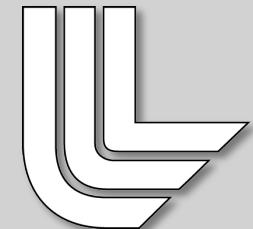


# *Director's Perspective*



*Issues Affecting Long-Term Health of the Institution*

George H. Miller, Director

Presented to:  
The Secretary of Energy  
Advisory Board

October 12, 2011

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# Long-term health depends on enduring investment in missions, an outstanding workforce, scientific capabilities, and efficient and safe operations

## Broad National Security Programs *Sustainable Missions*

The collage is organized into several sections:

- Nuclear Security:** Shows a large explosion or fire.
- International and Domestic Security:** Shows a robotic device.
- Energy and Environmental Security:** Shows a 3D map with network connections.
- Environmental Sustainable Operations:** Shows a person in a lab and a "cool roof" on a building.
- Facilities and Infrastructure:** Shows a modern building with a red door and a server room.
- Scientific and Engineering Capabilities:** Shows server racks.
- Livermore Valley Open Campus:** Shows a map of the area.



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# My perspective on the future

- **The US is engaged in a global war on many fronts**
  - Asymmetric threats to our national security
  - Environmental threats
  - Sustainable approach to energy sufficiency
  - Economic competition
- **Science, technology, engineering, and systems analysis are major tools in these wars and future challenges**
- **The DOE/NNSA Laboratories provide precious assets to the US science, technology, and engineering community**
  - Their history and character is to successfully take on challenges that are beyond the “state of the art”
  - Their responsibility is to commit to dramatic improvement in technical capability

**Beyond what is required for safe, secure operations, the country cannot afford to waste any of its science, technology, and engineering talent on bureaucratic inefficiency**



# **Challenges and opportunities facing the Laboratory over the next five years**

- **Meeting programmatic mission needs**
  - Weapons
  - NIF
  - Global Security
  - Energy and environment
- **Sustaining the infrastructure and Laboratory capabilities**
  - Physical
  - Science, technology and engineering
- **Recruiting and retaining the next generation of the best and brightest**
- **Developing efficient and effective processes**
- **Securing financial resources for investment in the Nation's future**



# Leverage capabilities in people and tools to meet a wider range of National Security needs

The collage is arranged in a circle, with the following labels and images:

- CFF**: Aerial view of Site-300 facility.
- Site-300**: Aerial view of Site-300 facility.
- Superblock**: Aerial view of Superblock facility.
- HEAF**: Two images: one of two people working on a large cylindrical component, and another showing a close-up of a textured metal surface.
- NIF**: Aerial view of the National Ignition Facility (NIF) building.
- HPC**: A row of server racks in a high-performance computing (HPC) facility.
- People**: A group photo of a team of people.
- Interagency Work**: The central text of the collage.
- UL**: Lawrence Livermore National Laboratory logo.
- Global Climate – Uncertainty Quantification**: An image of Earth with a global climate model overlay, next to two micrographs labeled "Before" and "After" showing biological or chemical processes.
- Medical Countermeasures**: Two micrographs showing biological samples before and after treatment.
- Sensors**: An image of a complex sensor array or robotic arm.
- Intel**: Two images: one of a map of South Asia and another of a person wearing a helmet and goggles.
- Conventional Munitions**: An image of a missile flying through the sky.
- Collision Simulation & Visualization**: Two images: one of a network graph and one of Earth with collision paths or orbits overlaid.
- Cyber Security**: An image of a globe with network connections and nodes.



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# The Livermore Valley Open Campus is a major enabler for our applied energy strategy

The interim HPC Innovation Center modular building



**Central focus is the application of high performance computing**

- Plan to site Ten petaflops of HPC capacity for the open campus
- Continuing interest by major organizations

## ***Proposed new computer building (~\$9.9M)***

- A new facility in the Open Campus is in design with bids planned by October 30

## **Program development status**

- Direct DOE funding under discussion
- Need a clear path for alternate approach to site development



Architect's  
rendition of  
the future  
Livermore  
Valley Open  
Campus



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# Efforts to improve ESH&Q management systems and to reduce transactional oversight

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug-Sep
• OHSMS <b>18001</b> Document Review	• ISO <b>14001</b> MSA and Internal Independent Review	• OHSMS <b>18001</b> Readiness Review	• ISMS Effectiveness Review • ISO <b>14001</b> Surveillance Audit	• FY 2012 SPOMC submitted		• OHSMS <b>18001</b> Registration Audit • HS-64 Audit	• OHSMS Certification • ISO <b>9001</b> Gap Assessment & Project Plan

**ISO 14001 (Environmental Management System) accreditation has been in place for 24 months**

- Two successful surveillance audits in FY 2011— focus is on system of continuous improvement
- On the cusp of order reduction

**OHSMS 18001 (Health and Safety) accreditation achieved September 7**

- Registration audit: July 25-28; successful registration in FY 2011
- Program will be integrated with 14001
- Negotiating with DOE's Livermore Site Office to integrate with annual Integrated Safety Management System (ISMS) deliverables and focus on streamlining focus processes

**ISO 9001 (QA) registration commitment is by end of FY 2013**

- QA system is keystone of third party accreditations as recognized international standard
- Independent gap analysis and Implementation Plan delivered for FY12 project start



# Director's Assessment

- **Reasons for hope**
  - Incredible talent of our people and their passion for our mission
  - Singular importance of the Laboratory's capabilities which help solve some of the country's most important challenges
  - Continued national dialogue that has placed the sustainment of the nuclear deterrent at a very high priority
  - Renewed attention on the Laboratory's capabilities by the broader national security community in helping to solve their problems
  - FFRDC concepts are increasingly part of discussions with senior leaders in Washington in approach to national problem solving



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