

SECRETARY OF ENERGY ADVISORY BOARD

MEMORANDUM FOR: SECRETARY OF ENERGY

FROM: Secretary of Energy Advisory Board (SEAB)

DATE: June 17, 2015

SUBJECT: Task Force comments on the *Interim Report of the Commission to Review the Effectiveness of the National Energy Laboratories*

You have charged the SEAB National Laboratory Task Force (TF) to review studies of the DOE National Laboratories as they appear, and to give advice about what your response should be to their findings and recommendations. This letter from SEAB endorses and transmits to you the comments of the TF on the recent Interim Report of the congressionally mandated Commission to Review the Effectiveness of the National Energy Laboratories (Commission). Regarding the NNSA laboratories, SEAB has already communicated its views on the recent Augustine-Mies Panel report on the governance of the nuclear security enterprise of the department. Our TF plans to prepare a follow-up letter that addresses specifically observations made by the Augustine-Mies Panel on the NNSA laboratories in the context of SEAB's work (by both this TF and the Nuclear Nonproliferation TF) on the effectiveness, morale, and management of these vital national technical centers.

The interim Commission report focuses on defining problems with the DOE national laboratories, DOE oversight, and governance. The next phase will propose solutions. The interim report is very measured; it presents much useful material in an effective way that characterizes laboratory trends. The report is at a high level with additional conclusions and recommendations promised in the next phase Commission report. This approach is reasonable given the congressional sponsorship, but differs considerably from the approach taken by our TF, which identifies near term "experiments" intended to improve the performance and efficiency of the laboratories within authorities that you have as Secretary of Energy. SEAB hopes that the Commission will address in its Phase II study some of the recommendations of our TF Interim Report.

It is significant that the Commission and this TF identify a remarkably similar set of concerns:

- *Little change has happened as result of the recommendations made by many past studies of DOE labs.*
- *There has been an erosion of trust between the DOE laboratories and the department.* A direct quote from the Commission interim report could well have been found verbatim in our TF report:

Effective execution of the mission is frequently hindered by problems in contractual oversight, unclear roles and responsibilities and the erosion of the trust upon which the FFRDC model is based.

- *The Commission identifies many of the same operational impediments that increase costs, weaken program outcomes, and result in excessive avoidance of risk as our TF and prior studies do.*
- *The Office of Science has a better process for working with its labs than does NNSA.* Our TF is sharper in criticizing NNSA headquarters for not having the sense of ownership in lab stewardship that exists in the Office of Science. It is not an exaggeration to say that it is only in DOE headquarters that one hears that the relationship between NNSA and its laboratories is healthy and there is high morale in the laboratories.
- *The Commission and SEAB Task Force reports have in common a broad view of the value of the national laboratories to the economy and recommend that DOE “embrace the technology transfer mission.”* Both reports underscore that technology transfer occurs by many modalities and stress the importance of user facilities, such as the SANDIA Combustion Facility in California. The Commission report speaks to the contributions the DOE laboratories make to the national science and technology community while our TF focuses on value to industry. Both reports note the barriers to establishing working partnerships with industry. Our TF makes specific recommendations for improving the process; the Commission will address national laboratory – industry collaboration in its Phase

II report.

- *The Commission gives a strong endorsement of the LDRD program, emphasizing its value for stimulating innovation in DOE laboratories and for attracting and retaining new technical talent (as directed in the Congressional charge). The endorsement is consistent with the findings of our TF and all past studies of the DOE national laboratories.*

Two points are worth noting. First, the Commission's approach to carrying out its inquiry is the same as the approach that our TF took. Second, the Commission report addresses issues not touched by us, such as setting the proper balance between duplication and competition in laboratory facilities and programs.

The second phase Commission report will address more challenging questions, including whether the DOE's national laboratories "are appropriately sized to meet the department's energy and national security missions," and whether "there are opportunities to more effectively and efficiently use the capabilities of the national laboratories." The Commission report signals its view of the scale and scope of the DOE and its national laboratories activities with such statements as:

Considering the impact the laboratories have had and the size of the DOE's funding relative to other R&D expenditures, the Commission does not feel the overall funding level for the DOE is too large. Indeed, it could be questioned whether that level is too low given the important missions of the DOE and the national laboratories... The challenge is to make the DOE system as efficient as possible...

This sentiment is frequently expressed in government advisory group reports to other government agencies that have significant technical activities such as NIH, NASA, NSF and DOD. The analytic support for this expressed view – the decline in the ratio of federal R&D to GDP and the relatively constant proportion of DOE R&D to total federal R&D – are neither new nor have they proven to be compelling for the DOE or other agencies in raising budgets. In its next phase report, the Commission promises to address the important additional question of whether the proper proportion of DOE funding is sent to the national laboratories relative to academia and industry.

As you know, the TF is not addressing either the scale of DOE national laboratory funding or its relation to DOE funding for other R&D performers. Consistent with its terms of reference, our TF is examining ways to improve performance outcomes and efficiency in the planning, management, and oversight of the national laboratories. The TF believes that improving efficiency and program outcomes is a necessary condition for gaining greater congressional, executive branch, and public support for DOE programs. In its second phase, the Commission will assess the efficiency of laboratory operations and how the relationship between the laboratories and DOE can be improved.

Our TF expects that there will be great similarities in the suggestions from each group, and hopes that the Commission will endorse the decentralized approach that we have proposed to technology transfer. On the other hand, the TF anticipates that there will be some differences in approach to improving the Work For Others process, in particular how much can be expected from the interagency Mission Executive Council.

The tone of this interim report signals that it is unlikely that the second phase report will recommend radical change to the scale or scope of the department's national laboratories. Even should it do so, it is doubtful that any radical changes could be designed, authorized, and implemented in the last two years of the administration. The Commission second phase report will, however, be important in framing attitudes and issues toward the national laboratories for Congress, the next administration, and the public. We recommend that your position should be that the Commission review has made a useful contribution in its initial report and you expect further important insights and suggestions in its second phase report. The significant question is whether recommendations made in the Commission report and other reports such as those of our TF will be implemented or forgotten as is true of so many national laboratory reports of the past. The Commission report indicates that they will analyze why recommendations in previous reports were not implemented, and SEAB and our TF believe this analysis will be valuable.