

Summary Minutes of the

US Department of Energy (DOE)
Secretary of Energy Advisory Board
Public Meeting
July 20, 2011

Committee Members: William Perry, Chair; Frances Beinecke; Ralph Cicerone; John Deutch; Nicholas Donofrio; Chad Holliday; Michael McQuade; Matthew Rogers; Arthur Rosenfeld; Susan Tierney; Steven Westly; Daniel Yergin

Date and Time: 8:00 AM- 3:00 PM, July 20, 2011

Location: US Department of Energy, 1000 Independence Avenue, SW, Room 1E-245
Washington, DC

Purpose: Meeting of the Secretary of Energy Advisory Board

SEAB Staff: Amy Bodette, Designated Federal Officer

DOE Staff: Steven Chu, Secretary of Energy; Daniel Poneman, Deputy Secretary; Steve Koonin, Under Secretary for Science; Arun Majumdar, Acting Under Secretary for Energy; Victor Reis, Office of Science; John Kelly, Office of Nuclear Energy

Meeting Summary

SEAB members heard opening remarks from Chairman Perry and Secretary Chu. The first session was a presentation on small modular reactors from the Office of Science and the Office of Nuclear Energy. The Board heard updates from the Natural Gas Subcommittee and the Building Efficiency Subcommittee. In the last session before the lunch break the Board heard from Under Secretary Steve Koonin on the progress of the Energy QTR. The last session of the meeting was a presentation of the report from the Technology Transition Subcommittee and discussion.

The discussion followed the issues and timing as presented in the meeting agenda.

Opening of Public Meeting

Chairman Perry opened the meeting and turned it over to Secretary Chu for introductory remarks. Secretary Chu reported progress on a number of important issues and highlighted other issues that need continued attention. The first topic was the change in the innovation chain in the United States over the last century. Our National Laboratories are still present and part of that chain. It is important for the Department of Energy and the Labs to understand what motivates the private sector. Management

reform has also been a focus for Secretary Chu. The Department is making steps in the right direction. The lessons that have been learned from implementing ARPA-E can be applied throughout the building. Worker safety was highlighted as an important issue where progress has been made. DOE takes worker safety quite seriously as part of our every day operations. Line managers must feel responsible for the safety and security of our operations. Additionally, Secretary Chu announced that the Office of Environmental Management will now report to the Under Secretary of NNSA. Waste issues are closely aligned with nuclear security issues. There is often need to coordinate and this will improve that process. Dave Huizenga is the Acting Assistant Secretary for Environmental Management.

Arun Majumdar spoke briefly about ARPA-E. The program is pleased to have an approved budget and is working to recruit a new "dream team". The staff of ARPA-E are term limited and the office is in the process of hiring new talent. Lines of business are extremely important and we must make it a priority.

Chairman Bill Perry made brief remarks outlining work that SEAB is doing and topic areas that need more attention. These areas included building efficiency, fuel, electricity, infrastructure, natural gas, and technology transition.

SEAB members are interested in the grid and infrastructure issues. Secretary Chu mentioned that he has recently brought Lauren Azar on to his team to help be a facilitator and coordinate the system better. DOE doesn't have complete control of the grid issue, but we can be helpful. He also noted that electricity is often taken for granted and gets a lot less public attention than the transportation sector.

The Board briefly discussed manufacturing and the need to manufacture renewable energy in the United States. We are in a race and need to innovate.

Small Modular Reactor Presentation

Victor Reis, Senior Advisor in the Office of Science, gave a presentation calling for a robust small nuclear reactor program. He discussed the capabilities of SMRs, safety, and the potential for SMRs to be instrumental in meeting our energy goals. Multiple barriers to deployment were identified. John Kelly, Deputy Assistant Secretary for Nuclear Reactors contributed to the presentation. He discussed the DOE market survey that took place that included public workshops and one-on-one meetings. It was concluded that SMRs are deployable in the next decade, but needs a suitable regulatory framework to support licensing. Safety of the reactors and waste were noted as two issues that generate a significant amount of attention. The reactors will be manufactured in the United States.

Members asked questions regarding waste, cost and additional barriers to deployment, including the structure of the program to meet objectives.

Subcommittee Updates

John Deutch updated the Board on the work of the Natural Gas Subcommittee. The subcommittee consists of seven members including John Deutch, Susan Tierney, Mark Zoback, Stephen Holditch, Frederic Krupp, Kathleen McGinty, and Daniel Yergin. An interim 90 day report is due to the full SEAB in the middle of August and the subcommittee intends to meet that goal. The subcommittee has met for 6

days of public meetings and examined process on a technical field visit to the Marcellus Shale in Pennsylvania. Chairman Deutch reports that the subcommittee has found this to be interesting and important issues. They have cooperated with other agencies and heard from citizens, state governments, environmental groups and industry and have learned a great deal by listening to a wide range of people.

Steve Westly gave a brief report on the Building Efficiency Subcommittee. The subcommittee has five members including Steve Westly, Maxine Savitz, Arthur Rosenfeld, Michael McQuade, and Matthew Rogers. The mission of the subcommittee is to take a look at the programs at DOE and see if they are serving their full potential and exploring best practices. The terms of reference for the subcommittee are close to final and the subcommittee plans to meet with other agencies for an afternoon of briefings. Future meetings of the subcommittee will include briefings from DOE staff and additional briefings on the West Coast.

Deputy Secretary Poneman gave a brief overview of his recent trip to India and highlighted a number of opportunities for potential collaboration.

QTR Update

Under Secretary Koonin provided the Board with an update on the QTR that he has been put in charge of executing. A DOE QTR was suggested in the recent PCAST report. The goals of the QTR are to define and promulgate a simple framework in which non-experts can understand and discuss the energy system and the challenges it presents; to explain to ourselves (the DOE) and our stakeholders, the roles that the Department, the broader government, the private sector, the national laboratories, and academia play in energy innovation and transformation; and to establish a robust conceptual framework for DOE's energy technology programs and a rough sense of priorities among them. Under Secretary Koonin outlined the process of the QTR, including six issue focused meetings across the country. The report is still in draft form and is expected to be released in August.

Members stressed the importance of adoption of the QTR despite outside factors and also complimented the effect that the report will have internally, but questioned if the principles will outlast this administration.

Technology Transition Subcommittee Report

John Deutch presented the Technology Transition Subcommittee's report and recommendations to the full board. The subcommittee believes that the basic principle that should govern DOE's involvement is that DOE engages when the private sector is unable or unwilling to make investments that are in the public's interest. The report states that there are four stages at which government support can occur: (1) creation of new ideas (basic research and exploratory development), (2) development of new technical ideas to a process development scale that defines system operation (advanced engineering) and validates feasibility, (3) system demonstration that creates a practical option for the private sector by establishing the technical performance, cost, and environmental effects of supply or demand side

technology, and (4) deployment assistance or regulatory mandates to encourage the adoption of new energy technologies at a faster pace than would occur without government involvement. The recommendations of the subcommittee were (1) DOE should build a strong energy policy and systems analysis capability, (2) DOE should establish a Technology Demonstration Selection Board to manage the process of selecting and structuring technology demonstration projects, (3) ARPA-E should remain focused on initial support of potentially disruptive technology and (4) strengthening commercialization of DOE laboratory technology.

Overall, SEAB members were impressed with the report and recommendations. Concerns were raised about the growing size of the department and the need to simplify the organization. Members also questioned where the recommendations would be reflected in the budget. There was a call to repeat the 2001 National Research Council study, "Energy Research at DOE: Was It Worth It?" Members suggested that DOE needs to focus on hiring high quality individuals for the policy staff with an emphasis on modeling and simulation, financial and tax experts, etc. It will be important to both recruit and retain these experts. Finally, there was discussion as to whether the leader of the policy operation should be Assistant Secretary level or a senior staff person that reports directly to the Secretary. The argument was that Senate confirmation takes too long and there is a need to stand up this shop quickly. SEAB came to a general consensus that the report and recommendations should be transmitted to the Secretary.

Chair Wrap Up

The next meeting of SEAB will be by teleconference on August 15, 2011 to discuss the 90 day report of the Natural Gas subcommittee. The next in person meeting will be on October 12, 2011 in California. More details on both meetings will be available soon.

Public Comment

Two individuals spoke during the public comment session.

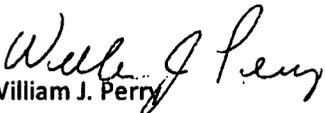
Linda Cooper from the citizen's group Stop Drilling, Save the Bridger-Teton expressed her opposition to fracking. Cooper claims there is no technological solution for this problem and no sensitivity to health and environmental issues.

Stewart Kantor from a grid automation company in Palo Alto, California, Full Spectrum, was there seeking support from DOE. Companies like his have had trouble raising money from venture capitalists because of regulatory issues and utility companies. Communications is the chief problem.

Respectfully Submitted:

Amy Bodette, Designated Federal Officer

I hereby certify these minutes of the 7/20/11 SEAB meeting are true and correct to the best of my knowledge.


William J. Perry
Chair