Department of Energy Workshop: Load Participation in Ancillary Services

Participants

Mike Hyland  
American Public Power Association  
Victor Zavala  
Argonne National Laboratory  
Chellury (Ram) Sastry  
Battelle  
Jim McIntosh  
California ISO  
Chris Thomas  
Citizens Utility Board  
Lawrence Kotewa  
CNT Energy  
Raymond Berkebile  
Comverge  
Tim Mount  
Cornell University  
Dan Delurey  
Demand Response and Smart Grid Coalition  
Sam Baldwin  
Department of Energy (EERE)  
Charlton Clark  
Department of Energy (EERE)  
Becca Smith  
Department of Energy (EERE)  
Amitai Bin-Nun  
Department of Energy (EERE / AAAS)  
Mark Philbrick  
Department of Energy (EERE / AAAS)  
Paul Bakke  
Department of Energy (EERE Golden Field Office)  
Phil Overholt  
Department of Energy (OE)  
Dan Cleverdon  
District of Columbia Public Service Commission  
Don Tench  
Don Tench Energy Consultants  
Angela Chuang  
Electric Power Research Institute  
Nancy Riley  
EnerNOC  
Stacy Angel  
Environmental Protection Agency  
David Kathan  
Federal Energy Regulatory Commission  
Shiv Mani  
Federal Energy Regulatory Commission  
Mary Beth Tighe  
Federal Energy Regulatory Commission  
David Najewicz  
General Electric  
Mark Levi  
General Services Administration  
Ed Koch  
Honeywell  
Steve Gabel  
Honeywell Laboratories  
Jamie Link  
Independent  
April Paronish  
Indiana Office of Utility Consumer Counselor  
John Ruiz  
Johnson Controls  
Pete Cappers  
Lawrence Berkeley National Laboratory  
Mike Barber  
Midwest ISO  
Dave Corbus  
National Renewable Energy Laboratory  
Monisha Shah  
National Renewable Energy Laboratory  
Dan Steinberg  
National Renewable Energy Laboratory  
Dave Mohre  
National Rural Electric Cooperative Association
Donna Pratt
New York ISO

Clyde Melton
North American Electric Reliability Corporation

Ken Corum
Northwest Power and Conservation Council

Paul Centolella
Ohio Public Utility Commission

Robert Anderson
Olivine

Beth Reid
Olivine

Jeff Dagle
Pacific Northwest National Laboratory

Scott Baker
PJM Interconnection

Dave Souder
PJM Interconnection

Ralph DeGeeter
Public Service Commission of Maryland

Ed DeMeo
Renewable Energy Consulting Services

Vipin Gupta
Sandia National Laboratory

Paul Hamilton
Schneider Electric

Yan Lu
Siemens Corporate Research

Phil Hanser
The Brattle Group

Speakers and Presenters

DeWayne Todd
Alcoa

Mark Petri
Argonne National Laboratory

Scott Simms
Bonneville Power Administration

Wendell Miyaji
Comverge

Lauren Azar
Department of Energy

Mike Davis
Department of Energy (EERE)

Mark Patterson
Electric Reliability Council of Texas

Ron Dizy
ENBALA Power Networks

Aaron Breidenbaugh
EnerNOC

Paul Feldman
Independent Energy Participant

Jonathan Lowell
ISO New England

Henry Yoshimura
ISO New England

Sila Kiliccote
Lawrence Berkeley National Laboratory

Terry Boston
PJM Interconnection

Don Kujawski
PJM Interconnection

Rob Pratt
Pacific Northwest National Laboratory

Facilitators

Mike Hogan
Regulatory Assistance Project

Rich Sedano (Lead)
Regulatory Assistance Project

Tim Woolf
Synapse Energy Economics

Note Takers

Youngsun Baek
Oak Ridge National Laboratory

Joe Gracia
Oak Ridge National Laboratory

Omer Onar
Oak Ridge National Laboratory
**Planning Team**

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carla Frisch</td>
<td>Department of Energy (EERE)</td>
</tr>
<tr>
<td>Ookie Ma</td>
<td>Department of Energy (EERE)</td>
</tr>
<tr>
<td>Dan Ton</td>
<td>Department of Energy (OE)</td>
</tr>
<tr>
<td>Kerry Cheung</td>
<td>Department of Energy (OE / AAAS)</td>
</tr>
<tr>
<td>Paul Wang</td>
<td>E2RG Consulting</td>
</tr>
<tr>
<td>Brendan Kirby</td>
<td>Independent</td>
</tr>
<tr>
<td>Julia Downing</td>
<td>SRA</td>
</tr>
<tr>
<td>Mark O'Malley</td>
<td>University College Dublin</td>
</tr>
</tbody>
</table>
## Day 1 Agenda: October 25th

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 – 9:00a</td>
<td>Continental Breakfast <em>(Provided)</em></td>
</tr>
</tbody>
</table>
| 9:00 – 9:20a  | **Welcome** – Ookie Ma, Electric Generation and Grid Analysis Lead, Office of Energy Efficiency and Renewable Energy  
                **Opening Remarks** – Lauren Azar, Senior Advisor to the Secretary at the US Department of Energy  
                **DOE Context** – Mike Davis, Director of Strategic Program at the Office of Energy Efficiency and Renewable Energy  
                Dan Ton, Smart Grid R&D Program Manager at Office of Electricity Delivery and Energy Reliability  
                **Workshop Format and Agenda** – Rich Sedano, Director of the Regulatory Assistance Project |
| 9:20 – 10:00a |                                                                                                                                              |
| 10:00a – 3:30p| **Break Out Sessions by Market Segment**                                                                                                    |
|               | **System Operators/Ancillary Service Buyers Breakout Session** Facilitated by Tim Woolf, Vice President at Synapse Energy Economics |
|               | **Large Customer Demand Response Sellers Breakout Session** Facilitated by Rich Sedano, Director of the Regulatory Assistance Project |
|               | **Mass Market Demand Response Sellers Breakout Session** Facilitated by Mike Hogan, Senior Advisor at the Regulatory Assistance Project |
|               | **Introductory Remarks – Brendan Kirby, Independent**                                                                                       |
|               | **Introductory Remarks – DeWayne Todd, Alcoa**                                                                                              |
|               | **Introductory Remarks – Mark O’Malley, University College Dublin**                                                                          |
|               | **Presentations with Q&A – Current Programs, Expected Programs, and Pilot Projects from the following:**  
                      o Don Kujawski, PJM and Mark Petri, ANL  
                      o Mark Patterson, ERCOT  
                      o Jonathan Lowell and Henry Yoshimura, ISO-NE  
                      o Scott Simms, BPA  
                      o Sila Kiliccote, LBNL  
                      o Ron Dizy, ENBALA Power Networks  
                      o DeWayne Todd, Alcoa  
                      o Rob Pratt, PNNL and David Najewicz, GE  
                      o Wendell Miyaji, Comverge  
                      o Aaron Breidenbaugh, EnerNOC |
| 11:00a-12:00p| **Discussion surrounding potential for customer loads and past barriers**  
                      o How much? What kinds of loads?  
                      o Why not more? What are the barriers/limits?  
                      o What are the requirements?  
                      o If conditions changed, then how much more? Today or 5-10 years from now? |
| 12:00 – 1:00p | **Lunch (Provided)**                                                                                                                       |
| 1:00 – 2:15p  | **Facilitated Discussion – Is increased load participation needed?**  
                      o Can it help? Which are most useful?  
                      o Is it good for integrating variable generation?  
                      o What is the government role, and should DOE facilitate increased participation? |
| 2:15 – 3:30p  | **Facilitated Discussion – Synthesis and Action Plan**  
                      o What are best practices? Where are the gaps?  
                      o Needs & barriers to realize the potential: What can technology fix? What can it not?  
                      o Pathways recommended to overcome the barriers (R&D agenda, regulatory and market developments);  
                      o What are the roles of DOE and non-DOE entities in identified pathways? |
| 3:30 – 3:45p  | **Break and Regroup to the Full Session**                                                                                                  |
### Day 2 Agenda: October 26th

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 – 9:00a</td>
<td><strong>Continental Breakfast</strong> (Provided)</td>
</tr>
<tr>
<td>9:00 – 9:20a</td>
<td><strong>Opening Remarks</strong> – Terry Boston, President and CEO of PJM Interconnection</td>
</tr>
</tbody>
</table>
| 9:20 – 10:00a | **Report-out and Q&A from Spokesperson for System Operators/Ancillary Service Buyers** – Dave Souder, PJM  
|               | o What are the load participation baseline, targets, and barriers, and needs?  
|               | o What are the actionable plans (R&D, market, regulatory) to reach the targets?  
|               | o How should DOE help? What should non-DOE entities do?  |
| 10:00 – 10:40a| **Report-out and Q&A from Spokesperson for Large Customer DR Sellers** – Nancy Riley, EnerNOC  
|               | o What are the load participation baseline, targets, and barriers, and needs?  
|               | o What are the actionable plans (R&D, market, regulatory) to reach the targets?  
|               | o How should DOE help? What should non-DOE entities do?  |
| 10:40 – 10:55a| **Break**                                                                |
| 10:55 – 11:35a| **Report-out and Q&A from Spokesperson for Mass Market Small DR Sellers** – Aaron Breidenbaugh, EnerNOC  
|               | o What are the load participation baseline, targets, and barriers, and needs?  
|               | o What are the actionable plans (R&D, market, regulatory) to reach the targets?  
|               | o How should DOE help? What should non-DOE entities do?  |
| 11:35a – 12:00p| **Presentation and Q&A** – Ron Dizy, ENBALA Power Networks               |
| 12:00 – 1:00p  | **Lunch** (Provided)                                                     |
| 1:00 – 3:00p  | **Facilitated Discussion of Consolidated Outputs from the Report-Outs** – Rich Sedano, Regulatory Assistance Project  
|               | o What are the important barriers and needs?  
|               | o What are the actionable plans (R&D, market, regulatory) to address barriers and needs?  
|               | o How should DOE focus its program activities and research agenda?  |
| 3:00 – 3:15p  | **Discussion of Final Thoughts** – Rich Sedano, Regulatory Assistance Project  
|               | o Strengths and weakness of the workshop  
|               | o What worked, what didn’t, what was useful?  
|               | o Missed topics/issues and next steps?  |
| 3:15 – 3:30p  | **Closing Remarks** – Carla Frisch, Acting Director of Analysis at Office of Energy Efficiency and Renewable Energy  
|               | – Dan Ton, Smart Grid R&D Program Manager at Office of Electricity Delivery and Energy Reliability |