NECPUC Distribution Systems & Planning Training

Noon Sept. 27 to noon Sept. 29, 2017
Maine Public Utilities Commission
101 Second St., Hallowell, ME 04347

AGENDA Slides at https://emp.lbl.gov/publications/necpuc-distribution-systems-planning

Sept. 27, 2017

TIME	TOPIC
Noon – 12:30 pm	Lunch and opening remarks – Chairman Mark Vannoy (Maine PUC), Kerry Worthington (NARUC), Lisa Schwartz (Berkeley Lab)
12:30 – 1:30 pm	Distribution systems 101 – Emma Stewart (LLNL), Kevin Schneider (PNNL) • Components and functions • Present state of distribution systems across a range of utilities • Existing and emerging grid technologies — capabilities, costs and benefits • Core functionality for a modern distribution system tailored to local needs
1:30 – 2:15 pm	Distribution system controls and automation – Murali Baggu (NREL), Kevin Schneider (PNNL) • Integrated volt-var optimization • Advanced distribution management systems • Switching
2:15 – 2:30 pm	Break
2:30 – 3:30 pm	Utility distribution planning 101 – Mike Coddington (NREL), Kevin Schneider (PNNL), Juliet Homer (PNNL) • Overview of utility distribution system planning processes • Allocation of costs for distribution system expenditures • Functions, tasks and planning tools most commonly used by utilities • Planning differences by utility size • Benchmarking a utility's distribution planning process
3:30 – 4:15 pm	PUC distribution planning practices – Lisa Schwartz (LBNL), Juliet Homer (PNNL) • Drivers, objectives, benefits, considerations, approaches, and places to start for state engagement in distribution system planning • State distribution planning practices outside New England and takeaways
4:15 – 5:00 pm	Distribution planning practices and issues in the region – Roundtable with NECPUC members – Moderated by Rachel Goldwasser (NECPUC)

Sept. 28, 2017

TIME	TOPIC
8:00 – 8:30 am	Coffee
8:30 – 9:15 am	Reliability metrics and reliability value-based planning – Joe Eto (LBNL)
9:15 – 10:00 am	Other metrics and valuation frameworks for distribution system planning and proposed investments – Michael Kintner-Meyer (PNNL) • Metrics for measuring progress on resiliency, flexibility, sustainability, affordability and security • Use cases for applying metrics • Evaluating benefits and costs of proposed distribution system investments
10:00 – 10:15 am	Break
10:15 – 11:15 am	Performance-based regulatory tools for distribution system planning, investments, operation and maintenance – Mark Lowry (Pacific Economics Group)
11:15 am – 12:30 pm	Data from advanced grid technologies – Emma Stewart (LLNL), Kevin Schneider (PNNL) • What data do traditional distribution system technologies provide (from metering through distribution substations), what data are utilities collecting and tracking from these technologies, and how can data these technologies provide be used — e.g., when assessing potential future investments in smart grid and distributed energy resources? • What types of advanced grid technologies provide data, what kind of data do they provide, and what can be done with the data? • What data can PUCs ask for and how can it be used? • What should PUCs consider when evaluating proposed utility investments in data management systems?
12:30 – 1:45 pm	Lunch and presentation and Q&A on U.S. DOE's Next Generation Distribution System Platform (DSPx) – Paul DeMartini, Newport Consulting

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	Group
1:45 – 3:15 pm	Forecasting load on the distribution system with distributed energy resources – Andrew Mills (LBNL), Stephen Rourke (VP System Planning, ISO New England) • Impacts of energy efficiency, demand response, distributed generation and storage, electric vehicles
3:15 – 3:30 pm	Break
3:30 – 4:30 pm	Utility experiences in managing aging infrastructure and integrating advanced grid technologies – Murali Baggu (NREL), Steve Steffel (PEPCO) and Kevin Schneider (PNNL) • Aging infrastructure, accelerated replacement and performance • Interaction of new grid technologies with legacy utility systems • Lessons learned
4:30 – 5:15 pm	Discussion with NECPUC members and trainers • Reflections on what we've heard and learned • Q&A with trainers • Next steps for the region

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8:00 – 8:30 am	Coffee
8:30 – 10:30 am	Distributed energy resources – Mike Coddington (NREL), Emma Stewart (LLNL) • Hosting capacity analysis to identify needs for distribution investments — definition, independent variables, planning transparency • PV integration including smart inverters • Evaluating impact of solar on distribution systems and solar as an option for meeting select distribution system needs • Planning for the impact of solar in combination with storage
10:30 – 10:45 am	Break
10:45 am – noon	Distribution planning modeling tools – Mike Coddington (NREL), Juliet Homer (PNNL), Emma Stewart (LLNL) • Overview of modeling tools and functions • Information that modeling tools can provide • Questions PUCs can ask utilities about modeling and modeling tools • Sensitivity analyses that PUCs can ask utilities to run • Gaps in modeling tools for high penetration of distributed energy resources and new grid modernization technologies • Emerging modeling challenges