



2020 Contemporary Issues Technical Conference

Integrating Distribution System Planning with IRPs and RTO Planning

Virtual Conference

Thursday September 24, 2020

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| 10:15-10:30 | Welcome from Chairman Huston <ul style="list-style-type: none">• Roadmap for Today• There will be an opportunity for 10-15 minutes of Q&A after each presentation.• Webinar Reminders and Pro Tips (below the agenda) |
| 10:30-11:30 | Larry Conrad: "Renewable Integration Models Based on Experience" |
| 11:30-12:00 | Lunch |
| 12:00-1:00 | Lisa Schwartz and Fredrich Kahrl: "All-Source Competitive Solicitations: State and Utility Practice" |
| 1:00 -2:00 | Lisa Schwartz and Tom Eckman: "Determining Utility System Value of Demand Flexibility from Grid-interactive Efficient Buildings" |
| 2:00-3:00 | Natalie Mims Frick will provide an overview of time and locational value of EE (30 minutes) Sydney Forrester and Andy Satchwell will present their Indiana-specific research (30 minutes) |
| 3:00-3:45 | Panel Discussion (Moderator – Dr. Doug Gotham, panelists: Natalie Mims Frick, Andy Satchwell, Sydney Forrester, Tom Eckman) |

How To Join the Virtual Technical Conference

Those part of the IRP Technical Conference agenda will be joining via WebEx and have received instructions on how to join/share PowerPoint presentations. All audience members can view the IRP Technical Conference through YouTube. **Users can click on the YouTube link here:** <https://youtu.be/1ZSyN2eW6lo> at the start of the IRP Technical Conference and can join/leave at any time throughout the conference. If any audience member has questions, they can ask those in the “Live Chat” box on the right side of the screen. Commission staff will then ask those questions to the presenters as they are received and as time allows. If you have trouble accessing the Live Chat option, or if you have additional questions after the IRP Technical Conference, please email Bob Pauley at mpauley@urc.in.gov.

Presenters Bios and Contact Information

Larry Conrad, PE: Owner/Manager of Conrad Technical Services LLC. He provides consulting services in electric power to electric utilities, renewable energy, and electrical design firms. Recent areas of focus include renewable energy integration, reliability, asset management, power quality, and distribution marginal costs. He is a registered Professional Engineer with B.S. degree and a M.S. degree in Electrical Engineering from Rose-Hulman Institute of Technology.

Before forming Conrad Technical Services, Mr. Conrad was employed for thirty-six years in the electric utility business in a variety of roles including asset management, power quality, reliability, emergency preparedness, construction, and maintenance. Mr. Conrad invented predictive voltage sag analysis published in the *IEEE Gold Book*. He set the framework with European utilities for the IEC 61000-3-2 Class D millennium amendment that reduced harmonics worldwide. He participated in development of the first IEEE Distributed Generation interconnection standard 1547 and was on the ballot committee for the current revision. He a member of IEEE PES Distribution Subcommittee and a long-time contributor to the IEEE 1366 reliability reporting guide. He has also served as chairman of the IEEE Volt Var Task Force focusing on conservation voltage reduction and chaired the harmonization of voltage flicker standards between IEEE and IEC. He is a long-time member of and now chairman of ANSI Committee C84 which sets the voltage standard C84.1 for the USA. Contact information for Larry Conrad: Conrad Technical Services LLC larry.conrad@conradtechnicalservices.com 317-431-1866

Dr. Fredrich Kahrl is managing partner at 3rdRail Inc. He has more than 10 years of experience in the energy sector, providing strategy and analytical support to government agencies, energy regulators, research organizations, foundations, system operators, utilities, and energy producers. His expertise covers renewable energy integration, resource planning, energy systems modeling, electricity market design, regulatory economics, transmission pricing, rate design, greenhouse gas accounting, rural energy systems, and economic impact analysis. Dr. Kahrl received Ph.D. and M.S. degrees from the Energy and Resources Group at U.C. Berkeley. fkahrl@outlook.com

Lisa Schwartz, Deputy Leader Electricity Markets and Policy Department at the Lawrence Berkeley National Laboratory. Lisa manages work spanning utility regulation, electricity system planning, energy efficiency and other distributed energy resources, and leads training for states on

distribution system planning. She received the 2018 Mary Kilmarx Award from the National Association of Regulatory Utility Commissioners, in recognition of individuals “who have gone above and beyond in the name of good governance, clean energy, and the environment.”

Before joining Berkeley Lab, Lisa was Director of the Oregon Department of Energy, overseeing state programs to advance energy efficiency, renewable energy and alternative transportation fuels, as well as energy facility siting, nuclear safety and energy emergency preparedness. She also provided leadership on state energy policy and guided the agency’s analytical work. As a senior associate at the Regulatory Assistance Project, Lisa coordinated technical assistance for consumer behavior studies funded by U.S. Department of Energy to evaluate the impact of time-varying rates and smart grid technology on energy use, worked with Berkeley Lab to evaluate energy efficiency and other demand-side resources in Western U.S. transmission planning, and assisted states in areas such as industrial energy efficiency, distributed generation and utility incentives for energy efficiency. She also led Western Governors’ Association projects to explore coordinating utility resource procurement with regional transmission needs, identify least-cost ways to integrate wind and solar, and assess energy efficiency and other policies to complement the Western Climate Initiative’s proposed cap and trade program. Lisa’s contact information is LCschwartz@lbl.gov, 510-486-6315 (office), 510-926-1091 (cell)

Tom Eckman is a consultant to Berkeley Lab and senior advisor to the Northwest Power and Conservation Council. Before retiring, Tom was the Director of the Power Division of the Northwest Power and Conservation Council. Tom is a nationally recognized expert in integrated resource planning and energy efficiency with over 35 years of experience. Mr. Eckman was intimately involved in the development of all seven of the Council’s Regional Power plans. Most recently, as Power Division Director he was responsible for managing the overall development of the Council’s Seventh Power Plan. This included directing ten professional staff, including economists, engineers and power system analysts across a broad range of analytical tasks, including the load forecasting, the assessment of energy efficiency and generating resource potential, power system modeling and risk analysis. TEckman49@gmail.com

Natalie Mims Frick: Assistant Leader and Energy Efficiency Program Manager in the Electricity Markets and Policy Department at Lawrence Berkeley National Laboratory. Natalie conducts research and manages projects on energy efficiency technical assistance, policy, program design, implementation and evaluation. Prior to joining LBNL, Natalie was the principal at Mims Consulting, LLC, was Energy Efficiency Director at the Southern Alliance for Clean Energy (SACE) and a Senior Consultant at Rocky Mountain Institute. Natalie Mims Frick <nfrick@lbl.gov

Andrew Satchwell: Research Scientist in the Electricity Markets and Policy Department at Lawrence Berkeley National Laboratory where he leads the financial analysis of electric utility regulatory and business models. His current work quantifies the financial impacts of distributed energy resources on utility profitability and customer rates and bills. Andy also leads and supports research on the value of demand response and energy efficiency to the utility system and utility investments in electric vehicle infrastructure. Andy authored several technical reports, peer-reviewed journal articles, and frequently presents at major conferences and workshops, and has been featured in several major news outlets, including *The San Francisco Chronicle* and on *National Public Radio*. Previously, Andy worked with the Indiana Office of Utility Consumer Counselor. asatchwell@lbl.gov

Sydney Forrester: Is a Scientific Engineering Associate working in the Electricity Markets and Policy Department at Lawrence Berkeley National Laboratory. Sydney broadly focuses on renewable energy adoption and new utility business models; including studying the quantitative and policy-driven aspects of distributed PV solar adoption as well as the impacts of distributed energy resources on utilities and ratepayers. Previously, Sydney worked with National Grid in their New Energy Solutions and Program Strategy- New York divisions. There, she focused primarily on new utility business through demonstration projects that included a low-income community solar project, a resilience microgrid, demand response, alternative financing mechanisms, electric vehicle charger deployment, and more. spforrester@lbl.gov