New York ISO
Independent System Operator

Estimated Impacts of COVID-19 on NYISO Load

Analysis through 9/5/2020

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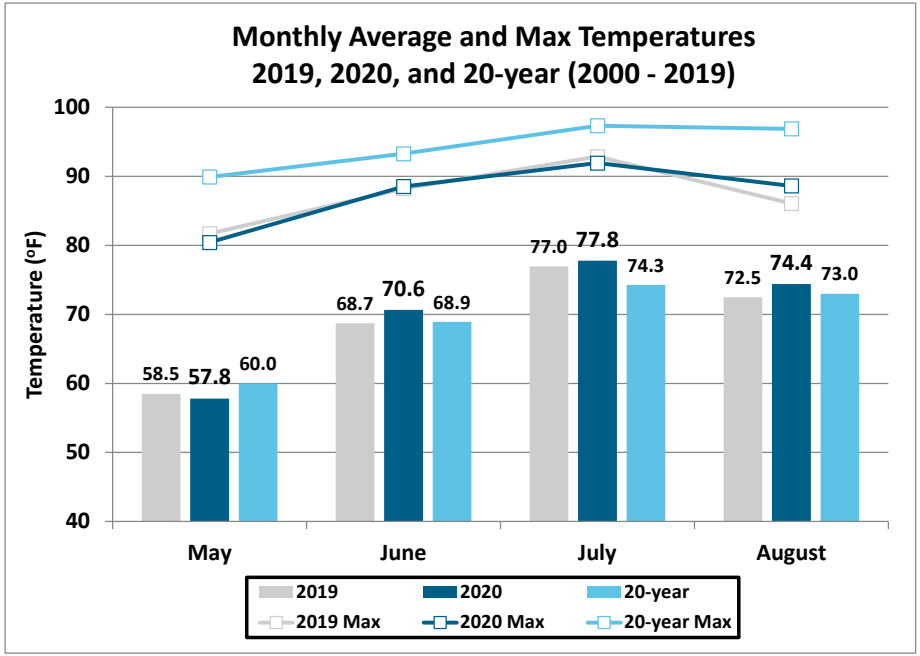
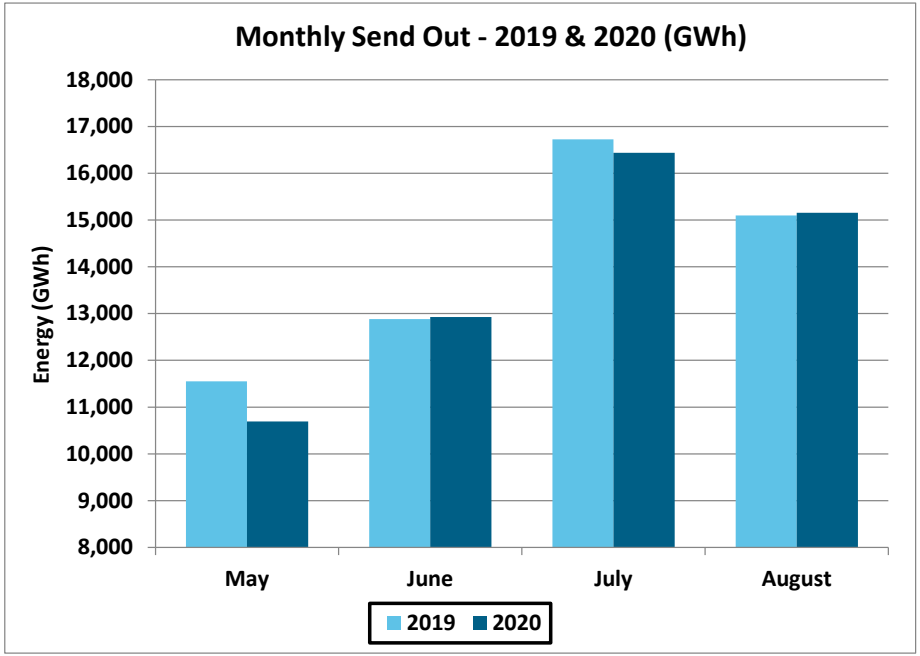
System & Resource Planning

Load Forecasting Task Force Meeting

September 16, 2020; Teleconference

Summer 2020 Weather and Energy





- January – April Weather Impact: -1,150 GWh
- May – August Weather Impact: +1,500 GWh
- January – August COVID-19 Impact: -3,400 to -4,100 GWh

Model Explanation - Recent Impacts on Daily Energy by Week

Actual Difference

- Equals: Actual Load – Expected Load
- Expected Load is the 2020 pre-COVID baseline annual load forecast, shared out on a daily basis using the 10-year history of daily weather-normalized energy
- This difference reflects the total change in load relative to expected levels, including weather, economic, virus, and any other impacts

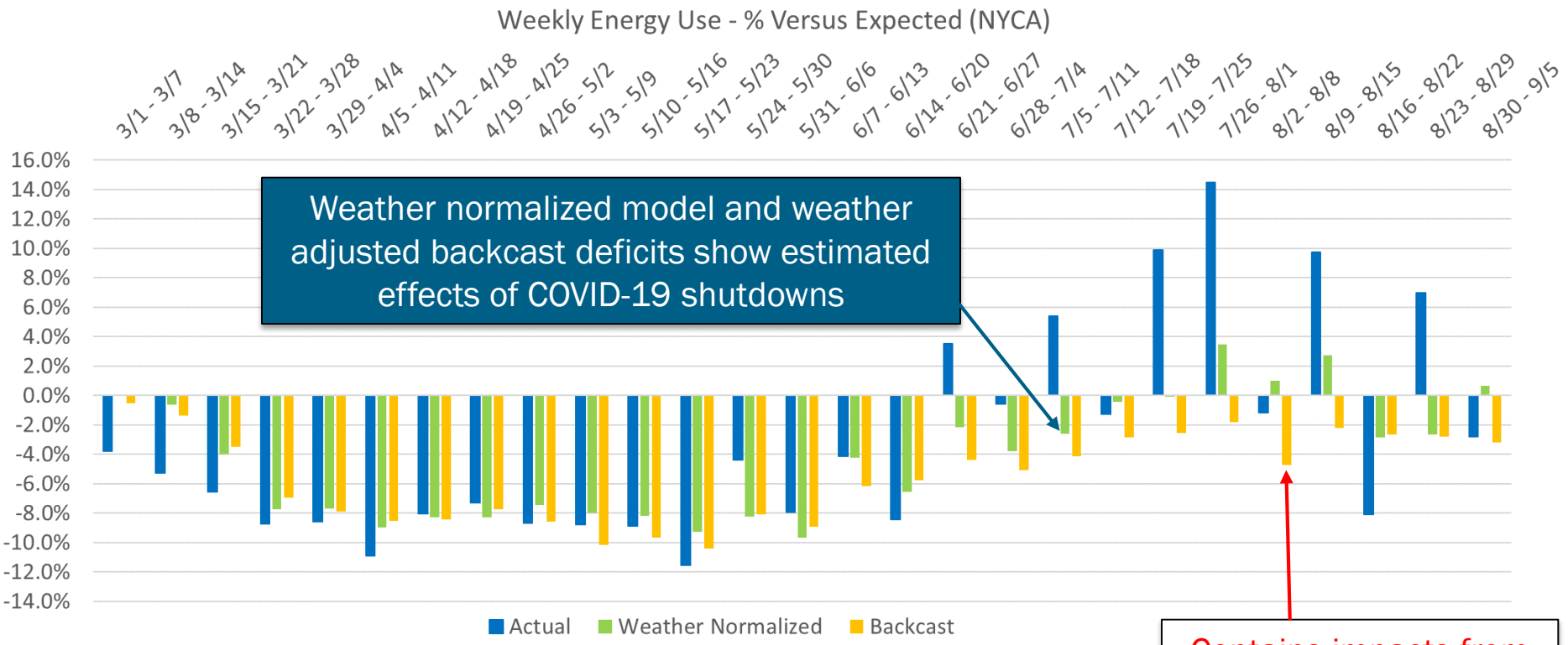
Weather Normalized Difference

- Equals: Weather Normalized Load – Expected Load
- Weather Normalized Load is calculated via Zonal models regressing daily energy against daily weather variables and binaries. These models estimate what the load would have been on a given date under normal weather conditions
- These models are fit through the most recent 12 months of data, and have recent weather response signals.
- Expected Load is equivalent to that defined in the Actual Difference calculation
- This difference reflects non-weather driven changes in load levels, including economic, virus, and other impacts. The comparison is weather neutral as normal weather is used on both sides of the comparison

Weather Adjusted Backcast Difference

- Equals: Actual Load - Backcast Load
- Backcast Load is the load generated by the Zonal hourly day-ahead models using actual weather, where the model estimation period ends in February. Thus, these backcasts estimate what the load would have been on a given day under pre-COVID conditions
- These models were fit through February, so they do not contain the most recent weather response signals
- This difference reflects non-weather driven changes in load levels, including economic, virus, and other impacts. The comparison is weather neutral as actual weather is used on both sides of the comparison

Recent Impacts on Daily Energy by Week

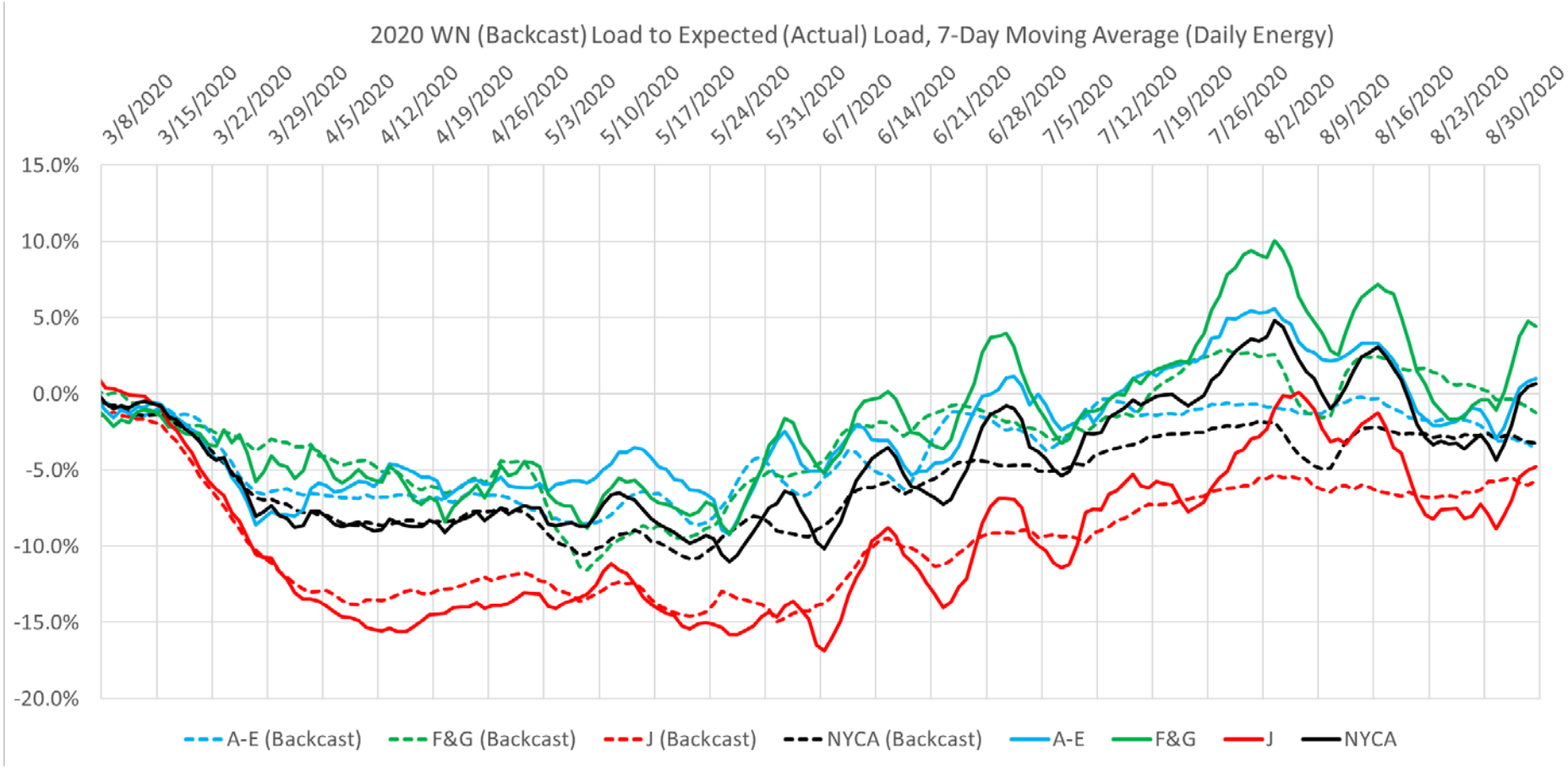


Weather normalized model and weather adjusted backcast deficits show estimated effects of COVID-19 shutdowns

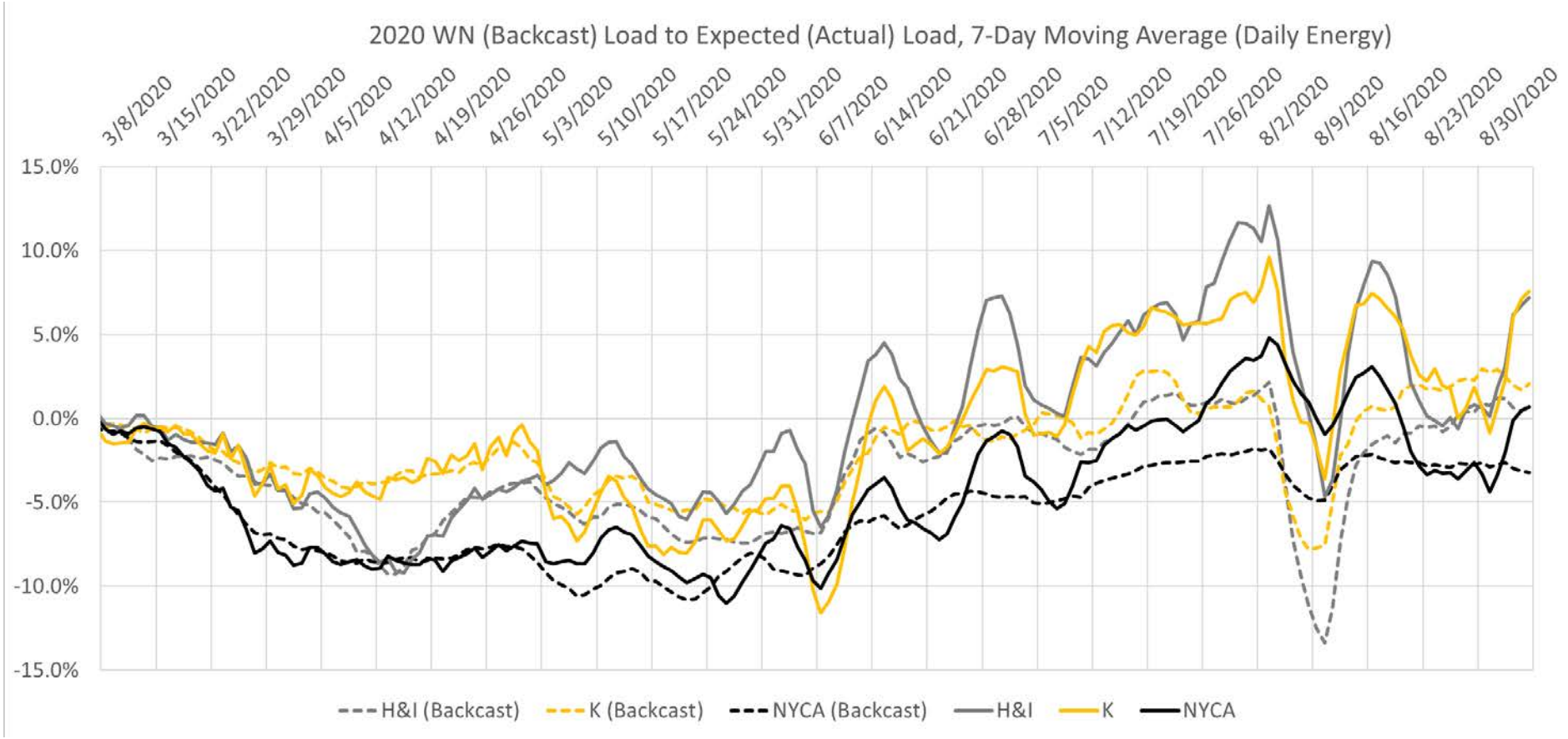
Contains impacts from Tropical Storm Isaias

Includes Weekend Days

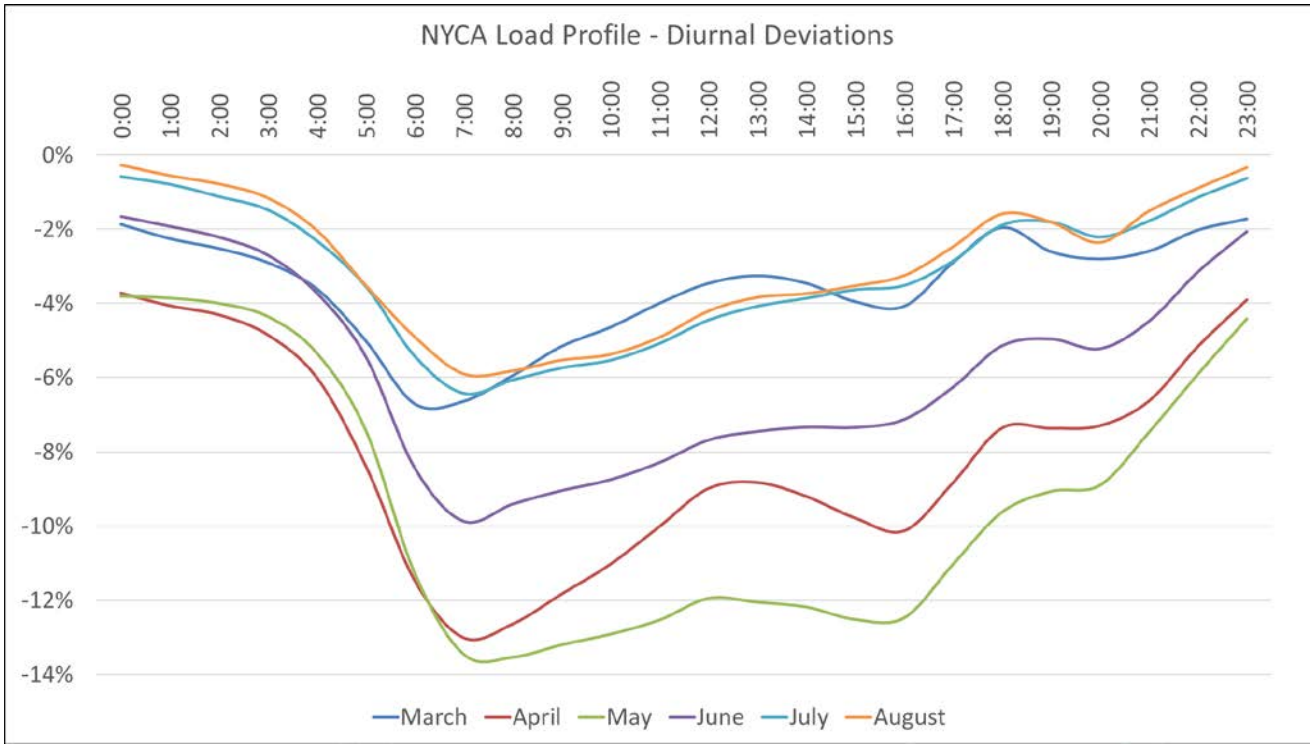
Regional Impacts on Daily Energy Patterns



Regional Impacts on Daily Energy Patterns



Recent Impacts on Hourly Load Patterns



Estimated peak deficits by month:

- March: -2% to -4%
- April: -7% to -9%
- May: -8% to -10%
- June: -5% to -7%
- July: -2% to -5%
- August: -2% to -3%

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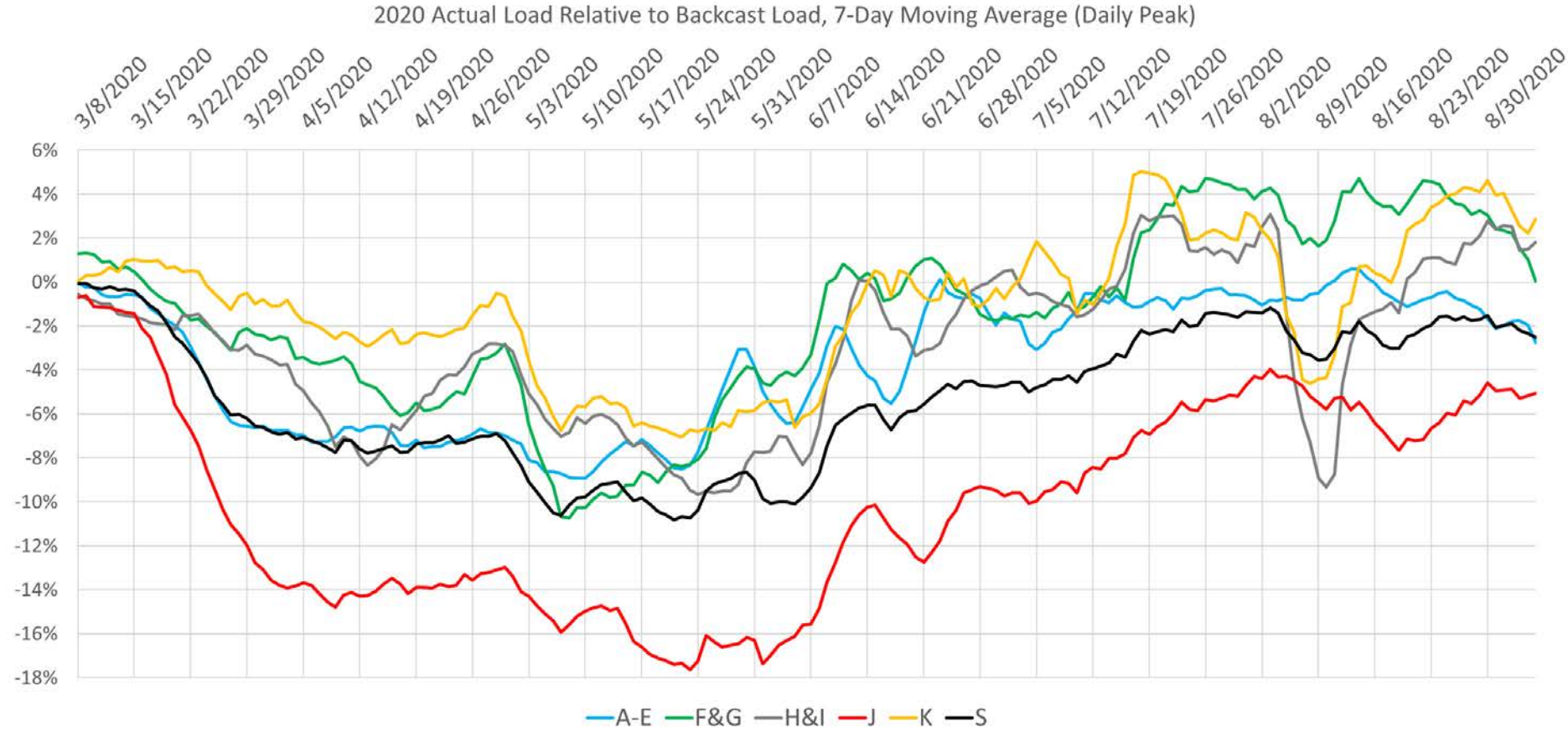
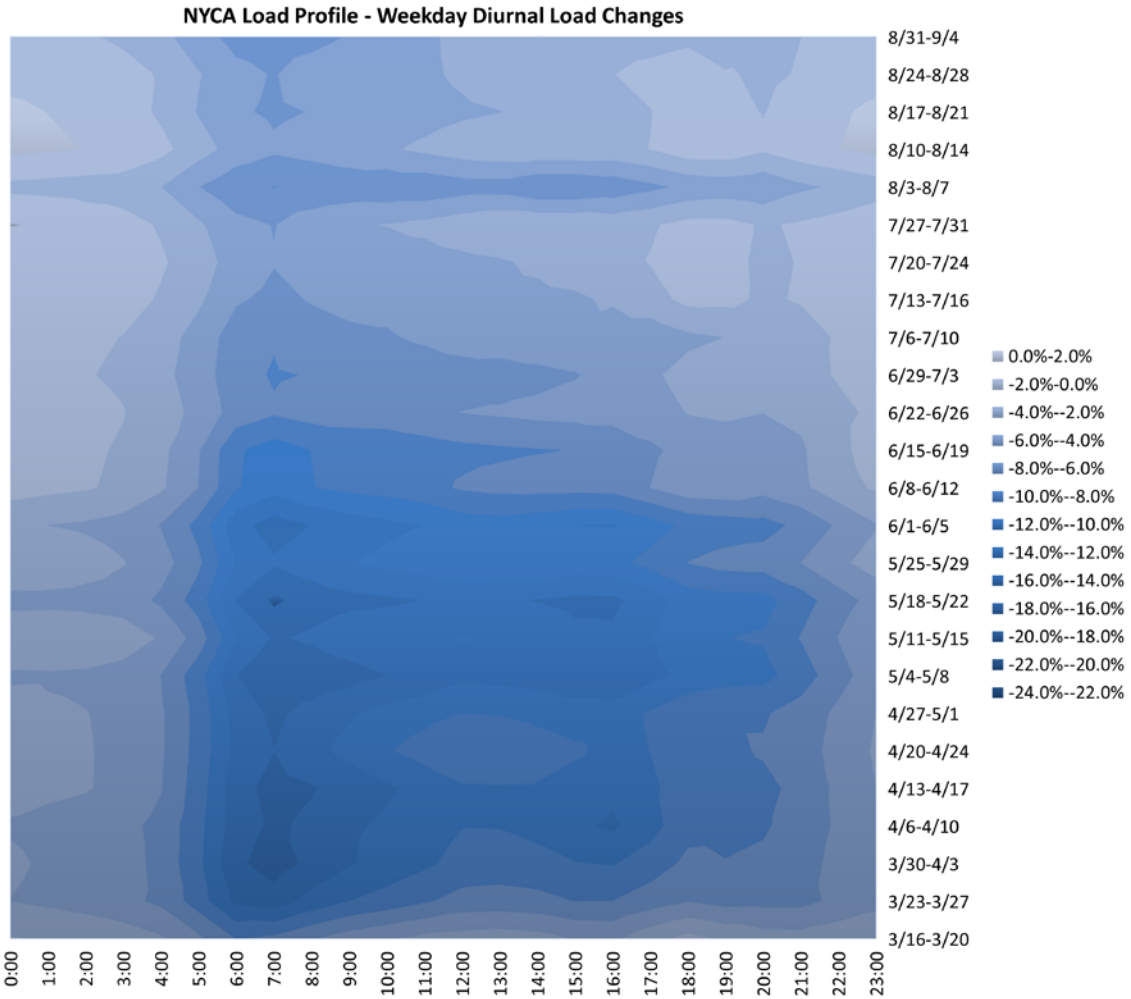
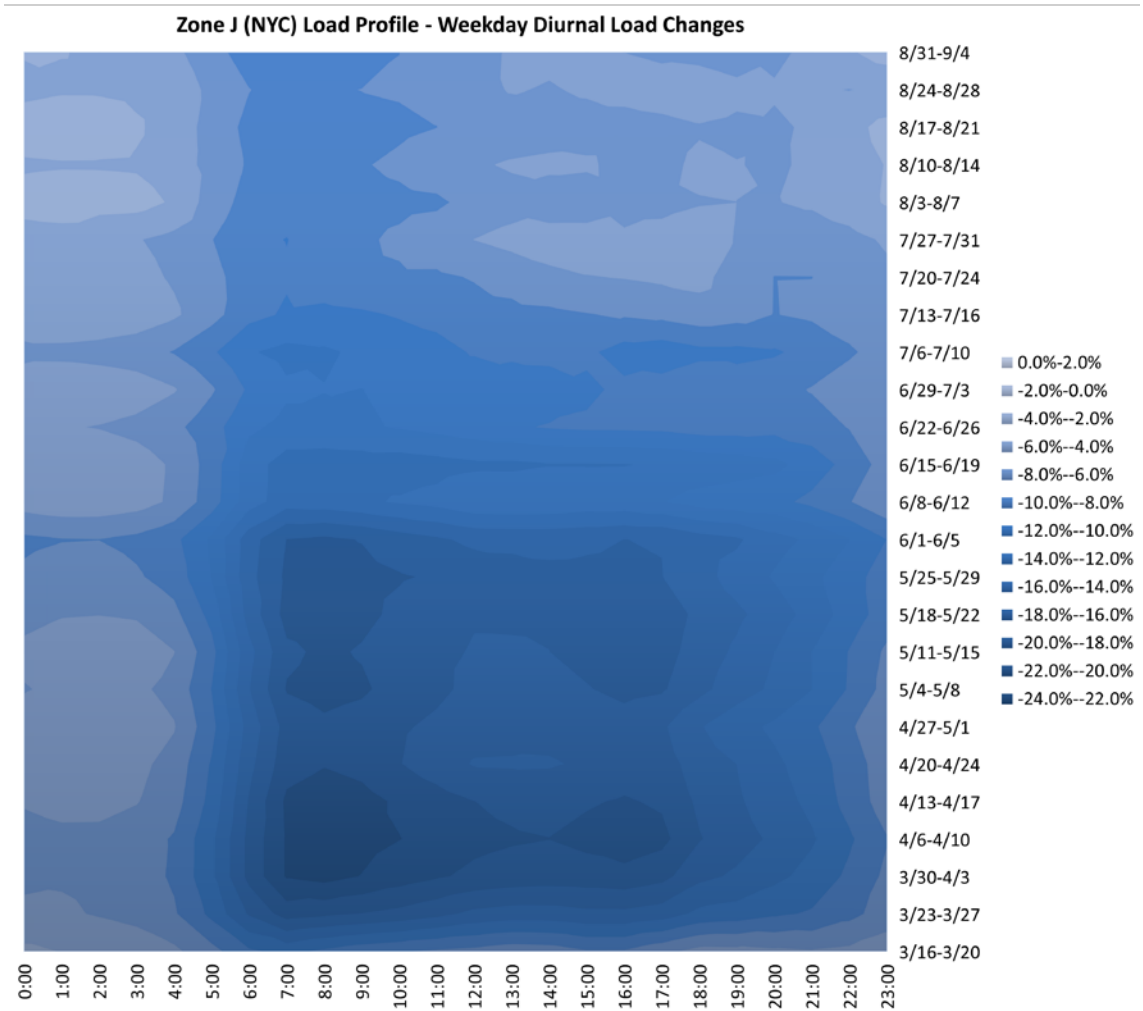
Regional Impacts on Peak Demand



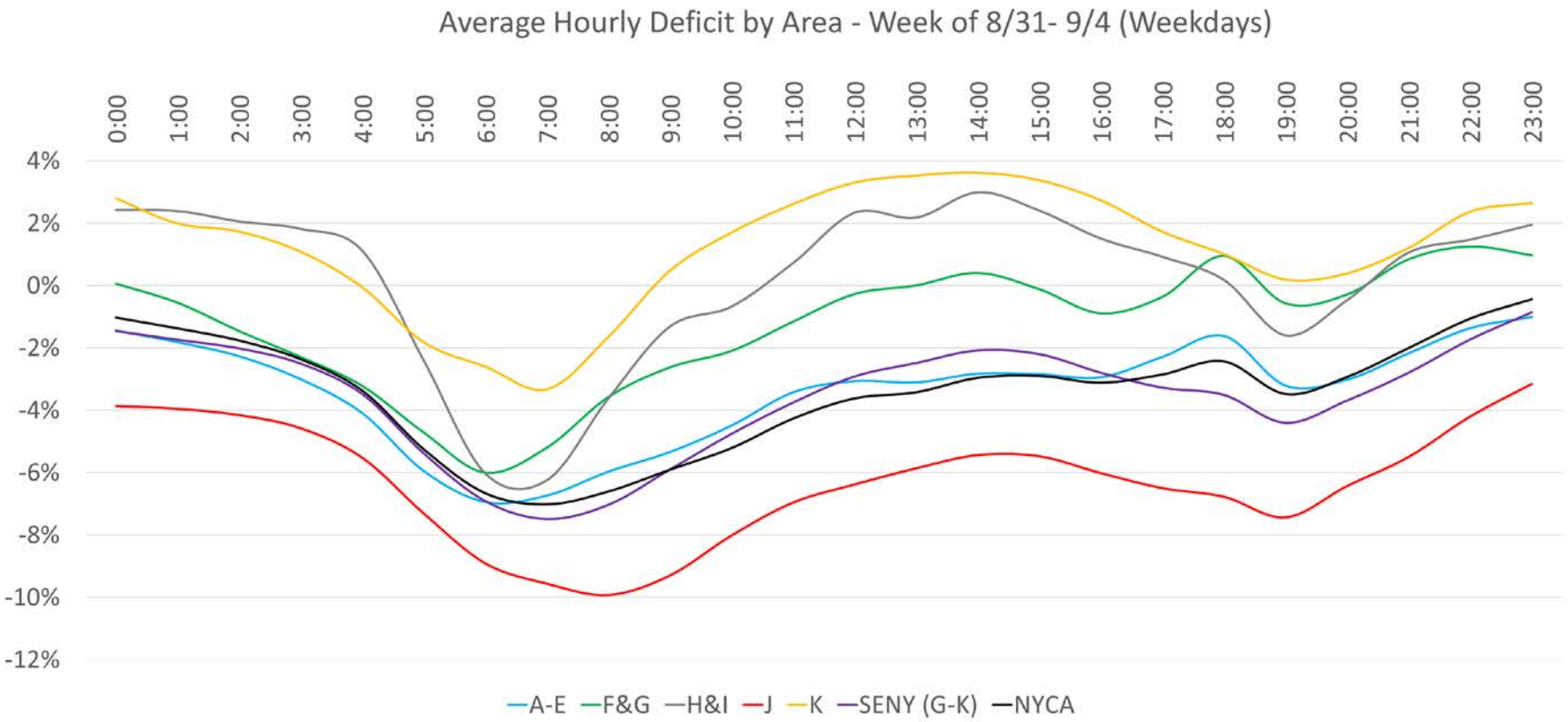
Impacts on Hourly Load Patterns



Impacts on Hourly Load Patterns



Impacts on Hourly Load Patterns (Area)



Questions?

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- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policymakers, stakeholders and investors in the power system

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