



## Uncertainty Management in Market Operations: Challenges and Opportunities

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**YONGHONG CHEN**  
Chief Scientist

National Renewable Energy Laboratory (NREL)

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### OVERVIEW

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ISOs/RTOs manage uncertainty across planning, capacity auction and market operations. Portfolio transition has introduced more complexity in operations. Price signals from energy and ancillary service markets on existing portfolio may not provide sufficient incentives for reliability attributes that are essential for operational uncertainty management under future portfolios.

In this seminar, we first review challenges with resource adequacy and operational uncertainty management under a fast-evolving portfolio. We then introduce on-going efforts on improving operational tools and market design for better quantifying uncertainty and dynamically defining reserve requirements. Furthermore, we discuss future research opportunities in the areas of risk management, reliability attributes, price signal and new resource & technology integration.

### BIO

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**Dr. Yonghong Chen** is a Chief Scientist at NREL Grid Planning and Analysis Center. Prior to joining NREL, she worked at Midcontinent ISO for over 20 years and played key roles in the startup and development of MISO energy and ancillary service markets. Her research focuses on electricity market design, computation, and power system operations. She holds PhD in Electrical Engineering from Washington State University and MBA from Indiana University. Dr. Chen is a fellow of the IEEE.

