

**U.S. Senator Lamar Alexander (R-Tenn.), Chairman
Subcommittee on Energy and Water Development
Senate Committee on Appropriations**

**Opening Statement, As Prepared
“Securing America’s Future: Realizing the Potential
of the DOE National Laboratories”**

October 28, 2015

The Subcommittee on Energy and Water Development will please come to order.

This afternoon we are having a hearing to discuss the findings and recommendations in the final report of the Commission to Review the Effectiveness of the National Energy Laboratories.

Ranking Member Feinstein and I will each have an opening statement.

I will then recognize each senator for up to five minutes for an opening statement, alternating between the majority and minority, in the order in which they arrived.

We will then turn to the co-chairs of the commission to present the final report and their recommendations.

Our witnesses today include the two Commission Co-Chairs, Mr. TJ Gauthier and Dr. Jared Cohon.

I will then recognize senators for five minutes of questions each, alternating between the majority and minority in the order in which they arrived.

First, I would like to thank our witnesses for being here today, and also Senator Feinstein.

Under her leadership in the Consolidated Appropriations Act of 2014, she charged the Secretary of Energy with establishing an independent advisory commission to examine the effectiveness of the national laboratories, known as the Commission to Review the Effectiveness of the National Energy Laboratories.

We’re here today to receive the commission’s findings and discuss its recommendations. Its final report was approved on Friday after much discussion and public comment.

The 17 national laboratories include 10 Office of Science laboratories, three weapons labs managed by the National Nuclear Security Administration, and four applied energy laboratories – one each that does work for the Office of Energy Efficiency and Renewable Energy, the Office of Environmental Management, the Office of Fossil Energy, and the Office of Nuclear Energy.

The National Laboratories employ more than 55,000 people and received approximately \$11.7 billion in funding from the Department of Energy in fiscal year 2014.

Our national laboratory system is critical to our nation's competitiveness, national security, and way of life. National laboratories are the engines that help create new, cutting-edge technologies that can transform our economy.

For example, the development of unconventional gas was enabled in part by 3-D mapping at Sandia National Laboratory in New Mexico, and the Department of Energy's large-scale demonstration project which proved the technology worked.

Then our free-enterprise system capitalized on the basic energy research supported by the federal government and created a natural gas boom that will shape America's energy policy for decades.

Another example is the Manufacturing Demonstration Facility at the Oak Ridge National Laboratory, which is supported by the Office of Energy Efficiency and Renewable Energy.

Additive manufacturing technologies have the opportunity to change manufacturing in the way that the discovery of unconventional ways to find oil and gas has changed our energy future.

They are 3-D printing everything from tooling machines to robotic arms, as well as airplane parts, whole cars and buildings. This technology is already transforming the auto industry and has the potential to do much more.

National laboratories also develop and maintain our nation's advanced supercomputers, and one-day – hopefully soon – will achieve breakthroughs in exascale computing.

Exascale computers will be capable of a thousand-fold increase in sustained performance over today's petascale computers – which have been operating since 2008.

The commission has done a fine job and outlined 36 recommendations for Congress, the Department of Energy, and the administration to consider that could maximize the potential of the national laboratory system.

If we can ensure the labs are running as efficiently and effectively as possible, then more money can be spent on research and development and the national laboratories can work more easily with private industries to support our 21st century economy and create jobs.

I agree with a number of the recommendations included in this report, such as:

- Our laboratories should be provided the necessary resources to maintain their capabilities and facilities.
- Senator Feinstein and I both support robust funding for research and development.
- In the Senate Energy and Water Appropriations bill, we funded the Office of Science at the highest level ever in our appropriations bill.
- Third-party financing should be utilized for appropriate situations.
- At Oak Ridge National Laboratory, the Computational Sciences Building, Energy Science Building, Research Office Building, and the Multi-program Research Facility are four examples of such successes.
- Maintaining the facilities at the laboratories that are used by scientists, researchers, and manufacturers is also of critical importance for executing the science mission.
 - For example, in fiscal year 2015 alone, the Spallation Neutron Source had 800 users, the High Flux Isotope Reactor had 450, and the Oak Ridge Leadership Computing facility had 1000 scientists from all over the world use the supercomputing facilities, which is home to the Titan supercomputer and several other advanced computing systems. Since approximately 2006, those user facilities at Oak Ridge have been host to 24,000 users.
 - These facilities turn research and development into jobs that support a 21st century economy.
- The report also highlights the importance of maintaining separate and independent facilities for our weapons labs.
- I also was pleased to see a strong endorsement of laboratory directed research and development programs.

In an Oct. 4th *Wall Street Journal* op-ed, Ben Bernanke wrote, “As a country, we need to do more to improve worker skills, foster capital investment and support research and development.”

Supporting government-sponsored basic research is one of the most important things our country can do to encourage innovation, help our free-enterprise system create good jobs, and make America competitive in a global economy.

I look forward to discussing the commission’s recommendations to maximize the potential of our 17 national laboratories.

With that, I’d like to recognize Senator Feinstein, our subcommittee’s ranking member, for her opening statement.