



**Heat Storage for Gen IV Reactors for Variable Electricity from Base-Load Reactors**  
*Changing Markets, Technology, Nuclear-Renewable Integration and Synergisms with Solar Thermal Power Systems*

July 23-24, 2019  
Idaho State University  
Bennion Student Union Building, 1784 Science Center Drive, Idaho Falls Idaho

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**Tuesday, July 23, 2019**

7:15 Morning Refreshments

8:15 Welcome  
Pete Wells, Idaho National Laboratory  
Hans Gougar, Idaho National Laboratory

***Economics, Regulation, and Programs for Heat Storage***

8:30 Changing Electricity Markets with the Need for Dispatchable Electricity  
Charles Forsberg, Massachusetts Institute of Technology

9:00 Utility Perspectives on Heat Storage: Economics, Markets and Regulation (FERC and NRC)  
Otgonbaatar Uuganbayar, Exelon

9:30 EPRI Programs on Storage  
Andrew Sowder, Electric Power Research Institute

10:00 Coffee Break

10:30 National Program for Heat Storage in Concentrated Solar Power  
Avi Shultz, Department of Energy

11:00 Nuclear JUMP Initiative  
Shannon Bragg-Sitton, Idaho National Laboratory

11:30 Panel: What are the Regulatory (Federal Energy Regulatory Commission, PUCs, ISO, Nuclear Reactor Commission, etc.) and other Barriers to Large-Scale Heat Storage?  
Panel Members:

- Shannon Bragg-Sitton, Idaho National Laboratory
- Marcus Nichol, Nuclear Energy Institute
- Charles Forsberg, Massachusetts Institute of Technology
- Wayne Moe, Idaho National Laboratory

12:30 Lunch, provided  
Discussions Among Participants



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***Heat Storage Technology Options for GenIV Reactors***

1:30	Nitrate Salt Heat Storage	Bruce Kelly, Solar Dynamics
2:00	High Temperature (600°C) Concrete Storage and Pumped Heat Variant	Kevin Pykkonen, Bright Energy Storage Technologies
2:30	Westinghouse Heat Storage Studios	Cory Stansbury, Westinghouse
3:00	Coffee Break	
3:30	Heat Storage for Sodium-Cooled Reactor Systems	Gedeon Mauger, CEA France
4:00	Hot Sand Heat Storage	Cliff Ho, Sandia National Laboratories
4:30	TerraPower Integrated Energy System Architecture with Storage	Josh Walter, TerraPower
5:00	Break - set up posters	
5:10	– Reception – Poster Session, Dinner, and Speaker	
8:30		

***Thank you to our generous sponsor Exelon and MIT.***



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**Wednesday, July 24, 2019**

7:15 Morning Refreshments

***Other Technologies for Heat Storage and Grid Integration***

8:00	Status of Chloride-Salt Heat Storage	Craig Turchi, National Renewable Energy Laboratory
8:30	Chermochemical Energy Storage for CSP and Nuclear Power Management	Jamison Couture, Brayton Energy Shaun Sullivan, Brayton Energy
9:00	Brayton Power Cycles with Peaking Capability and Storage	Bahman Zohuri, University of New Mexico
9:30	Hydrogen Integration: The Other Storable Product	Tyler Westover, Idaho National Laboratory
10:00	Coffee Break	
10:30	Chemical Heat Pumps	Vivek Utgikar, University of Idaho

***Path Forward***

11:15	Break	
11:30	Bag Lunch (Discussions Among Participants), provided	
12:00	Panel: What is the Commercial Path to Large-Scale Deployment? How can we Integrate Nuclear and CSP Heat Storage Research, Development, and Demonstration to Accelerate Progress?	Panel Members: <ul style="list-style-type: none"><li>• Hans Gougar, Idaho National Laboratory</li><li>• Avi Schultz, Department of Energy</li><li>• Josh Walter, TerraPower</li><li>• Andrew Sowder, Electric Power Research Institute</li></ul>

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