

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Climate Change, Extreme Weather, and Electric System Reliability Docket No. AD21-13-000

SUPPLEMENTAL NOTICE OF TECHNICAL CONFERENCE
INVITING COMMENTS

(March 15, 2021)

As announced in the Notice of Technical Conference issued in this proceeding on March 5, 2021, Federal Energy Regulatory Commission (Commission) staff will convene a technical conference to discuss issues surrounding the threat to electric system reliability posed by climate change and extreme weather events. The conference will be held on Tuesday, June 1, 2021 and Wednesday June 2, 2021, from approximately 1:00 p.m. to 5:00 p.m. Eastern Time each day.

Interested persons are invited to submit comments regarding the issues described in the appendix below. Comments are due on or before April 15, 2021. Comments must refer to Docket No. AD21-13-000 and must include the commenter's name, the organization they represent, if applicable, and their address. Commenters need not answer all of the questions but are encouraged to organize responses using the numbering and order in the appendix below.

The Commission encourages comments to be filed electronically via the eFiling link on the Commission's web site at <http://www.ferc.gov>. The Commission accepts most standard word processing formats. Documents created electronically using word processing software should be filed in native applications or print-to-PDF format and not in a scanned format. Commenters filing electronically do not need to make a paper filing.

Those unable to file electronically may mail comments via the U.S. Postal Service to: Federal Energy Regulatory Commission, Office of the Secretary, 888 First Street NE, Washington, DC 20426. Hand-delivered comments or comments sent via any other carrier should be delivered to: Federal Energy Regulatory Commission, Office of the Secretary, 12225 Wilkins Avenue, Rockville, Maryland 20852.

All comments will be placed in the Commission's public files and may be viewed, printed, or downloaded remotely. Commenters in this proceeding are not required to serve copies of their comments on other commenters.

Kimberly D. Bose,
Secretary.

Appendix

1. What are the most significant near-, medium-, and long-term challenges posed to electric system reliability due to climate change and extreme weather events?
2. With respect to extreme weather events (e.g., hurricanes, extreme heat, extreme cold, drought, storm surges and other flooding events, or wildfires), have these issues impacted the electric system, either directly or indirectly, more frequently or seriously than in the past, and if so, how? Will extreme weather events require changes to the way generation, transmission, substation, or other facilities are designed, built, sited, and operated?
3. Climate change has a range of other impacts, such as long-term increases in ambient air or water temperatures that may impact cooling systems, changes in precipitation patterns that may impact such factors as reservoir levels or snowpack, and rising sea levels among others. Will these impacts require changes to the way generation, transmission, substation, or other facilities are designed, built, sited, and operated?
4. What are the electric system reliability challenges associated with “common mode failures” where, due to a climate change or extreme weather event, a large number of facilities critical to electric reliability (e.g., generation resources, transmission lines, substations, and natural gas pipelines) experience outages or significant operational limitations, either simultaneously or in close succession? How do these challenges differ across types of generation resources (e.g., natural gas, coal, hydro, nuclear, solar, wind)? To what extent does geographic diversity (i.e., sharing capacity from many resources across a large footprint) mitigate the risk of common mode failures?
5. Are there improvements to coordinated operations and planning between energy systems (e.g., the natural gas and electric power systems) that would help reduce risk factors related to common mode failures? What could those improved steps include?
6. How are relevant regulatory authorities (e.g., federal, state, and local regulators), individual utilities (including federal power marketing agencies), and regional planning authorities (e.g., RTOs/ISOs) evaluating and addressing challenges posed to electric system reliability due to climate change and extreme weather events and what potential future actions are they considering? What additional steps should be considered to ensure electric system reliability?
7. Are relevant regulatory authorities, individual utilities, or regional planning authorities considering changes to current modeling and planning assumptions used for transmission and resource adequacy planning? For example, is it still

reasonable to base planning models on historic weather data and consumption trends if climate change is expected to result in extreme weather events that are both more frequent and more intense than historical data would suggest? If not, is a different approach to modeling and planning transmission and resource adequacy needs required? How should the benefits and constraints of alternative modeling and planning approaches be assessed?

8. Are relevant regulatory authorities, individual utilities, or regional planning authorities considering measures to harden facilities against extreme weather events (e.g., winterization requirements for generators, substations, transmission circuits, and interstate natural gas pipelines)? If so, what measures? Should additional measures be considered?
9. How have entities responsible for real-time operations (e.g. utilities, RTOs/ISOs, generator operators) changed their operating practices in light of the challenges posed by climate change and extreme weather events and what potential future actions are they considering? What additional steps should be considered to change operating practices to ensure electric system reliability?
10. Are seasonal resource adequacy assessments currently performed, and have they proven effective at identifying actual resource adequacy needs? If they are used, is there a process to improve the assessments to account for a rapidly changing risk environment such as that driven by climate change? If seasonal resource adequacy assessments are performed, are probabilistic methods used to evaluate a wider range of system conditions such as non-peak periods, including shoulder months and low load conditions?
11. Are any changes being considered to the resource outage planning process? For instance, should current practices of scheduling outages in perceived “non-peak” periods be re-evaluated, and should the consideration during planning of the reserve needs during non-peak outage periods be improved?
12. Mass public notification systems (e.g., cellphone texts, emails, smart thermostat notifications) are sometimes used in emergencies to solicit voluntary reductions in the demand for electricity. To what extent are such measures used when faced with emergencies related to climate change or extreme weather events, have they been effective in helping to address emergencies, and is there room for improvement?
13. What measures are being considered to improve recovery times following extreme weather event-related outages? For example, are there potential changes to operating procedures, spare equipment inventory, or mutual assistance networks under consideration? What additional steps should be considered to improve recovery times?

14. Given the key role blackstart resources play in recovering from large-scale events on the electric system, how is the sufficiency of existing blackstart capability assessed, and has that assessment been adjusted to account for factors associated with climate change or extreme weather events? For example, is the impact of potential common mode failures considered in the development of black start restoration plans (including but not limited to common mode failure impacts on generation resources, transmission lines, substations, and interstate natural gas pipelines)? Should these be addressed?
15. What actions should the Commission consider to help achieve an electric system that can better withstand, respond to, and recover from climate change and extreme weather events? In particular, are there changes to ratemaking practices or market design that the Commission should consider?
16. Are there opportunities to improve the Commission-approved NERC Reliability Standards in order to address vulnerabilities to the bulk power system due to climate change or extreme weather events in areas including but not limited to the following: transmission planning, bulk power system operations, bulk power system maintenance, emergency operations, and black start restoration? For example, should the Reliability Standards require transmission owners, operators or others to take additional steps to maintain reliability of the bulk power system in high wildfire or storm surge risk areas? Should the Reliability Standards require the application of new technologies to address vulnerabilities related to extreme weather events, such as to use new technologies to inspect the bulk power system remotely?
17. Where climate change and extreme weather events may implicate both federal and state issues, should the Commission consider conferring with the states, as permitted under FPA section 209(b), to collaborate on such issues?