U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
SUBCOMMITTEE ON ENERGY

HEARING CHARTER

Nuclear Energy Innovation and the National Labs

Wednesday, May 13, 2015
10:00 a.m. – 11:30 a.m.
2318 Rayburn House Office Building

Purpose

The Energy Subcommittee will hold a hearing titled *Nuclear Energy Innovation and the National Labs* on May 13th at 10:00 a.m. in room 2318 of the Rayburn House Office Building. This hearing will discuss research activities and infrastructure within the Department of Energy's national laboratories and how the private sector leverages those capabilities for investments with near-term payoff. This hearing will focus on research to advance nuclear energy technology.

Witnesses

- **Dr. Mark Peters**, Associate Laboratory Director, Energy and Global Security, Argonne National Laboratory
- **Mr. Frank Batten, Jr.**, President, The Landmark Foundation
- **Mr. Nathan Gilliland**, CEO, General Fusion
- **Dr. John Parmentola**, Senior Vice President, Energy and Advanced Concepts, General Atomics

Background

The Department of Energy (the Department) currently owns seventeen national laboratories (labs or the national labs), sixteen of which are operated by contractors as Federally Funded Research and Development Centers (FFRDCs).[1] These government-funded labs provide unique research capabilities to advance scientific research and development (R&D). In certain research areas, private sector companies invest in cooperative R&D with national labs with the goal of commercializing certain technologies. The national labs recruit researchers while also overseeing the construction and operation of research facilities.

[1] See the complete list of FFRDCs here: http://www.nsf.gov/statistics/ffrdclist/

The Department's open-access user facilities comprise one of its most prominent offerings to enable cutting edge research. User facilities are capital intensive, one-of-a-kind machines that enable a specific type of research. For example, Oak Ridge National Laboratory in Tennessee operates the Spallation Neutron Source, a billion dollar assembly that provides the most intense pulsed neutron beams in the world for scientific research purposes.[2] Another example at Argonne National Laboratory is the Advanced Photon Source, an ultra-bright x-ray beam.[3] Research ranging from materials science to pharmaceuticals relies on these user facilities that require large capital investments that the private sector cannot undertake on its own.

Nuclear energy technology development relies heavily on the capital intensive and unique systems at the national labs, partially because of its technological complexity and also due to the high regulatory cost to license civilian nuclear activities. The Nuclear Regulatory Commission (the NRC) regulates all civilian activities involving nuclear material with the exception of the Department's research facilities, which are not regulated by the NRC.[4] A private company or researcher seeking to construct and operate a reactor, even for noncommercial research purposes, must obtain a license from the NRC which may costs hundreds of millions of dollars and require decades of processing time.

Historically, the Atomic Energy Commission and the Department (as its successor) enabled the advancement of nuclear energy technology by using its authority to construct and operate reactors for research purposes. There has been much debate in recent years about whether the Department has lost its competence to continue this work and to what extent the Department continues to fulfill its mission to enable investment and further research for advanced nuclear energy technology.

[2] See Oak Ridge National Laboratory website here: https://neutrons.ornl.gov/sns
[3] See Argonne National Laboratory website here: https://www1.aps.anl.gov/About/Overview
[4] See Nuclear Regulatory Commission website here: http://www.nrc.gov/about-nrc.html; See also "The Department of Energy research reactors are not regulated by the NRC" here: http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/research-reactors-bg.html