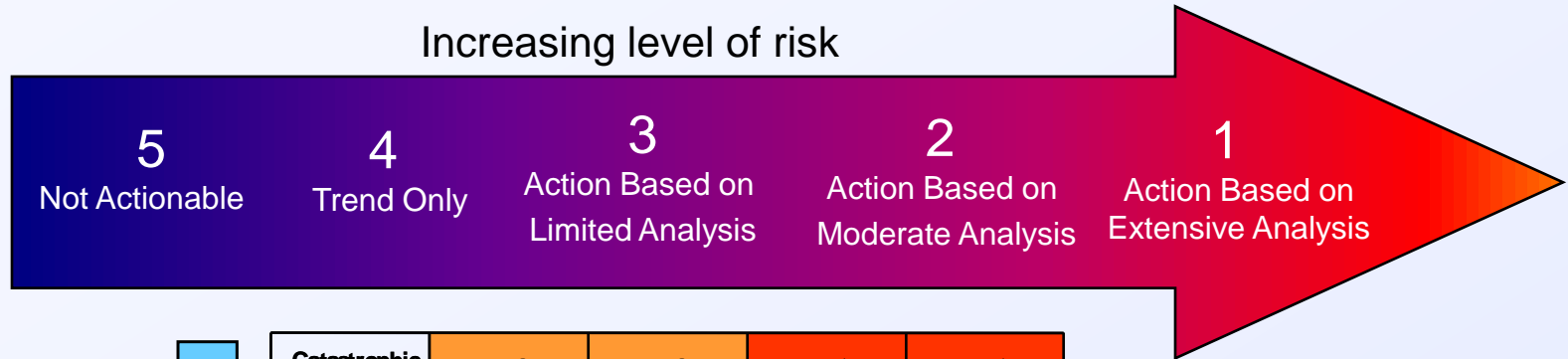
- **Line accountability**
- **Graded approach; better resource utilization**
- **Ease of use**
- **Better binning, trending, reporting and resolution**
- **Governance structure improvement**
- **Customer transparency**

The role of the CAO is to develop tools and guidance for the process and to oversee its use

The process cycle includes issue screening, ORB approval, and resolution by a graded approach



Each issue is assigned a significance commensurate with its risk and is resolved using a graded approach



Consequence	Catastrophic	2	2	1	1
	High	3	3	2	1
	Medium	4	3	3	2
	Low	4	4	3	3
	Negligible	4	4	4	4
		Extremely Unlikely	Unlikely	Likely	Frequent
Probability					

An accountable and transparent performance measurement management system is being instituted

- **Goals**
 - Integrated structure
 - Configuration control
 - Dynamic process
- **Drivers**
 - Management effectiveness
 - DOE Order 226.1A
 - PEP 10.1.1 deliverables (FY09)

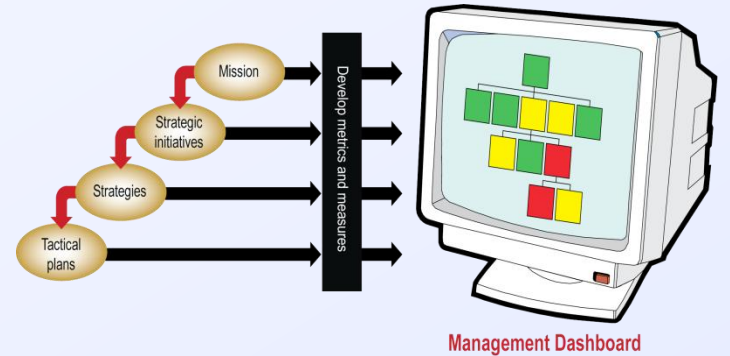
Benefits

- **A**lignment with governance structure
- **E**stablishment of meaningful metrics
- **I**nterface with existing tools
- **O**perational effectiveness measurement
- **U**sability by line and functional areas.

The CAO role is to design and maintain a dynamic process and tool

The performance measurement management system has elements in each of the core steps to manage performance

Steps	Elements
1. Establish metrics and goals	<p>Multi-Year Performance Improvement Strategy Specific customer and project milestones Performance Evaluation Plan Governing standards and requirements Compliance thresholds Corrective action commitments Benchmarked performance metrics</p>
2. Collect data	<p>Activities and Incidents Assessments (internal and external) Benchmarking Worker Feedback Lessons Learned from others</p>
3. Track performance	<p>Financial Management Systems Issues Tracking System PSViews Human Resource Systems Lessons Learned Database</p>
4. Report metric	<p>Management Dashboard Directors Monthly Performance Review (MPR) LOCAS Performance Matrix PEPStat Performance Analysis Reports CAO Weekly Report Occurrence Reporting Systems Non-Compliance tracking System Lessons Learned at LLNL</p>



- **Metrics are linked to actionable strategies**
- **Books are designed to collect the metrics that are of interest to each PAD and to key functional areas and for LOCAS**
- **Links to more detailed metrics and analysis are provided in the books**

Existing Elements

New or improved Elements

The safety performance measures notebook for the TRC rate is displayed with year to date summary information

Safety and Health Properties

Safety Performance (LLNL)

Safety Index (LLNL)

▼ DAC Rate	LLNL
▼ TRC Rate	LLNL
▼ DART Rate	LLNL

Links

- OASIS Injury and Illness

TRC Rate (LLNL)

Description

This is the OSHA Total Recordable Injury Case Rate (TRC). Cases are reported per 200,000 hours worked. For the dashboard we are calculating the FY to date rate. OSHA requires the CY to date rate. The TRC rate includes all Laboratory FTEs and IAP contractor hours.

Commentary

2008/09

Data Chart

This Year to Date by Month

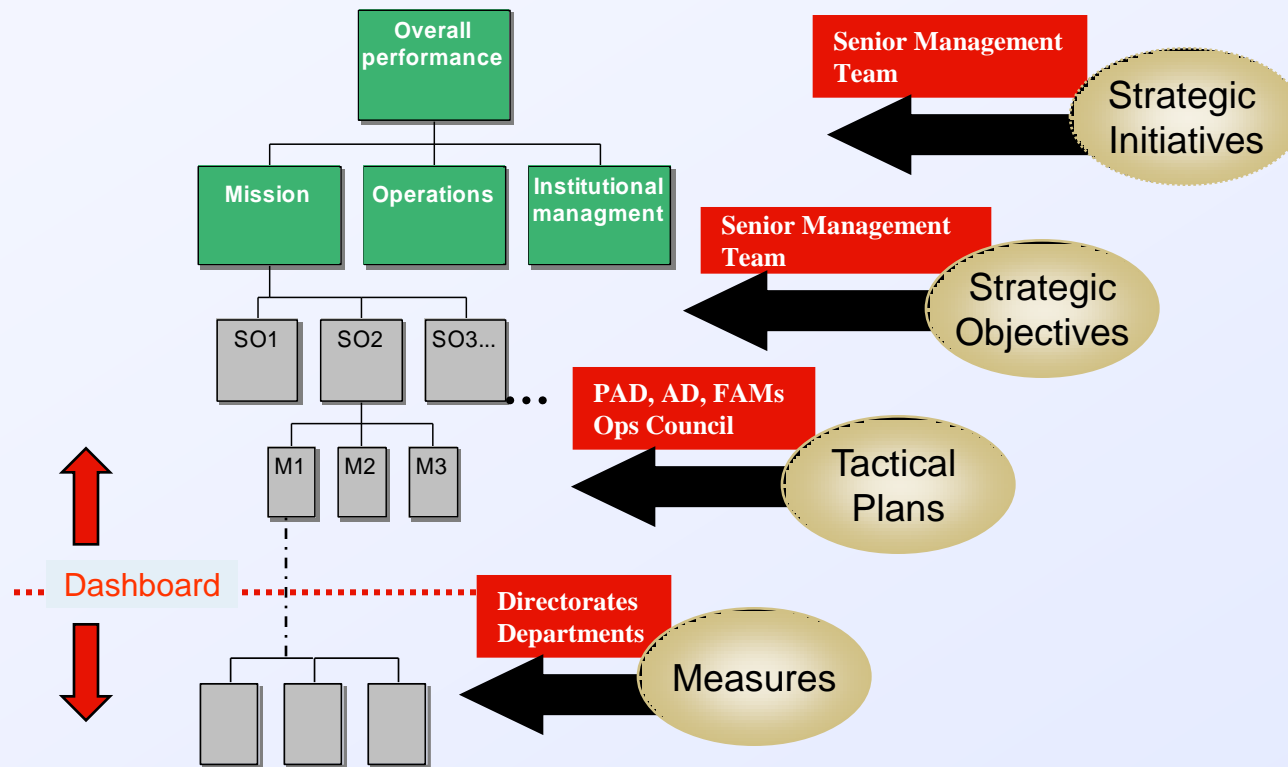
Month	Actual	Target
2007/10	1.00	2.00
2007/12	1.20	2.00
2008/02	1.50	2.00
2008/04	1.80	2.00
2008/06	1.90	2.00
2008/08	2.00	2.00

Notes

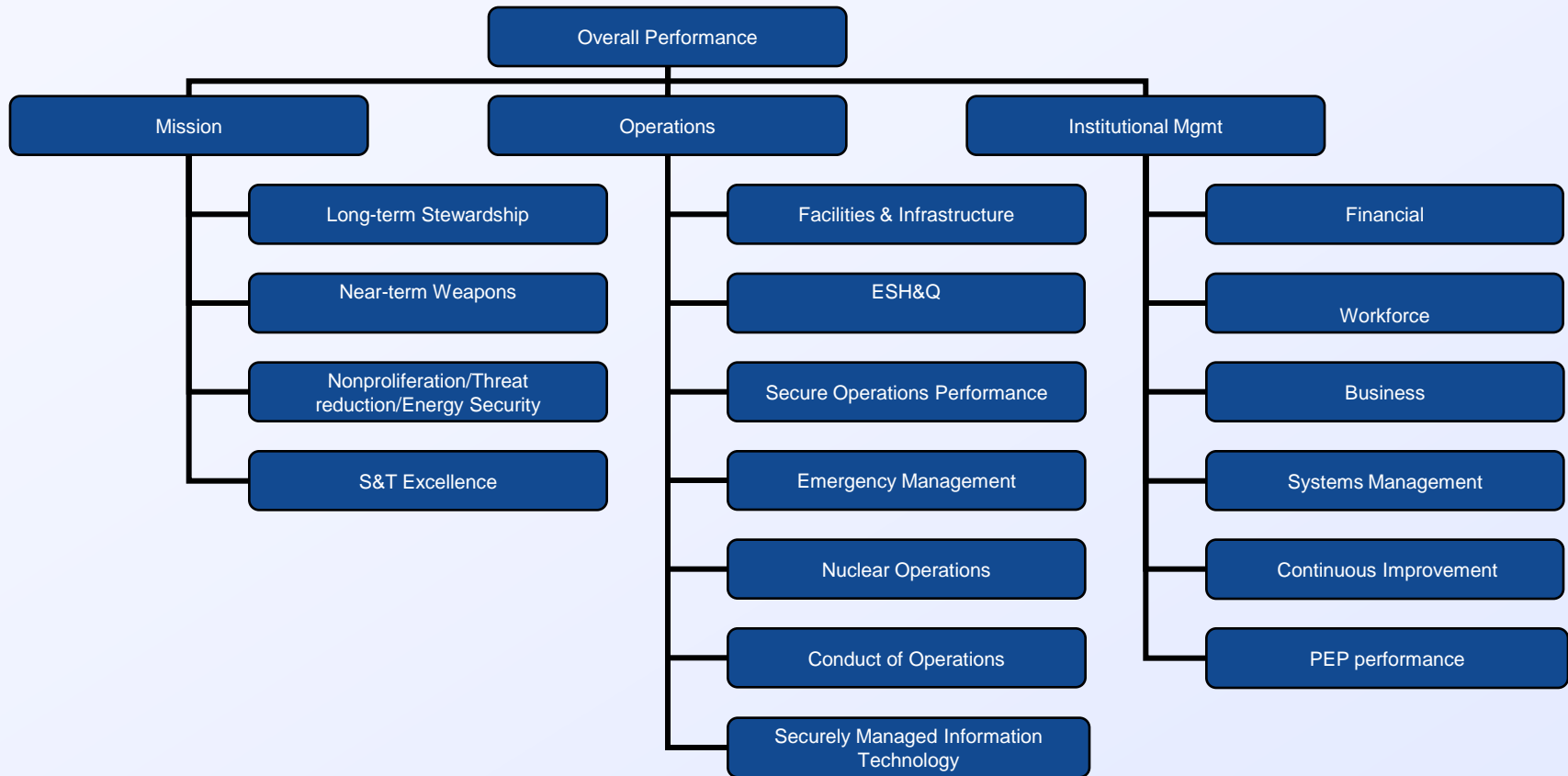
The FY PEP target for FY08 is 2.07. The range for this metric was set at 2.07 to 2.08 as satisfactory (green), caution at greater than 2.08 but less than 2.27 and alert at greater than 2.27. The total hours include Laboratory FTE and IAP contract hours.

Display period only data

The development of the measurement hierarchy is an iterative and dynamic process subject to review and approval of the LLNL governance structure



Three key areas are identified for performance objectives: Mission, Operations and Institutional Management

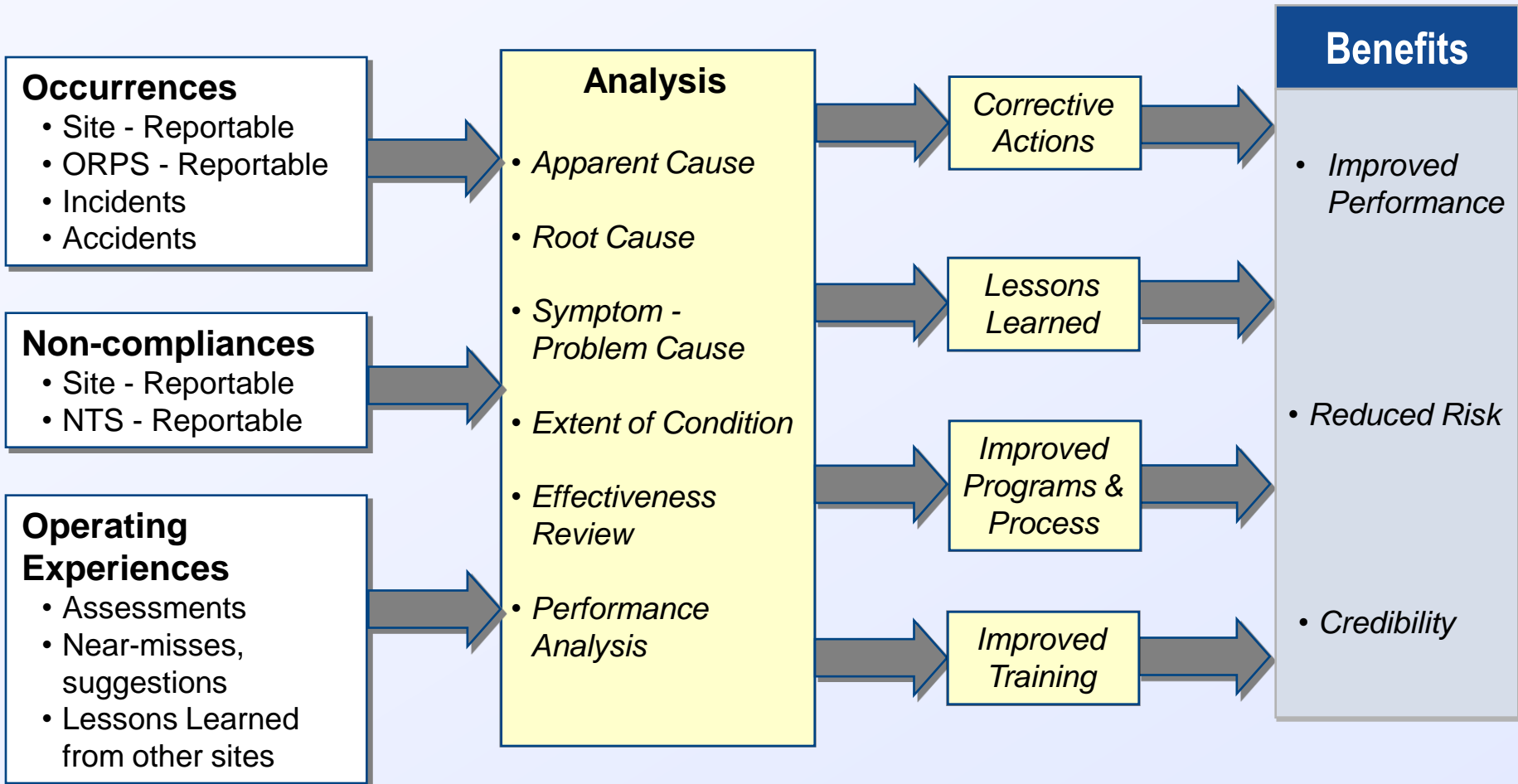


The measurement structure provides a transparent venue for interaction between LLNL and LSO counterparts

The LLNL measurement structure readily maps onto LOCAS

Performance Categories	LLNL Measurement Structure Elements
Credible Performance	<ul style="list-style-type: none"> • Mission • ES&H • Secure Operations • Emergency Management • Nuclear Operations • Conduct of Operations • PEP performance
Integrated Management System	<ul style="list-style-type: none"> • Contractor Assurance • ISMS Validation • ISSM performance
Effective Resource Management	<ul style="list-style-type: none"> • Facilities & Infrastructure • Financial • Business • Workforce
Continuous Improvement	<ul style="list-style-type: none"> • Continuous Improvement Lean and Six Sigma performance

LLNL integrates performance analysis and reporting processes



LLNL is expanding its Continuous Improvement efforts

- **Goal:**

Simultaneous excellence in

- **science and technology**
- **operations**
- **business practices**

- **Method:**

**Catalyze measurable
improvements to processes**

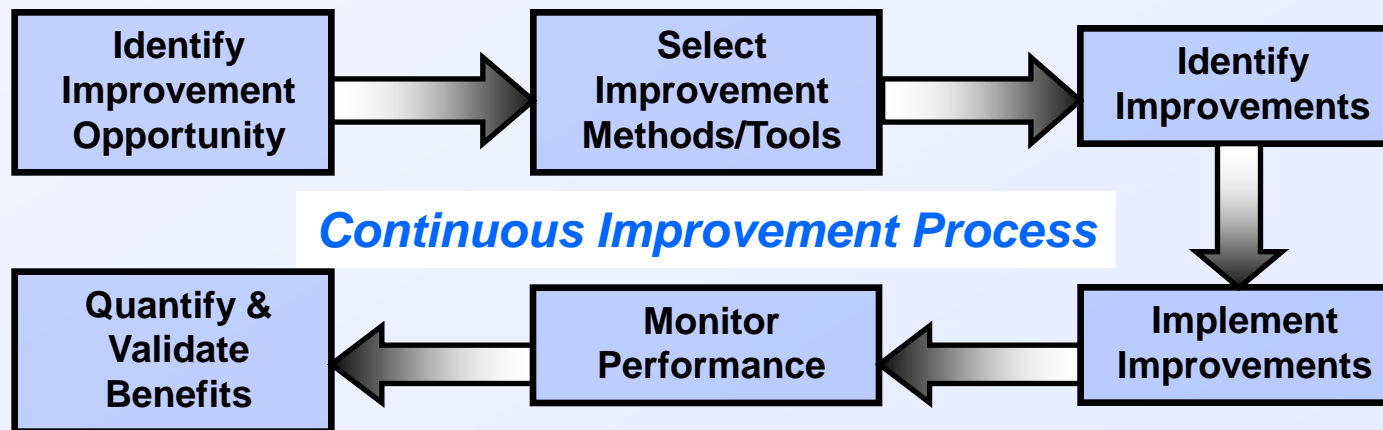
Continuous Improvement Benefits

- **Improved process efficiencies**
- **Resource effectiveness**
- **Cost benefits**
- **Continuous Improvement culture**

**Help LLNL achieve its mission in an
efficient and cost-effective manner**

Continuous Improvement processes & products

<i>Inputs</i>	
<i>Assessments</i>	<i>Benchmarking/Best Practices</i>
<i>Contract/Customer Requirements</i>	<i>Process Improvement Tools</i>
<i>Multi-Year Improvement Strategy</i>	<i>Noncompliances</i>
<i>Parent Org Reachback – AIM Teams, FMAs</i>	<i>Worker Feedback</i>



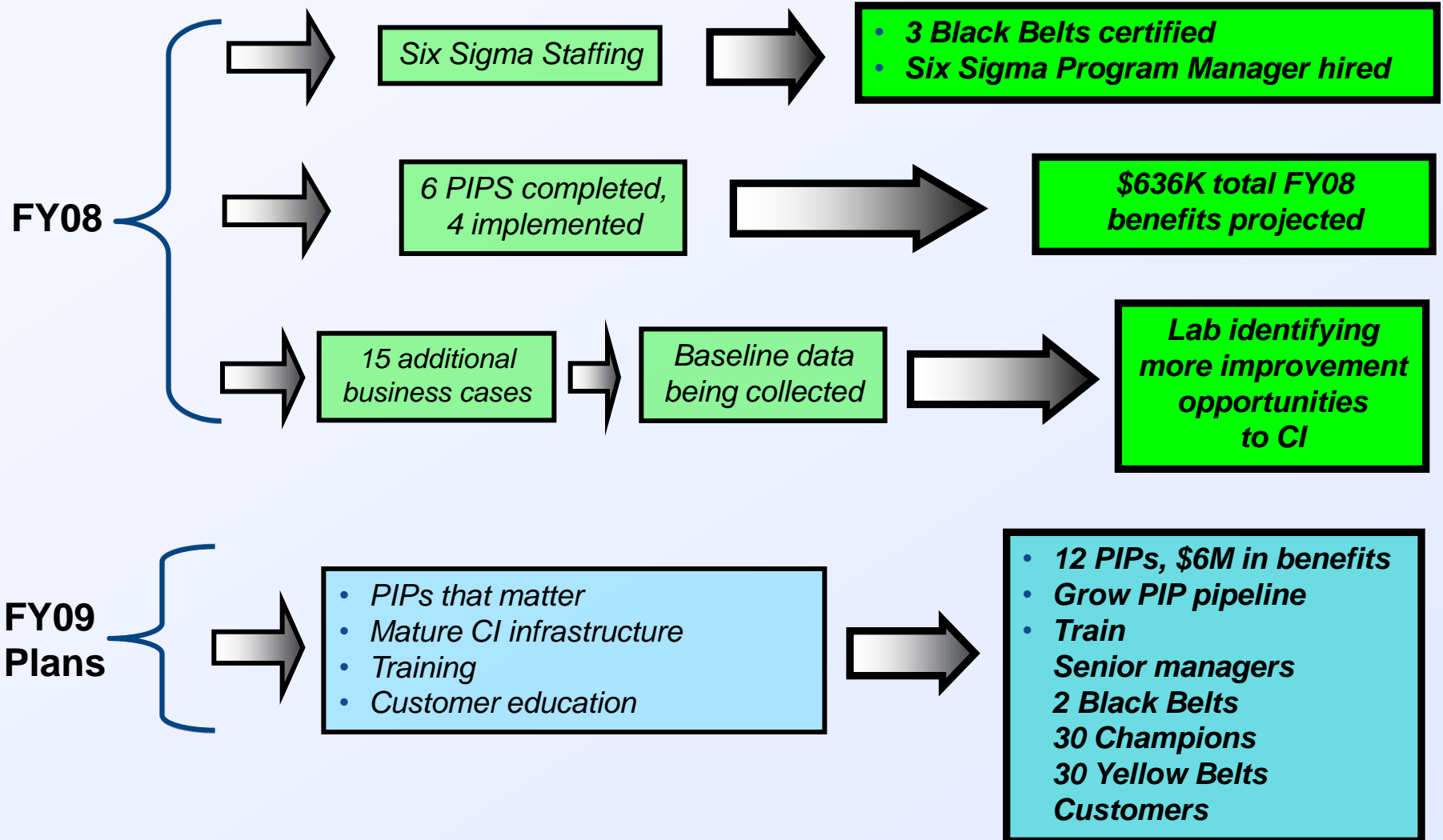
Continuous Improvement Process

Outputs

New Improvement Opportunities

Benefits to Customers

Six Sigma accomplishments and expectations



Challenges

- Demonstrate that the CAS adds value
- Resources
 - People vs. scope-based staffing plan
 - IT upgrades and support for three critical process systems: ITS, PsViews, SBMS
- Award Term PEP: Conduct a CAS Management Assessment

Points of Contact

- **Contractor Assurance Officer**
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- **Standards & Requirements Requirements**
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- **Issues Management**
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- **Performance Analysis**
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- **Assessments**
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- **Metrics**
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