

## 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

Carla Frisch

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E2RG Consulting

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## Day 1 Agenda: October 25<sup>th</sup>

Time	Activity			
8:30 – 9:00a	<b>Continental Breakfast</b> (Provided)			
9:00 – 9:20a	<b>Welcome</b> – Ookie Ma, Electric Generation and Grid Analysis Lead, Office of Energy Efficiency and Renewable Energy <b>Opening Remarks</b> – Lauren Azar, Senior Advisor to the Secretary at the US Department of Energy			
9:20 – 10:00a	<b>DOE Context</b> – 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 <b>Workshop Format and Agenda</b> – Rich Sedano, Director of the Regulatory Assistance Project			
10:00a – 3:30p	<b>Break Out Sessions by Market Segment</b>			
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11:00a-12:00p	<b>Discussion surrounding potential for customer loads and past barriers</b> <ul style="list-style-type: none"> <li>○ How much? What kinds of loads?</li> <li>○ Why not more? What are the barriers/limits?</li> <li>○ What are the requirements?</li> <li>○ If conditions changed, then how much more? Today or 5-10 years from now?</li> </ul>			
12:00 – 1:00p	<b>Lunch</b> (Provided)			
1:00 – 2:15p	<b>Facilitated Discussion – Is increased load participation needed?</b> <ul style="list-style-type: none"> <li>○ Can it help? Which are most useful?</li> <li>○ Is it good for integrating variable generation?</li> <li>○ What is the government role, and should DOE facilitate increased participation?</li> </ul>			
2:15 – 3:30p	<b>Facilitated Discussion – Synthesis and Action Plan</b> <ul style="list-style-type: none"> <li>○ What are best practices? Where are the gaps?</li> <li>○ Needs &amp; barriers to realize the potential: What can technology fix? What can it not?</li> <li>○ Pathways recommended to overcome the barriers (R&amp;D agenda, regulatory and market developments);</li> <li>○ What are the roles of DOE and non-DOE entities in identified pathways?</li> </ul>			
3:30 – 3:45p	<b>Break and Regroup to the Full Session</b>			

3:45 – 4:45p	<b>Presentations and Q&amp;A – How it all comes together</b> <ul style="list-style-type: none"> <li>○ Paul Feldman, Independent Energy Participant</li> <li>○ Mark Patterson, Electric Reliability Council of Texas</li> </ul>
4:45 – 5:00p	<b>Closing Remarks and Adjourn</b>
5:30 – 7:00p	<b>No-Host Reception at Hyatt Regency Washington Hotel Bar</b>

## Day 2 Agenda: October 26<sup>th</sup>

Time	Activity
8:30 – 9:00a	<b>Continental Breakfast</b> (Provided)
9:00 – 9:20a	<b>Opening Remarks</b> – Terry Boston, President and CEO of PJM Interconnection
9:20 – 10:00a	<b>Report-out and Q&amp;A from Spokesperson for System Operators/Ancillary Service Buyers</b> – Dave Souder, PJM <ul style="list-style-type: none"> <li>○ What are the load participation baseline, targets, and barriers, and needs?</li> <li>○ What are the actionable plans (R&amp;D, market, regulatory) to reach the targets?</li> <li>○ How should DOE help? What should non-DOE entities do?</li> </ul>
10:00 – 10:40a	<b>Report-out and Q&amp;A from Spokesperson for Large Customer DR Sellers</b> – Nancy Riley, EnerNOC <ul style="list-style-type: none"> <li>○ What are the load participation baseline, targets, and barriers, and needs?</li> <li>○ What are the actionable plans (R&amp;D, market, regulatory) to reach the targets?</li> <li>○ How should DOE help? What should non-DOE entities do?</li> </ul>
10:40 – 10:55a	<b>Break</b>
10:55 – 11:35a	<b>Report-out and Q&amp;A from Spokesperson for Mass Market Small DR Sellers</b> – Aaron Breidenbaugh, EnerNOC <ul style="list-style-type: none"> <li>○ What are the load participation baseline, targets, and barriers, and needs?</li> <li>○ What are the actionable plans (R&amp;D, market, regulatory) to reach the targets?</li> <li>○ How should DOE help? What should non-DOE entities do?</li> </ul>
11:35a – 12:00p	<b>Presentation and Q&amp;A</b> – Ron Dizey, ENBALA Power Networks
12:00 – 1:00p	<b>Lunch</b> (Provided)
1:00 – 3:00p	<b>Facilitated Discussion of Consolidated Outputs from the Report-Outs</b> – Rich Sedano, Regulatory Assistance Project <ul style="list-style-type: none"> <li>○ What are the important barriers and needs?</li> <li>○ What are the actionable plans (R&amp;D, market, regulatory) to address barriers and needs?</li> <li>○ How should DOE focus its program activities and research agenda?</li> </ul>
3:00 – 3:15p	<b>Discussion of Final Thoughts</b> – Rich Sedano, Regulatory Assistance Project <ul style="list-style-type: none"> <li>○ Strengths and weakness of the workshop</li> <li>○ What worked, what didn't, what was useful?</li> <li>○ Missed topics/issues and next steps?</li> </ul>
3:15 – 3:30p	<b>Closing Remarks</b> – 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