

U-20464 Statewide Energy Assessment

Electric Sector Questions

Updated: 03/12/2019 – Additional questions have been included and document has been reformatted to better match the report outline.

Due date has been extended to April 1 or within three weeks if possible.

****Note:** These questions have been sent out to a variety of groups. As such, some questions may not apply to your organization. Please mark N/A accordingly.

Risk Assessment

- 1) Please categorize a list of the organization's top five capital investments in the last five years based on the highest amount spent.
- 2) Please prioritize a list of the organization's top five capital investments in the next five years and describe the metrics used to prioritize capital investments.
- 3) Please describe the organization's operations and maintenance (O&M) spending as decreasing, increasing, or steady over the past 10-years. Please explain any increases or decreases in spend.
- 4) What are the top five O&M improvements necessary to improve system performance in extreme weather events?
- 5) Considering all generation sources, please explain the generation vulnerabilities that limited your company's generation capability during PV 19.
- 6) Please identify all of the electric limitations and/or constraints the organization has been exposed to during extreme weather events and the organizations efforts to minimize these.
- 7) How has the recent trend in severe weather during the shoulder months impacted electric system planning?
- 8) How have plant retirements, a changing fuel mix, new technologies, and Distributed Energy Resources (DERs) impacted your electric system planning?
- 9) What did you learn from PV 2014?
- 10) What system enhancements and operational changes were made as a result of poor performance during the PV 2014 event?
- 11) If system enhancements were made, how did they perform during the PV 2019?
- 12) How have the lessons learned from PV 2014, PV 2019, the 2013 ice storm, or other severe weather events impacted electric system planning?
- 13) Please share any concerns with gaps in rules and regulations addressing customer safety, reliability, resiliency, and utility notifications across the electric distribution, transmission, and generation systems. Please share any ideas to overcome these gaps.
- 14) Please provide the following information as it relates to the number of catastrophic storms (result in interruptions of 10% or more of customers or events that result in an official state of emergency by local, state, or federal government) each year since 2008.
 - a. Date
 - b. Duration of the storm
 - c. Ice accumulation
 - d. Temperatures
 - e. Highest wind speed
 - f. Identified vulnerabilities/risks after each storm and changes made
- 15) Please explain how design practices have evolved over time based on identified risks in order to meet peak demand.
- 16) Are there any additional thoughts or concerns you would like to share?

U-20464 Statewide Energy Assessment

Electric Sector Questions

Updated: 03/12/2019 – Additional questions have been included and document has been reformatted to better match the report outline.

Due date has been extended to April 1 or within three weeks if possible.

Vulnerabilities

- 1) Have you conducted or contracted with an independent 3rd party, a risk/hazard analysis to identify system vulnerabilities? If so, when and what are the top five system vulnerabilities?
- 2) What are the top five electric system vulnerabilities identified internally in extreme weather conditions? These may be in addition to the independent 3rd party analysis for the previous question.
- 3) What is the projected cost to reduce risk for each of the top three vulnerabilities and when does your organization anticipate the work will be complete, if ever?
- 4) Provide a chronology of events for PV 19 including:
 - a. Projections for load and generation and how these changed over time, both as an individual load serving entity (LSE) and local resource zone (LRZ)/regional transmission organization (RTO). How did the change in load and generation projections impact the operations of your organization?
 - b. Availability of generation by fuel type
 - i. Include daily data of generation by resource type
 - ii. Include daily data (January 29-31) on forced outages by fuel type
 - iii. Include the reason for the outage
 - iv. Explain any generation on planned outage
 - c. Did you experience any issues serving load during event? If so, please explain these.
 - d. Did you have any difficulty adhering to the Emergency procedures? If so, please explain these.
 - e. Timing of customer interruptions, if applicable
 - f. Describe the response from customers for curtailment requests and public appeal, if applicable
 - g. Timing of public appeal, if applicable
 - h. General conclusion on how your system performed during event
- 5) Have there been lessons learned with Demand Response (DR) and mutual assistance plans to improve operations in extreme weather events? If so, please explain.
- 6) Please answer the following questions as they relate to DR
 - a. How much DR was able to perform during the PV 2019?
 - b. When are DRs required to be available (times of year)?
- 7) For the organizations that called upon interruptible and DR customers during PV 2019, how much load was shed as a result?
- 8) For the organizations that called upon interruptible and DR customers during PV 2019, have you already or do you expect tariff defection? To what extent?
- 9) For the organizations with renewable generation during PV 2019, how did these units perform during the extreme weather, compared to baseload thermal generation?
- 10) If the organization has renewable generation or is planning on renewable additions, has the organization addressed the impact of extreme weather on these units (installation of cold weather packs on wind turbines, snow clearing plan for solar generation)?

U-20464 Statewide Energy Assessment

Electric Sector Questions

Updated: 03/12/2019 – Additional questions have been included and document has been reformatted to better match the report outline.

Due date has been extended to April 1 or within three weeks if possible.

- 11) What type of emergency communications mechanisms does the organization have in place to communicate with customers before, during, and after an anticipated emergency event that may impact service?
- 12) Do you envision any tariff changes as a result of the PV 2019? If so, what do you plan to change?
- 13) Are there any additional thoughts or concerns you would like to share?

Contingency Planning Methodologies and Assumptions

- 1) With respect to the lack of availability from intermittent resources (compared to planned availability) during the extreme weather events, has this changed the organization's view of its future generation portfolio (i.e. less renewables, more storage, more dispatchable, less reliance on natural gas facilities)?
- 2) How did your organization's load and generation forecast align with the real time conditions during PV 2019?
- 3) Has your experience in PV 2019 affected any of your forecasting assumptions going forward?
- 4) How has changing customer behavior and technology adoption affected your forecasting and ability manage your system in stressed conditions? (e.g. electric vehicles, smart thermostats, other energy management tools).
- 5) Please describe any relevant planning criteria or standards that are designed to ensure your system remains reliable and/or resilient during events such as PV 2019.
- 6) Please identify all DR programs available during peak demand and describe the overall performance.
- 7) Typically, utilities plan for a "one in 100 year" storm reliability standard. As the region has experienced an ice storm in 2013, a polar vortex in 2014, and another polar vortex in 2019, has this erratic weather begun to impact your system planning? If so, what changes have been incorporated?
- 8) Are there any additional thoughts or concerns you would like to share?

Operational Practices of Energy Systems

- 1) What are your general lessons learned from the PV 2019 event and what steps is your organization taking, if any, to expand your readiness for a similar future event?
- 2) Did you experience any problems complying with RTO emergency procedures and dispatch instructions, particularly when Load Modifying Resources were called?
- 3) Did your organization have any issues interacting with natural gas availability affecting electric distribution service or electric generation or vice versa? If so, please explain.
- 4) Did RTO dispatch and market rules impact your decision making or priorities using gas for generation vs. residential service? If so, how?
- 5) If the organization owned gas fired electric generation and provided electric distribution service, explain how the gas fired electric generation was affected during PV 2019. If the organization's

U-20464 Statewide Energy Assessment

Electric Sector Questions

Updated: 03/12/2019 – Additional questions have been included and document has been reformatted to better match the report outline.

Due date has been extended to April 1 or within three weeks if possible.

gas fired electric generation was not affected, was an option available for the organization to curtail gas fired electric generation without RTO approval?

- 6) Are there any suggestions to improve gas and electric coordination? If so, please describe these suggestions.
- 7) Are there any additional thoughts or concerns you would like to share?