GRIDWORKS

NM PRC's 2022 Grid Modernization Webinar Series
April 7, 2022 Webinar #4
Load Forecasting on the Distribution System
Meeting Notes

Meeting Objectives
- Provide overview of considerations and best practices for distribution system-level load forecasting
- Gather input from stakeholders on methodologies for distributed load forecasting to include in grid modernization NOPR

In attendance:
- Over 40 individuals
- 20 organizations

Meeting Agenda is available here

A presentation on Forecasting Load on Distribution Systems with Distributed Energy Resources was presented by:
- Ashreeta Prasanna, Researcher and Modeling Engineer, Distributed Systems and Storage Group, Integrated Applications Center, National Renewable Energy Laboratory
  - Presentation slides available here

Stakeholder Facilitated Discussion (Grounding; Reflection; Interpretation; Decisional)

- Observations from the presentation:

  - Distributed PV (DPV) offers a financial value through its impact on peak load conditions and associated deferral of transmission and distribution system investments.
  - Accurate estimates of DER adoption and their impact on loading conditions is needed to achieve those benefits.
  - Key Drivers of DER adoption (needing to be factored into effective modeling): economics (including rate design and incentives); public policy goals (RPS and other); and the dynamics of customer behavior, (such as the desire for increased choice in the electric sector) and customer demographics.
  - Third-party forecasts tend to estimate larger DPV adoption than utility forecasts; this is evidenced over many jurisdictions.
  - Various third-party models are available to support and complement utility forecasts, including the NREL Open-Source Model: https://github.com/NREL/dgen

- Observations From the facilitated discussion:

  ▪ Forecasting adds a level of complexity to distribution system planning, grid modernization and the PRC's pursuit of effective rule language.
  ▪ The particular challenge is to capture the purpose of forecasting, and expectations placed upon forecasting as part of a utility plan filing, within the PRC rule language.
  ▪ The availability of multiple forecasting models, and experience with various models within the electric industry, is of benefit to NM grid modernization efforts.
  ▪ The interactive nature of multiple variables within forecasting adds to the challenge: (do AMI investments increase DG adoption or vice versa? Does the regulatory process inform market design or respond to it?) How do grid mod and other investments (such as storage) affect adoption?

- Potential content for Grid Mod Notice of Proposed Rulemaking (NOPR)

  ▪ Identifying the overall grid modernization policy goal(s) needs to be determined first. Several goals are identifiable: increasing DER uptake; improving system performance, including resiliency; keeping costs low; achieving renewable energy goals.
  ▪ Addressing load forecasting via rule language, while new to NM PRC rules, is common in many other states. Consider focusing on methodology and inputs, not on the particular forecasting model or method. Concentrating on the later could lead to a protracted regulatory process.
  ▪ Load forecasting is an expectation and ongoing practice of utilities. At issue is (a) how to bring this process more fully into planning proceedings, and (b) how to draw upon the forecasting to address regulatory objectives: efficiency improvements; cost management/reduction; reliability/resiliency improvements; etc. - toward a modern and efficient grid.
  ▪ Access to customer data is an integral part of forecasting. As forecasting becomes a part of utility regulatory filings, data questions emerge concerning data collection, aggregation and access. This may need to be addressed, via the Grid Mod rule or more broadly.
  ▪ The NMPRC can benefit from reviewing Xcel-Colorado's recent DSP plan preparation and anticipated filing; (to be filed May 1, 2022.). Xcel-CO is: engaging a consultant to inform the process/conduct the modeling; using scenarios of different adoption rates, and noted that the process is yielding insights about the data provided and the value of the modeling. (Note: discussion included consideration of this proceeding taking notice of the Xcel-CO DSP filing.)