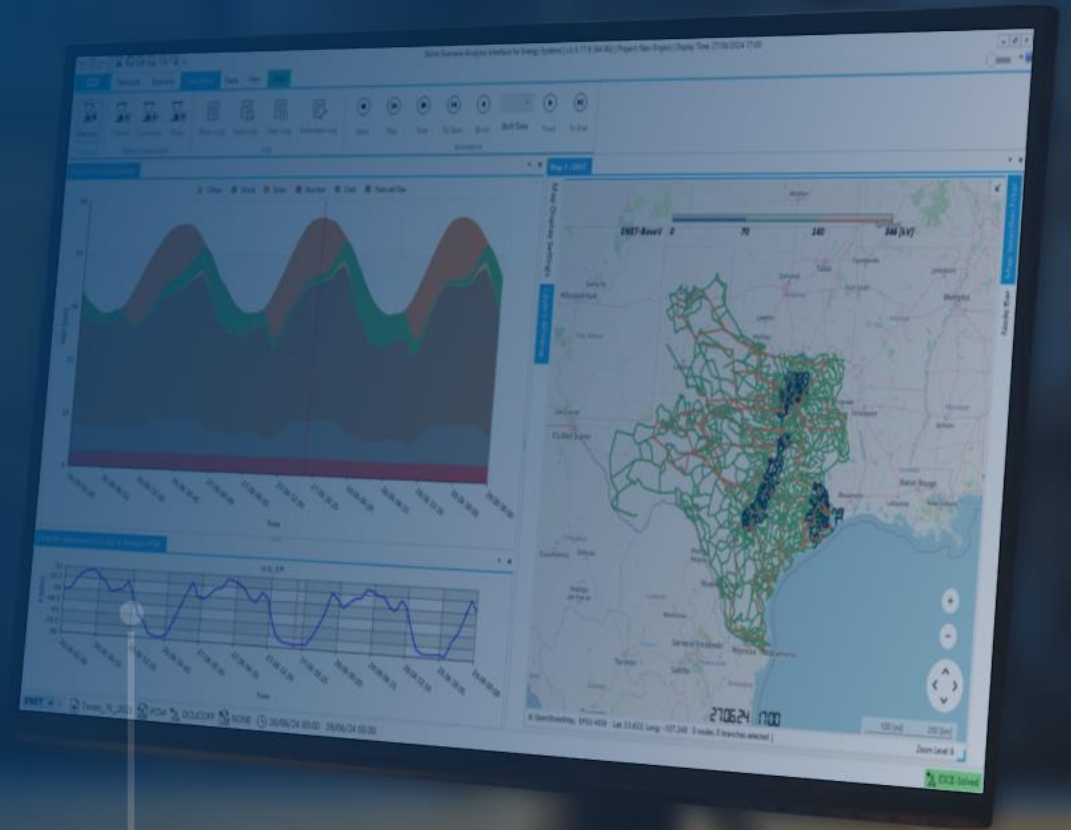


Flexible Interconnection Studies: An Integrated Planning Process

Wallace Kenyon

June 17th, 2026



The Traditional Interconnection Study

- Snapshot based / energy curtailment
- System upgrades--capital costs / utilization rates of new assets
- Build timelines extending 5+ years / interim constrained operation

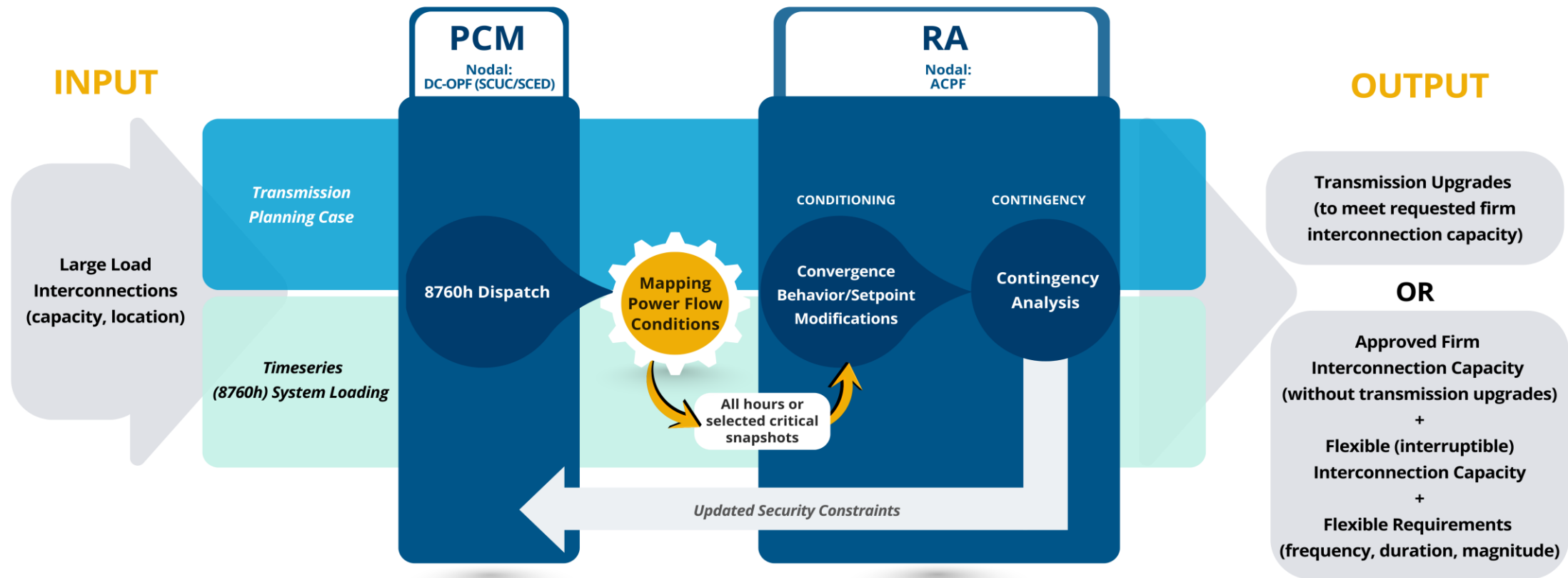


Flexible Interconnection Study

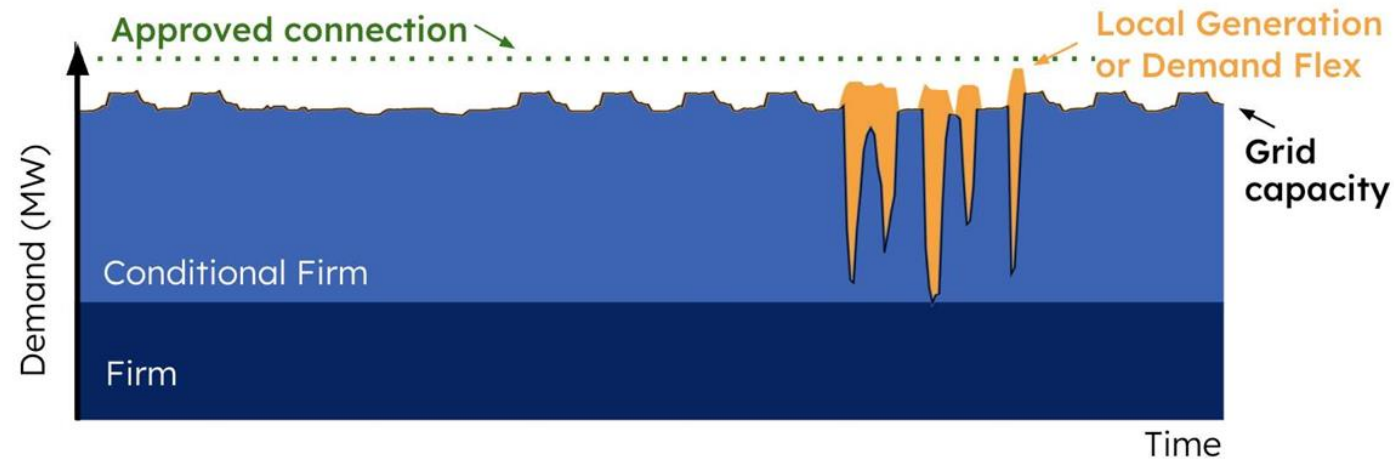
An Integrated Planning Workflow

- Modeling Process
- Consistent Network Representation
- Consistent Loading Conditions

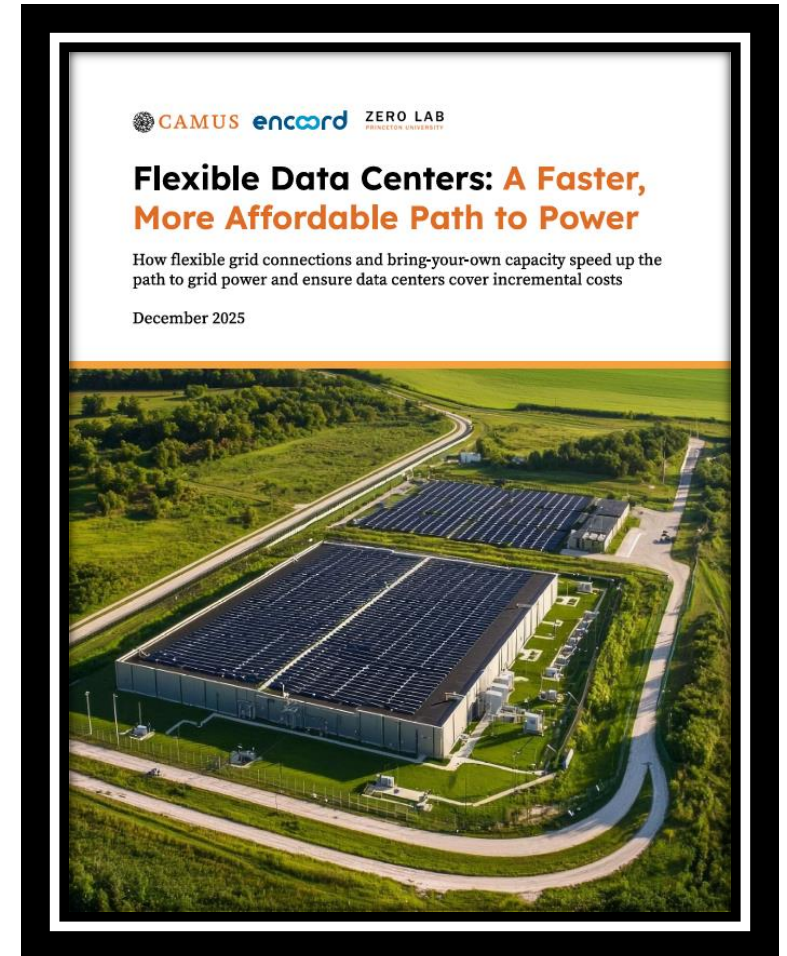
- PCM: Production Cost Modeling
- RA: Reliability Analysis
- ACPF: AC Power Flow
- DC-OPF: DC Optimal Power Flow
- SCUC/SCED: Security Constrained Unit Commitment and Economic Dispatch



In The News:

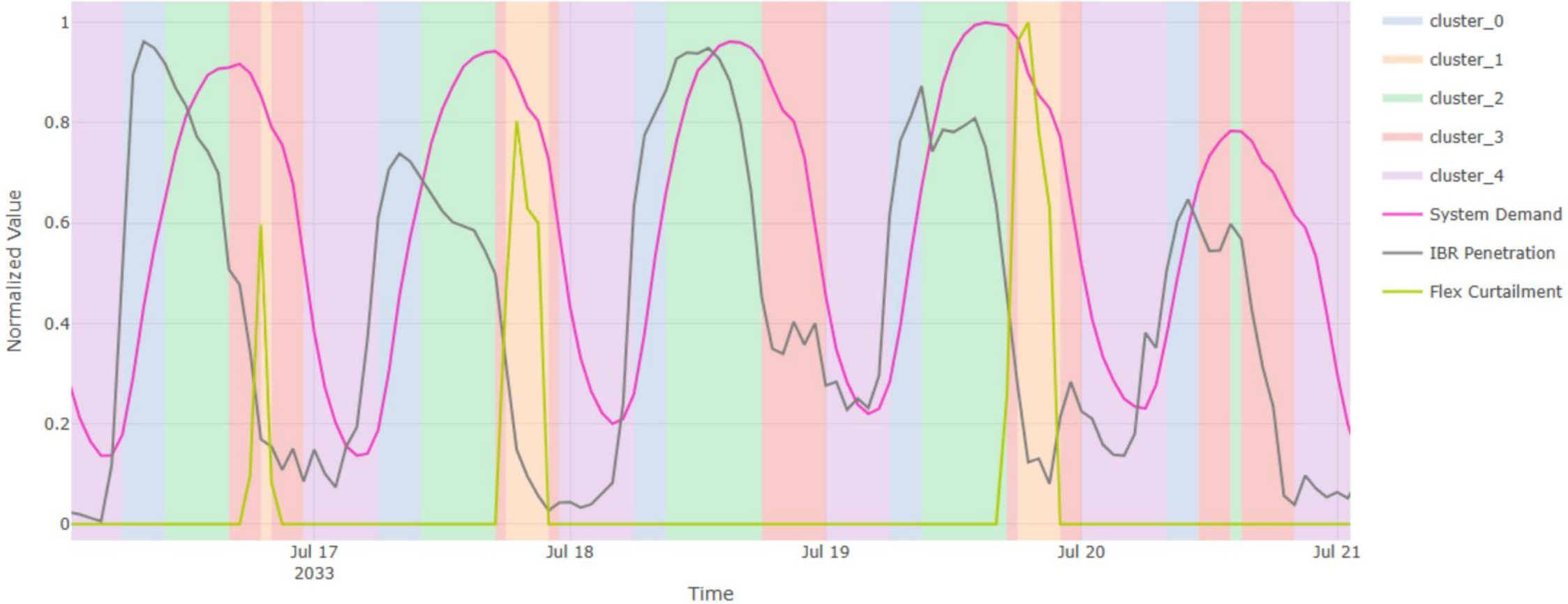


- 8,760-hour analysis
- Hosting capacity at different substations in PJM
- Flexibility unlocks additional interconnection capacity

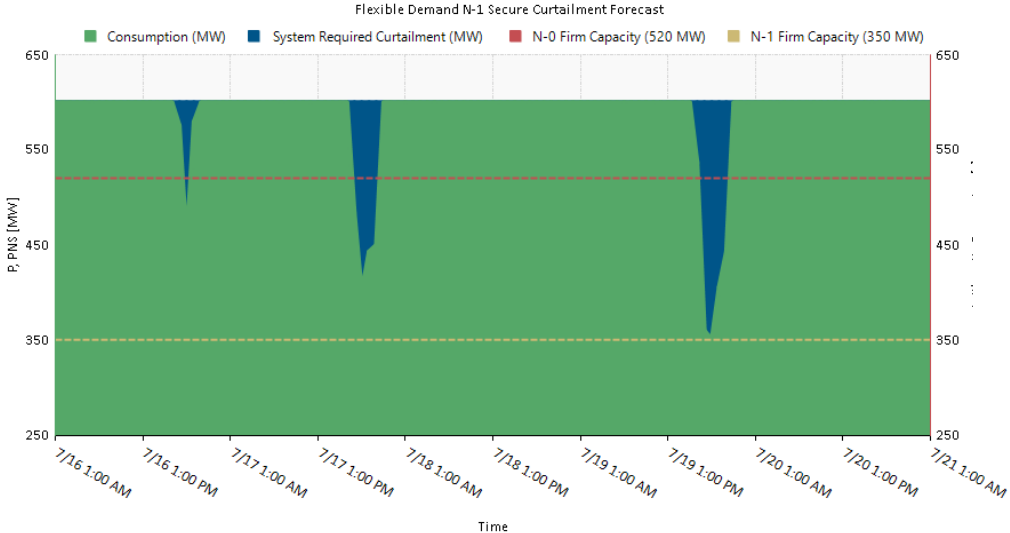
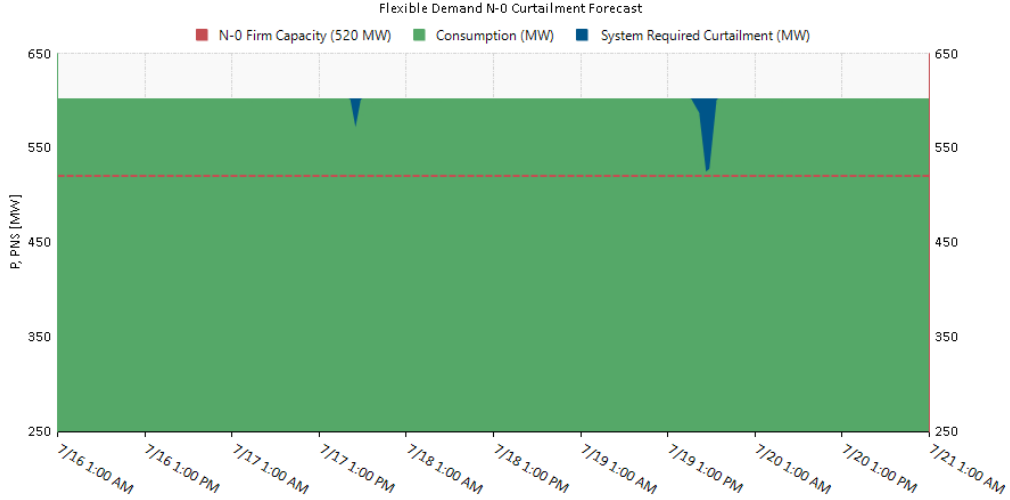


Funded by: 

Insights: Coincidence of Constraints



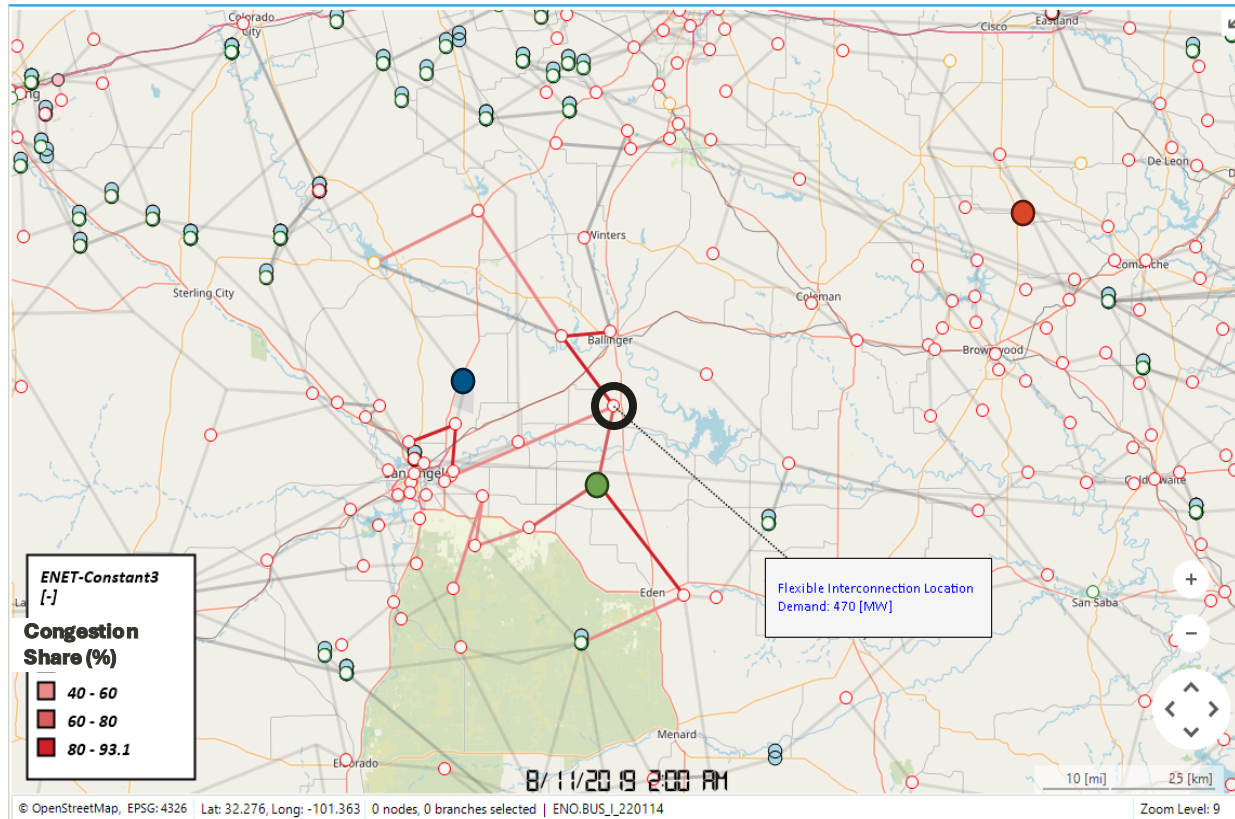
Insights: Impact of *New* Security Constraints



Case	Events	Total Curtailment (MWh)	Peak Curtailment (MW)	Firm Capacity (MW)
N - 0	2	207	80	520
N - 1	3	1720	250	350

- Security constraints due to large load itself

Congestion Causers: Distributed Solutions



- Mitigating congestion with BTM assets is straightforward.
- How can distributed assets help?
- What is an auditable framework for valuing distributed assets as transmission upgrade deferrals?

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