

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Electrification and the Grid of the Future

Docket No. AD21-12-000

NOTICE INVITING POST-TECHNICAL CONFERENCE COMMENTS

(May 17, 2021)

On April 29, 2021, the Federal Energy Regulatory Commission (Commission) convened a technical conference to discuss electrification and the grid of the future.

All interested persons are invited to file post-technical conference comments to address issues raised during the technical conference and identified in the Supplemental Notice of Technical Conference issued April 14, 2021. For reference, the questions included in the Supplemental Notice are included below. Commenters need not answer all of the questions, but commenters are encouraged to organize responses using the numbering and order in the below questions. Commenters are also invited to reference material previously filed in this docket but are encouraged to avoid repetition or replication of previous material. Comments must be submitted on or before 45 days from the date of this Notice.

Comments may be filed electronically via the Internet.¹ Instructions are available on the Commission's website <http://www.ferc.gov/docs-filing/efiling.asp>. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov or toll free at 1-866-208-3676, or for TTY, (202) 502-8659. Although the Commission strongly encourages electronic filing, documents may also be paper-filed. To paper-file, submissions sent via the U.S. Postal Service must be addressed to: Federal Energy Regulatory Commission, Office of the Secretary, 888 First Street NE, Washington, DC 20426. Submissions sent via any other carrier must be addressed to: Federal Energy Regulatory Commission, Office of the Secretary, 12225 Wilkins Avenue, Rockville, Maryland 20852.

¹ See 18 CFR 385.2001(a)(1)(iii) (2020).

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Post-Technical Conference Questions for Comment

Projections, Drivers, and Risks of Electrification

1. What are the main drivers of electrification? Is the shift from using non-electric sources of energy to using electricity more pronounced in certain sectors or industries? How might public policy, energy costs, and technology drive electrification in the future?
2. What technologies are commercially available and currently being deployed to electrify different sectors or industries? What sectors and industries are driving the implementation of these technologies and how are they implementing them? How quickly are these technologies being deployed, and are there regional differences in the scope and rate of deployment?
3. How is electrification expected to affect electricity demand growth in the short term and the long term? How might electrification change electricity demand in the future in terms of daily and seasonal demand patterns, absolute magnitude of electricity demand on average, and during peak periods?
4. How might electrification affect marginalized communities? What are the environmental justice considerations associated with electrification?
5. What are the cybersecurity, reliability, and operational risks and/or benefits associated with specific technologies and industrial processes solely dependent on electricity and the corresponding change in electricity demand?

Infrastructure Requirements of Electrification

6. What type of infrastructure investments are required to address the respective challenges of electrification (i.e., additional generation, local, regional or interregional transmission, and distribution investments)?
7. What approaches are transmission owners and system operators taking to cost-effectively meet the infrastructure requirements of projected electrification in the current transmission, interconnection, and resource adequacy planning processes? How do these approaches consider reliability, and what impacts do those considerations have on the need for infrastructure investment for electrification?
8. What measures are being taken to identify and align the costs of investments needed for electrification with the beneficiaries?

9. What, if any, existing regulatory and/or tariff requirements act as barriers to, or otherwise do not consider, electrification and its associated growth in demand? For example, does the scenario modeling in current regional transmission planning processes reflect increased demand due to electrification driven by market trends and public policies?

Transmission and Distribution System Services Provided by Flexible Demand

10. What grid services can newly electrified resources provide or otherwise facilitate?
 - a. For example, what grid services can consumer electric vehicles or electric vehicle fleets most effectively provide today? What is the current state of development for vehicle-to-grid technologies, and will further advancements enable consumer electric vehicles or electric vehicle fleets to provide additional grid services in the future?
 - b. What other types of newly electrified resources can currently provide grid services, and what grid services can they most effectively provide? For example, can grid-interactive buildings be meaningful sources of flexible demand?
 - c. What, if any, newly electrified resources cannot currently provide grid services, but may be able to in the future? What barriers must be overcome for that to occur?
11. What technological capabilities (e.g., interoperability) are required for newly electrified resources to provide grid services? What is the current state of development for these capabilities? What could speed up or slow down such development?
12. What challenges exist to deploying newly electrified resources to provide grid services in the RTO/ISO and non-RTO/ISO regions?
13. What barriers, if any, exist to newly electrified resources providing grid services in wholesale or retail markets?

Local, State, and Federal Coordination

14. What role can coordination among local, state, and federal governmental entities play with regard to electrification?

15. What planning and coordination among local, state, and federal governmental entities is necessary to facilitate the provision of grid services by newly electrified resources in a way that maximizes benefits to the grid while decreasing the potential reliability, operational, and cybersecurity risks that electrification could pose?
16. Regional initiatives and multi-state cooperation efforts have formed in recent years to coordinate EV charging infrastructure deployment. What can we learn from those efforts and what role, if any, does the federal government play in supporting those efforts?
17. How can interoperability protocols and standards be coordinated across local, state, and federal jurisdictions?
18. What coordination efforts among local, state, and federal governmental entities have been most effective in addressing electrification? How could those coordination efforts be improved?