

June 2016

**TO:** The Honorable Ed Whitfield, Chairman, Subcommittee on Energy and Power

**FROM:** Todd Allen, Senior Visiting Fellow [REDACTED]

**RE:** Questions for the record from the April 29, 2016 hearing, at the Subcommittee on Energy and Power entitled "H.R. 4979, the Advanced Nuclear Technology Development Act of 2016 and H.R. \_\_\_\_\_, Nuclear Utilization of Keynote Energy Policies Act."

**Member:** The Honorable Ed Whitfield

**The Department of Energy owns extensive nuclear testing facilities throughout its National Laboratory complex. How can those facilities be utilized in a manner to assist innovators in nuclear technologies develop the data and information to inform the regulatory process?**

The National Laboratory complex maintains the critical capability to act as the nation's test bed for developing advanced nuclear concepts. A national test bed has two functions: first to provide specialized capability to prove a scientific or design principal (the Research and Development Test Bed function) and second to provide a location and potentially support services for hosting first-of-a-kind demonstration reactors (the Demonstration and Deployment Test Bed function).

For the R&D Test Bed, the National Laboratory complex provides:

- Experimental capabilities with primary emphasis on nuclear and radiological facilities but also other testing capabilities (e.g. thermal- hydraulic loops, control systems testing, etc.).
- Computational capabilities along with state-of-the-art modeling and simulation tools.
- Information and data through knowledge and validation center.
- Assistance through the regulatory process.

For the Demonstration and Deployment Test Bed, the National Laboratory complex provides:

- Assistance through the regulatory process.
- Land use and site information for demonstration facilities.
- Security and emergency response partnerships.
- A potential partner in power use agreements.
- Local research capability to address performance questions.

To act as an optimized test bed, the laboratory staffs require active research programs to keep their skills cutting edge. These research programs can assist multiple innovators by focusing on solving technical challenges that are faced by multiple companies. The national laboratory research programs can also act as a landing place for innovators whose concept does not reach commercialization, thus keeping technical skill in the national research complex. Finally, the national laboratories can act as hosts for communications and engagement initiatives that connect customers, communities, and policymakers with the innovation community.