



**U.S. Department of Energy
Electricity Advisory Committee Meeting
Capital Hilton Hotel
Washington, DC
October 15, 2012**

Summary of Meeting

EAC Members in Attendance:

WILLIAM BALL, Southern Company

LINDA BLAIR, ITC Holdings Corp

RICK BOWEN, Alcoa

MERWIN BROWN, California Institute for Energy and Environment

PAUL CENTOLELLA, former commissioner, Ohio, now with The Analysis Group

RICHARD COWART, Chair of the EAC, Regulatory Assistance Project

ROBERT CURRY, former commissioner, New York, now with Curry Energy

CLARK GELLINGS, Electric Power Research Institute

DIAN GRUENEICH, former commissioner, California, now with Grueneich Consulting

MICHAEL HEYECK, American Electric Power

PAUL HUDSON, former commissioner, Texas; now with Stratus Energy Group

SUSAN KELLY, American Public Power Association

BARRY LAWSON, National Rural Electric Cooperative Association

RALPH MASIELLO, KEMA

DENNIS MCGINN, American Council on Renewable Energy

DAVID NEVIUS, North American Electric Reliability Corporation

CHRIS PETERS, Entergy Corporation

SONNY POPOWSKY, Vice Chair of the EAC, Pennsylvania Office of the Consumer Advocate

WANDA REDER, S&C Electric Company

PHYLLIS REHA, Minnesota Public Utilities Commission

BRAD ROBERTS, S and C Electric Company

TOM SLOAN, Kansas House of Representatives

CHRIS SHELTON, AES Energy Storage

DAVID TILL, Tennessee Valley Authority

REBECCA WAGNER, Nevada Public Utilities Commission

GORDEN VAN WELIE, Independent System Operator of New England

MIKE WEEDALL, formerly with the Bonneville Power Administration

US DOE Participants in Attendance:

LAUREN AZAR, Senior Advisor to the Secretary

ANJAN BOSE, Senior Advisor to the Undersecretary

BILL BRYAN, Deputy Assistant Secretary, Infrastructure Security and Energy Restoration, DOE

JAY CASPARY, Special Advisor to the Assistant Secretary, OE

MICHELLE DALLOFIOR, Senior Policy Director to the Assistant Secretary, DOE

ALEX DAHL, Office of the General Counsel, DOE

KERRY CHEUNG, DOE AAAS Fellow

IMRE GYUK, Energy Storage Program Manager, OE

DEBBIE HAUGHT, DOE OE

PATRICIA HOFFMAN, Assistant Secretary for Electricity Delivery and Energy Reliability (OE)

RACHNA HANDA, Smart Grid Investment Grant Program, DOE

CHRIS IRWIN, Smart Grid Standards and Interoperability Coordinator, OE

KATHY KONIECZNY, Office of the General Counsel, DOE

ERIC LIGHTNER, Smart Grid Task Force, OE

DAVID MEYER, US Department of Energy, OE

TITILAYO OGUNYALE, Special Assistant to the Assistant Secretary, OE

JOE PALADINO, Senior Advisor, Smart Grid Program Manager, OE
BILL PARKS, Senior Technical Advisor to the Assistant Secretary, OE
MICHAEL RODRIGUE, US Department of Energy
MATT ROSENBAUM, US Department of Energy, OE
ELAINE ULRICH, Solar Energy Technologies Program, DOE

Other Meeting Participants:

MICHAEL BRAIRTON, ITC Holdings
JAY CARRIERE, MidAmerican
NICHOLAS COLAMBO, Stateside Associates
JIM CREEVY, National Electrical Manufacturers Association
KAREN FORSTEN, Electric Power Research Institute
ROBERT HENKE, ICF International
JOHN HOWES, Redland Energy
CHERYL LAFLEUR, Federal Energy Regulatory Commission
EUGENE LITVINOV, ISO-New England
CAROLE MCGUIRE, Lewis-Burke Associates LLC
PHIL MIHLMESTER, ICF International
TOM O'BRIEN, PJM
ROBIN PODMORE, IncSys
PETAR RISTANOVIC, California ISO
AARON ROTHSCHILD, Rothschild Financial
ELLIOT ROSEMAN, ICF International
MATT SADINSKY, PREP Intl
TOM SCHNEIDER, National Renewable Energy Laboratory
JOHN SHENOT, Regulatory Assistance Project
PEGGY WELSH, Energetics Incorporated

Welcome, Introductions and Developments

Mr. Richard Cowart, Chairman of the U.S. Department of Energy's (DOE's) Electricity Advisory Committee (EAC), opened the meeting by introducing himself and thanking everyone for attending. Mr. Cowart began by discussing logistical information and announced the meeting would be recorded for transcription purposes, and asked for people to identify themselves prior to speaking. He then noted that new members had been confirmed and asked them introduce themselves noting the other committee members have all been present before.

Report on Two Special DOE Initiatives

After introductions Lauren Azar gave an overview of the transmission issues at the DOE. Ms. Azar stated that as part of the Rapid Response Team for Transmission (RRTT) there are nine agencies in the evaluation of federal transmission applications who adopted a number of systemic changes intended to streamline the federal permitting process for electric transmission lines. They are working on this process as well as a parallel process which includes the obligatory action as well as discretionary authority under 216(h) of the Federal Power Act to work through a number of different drafts of rules implementing that authority. They are in the process of negotiating that rule with the other agencies before a formal decision will be released for comment.

Additionally, the Ms. Azar indicated that for an application received under Section 1222 of the Energy Policy Act of 2005 that such a project should proceed into the NEPA analysis. While conducting the NEPA application evaluation analysis for that project, a process is being developed, which will help streamline the evaluation of future applications. Further, Ms. Azar stated they are working through the 2012 electric transmission congestion study (required under the Energy Policy Act of 2005), with the goal for a draft to be released by end of the year for public comment. Lastly, they are continuing to work with the Power Marketing Authorities (PMAs) on a number of different issues.

Grid Tech Team – Objectives and Status

Mr. Cowart then introduced Dr. Anjan Bose, Senior Advisor to the Undersecretary of Energy, DOE, to report on the Grid Technology Team's efforts. Mr. Bose reviewed the tasks of this Team, to coordinate work done on the grid, identify overlaps or gaps that could be better coordinated, and envision what the future grid should look like. The overarching goal is to have a cost effective electricity system, seamless, and from generation to end use, taking into account factors such as clean energy demands and capacity growth, while also allowing for consumer participation and changes in electricity use. The Team's specific objective is to determine how to design a holistically efficient, reliable and secure system. The system must be reliable, secure and resilient while the complexity of the grid continues to change.

Mr. Bose noted the grid modernization strategy from the DOE includes Research Development and Demonstration (RD&D) activities. He commented that there are both technology issues and institutional challenges in achieving these objectives, such as how the different PUCs engage in grid activities. DOE continues to convene the diverse stakeholders for information exchange to

help develop an efficient, reliable and secure system, as well as cost effective system planning and expansion. The Team is working to improve situational awareness and data sharing.

During the questions and answers after Dr. Bose's presentation, it was noted that DOE will continue to want to invest in R&D and move forward in the technology space. In doing so, there needs to be a coherent effort to provide a blueprint for the industry that makes sense and is cost effective. There ensued an in-depth discussion about the complexities involved and considered how best to move forward with regional and national R&D efforts from a regulatory, technology and institutional standpoint.

Update on the U.S. Department of Energy (DOE), Office of Electricity Delivery and Energy Reliability's (OE) 2012 Current Programs and Initiatives

Mr. Cowart then introduced the Honorable Patricia Hoffman, Assistant Secretary for Electricity Delivery and Energy Reliability (OE) with DOE. Assistant Secretary Hoffman began by announcing their office reorganization, which has two new subdivisions.

She noted that the R&D Division still exists but has been renamed Power Systems -- Power Engineering Systems, R&D. She clarified that they plan to work on a systems viewpoint and look at the applied nature of the power grid, so they renamed the R&D organization to bring more clarity.

Further the Permitting, Siting and Analysis Division was renamed to National Electricity Delivery Division to try to bring in more of the policy and larger-scale issues that we want to address from that point of view, not just the activities that we work on, which is permitting, siting and analysis. Within this division, they separated out and created a new organization looking at the Recovery Act projects to be called the Smart Grid Investment Program. The last organization created was for Electric Infrastructure Modeling and Analysis (EIMA). EIMA's purpose will be to cover the value of the data, applications of the data and utility analytics. Ms. Hoffman noted that there was not a cyber security organization created, yet she stressed that cyber security must be inherent in everything the DOE does.

Ms. Hoffman addressed the complexity of the issues previously discussed and noted that while there are many interests with regard to investment strategies, reliability must be maintained throughout the process while gaining more value and efficiency from the system. Ms. Hoffman focused her point on defining success because many people define it differently. Advancing technology to develop more applications can and should be done, but it needs to be done with good timing to have all the information sharing agreements in place to make it successful.

During the question period, before the break, cyber security was the main topic of discussion with regard to modernizing the architecture of the system while also securing it.

Panel – Next Generation Energy Management Systems – Vision for the Grid of the Future

Mr. Cowart then introduced the Next Generation Energy Management Systems (EMS) panel lead by Mr. Mike Heyeck, and he discussed how the grid is currently managed. He summarized that as

the grid ages and parts of this “mass” are retired, smaller “masses” will replace them with a lot of information, power and electronics. The shock absorbers of the grid are going to be challenged in the future because of the magnitude of the issues to deal with including funding. The panel was designed to discuss the problems and the vision of the grid, including the EMS for grid funding. Mr. Heyeck then introduced his panel of EMS experts to talk about these issues. They included: Robin Podmore, IncSys; Petar Ristanovic, California ISO; Tom O'Brien, PJM; and Eugene Litvinov, ISO - New England.

Mr. Podmore discussed the issue of when the control systems break, as all technology has issues that need to be anticipated, and how the next generation of operators needs to be trained to deal with the complex systems. Mr. Podmore noted that PMUs give the ability to accurately estimate the system topology at the SCADA scan rates, but currently the EMS are fair weather applications that only run well when the system is not stressed. They need applications that can run well in bad weather under stress and recognize the limitations of the power across a transmission line. Mr. Podmore recommended that a set of tools is needed for researchers to provide hypothetical systems outside of critical energy infrastructure information.

Mr. Ristanovic discussed the rapid growth of renewable resources and distributed generation, and how all the new electronic devices is both an opportunity and research challenge. He noted that there are four main implications on what needs to be solved; variability in the fuel supply, deployment, system complexities and communication channels and security. He indicated that these new challenges and opportunities require a new EMS architecture, new situational awareness and improved EMS software tools. He noted the new industry standards should be based on models and interfaces.

Mr. O'Brien then addressed the Committee regarding how to make these changes work and extending the integration architecture with research and standards. Mr. O'Brien discussed challenge to manage the large amount of data and how R&D can help. He then discussed PMU's and identified some key areas to address in the road map. He further discussed cyber security, memory management and the critical nature of collaborating across industries

Mr. Litvinov was then introduced and discussed the new generation of EMS and the direction EMS can take. He began by talking about the computational capabilities and the way business and systems are changing and that it is difficult to integrate new applications. He noted that EMS and DMS integration is crucial because DMS would deliver to us that information that we don't really observe. And also, we can coordinate different applications between EMS and DMS on the distribution and transmission side. Further Mr. Litvinov discussed the need to create standards for visualization. These efforts need a transition plan from where things are today to where they need to be in the future.

EAC Member Discussion of Key EMS Issues

Upon the conclusion of the panel, Mr. Heyeck asked Mr. Cowart to open the floor for questions and answers by the full EAC. Among the many questions were discussions of cyber security risks, EMS functionality, infrastructure, reliability and probability. Additional questions were asked about the relationship between the EMS system for the transmission and then the distribution side.

The next discussions evolved around DOE's role in educating state commissions and legislators and what DOE can actually do given financial constraints. It was suggested to define some requirements for ISOs/RTOs that will gradually become mandatory requirements for flexibility and openness of the platforms and to help early adopters with funding. The time frame was noted to be about five years, with the education process continuing.

Conclusion and Adjourn

Mr. Cowart then adjourned the meeting with closing logistical remarks from Mr. Elliot Roseman of ICF. Mr. Roseman noted that tomorrow will begin at 8:00 am with the Transmission Subcommittee, then Storage and have an address from Commissioner LaFleur from FERC, and then continuing with the Smart Grid and Workforce Subcommittees. There will be six papers to review, discuss and consider whether to approve. All of these draft papers were sent to the full EAC two weeks before the EAC meeting.

Respectfully Submitted and Certified as Accurate,



Richard Cowart
Regulatory Assistance Project
Chair
DOE Electricity Advisory Committee

12/18/2012

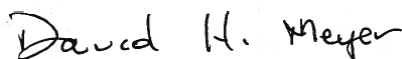
Date



Irwin "Sonny" Popowsky
Pennsylvania Consumer Advocate
Vice-Chair
DOE Electricity Advisory Committee

12/18/2012

Date



David Meyer
Office of Electricity
Designated Federal Official
DOE Electricity Advisory Committee

12/18/2012

Date



Matthew Rosenbaum
Office of Electricity
DOE Electricity Advisory Committee

12/18/2012

Date