COVID19 Generator Availability Analysis

May 8, 2020

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• Develop ‘worst case’ generation loss scenarios based on potential COVID-19 impacts.

• Analyze the impacts under varying load conditions including spring and summer peak period.

• Identify any areas of major risk.
Coronavirus Infections in PJM
Scenario/Study Development

Identify areas with high concentration of infections & proximity to generation
- New Jersey
- I-95 Corridor
- Illinois

Identify list of generators most likely to be impacted by infections
- Common plant operators or maintenance crews
- Workforce needed to operate various plant types (Combined Cycle, Coal, Nuclear, etc)

Define Study Timeframe(s)
- Due to unknown duration of pandemic, studies performed at Spring and Summer peak loads.
- Results can be used to define outage thresholds where PJM should consider proactive actions such as limiting future outages
Three scenarios considered:
- #1 – NJ non-renewable generation
- #2 – I-95 corridor non-renewable generation
- #3 – Illinois non-renewable generation

Two load levels: Spring (118,000MW) and Summer (148,000MW)

Apply various combinations of identified generator outages ranging from 3,000 MW to 17,000 MW in 1,000 MW increments:
- Probability of a generator being selected was the same for all generators
- Total of 5,200 cases were analyzed.
• In general, we found that we could support outages up to 40% of the area’s installed capacity during summer time frame and up to 60% of ICAP in the spring time frame before major issues.
  – These numbers are about twice as many outages as typically occur during these time frames
• In the spring, thermal issues were more prevalent
• In the summer, voltage collapse issues were more prevalent
• Currently PJM is not seeing a trend towards these worst case scenarios