

Summary Minutes of the

U.S. Department of Energy (DOE) Secretary of Energy Advisory Board Public Meeting

Committee Members: John Deutch, Co-Chair; Frances Beinecke; Albert Carnesale; Shirley Jackson; Deborah Jin; Paul Joskow; Steven Koonin; Arun Majumdar (via teleconference); Michael McQuade; Richard Meserve; Cherry Murray; Carmichael Roberts; Ram Shenoy; Martha Schlicher; Daniel Yergin;

Date and Time: 9:00 AM- 12:15 PM, September 5, 2014

Location: U.S. Department of Energy Forrestal Building, 1000 Independence Avenue SW, Washington, D.C. 20585

Purpose: Meeting of the Secretary of Energy Advisory Board (SEAB)

SEAB Staff: Karen Gibson, Designated Federal Officer, Corey Williams-Allen, Deputy Designated Federal Officer, Matthew Schaub, Deputy Designated Federal Officer

DOE Staff: Secretary Ernest Moniz; Patricia Hoffman, Assistant Secretary, Office of Electricity Delivery and Energy Reliability; and Diana Bauer Director of Energy Systems Analysis, Office of Energy Policy and Systems Analysis

Meeting Summary

This meeting was the fourth quarterly meeting of the Secretary of Energy Advisory Board (SEAB). SEAB members heard opening remarks by Secretary Moniz and the Co-Chair John Deutch. The first agenda item consisted of updates from the Nuclear Nonproliferation Task Force, Technology Development for Environmental Management Task Force, QER Task Force, and the National Labs Task Force. The members then received a briefing on the energy water nexus from Diana Bauer followed by a presentation on transformation of the energy grid by Assistant Secretary Patricia Hoffman.

Opening of Public Meeting

Secretary Moniz opened the meeting with a brief overview of recently confirmed nominees and nominees awaiting Senate approval. He updated the SEAB members on the budget process for FY 2016 and the Department's continued emphasis on crosscutting initiatives across programs. He updated the SEAB members on the progress of the QER, and noted the successful regional stakeholder meetings and the January target for completion of the first year of the QER. The Secretary mentioned progress made with China at the U.S.-China Clean Energy Research Center (CERC) in regards to clean energy research. He shared positive sentiments on the U.S.-Africa Leaders Summit and expressed potential for micro-grid technology deployment. The Secretary suggested SEAB may be charged with examining issues related to human capital for the agency. He will issue written responses to the Task Force on Nuclear Nonproliferation Interim Report focused on nuclear nonproliferation issues for the Department and the Task Force on Next-Generation High Performance Computing (HPC) Report focused on budgetary

guidance, lowering of barriers to commercial interest in HPC, and structuring post CMOS research. John Deutch highlighted General Brent Scowcroft's contributions as co-chair of the Blue Ribbon Commission on America's Nuclear Future and the DOE's interest in pressing implementation of the recommendations of this group. He also suggested a possible study to be led by Frances Beinecke on technical education for graduates and post docs.

Updates from SEAB Task Force Chairs

Nuclear Nonproliferation Task Force Chair, Albert Carnesale reported that the interim report had been completed and made publicly available on the [SEAB website](#). The task force decided to initially focus on the most pressing issues and plans to fully address the five issues they were charged with in their final report. The task force will review the Congressional Advisory Panel on the Governance Structure of the National Nuclear Security Administration (Norman Augustine/Richard Mies Report) and meet twice more before submitting a draft report at the December SEAB meeting.

The Task Force on Technology Development for Environmental Management Chair, Richard Meserve reported that the task force held its first meeting in July and plans to meet in October before completing a final report in December. The task force estimates that it will take \$350 billion to complete environmental cleanup efforts. If funding continues in annual increments of \$5 billion to \$6 billion it will take several decades to clean sites without further advances in remediation technology. \$22 million was spent last year on incremental technology improvements. The task force will further study lessons learned from the past and examine examples of success such as the Rocky Flats site.

QER Task Force Chair, Paul Joskow reported that the task force met in July. Progress has been made on the analytical work, but much is left to do. The interagency process is going well. Regional meetings were well attended. The challenge will be to identify key gaps and priorities and develop policy recommendations for the January target date.

National Laboratory Task Force Chair, John Deutch reported the formation of three working groups: Technology Transfer, chaired by Arun Majumdar; LDRD, chaired by Eric Isaacs; and M&O contracting, chaired by Michael McQuade. The task force hopes to offer meaningful pilot projects and experiments within the Secretary's authority to implement. The task force will hear updates from the working groups at their next meeting to be held in October at Oak Ridge National Laboratory.

Public Comment

No Public Comment

Energy Water Nexus

Diana Bauer, Director of Energy Systems Analysis, reported on issues caused by the scarcity, variability, and uncertainty of water. Diana identified several offices that have partnered within the Department of Energy to form the Water Energy Tech Team (WETT). WETT strives to optimize the freshwater efficiency of energy production, electricity generation, and end use systems; optimize the energy efficiency of water management, treatment, distribution, and end use systems; enhance the reliability and resilience of energy and water systems; increase safe and productive use of nontraditional water sources; promote responsible energy operations with respect to water quality, ecosystem, and seismic impacts; and exploit productive synergies among water and energy systems. Bauer noted the challenges climate

change imposes on optimizing operations - especially for hydroelectric plants, developing effective water management strategies, and choosing sites for energy production activities.

Transformation of the Grid

Assistant Secretary Pat Hoffman reported on the future of the energy grid including desirable characteristics, future grid properties, and limitations. She indicated that the federal government needs to modernize the grid because of the fragmented ownership of the grid and because industry could not tolerate risk liabilities nor innovate without further raising liabilities. The grid is going to evolve. The challenge is to figure out the efficient evolution of the grid.

Chair Wrap-Up

Co-Chair John Deutch adjourned the meeting and noted that the next meeting would take place on Wednesday, December 3 at National Renewable Energy Laboratory in Golden, Colorado.

Meeting adjourned at 11:50 AM.

Respectfully Submitted:

Karen Gibson
Designated Federal Officer

I hereby certify that these minutes of the September 5, 2014, SEAB meeting are true and correct to the best of my knowledge.

A handwritten signature in black ink, appearing to read "John Deutch". The signature is fluid and cursive, with the first name "John" and last name "Deutch" clearly distinguishable.

John Deutch
Co-Chair