

Introduction to Current & Prior Studies of the DOE Laboratories

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Current Studies

- Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise (*“Augustine/Mies Report”*)
 - *Shared panelists: Norman Augustine and TJ Glauthier*
- National Academy of Sciences (NAS) Assessment of the Governance Structure of the NNSA National Security Laboratories (*“NAS I – Governance”*)
 - *Shared panelists: Richard Meserve*
- NAS Peer Review and Design Competition Related to Nuclear Weapons (*“NAS II – Peer Review”*)
 - *Shared panelists: Paul Fleury, Cherry Murray*
- Commission to Review the Effectiveness of the National Energy Laboratories (*“Glauthier/Cohon Commission”*)
- Secretary of Energy Advisory Board (SEAB) National Laboratory Task Force (*“SEAB Task Force”*)
 - *Shared panelists: Richard Meserve, Cherry Murray*

Introduction

- The bibliography of *selected* studies over the last 20 years contains 55 entries – this is not exhaustive!
- A significant challenge for this Commission is to add value in this very complicated landscape
- The focus of Phase I is on the missions of the labs and their alignment with DOE's strategic priorities
- The focus of Phase II is on effectively and efficiently using the capabilities of the labs and on assessing the impact of DOE's management

Galvin Report, 1995

- A Secretary of Energy “Advisory Board Task Force on Alternative Futures”
- Analyzed management of DOE laboratories and proposed specific alternatives for meeting national missions

Galvin Findings

CRENEL Charge	Galvin Finding
Alignment with strategic priorities (I) ¹	- Excessive scrambling to establish projects in “new mission” areas, at expense of focus and discipline on core missions - Institutional fragmentation
Balanced, non-redundant missions; Unique capabilities (I)	- The labs and DOE require a clearer more focused statement of mission – the energy agenda - Focus on traditional mission areas: national security, energy, environment S&T and fundamental science
Work for others (I)	- Lack of clear policy guidelines for work for others - Collaborations should be closely aligned with core mission areas
Effective and efficient use of capabilities (II) ²	- Segmented management of the labs leading to institutional fragmentation - Burdens on the labs resulting from inability to shed excess capacity or terminate unsuccessful programs
Impact of DOE oversight & management (II)	- Overly prescriptive Congressional management and excessive Department oversight - Too focused on compliance issues/management processes - Subpar business practices within management systems

¹ (I) denotes Phase I

² (II) denotes Phase II

Galvin Recommendations

CRENEL Charge	Galvin Recommendation
Alignment with strategic priorities (I)	• Refocus on traditional mission areas • Greater integration among internal programs, programs and industry, and applied/basic research work • Establish lead labs and Centers of Excellence • Divide labor among national labs, industrial research institutions, and research universities
Balanced, non-redundant missions; Unique capabilities (I)	• Labs should not have an extraordinarily broad role • Apply core competencies to new problem areas rather than evolve them into new missions
Work for others (I)	• Simplify CRADAs significantly
Effective and efficient use of capabilities (II)	• Reduce budgets and size of labs
Impact of DOE oversight & management (II)	• Base DOE oversight on measures of performance, not compliance directives; Delegate oversight to one contracting officer per lab • Eliminate duplication of audits, appraisals, reviews • Corporatize laboratories, manage as a system • Standardize budgeting and financial reporting requirements across program offices

DOE IG Report, 2011

- The Office of the Inspector General (OIG) conducts annual inspections of the DOE
 - Identifies significant management challenges
 - Assesses progress in addressing previous challenges
- In 2011 the OIG also included a series of cost reduction and management suggestions

OIG Findings

CRENEL Charge	OIG Finding
Effective and efficient use of capabilities (II)	• Budget constraints will require more aggressive cost-savings and better management to improve operational efficiency • 60-70% of DOE's budget goes towards compensation, therefore efforts to decrease costs will require staff reductions • Extensive infrastructure poses an operational challenge (important but costly to maintain)
Impact of DOE oversight & management (II)	• Cost reduction efforts must also include contractor operations • Closings and aggressive changes to DOE management will impact local economies

OIG Recommendations

CRENEL Charge	OIG Recommendation
Balanced, non-redundant missions; Unique capabilities (I)	• Extend the Quadrennial Technology Review idea to include all research at the labs to ensure consistent execution of a lab-wide R&D policy
Effective and efficient use of capabilities (II)	• Establish a Commission inspired by DOD's BRAC guidelines to examine consolidation and realignment options • Consider ways to reduce costs of physical security, via consolidation, federalization, or other means
Impact of DOE oversight & management (II)	• Eliminate NNSA administrative functions redundant with the wider DOE organizational structure

NRC NNSA Study (2013)

- Congress directed DOE to request the National Academy of Sciences (NAS) to review the quality and management of research at the NNSA labs*
- The study was conducted in two phases
 - Phase I addressed how management at all levels affects the quality of the science and engineering (S&E) at the three laboratories
 - Phase II evaluated the actual quality of S&E in key subject areas

*NNSA laboratories are Lawrence Livermore National Laboratory, Los Alamos National Laboratory, and Sandia National Laboratories

NRC Findings

CRENEL Charge	NRC Finding
Alignment with strategic priorities (I)	Quality of science is excellent; labs successfully integrate science, technology, and engineering activities to address national security challenges
Balanced, non-redundant missions; Unique capabilities (I)	- Core mission of the NNSA labs is to assure a reliable, safe, and secure nuclear weapons stockpile - NNSA's vision: maintaining nuclear weapons as the core mission, while also contributing to other national security areas
Work for others (I)	Not discussed
Effective and efficient use of capabilities (II)	- Budget is subdivided with many restrictions reducing flexibility, thereby reducing the amount of core research being performed - Large vs small facilities; sustainability of infrastructure
Impact of DOE oversight & management (II)	- Administrative and reporting burdens - Persistent levels of mistrust driven by poor communication - No mechanism to negotiate a balance between competing policy and programmatic demands
Effectiveness of LDRD in meeting DOE's Goals (I&II)	LDRD is important for enabling the laboratories to conduct their missions -- fundamental S&E activities are critical for the long-term vitality of the labs

NRC Recommendations

CRENEL Charge	NRC Recommendation
Alignment with strategic priorities (I)	• Define a tri-laboratory strategy for retaining science base essential to nuclear weapons mission
Balanced, non-redundant missions; Unique capabilities (I)	• Recognize maintenance of the stockpile as the core mission and endorse NNSA vision of the labs • Prioritize facilities and programs to sustain capabilities
Work for others (I)	• Not discussed
Effective and efficient use of capabilities (II)	• Reestablish flexibility in the weapons program budgeting and permit use of such funds to support robust S&E capability • Recognize that safety and security have been strengthened so they no longer need special attention
Impact of DOE oversight & management (II)	• Reduce reporting and administrative burdens • Rebalance the managerial and governance relationship to build trust in program execution and laboratory operations • Establish a set of principles that define the boundaries and roles
Effectiveness of LDRD in meeting DOE's Goals (I&II)	• The LDRD program should be strongly supported as a means of enabling the long-term viability of the laboratories

NAPA Report, 2013

- Congress asked the National Academy of Public Administration (NAPA) to review DOE oversight of its contractor-operated laboratories
- The study was prompted by:
 - Dissatisfaction with instances in which contractors received full award fees for performance that did not meet expectations
 - A list of twenty policies/practices the National Laboratory Directors' Council (NLDC) considered burdensome and unnecessary
- Included a review of performance metrics and systems used to evaluate lab performance

NAPA Findings

CRENEL Charge	NAPA Finding
Alignment with strategic priorities (I)	• Lack of integrated strategic planning • Dependence on outside funding causes labs to stray from mission
Balanced, non-redundant missions; Unique capabilities (I)	• Overlap in competencies as result of encouraged competition
Work for others (I)	• Lots of outside work, not always aligned with DOE missions
Effective and efficient use of capabilities (II)	• The large number of funding buckets with excessive controls produces heavy transaction workload • Aging lab infrastructure
Impact of DOE oversight & management (II)	• Staggering number of operational reviews, often redundant and unclear • Contractor Assurance System (CAS) useful management tool but underdeveloped at many labs

NAPA Recommendations

CRENEL Charge	NAPA Recommendation
Alignment with strategic priorities (I)	Expand existing efforts to integrate lab capabilities (Office of Science planning, Quadrennial Energy Review, etc.)
Balanced, non-redundant missions; Unique capabilities (I)	- Establish a 2-year external commission to assess strategic future of laboratories - Annually assess impact of competition and cost-sharing
Work for others (I)	- Prioritize DOE priority-consistent work - Include non-DOE agencies that fund significant work in laboratory evaluations
Effective and efficient use of capabilities (II)	- Reduce funding buckets; improve technical operation of funds distribution system 5-year contracts with outcome-based evaluation approach
Impact of DOE oversight & management (II)	- Designate site offices as coordinators of operational reviews/audits - Further develop Contractor Assurance System (CAS); provide explicit guidance developing a mature CAS