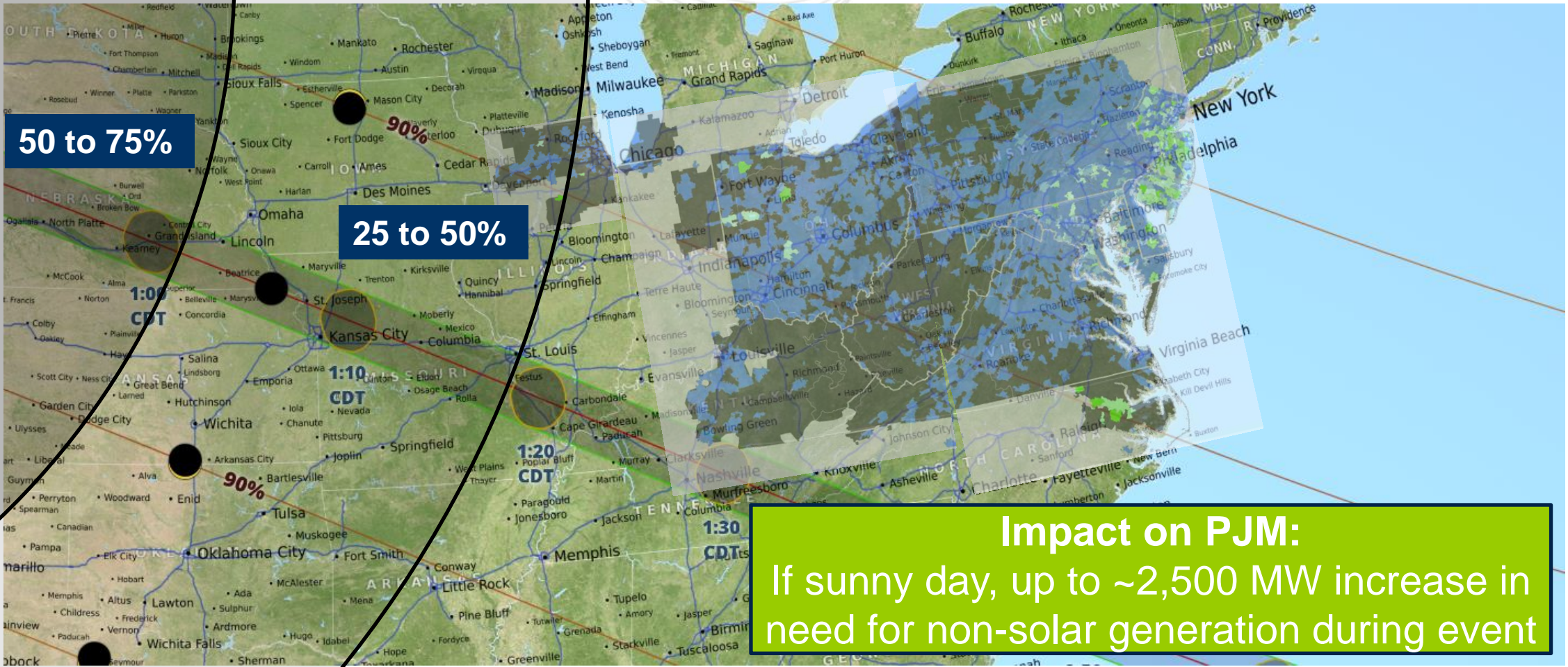


Solar Output During August 21, 2017 Total Solar Eclipse



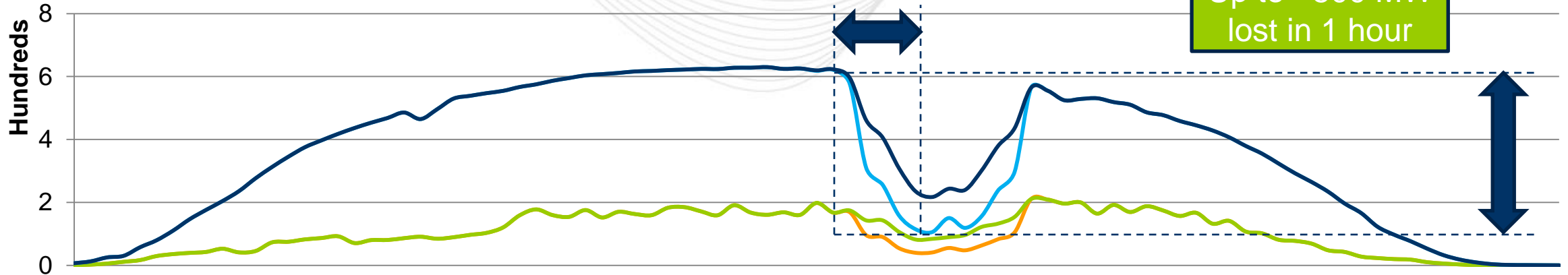


13:30 13:40 13:50 14:00 14:10 14:20 14:30
 14:40 14:50 15:00 15:10 15:20 15:30 15:40

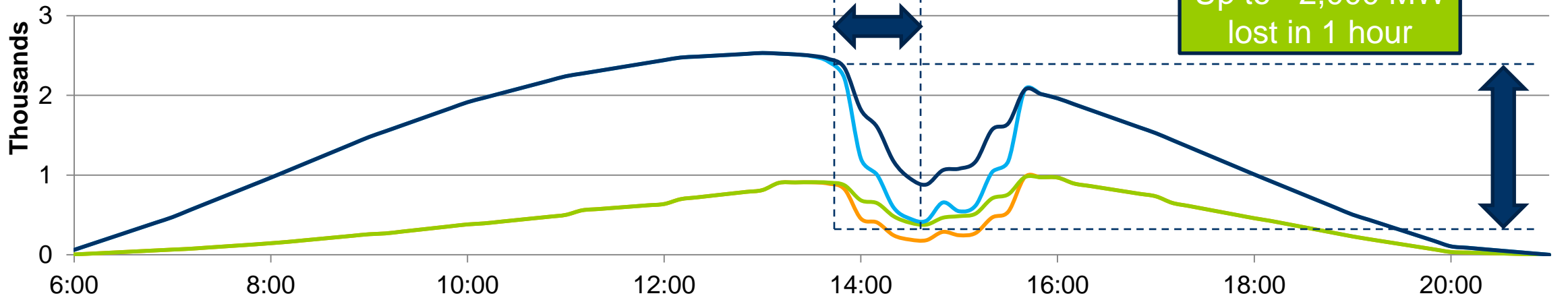


Estimated Solar Output on August 21, 2017

Grid-Connected Solar Output



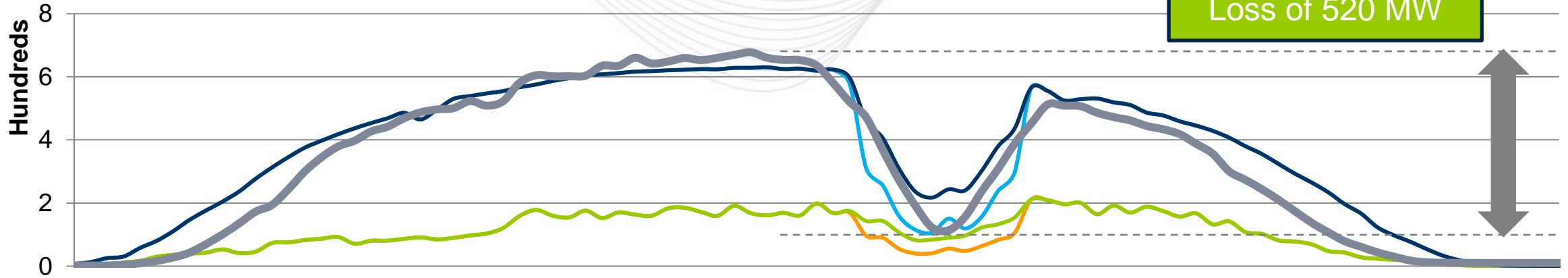
Behind-the-Meter Solar Output



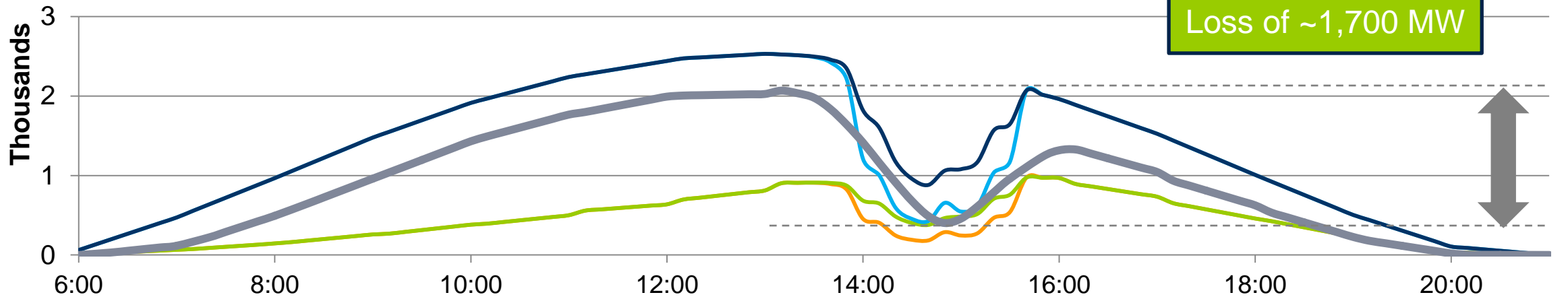
— Overcast - More Conservative
 — Overcast - Less Conservative
 — Sunny - More Conservative
 — Sunny - Less Conservative

Estimated and Actual Solar Output on August 21, 2017

Grid-Connected Solar Output

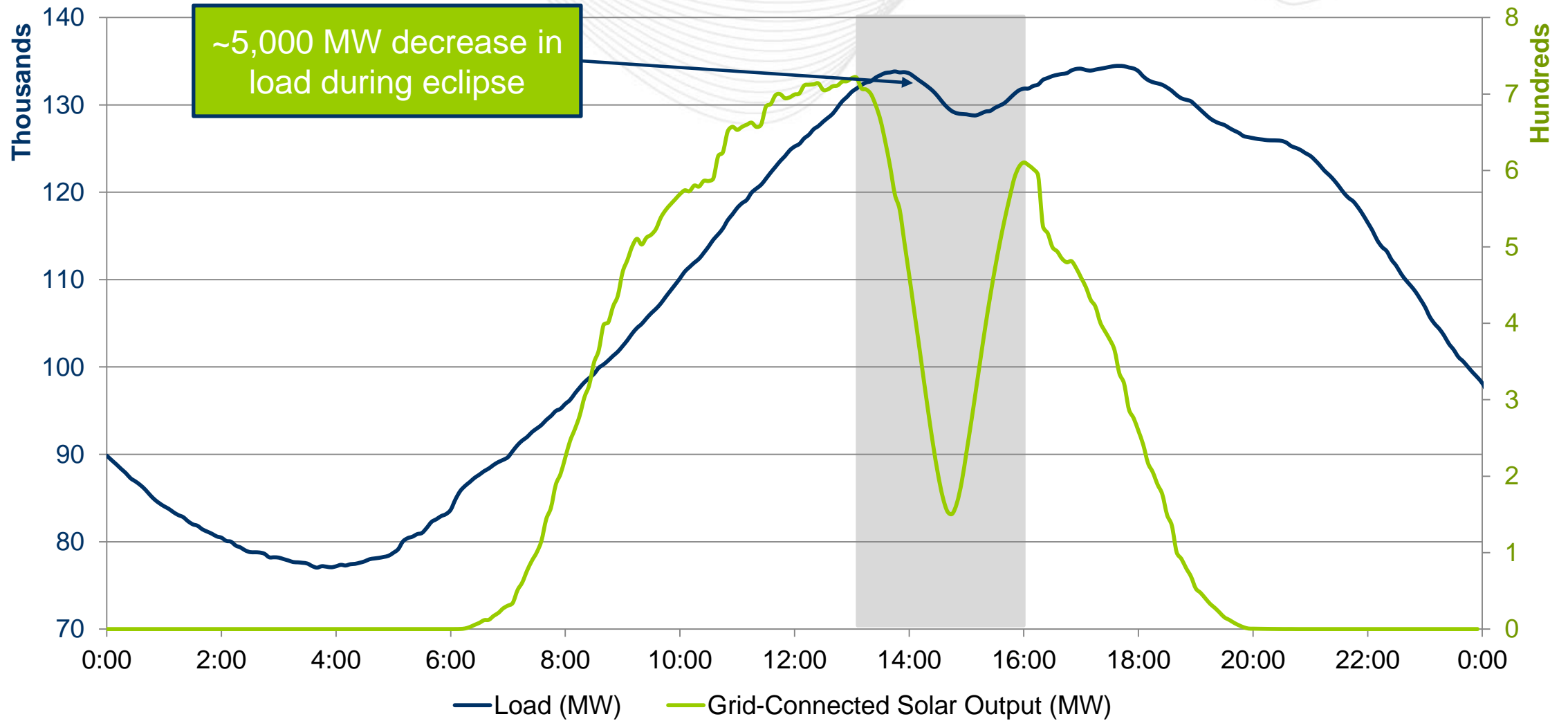


Behind-the-Meter Solar Output

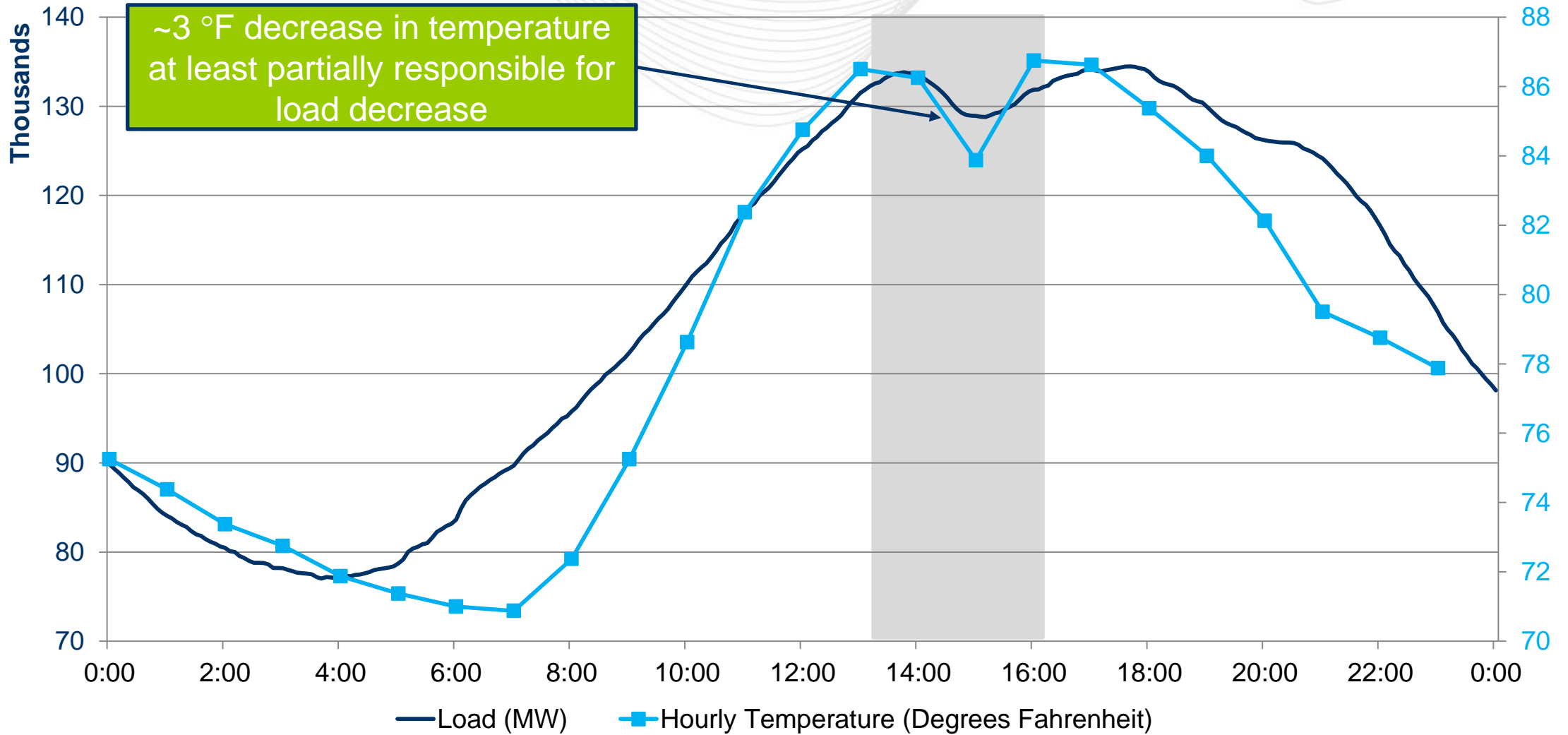


— Low - More Conservative
 — Low - Less Conservative
 — High - More Conservative
 — High - Less Conservative
 — Estimated Actual

RTO Load and Solar Output on August 21, 2017



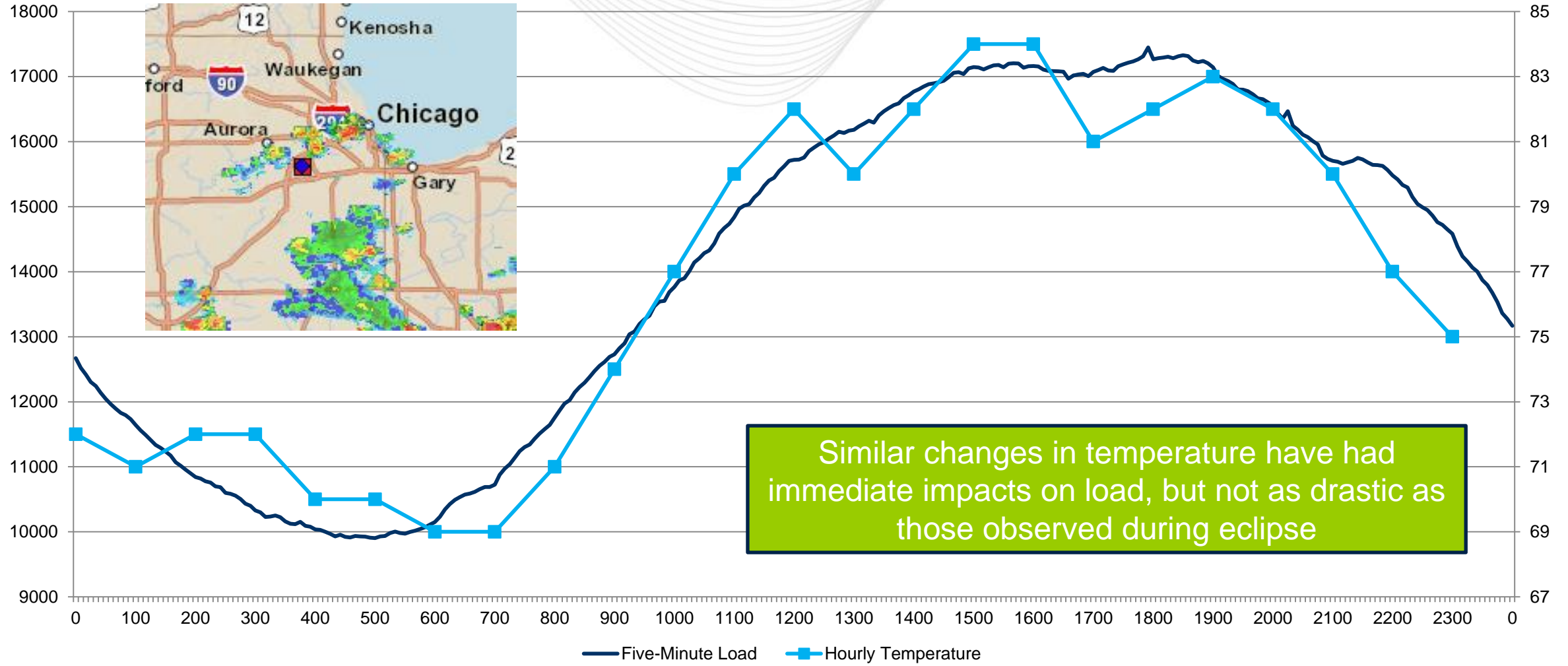
RTO Load and Temperature on August 21, 2017



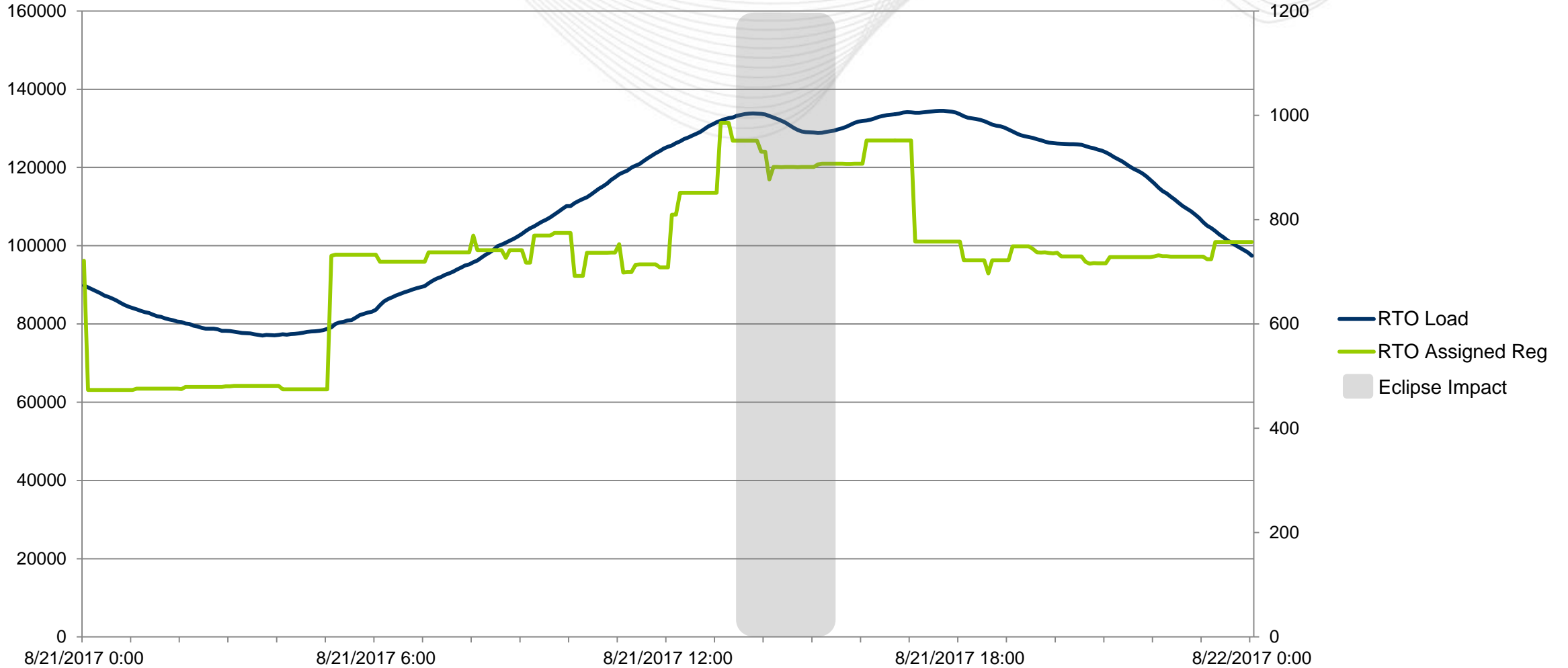
Factor that Impacted Load	Direction of Impact	Expected Amount of Impact
Reduced behind-the-meter solar	+	~1,700 MW
Increased lighting load	+	Low
Human behavior	—	Inconclusive – not quantifiable
Decreased temperature	—	Inconclusive – forecast models not trained on intra-hour values

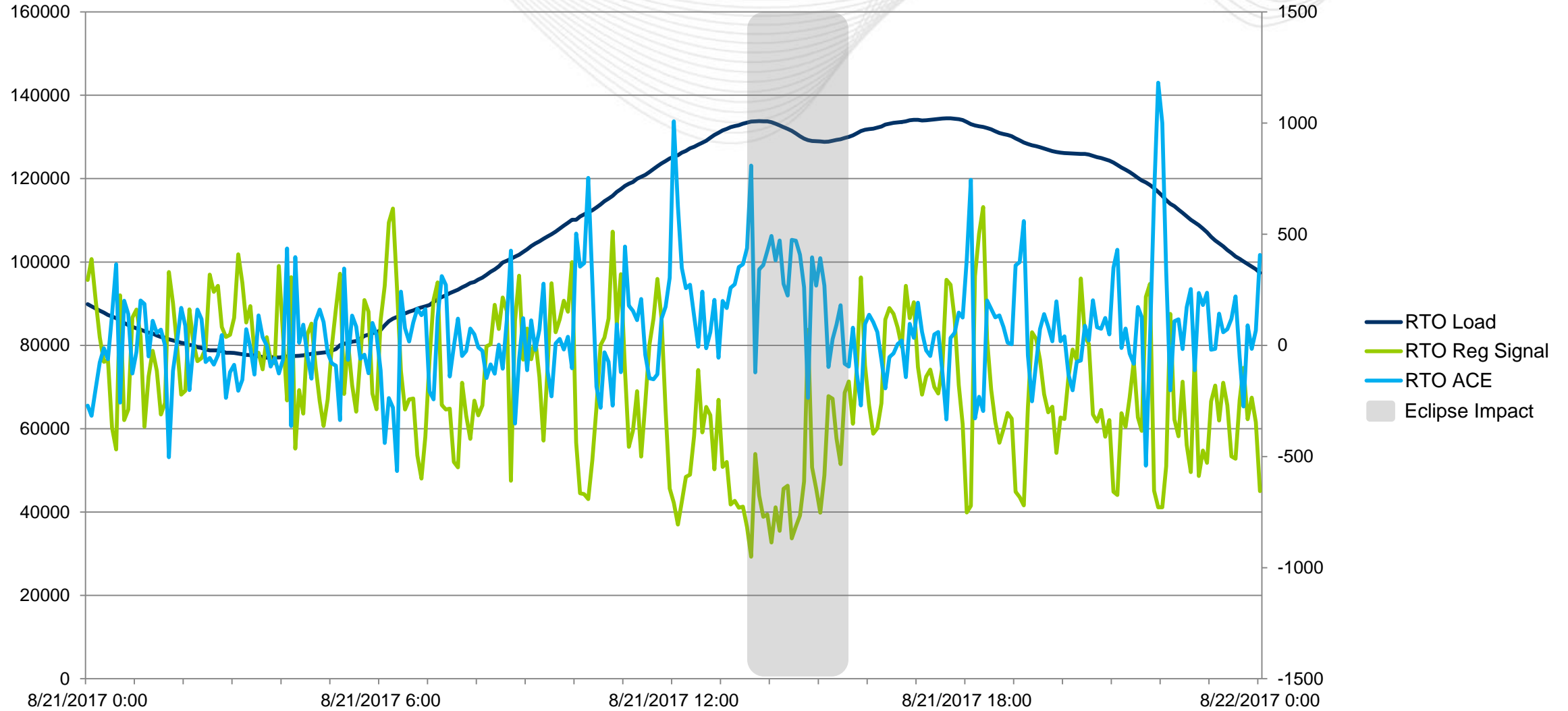
Example of Load Impacted by Temperature Reduction

ComEd Load vs. Temperature During August 1 Thunderstorms



Increased Assigned Regulation





- Projections of solar output during eclipse were largely accurate
- Load decreased by twice amount that solar output decreased
 - May be different in 2024 with additional installed solar
 - Human behavior is important factor that is not well understood
 - Behind-the-meter assumptions will be difficult to verify
- Current load forecast models are not trained to reflect significant intra-hour temperature changes
- Additional coordination needed for accurate weather forecasts