Summary Minutes of the

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

Committee Members:	John Deutch, Co-Chair; Persis Drell, Co-Chair; Rafael Bras; Albert Carnesale; Shirley Ann Jackson; Deborah Jin; Steven Koonin; Arun Majumdar; Michael McQuade; Richard Meserve; Cherry Murray; Dan Reicher; Carmichael Roberts; Martha Schlicker; Ram Shenoy; Dan Yergin
Date and Time:	8:30 AM - 12:15 PM, June 20, 2014
Location:	Argonne National Laboratory, TSC Conference Center, 9700 S. Cass Avenue, Lemont, IL 60439
Purpose:	Meeting of the Secretary of Energy Advisory Board (SEAB)
SEAB Staff:	Karen Gibson, Designated Federal Officer; Corey Williams-Allen, Deputy Designated Federal Officer
DOE Staff:	Secretary Ernest Moniz and Patricia Dehmer, Acting Director of the Office of Science

Meeting Summary

The Secretary of Energy Advisory Board (SEAB) convened for the third quarterly meeting of 2014. SEAB members heard opening remarks by Secretary Moniz and the Co-Chairs John Deutch and Persis Drell. Task Force Chairs briefed the full Board on their activities. The members were then briefed by Patricia Dehmer, Acting Director of the Office of Science, on synchrotron radiation light sources. They also received a briefing on energy storage from Joint Center for Energy Storage Research (JCESR) Director George Crabtree.

SEAB meets quarterly and rotates locations between DOE Headquarters in D.C. and Laboratories with the next meeting in September in Washington, D.C.

Opening of Public Meeting

Co-Chair Persis Drell opened the meeting and introduced Secretary Moniz. Secretary Moniz welcomed the newest SEAB member, Arun Majumdar. He then announced Deputy Secretary Daniel Poneman's intention to step down from DOE in the fall. The Secretary thanked SEAB for their thoughtful work on the Task Force Report to Support the Evaluation of New Funding Constructs for Energy R&D in the DOE (Hubs+) and the Task Force Report on FracFocus 2.0 and noted that the reports are posted on the DOE/SEAB website. The Department is in the process of assessing the recommendations and will send a more complete response to SEAB shortly. He updated the SEAB members on the status of the QER, which is moving into systems analysis; noted the priority of high performance computing (HPC); and said that he was looking forward to the interim report of SEAB's nuclear nonproliferation study, noting how different the geopolitical world is today. The Secretary noted the upcoming anniversary of the Climate Action Plan and highlighted some of the focus areas, such as methane, where progress is being made.

The Secretary also announced the creation of two new task forces.

The first new task force is on technology development for environmental management to be chaired by Richard Meserve. The Office of Environmental Management has closed out many projects, but there are a number of challenging projects left. The need for a new framework for environmental management is being driven by unresolved technical issues. The task force will look at how DOE might strengthen an R&D program oriented to long-term environmental management projects. The first meeting is scheduled for July 15th in Washington, D.C. An interim report will be made to the full SEAB in September and a final report in December.

The second new task force will focus on the national labs and will be chaired by John Deutch. The first meeting is scheduled for August 6th in Washington, D.C. The task force will examine a number of discreet issues, such as LDRD, technology transfer, Work for Others (WFO), and cross lab initiatives, that might provide the basis for some experiments aimed at improving the health and management of the labs. The task force will also examine past and current study reports and provide advice to the Secretary on how the Department might respond to the recommendations.

Reports of Task Force Chairs

Shirley Ann Jackson and Michael McQuade, co-chairs of the High Performance Computing Task Force reported on their progress and findings. The task force is charged with looking at the investability of exascale computing. The task force held 8 meetings at DOE and private facilities and has developed a preliminary set of priorities. The co-chairs noted that the task force findings and recommendations will be framed by three broad considerations: (1) recognizing and recommending a "new" alignment between classical and data centric computing to develop a balanced computational ecosystem; (2) recognizing the DOE historical role and expertise in the science, technology, program management and partnering, and recognizing its vital role across US Government; and (3) making recommendations on exascale investment, on nurturing the health of the overall high performance ecosystem, which includes investment in people, and in mathematics, computer science, software engineering, basic science, and on materials science and engineering. The task force is scheduled to complete work at the end of July. A report will be circulated to the members and made public, and a public conference call will be scheduled for the task force to report to the full SEAB.

The Task Force on Nuclear Nonproliferation is chaired by Albert Carnesale. The task force has produced findings related to setting objectives and priorities for DOE nuclear nonproliferation programs; improving DOE nuclear policy integration, analysis, and advocacy; strengthening DOE relationships with field offices, national labs, and production facilities; continuing and revitalizing U.S. – Russian nuclear security and nonproliferation cooperation; and developing and implementing an investment strategy for nuclear nonproliferation research and development. A report will be circulated and made public at the end of July and a public conference call will be scheduled for the task force to report to the full SEAB. The task force aims to issue a final report in December.

A new Task Force on Technology Development for Environmental Management (EM) has recently been established to assess the value of a renewed EM science and technology development effort and how such a program would be structured. Richard Meserve will chair the Task Force which will provide a brief progress report to SEAB in September 2014 and will complete its work and present its work at SEAB's December 2014 meeting.

Another new Task Force, chaired by John Deutch, will provide advice, guidance, and recommendations on important issues related to improving the health and management of the national labs. The Task Force has

two broad purposes: to identify key areas that have been raised concerning management and operations and select a few specific issues for study by reviewing past studies, Congressional reports and Departmental deliberations; and to remain informed about the deliberations of several studies underway at the DOE labs and provide the Secretary with SEAB's views on the findings and recommendations of those studies. The Task Force will submit quarterly reports to SEAB of its progress and submit a final report by December 2015.

DOE Presentation on Synchrotron Radiation Light Sources

Patricia Dehmer, Acting Director of the Office of Science, presented an in-depth overview of synchrotron radiation light sources and their evolution. Synchrotron radiation is electromagnetic radiation emitted when charged particles are accelerated radially using magnetic fields. The major applications of synchrotron light are in condensed matter physics, materials science, biology, and medicine. Dr. Dehmer also described the BES strategic plan and the BESAC Future X-ray Light Sources Report aimed at ensuring that U.S. light sources will maintain world leadership ahead of strong competition from Asia and Europe. Dr. Dehmer's presentation is available at http://energy.gov/seab/articles/june-20-2014-seab-meeting.

JCESR Presentation on JCESR: One Year Later

George Crabtree, Director of the Joint Center for Energy Storage Research described the center's goals to transform transportation and electricity grid with high performance, low cost energy storage. His presentation focused on energy storage challenges for transportation and electricity grid and how these two biggest energy uses are poised for transformational change. JCESR, in partnership with five other national labs, industry and academia, has created a new paradigm for battery R&D that integrates discovery science, battery design, research prototyping and manufacturing collaboration in a single highly interactive organization. Dr. Crabtree's presentation can be found at http://energy.gov/seab/articles/june-20-2014-seab-meeting.

Public Comment

No Public Comment

Chair Wrap-Up

Co-Chair John Deutch thanked Co-Chair Persis Drell for her service and wished her well as she steps down from SEAB to focus on her new role at Stanford University. Dr. Deutch adjourned the meeting and noted that the next meeting would take place on September 5th, 2014 at U.S. Department of Energy Headquarters in Washington, D.C.

Meeting adjourned at 12:15 PM.

Respectfully Submitted:

Karen Gibson, Designated Federal Officer

I hereby certify that these minutes of the June 20, 2014, SEAB meeting are true and correct to the best of my knowledge.

John Deutch, Co-Chair