



# DOE OE Energy Storage Reliability Workshop

June 14-15, 2016 | Kennewick, WA

## DAY 1: Tuesday, June 14<sup>th</sup>

|             |   |
|-------------|---|
| 7:00-8:00am | Morning Refreshments  |
| 8:00-8:10am | <b>Dr. Imre Gyuk, DOE Office of Electricity</b><br><i>Overview and Importance of Energy Storage Reliability</i>   |
| 8:10-8:20am | <b>Vince Sprenkle, Pacific Northwest National Laboratory</b><br><b>Babu Chalamala, Sandia National Laboratories</b><br><i>Desired Outcomes from this Workshop</i> |

### Group Session 1: Broad Perspectives on Reliability

|               |   |
|---------------|---|
| 8:20-8:40am   | <b>NASA Office of Safety and Mission Assurance</b><br><i>John Evans – Technical Manager, Reliability &amp; Maintainability</i>                |
| 8:40-9:00am   | <b>North American Electric Reliability Corporation</b><br><i>Robert W. Cummings - Director of System Analysis and Reliability Initiatives</i> |
| 9:00-9:20am   | <b>First Solar</b><br><i>Sumanth Lokanath – Director, Systems Reliability</i>   |
| 9:20-9:40am   | <b>UniEnergy Technologies</b><br><i>Russ Weed – Vice President, Business Development</i>  |
| 9:40-10:00am  | Q&A   |
| 10:00-10:20am | Break   |

### Group Session 2: Reliability in the Energy Storage Industry: Part 1

|               |  |
|---------------|--|
| 10:20-10:40am | <b>Electric Power Research Institute</b><br><i>Haresh Kamath - Program Manager, Energy Storage</i> |
| 10:40-11:00am | <b>S&amp;C Electric</b><br><i>Troy Miller - Director, Grid Solutions</i>                           |
| 11:00-11:20am | <b>NEC</b><br><i>Michael Hoff – Vice President, Research &amp; Technology</i>                      |
| 11:20-11:40am | <b>Princeton Power</b><br><i>Martin Becker – Chief Technology Officer</i>                          |
| 11:40-12:00am | Q&A  |
| 12:00-1:00pm  | Lunch Provided   |

## DAY 1 Continued...

| <b>Group Session 3: Reliability in the Energy Storage Industry: Part 2</b> |  |
|--|--|
| 1:00-1:20pm  | <b>New Energy Risk</b><br><i>Jon Cozens – Managing Director</i>  |
| 1:20-1:40pm  | <b>Underwriter Laboratories</b><br><i>Laurie Florence – Principle Engineer, Large Batteries &amp; Fuel Cells</i> |
| 1:40-2:00pm  | <b>DNV GL</b><br><i>Davion Hill – Energy Storage Leader, North America</i>                                       |
| 2:00-2:20am  | Q&A  |
| 2:20-2:40pm  | Break  |

| <b>Workshop Session 1: Reliability Needs and Challenges</b> |  |
|---|--|
| 2:40-4:00pm   | Attendees will be divided into four working groups to discuss needs and challenges for grid-scale energy storage reliability. Discussions will be guided by facilitators |
| 4:00-5:00pm   | Facilitators report out from working group discussions. 15 min per working group   |

| <b>Group Session 4: Day 1 Final Remarks</b> |  |
|---|--|
| 5:00-5:10pm                                 | <b>Vince Sprenkle, Pacific Northwest National Laboratory</b><br><i>Day 1 Wrap-Up</i> |
| 5:10pm                                      | Adjourn Meeting  |
| 5:10–6:15pm                                 | Reception  |

## DAY 2: Wednesday, June 15<sup>th</sup>

|             |  |
|-------------|--|
| 7:00-8:00am | Morning Refreshments   |
| 8:00-8:20am | <b>Vince Sprenkle, Pacific Northwest National Laboratory</b><br><b>Babu Chalamala, Sandia National Laboratories</b><br><i>Day 1 Recap and Day 2 Expectations</i> |

### Group Session 5: Reliability Testing and Forecasting

|               |  |
|---------------|--|
| 8:20-8:40am   | <b>FMS Reliability</b><br><i>Fred Schenkelberg –Former Chair of ASQ Reliability Division</i>                             |
| 8:40-9:00am   | <b>Sandia National Laboratories</b><br><i>Benjamin Jaseph – Sr. Engineer, Component &amp; System Reliability</i>         |
| 9:00-9:20am   | <b>Idaho National Laboratory</b><br><i>Bor Yann Liaw – Department Manager, Energy Storage and Advanced Vehicles</i>      |
| 9:20-9:40am   | <b>University of Maryland</b><br><i>Diganta Das – Research Staff, Center for Advanced Life Cycle Engineering (CALCE)</i> |
| 9:40-10:00am  | Q&A  |
| 10:00-10:20am | Break  |

### Workshop Session 2: R&D Needs for Testing and Forecasting

|               |   |
|---------------|---|
| 10:20-11:50am | Attendees will be divided into four working groups to discuss technical R&D needs for grid-scale energy storage reliability. Discussions will be guided by facilitators |
| 11:50-12:30pm | Facilitators report out from working group discussions. 10 minutes per working group  |

### Group Session 6: Day 2 Final Remarks

|               |   |
|---------------|---|
| 12:30-12:40pm | <b>Dr. Imre Gyuk, DOE Office of Electricity</b><br><i>Closing Remarks</i> |
| 12:40pm       | Adjourn Meeting   |

### Optional Tour

|              |   |
|--------------|---|
| 12:40-4:30pm | Tour of SEB and EMSL<br>Lunch for those attending tours will be provided for the bus ride |
|--------------|---|



U.S. DEPARTMENT OF  
**ENERGY**

Electricity Delivery  
& Energy Reliability