

Testimony

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Commission to Review the Effectiveness of
the National Energy Laboratories

Subcommittee on Oversight and Investigations
Committee on Energy and Commerce
U.S. House of Representatives

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Good afternoon, Chairman Murphy, Ranking Member DeGette, Vice Chairman McKinley, other Members and staff of the Subcommittee, and others interested in the National Energy Laboratories. We are pleased to be here to discuss the final report of the Commission to Review the Effectiveness of the National Energy Laboratories.

Congress created the Commission in the FY2014 Omnibus Appropriations Act. The President's Council of Advisors on Science and Technology developed a list of potential nominees, and the Secretary of Energy selected the nine Commissioners from that list.

The two of us served as the co-chairs of the Commission for almost 18 months. We were privileged to serve with an outstanding group of Commissioners with strong backgrounds in the science and technology enterprise of the nation.¹ We are pleased that this is a consensus report. We received excellent cooperation and support from the Department of Energy, all the relevant Congressional committees, the White House, the National Laboratories themselves, and many others.

During the course of our work, we visited all of the 17 National Laboratories, heard from 85 witnesses in monthly public hearings in the field and here in Washington, DC, and reviewed over 50 previous reports on this topic from the past four decades.

We have titled our report, ***“Securing America’s Future: Realizing the Potential of the National Energy Laboratories.”*** Our overall finding is that the national laboratory system is a unique resource that brings great value to the

¹ The other commissioners are: Norman Augustine, Wanda Austin, Charles Elachi, Paul Fleury, Susan Hockfield, Richard Meserve, and Cherry Murray

country in the four mission areas of the Department of Energy: nuclear security, basic science R&D, energy technology R&D, and environmental management.

For example, the National Labs have four of the world's fastest supercomputers, which are helping the nation extend the lifetimes and safety of our nuclear warheads without nuclear testing. In basic science, their world-class particle accelerators, light sources and other user facilities host over 30,000 researchers every year from universities and industry. And in energy technology R&D, the labs have played an important role in helping to develop the innovations that have led to the nation's shale gas revolution and surge in wind and solar energy.

However, our National Lab system is not realizing its full potential. Our commission believes that can be changed. We provide 36 recommendations that we believe, if adopted, will help the labs to become more efficient and effective and have even greater impact, thereby helping secure America's future in the four mission areas of the Department of Energy.

We'd like to highlight a few of our major findings and recommendations, and then would be happy to address any others of particular interest to you.

Our most fundamental conclusions deal with the relationship between the Department of Energy and the National Labs. We find that the trusted relationship that is supposed to exist between the federal government and its National Labs is broken and is inhibiting performance. We note that the problems come from both sides, the Labs and DOE.

We want to be clear that this situation is not uniform across all of the Labs. In particular, the Labs that are overseen by the Office of Science generally have much better relationships with the DOE than do those in the other program offices.

Many of our recommendations address this fundamental problem. We conclude that the roles need to be clarified and reinforced, going back to the formal role of the labs as Federally Funded Research and Development Centers for the Department of Energy. Under this model, the two parties are supposed to operate as trusted partners in a special relationship with open communication.

DOE should be directing and overseeing its programs at a policy level, specifying "*what*" its programs should achieve. The Labs, for their part, should be responsible for determining "*how*" to carry them out, and then executing those plans. In doing so, the Labs should have more flexibility than they do now to implement those programs, without needing as many approvals from DOE along the way. In return, of course, the Labs must operate with transparency, and be fully accountable for their actions and results.

This flexibility, in our view, should be expanded significantly in areas such as:

- The ability to manage budgets with fewer approval checkpoints,
- Managing personnel compensation and benefits,
- Entering into collaborations with private companies, including small businesses, without having each agreement individually approved and written into the lab's M&O contract with DOE,
- Building office buildings on sites that are not nuclear, not high hazard, and not classified,
- Conducting site assessments that are relied upon by DOE and others to minimize redundant assessments, and
- Sending key personnel to professional conferences to maintain DOE's work in leading edge science and for their professional development.

In the Congressional charge to us, we were asked to examine whether there is too much duplication among the National Labs. We looked into this in detail, and have included two recommendations in this area. The first regards the NNSA laboratories, where we conclude that it is important to the nation's nuclear security that the two design laboratories' capabilities continue to be maintained in separate and independent facilities.

The second recommendation in this area regards the way the Department manages through the life cycle of R&D topics. In our view, they do a good job at encouraging multiple lines of inquiry in the early, discovery stages of new subjects. And they are good at using expert panels and strategic reviews to manage mature programs. However, at the in-between stages, the Department needs to assert its strategic oversight role earlier and more forcefully to manage the laboratories as a system in order to achieve the most effective and efficient overall results.

Let us turn to some of our recommendations for how we believe Congress can help to improve the performance of the National Labs. We would like to cite four here in our opening statement:

- First, we conclude that Laboratory-Directed Research and Development, LDRD, is vitally important to the labs' ability to carry out their missions successfully, and we recommend that Congress restore the cap on LDRD funding to the functional level that it was historically, up until 2006.
- Second, to support strong collaborations between businesses and the National Labs, Congress may need to take action to clarify that the Labs have sufficient authority to enter into CRADAs and other forms of collaboration with domestic companies without DOE approval of each one.
- Third, we urge Congress to continue to recognize the importance of the role of the National Laboratories in building and operating user facilities for use by a wide range of researchers in universities, other Federal agencies, and the private sector.

- Fourth, there does seem to be a serious shortfall in funding for facilities and infrastructure at the National Labs. However, the scope and severity of that shortfall are not well defined. We recommend that the Congress work closely with DOE and OMB to agree, first, upon the size and nature of this problem, and then, upon a long-term plan to resolve it, through a combination of additional funding, policy changes, and innovative financing.

We would especially like to highlight our final recommendation. We found that in the past four decades there have been over 50 previous commissions, panels, and studies on the National Labs. It is our view that Congress and the Administration would be better served by some sort of standing body of experienced people who could provide perspective and advice on issues relating to the National Laboratories, without having to create new commissions or studies every time. Such a group could potentially be housed at the National Academies, or report to the President's Council of Advisors on Science and Technology (PCAST), or be somewhere else that would provide the independence that Congress requires.

Since releasing our report in late October, we have been very interested in what actions DOE is taking to follow up on our findings and recommendations. We are encouraged that Secretary Moniz and the current Lab Directors seem truly committed to reforming the relationship between DOE and the National Labs to restore trust and transparency.

In the past few days, the Secretary has sent to the Congress his response to our report. Overall, he is quite supportive of our recommendations, and he and his staff have provided a very thoughtful and detailed explanation of actions they have taken, and are taking, in every area of our report. These include, for example:

- Providing more information to Congress on the work and accomplishments of the National Labs, including beginning an annual Secretarial Report to Congress on the National Labs,
- Requiring all offices in the Department to adapt and use the major strategic planning processes of the Office of Science,
- Shifting the primary responsibility for decisions on conference attendance back to the Labs,
- Strengthening the project management processes for major capital projects,
- Strengthening the reliance of site offices and others on the Contractor Assurance Systems run at the Labs and assuring the CAS at all labs is of a consistently high quality, and
- Integrating the National Energy Technology Laboratory's (NETL) intramural and extramural research portfolio and adding flexibility in areas such as hiring and funding of laboratory-directed R&D.

The Secretary has also initiated some pilot projects to test out other potential changes, such as:

- Streamlined contracting between DOE and one of the Labs to clarify their roles and responsibilities in order to reduce much of the current micromanagement and approval requirements,
- Rotational assignments between headquarters and the Labs, and
- Flexibility and local authority for approval of business collaborations with the Labs.

We at the Commission are encouraged by these actions and intentions. However, there are areas in which the Secretary does not feel he has all the information he needs and is committing to reviews, workshops, and analyses. We hope those will lead to significant actions, but of course the jury is still out. In addition, the problems have developed over many years and will not be reversed quickly. We urge the Congress to support all of these efforts and to hold this Secretary and future Secretaries accountable for meaningful changes in all of the areas that we addressed.

We do want to add one final comment to the Congress. As noted earlier, we recommended the creation of an independent standing body which would provide oversight of the implementation of our recommendations and ongoing advice to Congress, as well as the Secretary. The Secretary's response indicates that he plans to utilize existing committees, including the Secretary of Energy Advisory Board (SEAB), rather than to create a new independent body. The Commission supports this for advice to the Secretary, but notes that no existing body can provide the independent advice to Congress which we envisioned.

On behalf of our nine commissioners, we want to thank you for this opportunity to serve the country on this important commission. We hope our work will be helpful and we are happy to answer questions and to discuss our findings and recommendations.