



DOE OE ENERGY STORAGE PEER REVIEW 2018 SCHEDULE

MONDAY | SEPTEMBER 24, 2018

5:00-6:30pm **EARLY ARRIVAL & REGISTRATION**

TUESDAY | SEPTEMBER 25, 2018

7:00am **EVENT REGISTRATION**

7:00-8:40am **BREAKFAST**

7:30-8:40am	Peer Reviewer's Breakfast & Info Meeting	Gina Fresquez J. Hernandez	Sandia National Laboratories
8:45-8:55am	Facilitator Opening & Introductions	James Greenberger	NAATBatt International
9:00-9:30am	DOE Welcome	Dr. Imre Gyuk	US Department of Energy
9:35-9:45am	Electricity Advisory Committee	Ramteen Sioshansi	The Ohio State University
9:50-10:20am	Laboratories' Summary Overview	Michael Starke Vince Sprenkle Babu Chalamala	Oak Ridge National Laboratory Pacific Northwest National Laboratory Sandia National Laboratories

MORNING BREAK

10:45-11:50am Meet the 2018 Peer Reviewers James Greenberger,
Facilitator

12:00pm **LUNCH** (PROVIDED ONSITE)

1:00-1:55pm **Energy Storage R&D and Academic Partners**

Session Chair	Erik Spoerke	Sandia National Laboratories
Alkaline Zn-MnO ₂ Batteries	Sanjoy Banerjee	City University of New York
Advanced Capacitors for Future Power Conversion Systems	Bruce Gnade	Southern Methodist University



2:00-2:40pm

Energy Storage: Industrial Acceptance

Session Chair	Patrick Balducci	Pacific Northwest National Laboratory
Battery Storage State of Health Model	Vish Viswanthan	Pacific Northwest National Laboratory
Control System Enhancement Using the Optimization Performance Evaluation Tool	Jan Alam	Pacific Northwest National Laboratory
HECO Demand Response Tool	Di Wu	Pacific Northwest National Laboratory

2:45-3:50pm

Equitable Regulatory Environment & Status Report

Session Chairs	Raymond Byrne Rebecca O'Neil	Sandia National Laboratories Pacific Northwest National Laboratory
Energy Storage: State Regulatory Engagement	Jeremy Twitchell	Pacific Northwest National Laboratory
ES Valuation Optimization Tool	Ricky Concepcion	Sandia National Laboratories
Optimal Sizing of Behind-the-Meter Energy Storage with Stochastic Load and PV Generation for Islanded Operation	David Copp	Sandia National Laboratories
Optimal Time-of-Use Management with Power Factor Correction Using Behind-the-Meter Energy Storage Systems	Tu Nguyen	Sandia National Laboratories
Energy Storage & Financing	Richard Baxter	Mustang Prairie

AFTERNOON BREAK

4:00-5:15pm

Applied Materials I

Session Chair	Wei Wang	Pacific Northwest National Laboratory
Flow Battery Electrolyte Chemistry Development	Vijay Murugesan	Pacific Northwest National Laboratory
Aqueous Soluble Organic (ASO) Flow Battery Development	Aaron Hollas	Pacific Northwest National Laboratory
Intermediate Temperature Na-Metal Halide Development	Guosheng Li	Pacific Northwest National Laboratory
Na-ion Battery Development	Xiaolin Li	Pacific Northwest National Laboratory
Li-ion Reliability	Daiwon Choi	Pacific Northwest National Laboratory

5:30-6:30pm

MEET AND GREET RECEPTION



WEDNESDAY | SEPTEMBER 26, 2018

7:00am

EVENT REGISTRATION

7:00-8:30am

BREAKFAST

8:30-9:00am

Energy Storage / Industry Acceptance: Demonstrations and Deployment

Session Chair	Dan Borneo	Sandia National Laboratories
Applications that Reduce the Use of Gensets	Craig Kuntz	Cordova Electric Cooperative
NEC Lithium Ion ESS located at Howard Elementary: Resiliency and Utility Support (EWEB)	Matt Ibaraki	Eugene Water & Electric Board
CESA State Projects and Policy Development	Todd Olinsky-Paul	Clean Energy States Alliance

9:00-9:45am

Energy Storage for Grid Resilience

Session Chair	Frank Currie	Sandia National Laboratories
ESS on ANZA Grid for T&D and Resiliency Support	Frank Currie	Sandia National Laboratories
Multi Objective Labs for Energy Storage Resiliency	Benjamin Schenkman	Sandia National Laboratories
Grid Stability Using Distributed Energy Storage	David Schoenwald	Sandia National Laboratories

MORNING BREAK

10:00-10:50am

Power Electronics

Session Chair	Stan Atcitty	Sandia National Laboratories
Power Dense Converter Electronics for Grid-tied ESS	Bruce Pilvelait	Creare
All-SiC Power Module for Grid-tied Energy Storage	Ranbir Singh	GeneSic
Smart GaN-based Inverters for Grid-tied ESS	Medhi Ferdowsi	InnoCit
Reliability Characterization of Wide-Band Gap Semiconductor Switches	Slobodyan Oleksiy	Sandia National Laboratories

MORNING BREAK

11:00-11:55am

New Energy Storage Technologies

Session Chair	Michael Starke	Oak Ridge National Laboratory
Low Cost Membrane Separators for High Energy Density Organic Radical Mediated Flow Batteries	Ethan Self	Oak Ridge National Laboratory
Processes in Components for the Redox Flow Battery	Tom Zawodzinski	University of Tennessee / Knoxville
Novel Ground Level Integrated Diverse Energy Storage (GLIDES)	Ayyoub Momen	InnoCit
Power Electronics Based Grid Integration Technology for Energy Storage Applications	Madhu Chinthavali	Oak Ridge National Laboratory

12:00pm

LUNCH (PROVIDED ONSITE)



1:05-2:00pm

Energy Storage Safety & Reliability

Session Chair	Summer Ferreira	Sandia National Laboratories
Aging and Abuse of Commercial Li-ion Cells	Summer Ferreira	Sandia National Laboratories
Battery Abuse Test Development	Josh Lamb	Sandia National Laboratories
Using Modeling to Predict & Mitigate Thermal Runaway	John Hewson	Sandia National Laboratories
Update on Energy Storage System Safety Roadmap Codes and Standards Activities	Charlie Vartanian	Pacific Northwest National Laboratory

2:00-3:00pm

ES – Applied Materials II

Session Chair	Travis Anderson	Sandia National Laboratories
Alkaline Batteries for Grid Storage Applications	Tim Lambert	Sandia National Laboratories
Membranes for Flow Battery Applications	Cy Fujimoto	Sandia National Laboratories
Aqueous-Soluble Organic Flow Battery Chemistry with Long Lifetime in Weak Alkaline Electrolyte	Michael Aziz	Harvard University
Relating Membrane Materials Properties to Cross-over Mechanisms in Flow Batteries	Travis Anderson Leo Small	Sandia National Laboratories
Materials Advances for Molten Sodium Batteries	Erik Spoerke	Sandia National Laboratories

AFTERNOON BREAK

3:15-4:15pm

Focus on ES Partnerships and Collaborations with Industry & Academia

Session Chair	David Rosewater	Sandia National Laboratories
Optimization and Controls for ES Safety	David Reed	Pacific Northwest National Laboratory
On the Role of Energy Storage in the Operation of Future Fossil Free Utilities	Robb Thomson	National Institute of Standards and Technology
Demonstration of a kW Class Redox Battery Using an Advanced Bi-additive Vanadium Sulfate Electrolyte	Brian Berland	ITN Energy Systems
Improving Stability of Battery Additives and Electrolytes Using Redox Non-Innocent Ligand Complexes	Mitch Anstey	Davidson College (North Carolina)

4:20-4:50pm

2018 ES Poster Session Introductions

James Greenberger NAATBatt International

5:00-6:30pm

Poster Session & Interviews

DINNER (ON YOUR OWN)

THURSDAY | SEPTEMBER 27, 2018

7:30-9:00am

BREAKFAST

9:00-10:00am	Innovative Next Steps & Funding Opportunities Round Table Discussion	Abbas Akhil Garth Corey	Renewable Energy Ventures, LLC
10:00-10:30am	DOE OE Closeout Remarks	Dr. Imre Gyuk	US Department of Energy
8:00-11:30am	Completed Peer Review Evaluations Accepted Onsite	J. Hernandez	Sandia National Laboratories

THANK YOU AND TRAVEL WELL!

