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## Codes, Standards, Specifications, and Other Guidance for Enhancing the Resilience of Electric Infrastructure Systems Against Severe Weather Events

Department of Energy  
Request for Information  
Grid Resiliency

### 1) Specific technical design standards

Great River Energy designs its transmission lines to meet or exceed the requirements of the National Electric Safety Code. Great River Energy has developed specific design criteria that is used to design all transmission lines built for our system. Great River Energy design criteria incorporates the requirements of the National Electric Safety Code Grade B construction. Portions of the recommendations included in the U.S. Department of Agriculture Rural Utilities Service Bulletin 1724E-200 Design Manual for High Voltage Transmission Lines and the American Society of Civil Engineers (ASCE) Manual 74 – “Guidelines for Electrical Transmission Line Structural Loading” are incorporated into Great River Energy design standards.

When designing a new line, Great River Energy reviews existing line performance in the area along with available storm data to increase structure loading if necessary.

### 2) Relevant corporate business practices

Resiliency is being addressed through a new specific effort. Great River Energy has formed a Resiliency Team tasked with identifying resiliency threats and their impact to Great River Energy. Threat types identified:

- Weather
- Climate Change
- Equipment Maintenance, Replacement, Obsolescence
- Incident Command Structure
- Workforce
- Changing Generation Resources
- Solar Weather
- Cyber Security
- Multiple Contingencies
- Black Sky Event (Electromagnetic Pulse)
- Physical Security
- Communication Disruption

- Planning (Radial Load Serving)

Within the threat type of weather, the Resiliency Team is focusing on the biggest event type impacting Great River Energy's service territory, derechos (widespread, long-lived straight-line wind storms). The team is doing a pilot project assessing potential derecho mitigations for both current and future conditions. The list of potential mitigations will be analyzed and prioritized for action. The team will be addressing additional resiliency threat types and events as part of the overall effort.

The Resiliency Team is sponsored by our Vice President & Chief Transmission Officer. This team has a steering committee composed of the Director of Transmission Planning & Operations, the Director of Power Delivery, and the Director of Transmission Business Strategy & Development.

- 3) Analytic methods and tools for estimating the possible economic benefits from strategies, investments, or initiatives to enhance power system resilience

Great River Energy's Resiliency Team has just begun efforts in this area. Nothing substantive to report.