



Review of April 8, 2024 Total Solar Eclipse Impacts to PJM Footprint

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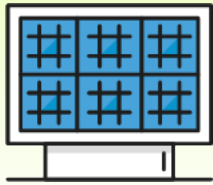
Market Implementation Committee

May 1, 2024

Total solar eclipse across South-Central and Eastern United States Monday, April 8, 2024



Generation

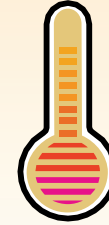


Metered solar
(grid-connected)



Non-metered solar
(behind-the-meter)

Load



Temperature



Consumer behavior



Day Ahead:

4,800 MW

4,200 MW

< 500 MW

< 500 MW

Actual:

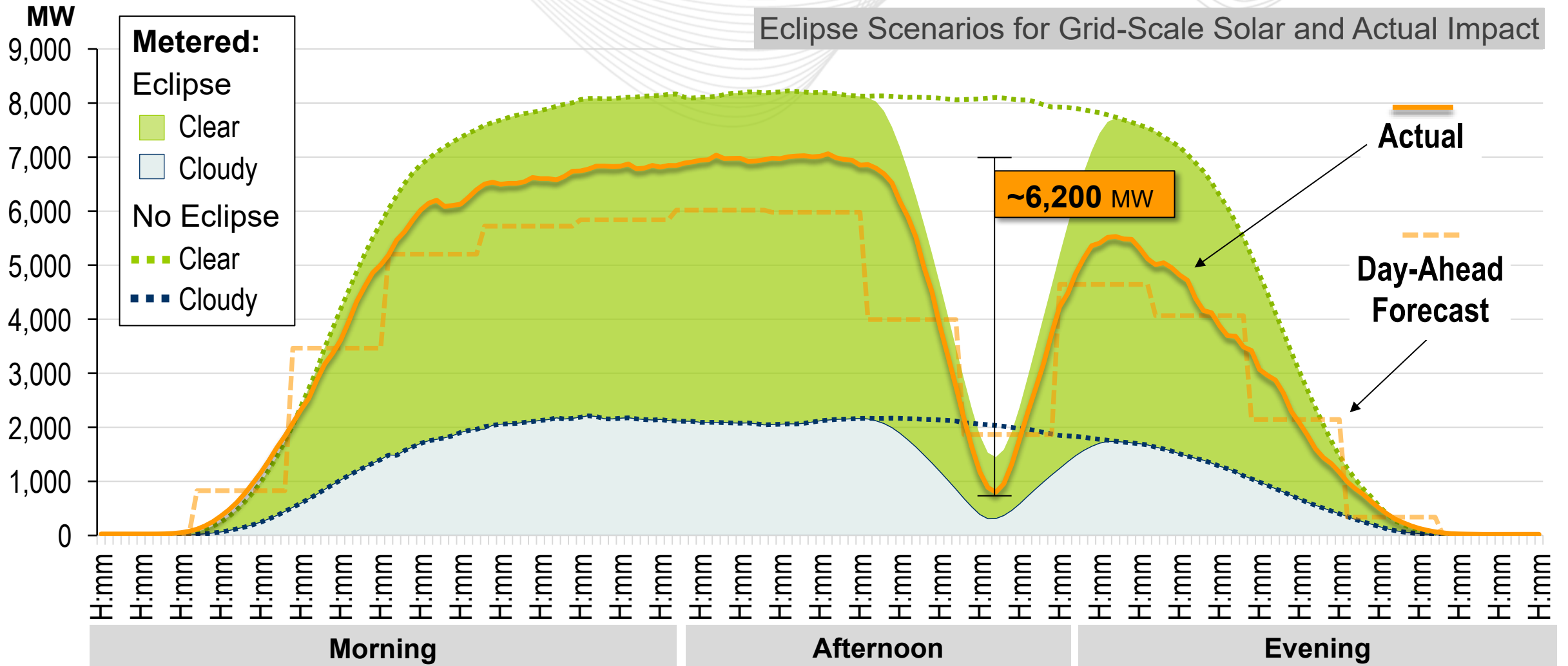
6,200 MW

4,900 MW

< 500 MW

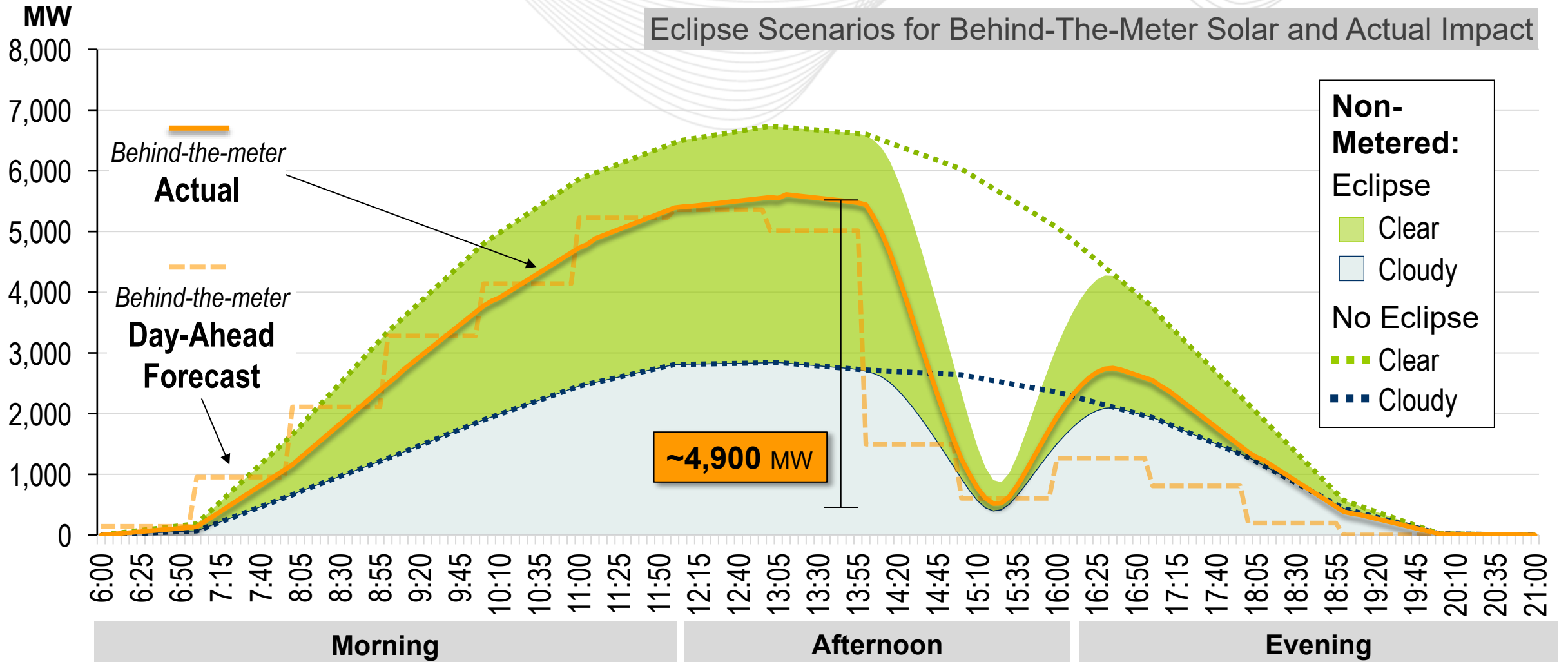
< 500 MW

Eclipse Scenarios for Grid-Scale Solar and Actual Impact

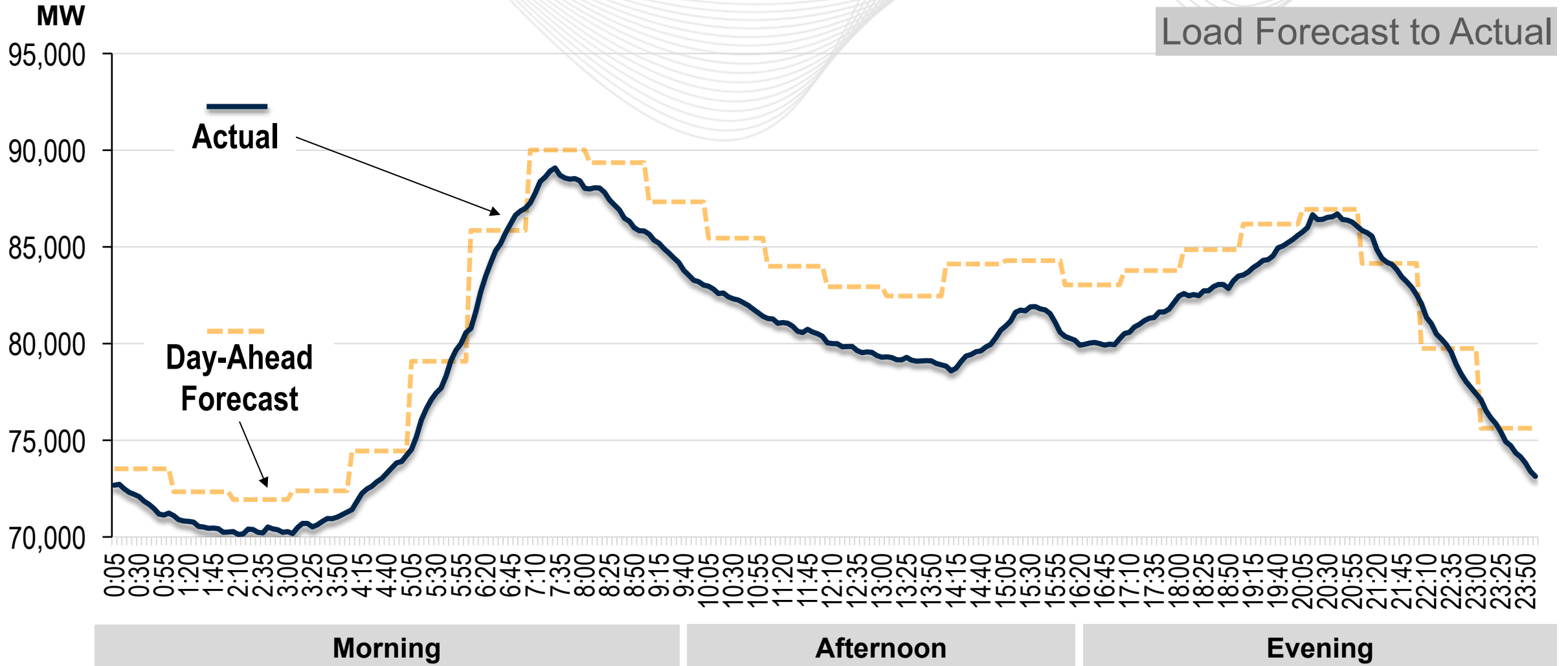


The preceding is an excerpt of a more complete Work Product. Source: data and analysis provided by UL Services Group LLC

Eclipse Scenarios for Behind-The-Meter Solar and Actual Impact



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- Eclipse hours
 - Day-ahead load forecast captured the behavior/load shape expected during time of eclipse
 - Increase in load resulting from behind-the-meter loss
 - Decrease in load (in some regions) due to cooling temperatures
- Entire day
 - More sunshine in zones with higher behind-the-meter penetration, led to steeper drop in load than anticipated in day-ahead forecast
 - Apparent impacts from widespread closures (schools, work); most pronounced in western regions

- ACE control and Hz was maintained very well through event
- On peak regulation requirement was doubled to 1600 MWs
 - Extended regulation by one hour to 1200 MWs
- Ran more CTs than anticipated due to additional drop out in solar and wind
 - A steam unit that was called on for anticipated congested FTS which increased congestion as solar generation decreased

Presenter/SME:

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