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Response to the Climate Scenarios and Analyses to Support Electricity Sector Vulnerability Assessment and Resilient Planning

Response to the Climate Scenarios and Analyses to Support Electricity Sector Vulnerability Assessment and Resilient Planning Request for Comments on Forthcoming Solicitation hearing

In order to address the IOUs, and other stakeholders needs regarding new energy technologies, and to mitigate impacts of climate change, we encourage that the GFO addresses the following topics:

Technologies

- Data analysis, simulation and visualization of relevant energy technologies
- Integrating heterogeneous data sources in order to achieve interconnectedness and interoperability of systems
- Applying artificial intelligence techniques in order to find insights in the various data sources, forecast (machine learning, etc.)
- Providing decision making support through explaining systems'™ recommendations
- Providing interactive immersive visualization via digital companions and assistants
- Analysis techniques for control and operation of distribution systems and microgrids

Planning of future infrastructure by having interconnected systems

- Safe and Resiliency through community-scale micro-grids
 - o Planning tools for microgrids
- Risk of grid infrastructures assets (identification and mitigation),

Improvement of current operations considering:

- Smart Buildings including measuring energy use, pinpointing operations and maintenance problems, automating lighting and thermostats, and tracking building performance.
- Transactive Energy Systems and related topics such as emerging grid services (demand response)
 - Smart inverters
 - Load balancing from DERs
- Advanced technologies and methodologies for wide area operations and awareness
 - o Grid inspection tools: capturing the state of real-world deployment via crowdsourcing and AI
 - o Utilizing AI and IoT for asset monitoring, grid service and maintenance
 - o Advances in Condition Monitoring and Assessment of Power Equipment