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New Hampshire Grid Modernization

Report of NH Grid Modernization Customer/Utility Data Management Task Force

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The Regulatory Assistance Project (RAP)[®]

Smart Grid/Smart Data Sharing



Task Force Recommendations to WG

- **Members include:**
 - Dave Littell, RAP (facilitator)
 - Melissa Birchard CLF
 - Brianna Brand, NHSEA
 - Chris Brouillard, Liberty Utilities
 - Jim Brennan, NH OCA
 - Justin Eifeller, Unitil
 - Kate Epsen, NHSEA
 - Todd Griset, EFCA
 - Mark Hanks, Direct Energy
 - Pat Martin, retired engineer
 - Kevin Sprague, Unitil
- **Recommendations were by consensus of TF unless otherwise noted**

Advanced Energy Market Competition

1. Sharing of data with the market can encourage market competition for provision of advanced energy technologies.
2. In general, use of data standards can facilitate interoperability, empower 3rd parties, and provide the opportunity for ratepayers to reduce their or system costs. Security is an inherent risk and must be addressed.

Aggregated Data Standards

3. Interval data enables time varying rates, demand response, innovation, and can allow 3rd party service providers the opportunity to offer ways to reduce system costs or for ratepayers to reduce their own costs.
4. Aggregated customer information can be made available if certain protocols to protect individual customer/ratepayer usage and identity are adopted.

Circuit Hosting Capacity Analysis

5. Rather than attempt to calculate a precise MW or kW hosting capacity for each circuit, that a system “bucket” approach such as green, yellow, red for distribution circuits might be used.
6. The stakeholders should agree on assumptions for the hosting capacity analysis, including any assumptions on the DER system configurations. Those assumptions will influence how and what load data is analyzed, formatted, and published for publication, posting and/or sharing with market participants, and are a critical component to supporting development of a competitive energy services market in New Hampshire.
 - By way of agreement on assumptions for hosting capacity analysis, the task force recommends adopting the Raab Ass. Final Report “Proposed Changed to the Uniform Standards for Interconnecting Distributed Generation,” MA D.P.U. 11-75, Sept. 14, 2012, as a basis to continue interconnection analysis discussion in NH given the overlap of utilities and DER providers NH and MA.

Texas Model

7. New Hampshire may find it in ratepayers' interest to consider creating a more competitive electricity supply and service market through adopting consistent data standards and data sharing protocols across utilities and energy suppliers as Texas has done. This may involve working with other New England states using elements of the Texas model modified to work in New England.

Non-Consensus Item: Distribution Upgrade and Investment Information

8. Information in the utilities Electrical System & Planning studies for the subtransmission and distribution should be organized in an accessible and reportable database so ratepayers and third-party service providers can assess – on a circuit by circuit basis -- the subtransmission and distribution system constraints, any projected violations and planning information, including any cost for proposed solutions that the utilities already provide. Organizing a publication or website so non-confidential information on a circuit by circuit in timely fashion (coincident with the planning study finalization) to facilitate third-party solutions is a minimal effort consistent with utilities existing planning and investment planning.

-DER provider comments: this information is critical to assessing innovative solutions in place of traditional investments, as well as in fostering broader engagement in grid design and operations.

Non-Consensus Item: Distribution Upgrade and Investment Information Comments

- Unutil comments on Item 8: Some proposed that the utilities share project planning information to facilitate third-party involvement. Non-traditional solutions proposed by a third party would need to be designed to the same level of capacity, reliability and availability as a traditional solution so the projects can be compared from a relative cost standpoint. Ownership, control and maintenance issues would also have to be addressed. Additional discussion on the sharing format, projects of interest and procedures for third-party involvement still need further discussion.
- OCA comments on Item 8 and alternative language: A new electronic data access framework would empower third parties and potentially trigger new alternative least cost best fit solutions for consideration in distribution planning. The framework would provide electronic standardized access to data contained in detailed engineering and planning studies such as Electrical System & Planning studies now performed by the utility. The framework would provide data access to granular input and output variables in the software modeling tools used by the utility for distribution system analysis. A Data Access sub group can address the feasibility of this data framework platform. The Data Access group could recommend a list of data elements, data standards, and a framework for sharing utility data with third parties.

Non-Consensus Item: Distribution Upgrade and Investment Information Comments

- Liberty comments on Item 8: The posting and update of detailed Electrical systems Planning and Study information would be a labor intensive endeavor, particularly given the dynamic nature of the system resulting from reconfiguration of circuits and equipment, new load, and forecast updates. Utilizing selected elements of data, without the benefit of a holistic and comprehensive view of the system would easily lead to false conclusions. Most system enhancements take into account a combination of normal and contingency capacity ratings, reliability performance and improvement opportunities, asset condition and replacement opportunities, safety, and system operating performance in addition to solution economic and implementation risk. Further, the safe, reliable, and efficient operating responsibility would continue to be borne by the utility, but with the additional burden of proving prudence of solution(s) to not only the PUC but potentially a wide array of other third parties who need only maximize their own opportunity without any constraints of operating risk or regulatory oversight.

Non-consensus item: DER Company Load Data Request

9. The group did not reach agreement on the DER providers request.
 - DER providers requested the gross data for load and load shape by time of day and month and circuit capacity (feeder and SS loads and capacity) which utilities have and use to make hosting capacity calculations and for planning purposes – by circuit.
 - The utilities noted that the grid is dynamic and each interconnection changes the dynamic flows on the system thus questioned the value of sharing this large amount of data since they will do their own interconnection analysis for each DER regardless of what a third party analysis shows for their system capacity.



About RAP

The Regulatory Assistance Project (RAP) is a global, non-profit team of experts that focuses on the long-term economic and environmental sustainability of the power sector. RAP has deep expertise in regulatory and market policies that:

- Promote economic efficiency
- Protect the environment
- Ensure system reliability
- Allocate system benefits fairly among all consumers

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