

**Summary Minutes of the
U.S. Department of Energy (DOE)
Secretary of Energy Advisory Board (SEAB)
Public Meeting**

Advisory Board Members:

In attendance: Arun Majumdar, Chair; Vice Chair Madelyn Creedon, Trenton Allen, Norman Bay, Roxanne Brown, John Dabiri, Kerry Duggan, Phil Giudice, Paula Gold-Williams, Denise Gray, Shirley Ann Jackson, Tracy Mustin, Maria Pope, Adrienne Quintero, and Michael Skelly.

Date and Time: January 24, 2023, 12:30 p.m.-1:30 p.m. EST
Location: Virtual
Purpose: SEAB Meeting
SEAB Staff: Karen Skelton, Senior Advisor to the Secretary of Energy; David Borak, Designated Federal Officer (DFO) and Acting Director of the Office of Secretarial Boards and Councils.

Meeting summary

This is the seventh SEAB meeting convened under Secretary of Energy Jennifer M. Granholm. The meeting was physically conducted virtually on WebEx. The meeting was called to order at approximately 12:30 p.m. EST. The meeting was attended by members of Secretary Granholm's staff, 15 SEAB members, members of the public and the press. The purpose of the meeting was to have a discussion around and vote on recommendations made by the SEAB working group concerning grid resilience and reliability.

Public Meeting

DFO David Borak Mr. Borak opened the meeting by addressing housekeeping and logistical items attendant to the meeting. Mr. Borak then took roll call to ascertain a quorum of attendees for the record (15 members responded). Upon completion of roll call and noting a quorum (15 of 16 SEAB members), he introduced Dr. Arun Majumdar, the SEAB Chair, for meeting direction.

SEAB Chair Dr. Arun Majumdar Chair Majumdar thanked Mr. Borak and welcomed the attendees to the SEAB. The Chair noted that the purpose of the meeting was to discuss and vote on recommendations concerning grid resilience and reliability. He emphasized that these were important issues given the challenges faced by the country last summer and winter. He further described how the SEAB experts had discussed these issues at length, listened to the public, and prepared some recommendations for the Secretary regarding how to make the grid more reliable. He then introduced Norman Bay of the grid resilience working group.

Norman Bay thanked the Chair and introduced the members of the working group to the public. He then highlighted three recommendations from the white paper which had been submitted by the working group:

1. DOE Funding Recommendations

- For all aspects of DOE transmission funding, prioritize projects which will enhance the interregional ties that will help regions support one another during times of extreme load or generation shortages (e.g., extreme weather events and challenging market conditions).
- Prioritization of interregional projects will help compensate for lack of interregional planning, though such projects should not be seen as full substitutes for robust planning.
- Ensure that interregional transmission and distribution solution projects are meeting the DOE Justice 40 Initiative (e.g., community engagement) and Just Transition (e.g., community benefit agreements) priorities (e.g., preferential weighting criteria within RFP).
- Screen all projects against interregional criteria, in part to ensure that there are no interregional projects which would create similar benefits at a lower cost.

2. DOE Study Recommendations

- For grid simulations, ensure use of stochastic modeling as opposed to deterministic modeling to fully capture the impact of extreme events – thus helping ensure the grid of the future is dimensioned for future climate shocks.
- Ensure similar methodology for grid modeling and simulations between and among regional transmission organizations (RTOs) and Distribution Service Operators (DSOs).
- Conduct studies to support development of minimum amounts of interregional power flows between regions the Federal Energy Regulatory Commission (FERC) may develop a reliability standard imposing this requirement.
- Benefits should be broadly and consistently defined in evaluating interregional projects.
- Provide technical support to RTOs, Independent System Operators (ISOs), and other key stakeholders that are studying interregional transmission needs and benefits.

3. DOE should fund other promising resources and initiatives, including supporting the development of regional electricity markets, demand-side management, longer-term energy storage, and generation mix.

- Regional electricity markets are helpful because they provide greater load, resource, weather, and geographic diversity. They also promote competition, which can result in greater efficiency and save consumers money. As an example, the Energy Imbalance Market in the West is estimated to have saved consumers more than \$2 billion since its founding in 2014. Market operators also have a wider area view than individual Balancing Authorities and can do transmission planning more effectively than individual states or transmission planning regions.

DOE could help facilitate discussions by convening among key stakeholders and by doing studies that help states evaluate the benefits of joining an RTO/ISO market.

- Demand-side management can help preserve reliability during peak load conditions. Peak shaving also has important economic, and environmental benefits. Demand response can eliminate the need to build and to run expensive and less efficient fossil fuel peakers, such as diesel generators or gas combustion turbines. DOE may be able to assist state policymakers in evaluating the benefits of demand-side management as a resource and identifying best practices in implementing demand-side management, as well as effective market mechanisms.
- Longer-term energy storage can help maintain reliability when generation is unavailable. Lithium-ion batteries typically have a four-hour duration. Hydropower assets have long provided storage capabilities, but historic droughts across the West threaten their long-term availability. DOE should continue to support research on advanced battery technologies and on lowering costs for green hydrogen, where the hydrogen is stored until it is needed to generate electricity.
- As we look to interregional connections and market dynamics, we need to better model the effect of generation mix on grid stability and resiliency. DOE should provide funding for the DOE National Laboratories, Federally Funded Research and Development Centers, and/or research universities to improve modeling of dynamic resource mix and its impact on planning, grid stability, and reliability. This would entail better leveraging of digitalization, data, advanced analytics, machine learning, and edge computing to allow better responses to congestion, unplanned outage, volt-ampere reactive (VAR) stability, and frequency response, or other disturbances.

Members of the working group briefly discussed their recommendations before passing the floor back to the SEAB Chair.

Chair Majumdar thanked the working group for bringing their expertise to the issue and opened the floor for discussion among the entire SEAB.

Vice Chair Creedon noted that while there were no comments from the SEAB, she thought the recommendations were good, particularly with the focus on the DOE National Laboratories. The meeting then proceeded to the public comment section.

David Borak noted that there was one member of the public that had requested time for comment. He then introduced Mr. David Bardin.

David Bardin stated that he had submitted written comments to the SEAB the evening before and that he had not seen the SEAB draft recommendations. His comments focused on external threats to the current fleet of nuclear power plants and highlighted the need for attention in this area. He articulated that nuclear power plants in general and the Nuclear Regulatory Commission (NRC) were relying solely on simulations to check the efficacy of the emergency

backup diesel generators. He also noted that area radiation monitoring at a specified power plant had been miscalibrated. Mr. Borak interrupted Mr. Bardin upon the expiration of the allowed time for comment. Both the Chair and Shirley Jackson thanked Mr. Bardin for his comments and assured him that the comments were taken very seriously by SEAB.

David Borak noted that there were no other public comments registered and moved the meeting on to a vote on the recommendations that had been presented. The result of the vote by the SEAB members in attendance was unanimous in favor of adopting the recommendations.

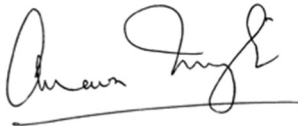
With no further comments from the Chair, David Borak adjourned the meeting, thanking everyone for their participation.

Meeting Adjourned

Meeting adjourned at 1:08 pm EST.

Respectfully Submitted:
David Borak
Designated Federal Officer

I hereby certify that these meeting minutes of the January 24, 2023, SEAB meeting are true and correct to the best of my knowledge.

A handwritten signature in black ink, appearing to read 'Arun Majumdar', with a horizontal line underneath.

Dr. Arun Majumdar
Chair, Secretary of Energy Advisory Board