August 21, 2017 Solar Eclipse
Impacts on PJM Operations

Operating Committee Meeting
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Solar generation in PJM is at risk of being reduced during August 21 solar eclipse.
Impact on PJM:
If sunny day, up to ~2,500 MW increase in need for non-solar generation during event
Summary of NERC Conclusions

- Analysis showed no reliability impacts to BPS operations
- Specific states (i.e., North Carolina) will experience the greatest impact to photovoltaic resources and system operations
- Utilities should perform studies and retain necessary resources to meet the increased and varying load
- Advanced coordination to address ramp issues and secure non-photovoltaic resources for balancing BPS

Source: A Wide-Area Perspective on the August 21, 2017 Total Solar Eclipse
Estimated Solar Output on August 21, 2017

Grid-Connected Solar Output

Behind-the-Meter Solar Output

Up to ~500 MW lost in 1 hour

Up to ~2,000 MW lost in 1 hour
Estimated Non-Solar Generation on August 21, 2017

Increase in need for non-solar generation during event:
Up to ~2,500 MW for sunny day
Up to ~1,000 MW for overcast day
Current and Next Steps

**Internal evaluation**
- Perform power flow studies with Transmission Operations
- Work with Markets to ensure sufficient unit commitment
- Refine analysis in week prior with up to date weather forecast
- Assess lighting and temperature impacts on load

**External coordination**
- Discuss impacts with affected Transmission Owners / neighbors
- Work with solar forecast vendor to accurately predict impacts

**Post-event analysis**
- Use results to validate behind-the-meter solar forecast
- Integrate lessons learned into 2024 eclipse planning