Summary Minutes of the

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

Committee Members:	John Deutch, Chair; Carol Browner; Michael Greenstone; Michael McQuade; Richard A. Meserve; Ram Shenoy; Dan Reicher; Martha Schlicher; and Linda Stuntz
Date and Time:	October 15, 2015, 9:00 AM – 12:15 PM EST
Location:	Department of Energy, Forrestal Building, 1000 Independence Avenue, SW, Washington, DC
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 Director
DOE Staff:	Secretary Ernest Moniz; Patricia A. Hoffman, Assistant Secretary for Electricity Delivery and Energy Reliability
Presenter:	Paul Alivisatos, Director, Lawrence Berkeley National Laboratory

Meeting Summary

This meeting was the third quarterly meeting for 2015 of the Secretary of Energy Advisory Board (SEAB). SEAB members heard opening remarks by Energy Secretary Ernest Moniz. Following the opening remarks, the first agenda item was a presentation and discussion on DOE's emergency response role. The next agenda item consisted of updates from the chairs of the Federal Energy Management Task Force and the Methane Hydrates Task Force, followed by a presentation and discussion on the DOE national labs as a network. The meeting adjourned after an opportunity for public comment.

Opening of Public Meeting

Secretary Ernest Moniz opened the meeting. The Secretary welcomed the new SEAB members, including those not present. He also acknowledged the good work of the members who had left the Board, and suggested that they may be called upon to assist the Board with future work. In his remarks, the Secretary highlighted the contribution of the National Labs to the Iran negotiations. He discussed the Road to Paris and the focus on using technology and innovation to lower costs for low carbon solutions. In a recap of SEAB's guidance to the Department, the Secretary thanked SEAB for their input on the QER. He also thanked SEAB for the work of the National Energy Laboratories Task Force and noted the reduced transactional management in M&O Contracts, resulting from successful experiments recommended by the Task Force. He looks forward to the SEAB thoughts on the Commission to Review the Effectiveness of the National Energy Laboratories, which is expected to be published on October 28th. The Secretary also thanked SEAB for their review and comments on the Augustine-Mies Report and looks forward to their continued help as the Department implements the report's recommendations. The Secretary mentioned a recent DOE–NIH workshop to review DOE involvement with the BRAIN Initiative and other potential collaboration with NIH on issues such as precision medicine, and noted that this was an area that he would like SEAB to look into and advise him on whether there are other areas to expand. He reported on

the Department's plan to pilot an Energy Science Leadership Group, an idea supported by SEAB. The Office of Science has asked its Biological and Environmental Research Advisory Committee to examine research on low dose radiation. The Secretary was interested in SEAB's recommendation that the Department look into sponsoring the Minnesota Institute of Applied Mathematics, and would further consider the proposal. The Secretary concluded by expressing interest in a charge around how to advance nuclear power.

DOE Emergency Response

Patricia Hoffman discussed the Department of Energy's role in emergency response. The Office of Electricity Delivery and Energy Reliability (OE) leads the Department's energy emergency response efforts, drawing on expertise from other DOE programs, and working with state, local, tribal, and other federal agencies and department, and private industry. She noted the use of the Department's expertise during the Fukushima disaster, the Deepwater Horizon oil spill, the 2003 blackout investigation, and Hurricane Sandy. She also acknowledged the need to recognize this growing role and be more forward leaning in the mitigation of such events and the facilitation of an efficient recovery. The Department reports through FEMA and Homeland Security with a primary focus on electricity, oil, and gas. DOE is responsible for energy content, but not the infrastructure. Hazards include aging infrastructure, physical and cyber-attacks, and spaceweather/geomagnetic/EMP impacts. She emphasized the need to understand the science going on behind an event. The new Energy Incident Management Council has been useful in tapping expertise. She also stated the need for a cost effective risk investment strategy. The Stafford Act presents some complications to improving damaged infrastructure. Next steps include alignment of Department response with NIMS guidance, implementation of QER recommendations, and the implementation of enterprise-wide emergency management approach.

Updates from SEAB Task Force Chairs

Martha Schlicher and Ram Shenoy gave a brief update on the Task Force on Methane Hydrates. The Task Force has spoken with DOE representatives, industry, and Japanese colleagues as part of their study. The Task Force has come to the overall conclusion that core capabilities in this area are valuable and it is important for DOE to maintain a program; and noted the useful role that the Methane Hydrates Federal Advisory Committee plays. The Task Force plans to meet again in November. The Task Force has begun to draft recommendations and plans to have a draft report prepared for the January 2016 SEAB meeting. An abundance of natural gas has led some to question the need for research on methane hydrates. Given the unpredictable successes of coal bed methane and shale gas research, an investment of $15 million in methane hydrates research may yield similar results.

Dan Reicher gave a brief update on the Task Force on Federal Energy Management. Recommendations are currently being drafted. The Task Force will have more to share regarding recommendations on federal lands, assets, and measure of success at the next SEAB meeting in January 2016.

DOE National Labs as Network

Paul Alivisatos, Director, Lawrence Berkeley National Laboratory, discussed the importance of the national energy laboratory networks. The 17 labs have unique capabilities that address core, dynamic, and rapid response networks. The core networks are dedicated to long term research in key areas of DOE's mission and has created specialized large-scale infrastructure end enduring expertise. The dynamic networks address current national needs on a 5-10 year timeframe. The rapid response networks provide a depth of expertise to respond to urgent national needs.

It is the diversity and depth of expertise at the labs that enable the response to urgent, complex national needs and to create new fields of research. Multipurpose science labs enable broad scientific communities in data

science, nanoscience, and materials/chemistry. Single purpose science labs focus on the discovery of matter and forces. Energy labs focus on the key sectors of the energy economy. The NNSA labs are dedicated to the science and technology of national security. Each of these three labs were intentionally set up to create unique innovations in high performance computing and nuclear weapons design. Though Savannah River National Lab is the focal point for environmental management, ORNL, INL, PNNL, and LANL all lend their expertise toward environmental remediation and risk reduction; nuclear material processing and disposition; nuclear detection, characterization, and assessments; and gas processing transfer and storage systems.

The national lab network also serves at the nexus of universities and industry by sharing facilities and serving as an integrator of long term, mission-driven research. Many national labs are managed by universities and share faculty, with nearly 30,000 university researchers using the lab facilities each year. Industry has also forged strong partnerships with the labs in the sectors of manufacturing, energy, information technology, and pharmaceuticals. Some companies such as DOW utilize many of the national labs because of their unique user facilities. Pharmaceutical companies heavily utilize the various light sources found at the labs. Both the light sources and the high performance computing facilities are massively over-subscribed.

Decades of nurturing fundamental research enabled the deployment of rapid response networks such as the 7 labs that provided technical assistance during the Iran negotiations and the 9 labs that responded to the Fukushima disaster. US investment in the labs has yielded global security impacts, including a safe and reliable US nuclear deterrent, WMD nonproliferation, and counterterrorism technology and response. US investment has yielded global impacts in renewable energy production and transportation technologies including the dramatic reduction in the cost of wind power, solar power, and EV batteries. Other global impacts include progress on environmental management, high performance computing, and advances in the medical industry.

Public Comment Period
No Public Comment.

Meeting adjourned at 12:00 noon.

Respectfully Submitted:

Karen Gibson
Designated Federal Officer

I hereby certify that these minutes of the October 15, 2015, SEAB meeting are true and correct to the best of my knowledge.

John Deutch
Chair