What should be the key elements of distribution system planning (DSP)?

One important step to establish the future direction of DSP is to identify the necessary elements of DSP. The potential elements of DSP for a twenty-first century utility may include:

- *Forecasting*, where energy demands are projected on the system to determine future peak requirements.
- *Power flow analysis*, to test whether the existing system can accommodate forecasted demands and maintain voltages within established standards.
- *Condition assessments*, to determine the health of system components and develop replacement strategies before failure.
- *Solution identification*, where options are selected to address identified needs – the solution could be an operational change by the utility operator (e.g., reconfiguring a feeder), a traditional utility infrastructure project (e.g., a new feeder), a "non-wires" alternative (e.g., customer investments in energy efficiency, renewables, or storage), or a combination of any of the above.
- *Hosting capacity analysis*, to determine the maximum amount of distributed energy resources (DER) that a substation feeder can support without additional upgrades.

Questions for stakeholders on DSP elements

1) How important are each of the DSP elements described here to the future electric utility?

Are there additional elements not described here that should be included as a strategic focus of the electric utility? What does success look like for each element?

The location of power generation projects has a great impact on the actual costs to ratepayers. In New York, the ongoing Con Edison "Brooklyn Queens Demand Management" initiative has already demonstrated that targeted and reliable distributed generation can be utilized to avoid/defer traditional infrastructure upgrades at a fraction of the cost to ratepayers. The DSP should focus its efforts on those elements that will most effectively spur the development of cost effective "non-wires alternatives," especially Forecasting and Hosting Capacity Analysis. An additional focus should be the inter-relationship between electric utilities and gas utilities and whether investments in targeted demand relief on the electric side can be coordinated in a way that would enable more cost effective expansion of the gas distribution system on the gas side. DSP should encourage projects that will most effectively avoid or defer transmission and distribution investments, reduce the customer cost associated with gas distribution system expansions, avoid or reduce system(s) O&M, reduce congestion, eliminate line losses and mitigate cost to both electric and gas ratepayers.

2) Utility investment in grid modernization capabilities will provide increasing visibility into the system, allowing a more sophisticated and granular approach to DSP. What should the future state of planning look like as visibility improves? What should the transition look like between current DSP and the future state of DSP?

Questions for stakeholders on DSP transparency

1) Who are the users of system and customer data? What data do users need to guide investment decisions, support business models, or guide policy/program activities? What are the specific use cases for each dataset? What is the desired format of each dataset? What is the frequency with which datasets should be updated?

2) What are the key data access safety and security considerations? How should customer privacy be protected? How will the utility's requirement to protect the grid and maintain sensitive information be balanced with the need for more visibility?

Questions for stakeholders on DSP process

1) What DSP information – such as information associated with the DSP elements identified earlier in this document – should be made available to users, including the market, regulators, and policymakers?

2) How often should this information be made available and in what format? Should this information be compiled in a new DSP docket proceeding (or filing within an existing docket)? How should any new DSP filings be coordinated with ISR and SRP? How should they be coordinated with any other applicable filings?

3) Utility DSP must take into account both current and long term system impacts. Solutions require multiple years for design and implementation. How will the utility and stakeholders coordinate efforts to develop solutions, particularly those that are implemented by customers and not controlled by the utility, such that there is certainty of implementation before system operational issues arise? How will a "safety net" be implemented to ensure that the utility can implement solutions (traditional or NWA) if third party commitments fail, particularly when there are long lead times for implementation?