

# Estimated Impacts of COVID-19 on NYISO Load

Analysis through 7/11/2020

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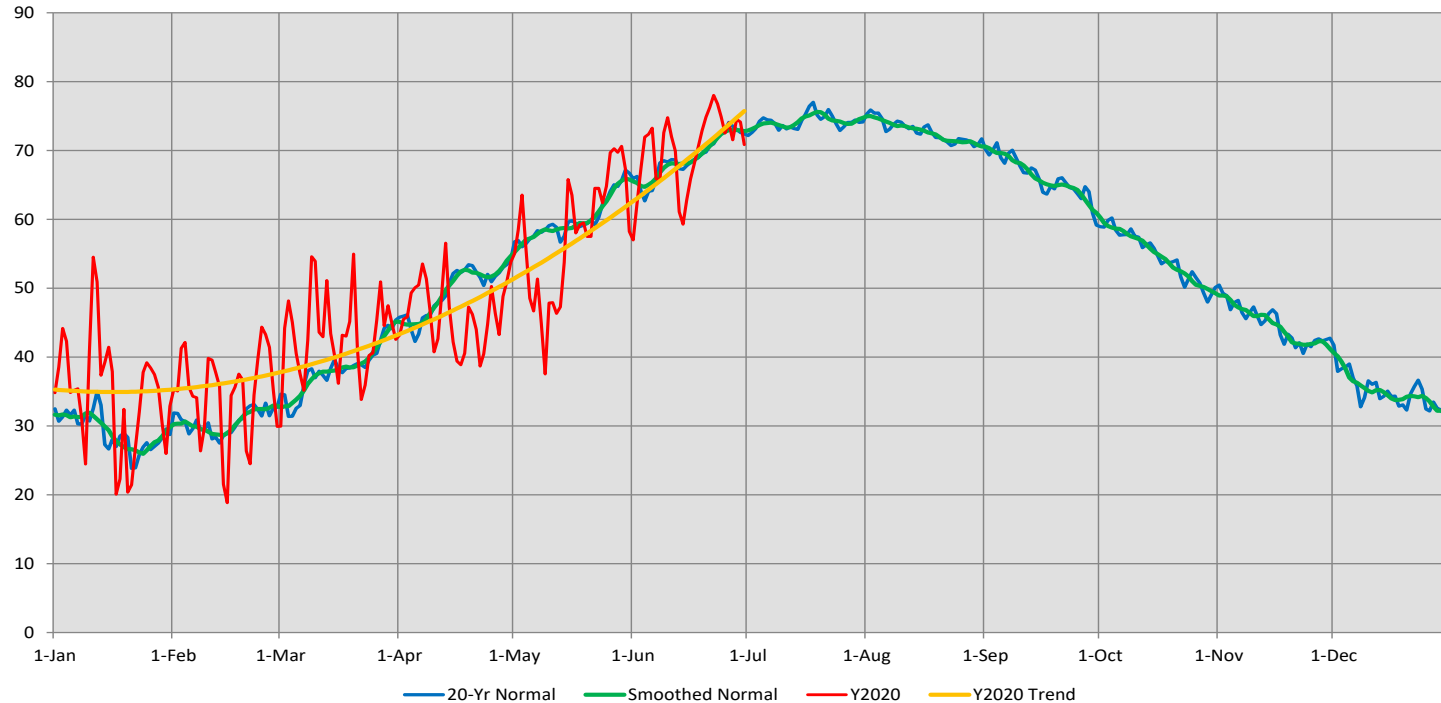
Chuck Alonge

Demand Forecasting & Analysis

Business Issues Committee Meeting

July 15, 2020, Teleconference

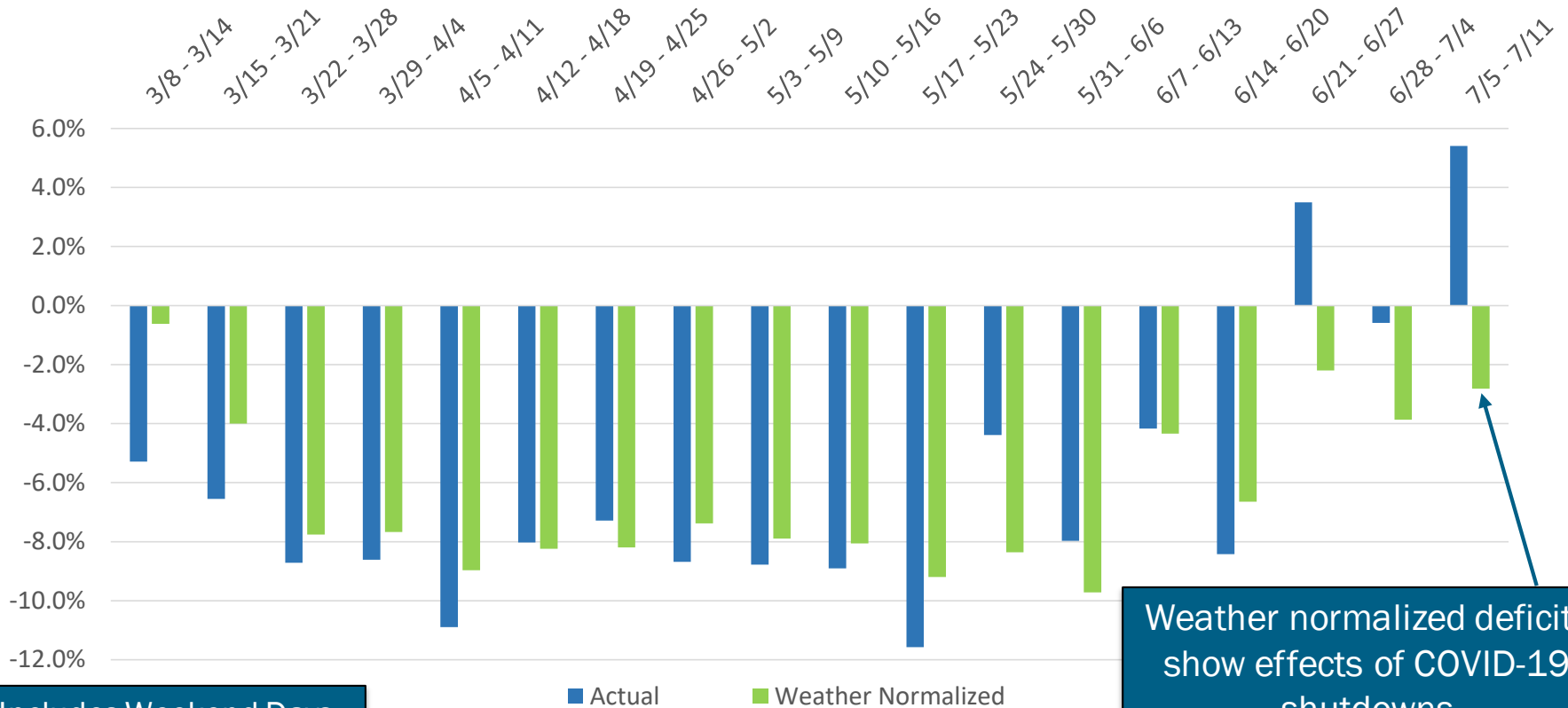
# NYCA Composite Daily Average Temperature, 2020 and Normal



- Warmer than average Q1 was followed by colder than average April/May
- Warmer than average June translated into a reduction in load deficits
- Weather impacts on energy estimated at -900 GWh, COVID-19 Impacts: -3000 GWh

# Recent Impacts on Daily Energy by Week

Weekly Energy Use - % Versus Expected (NYCA)

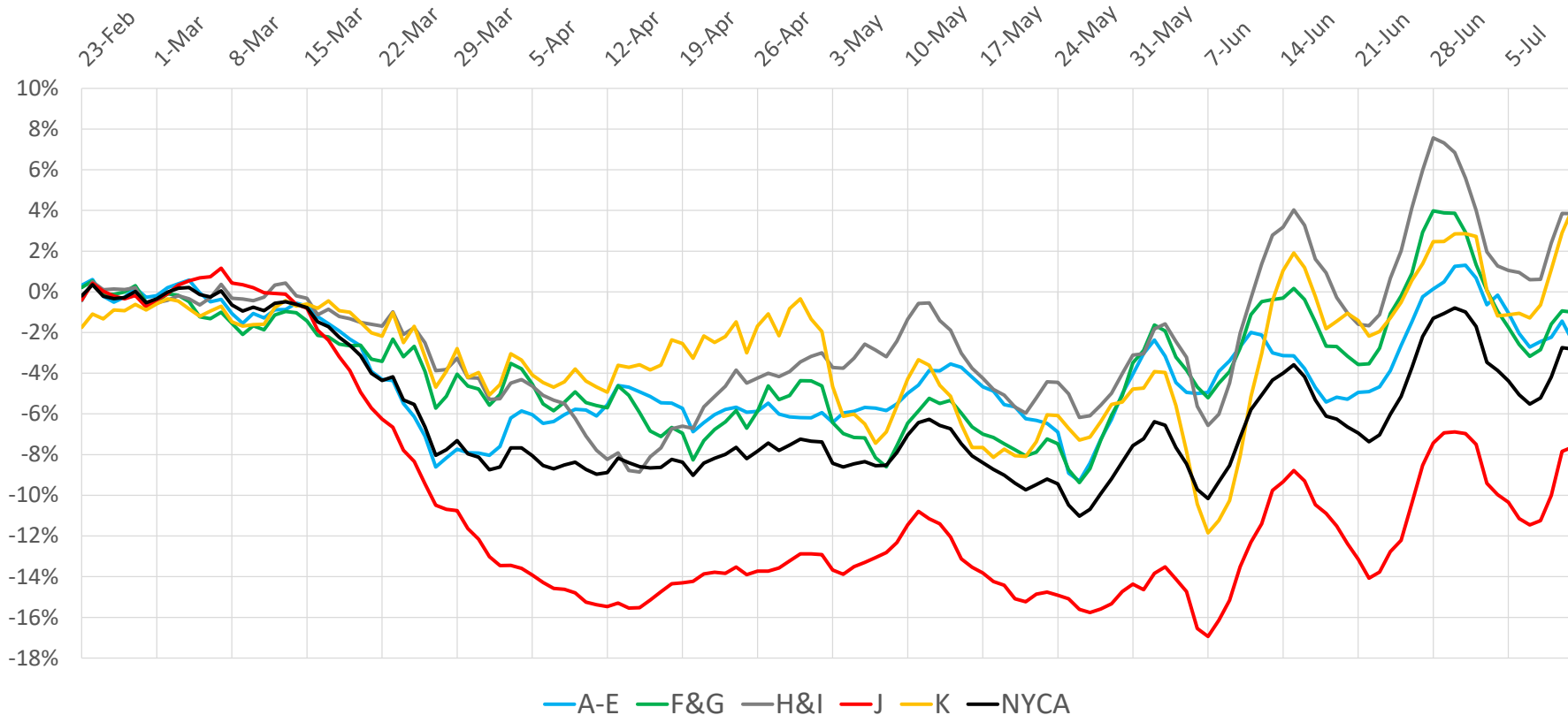


Includes Weekend Days

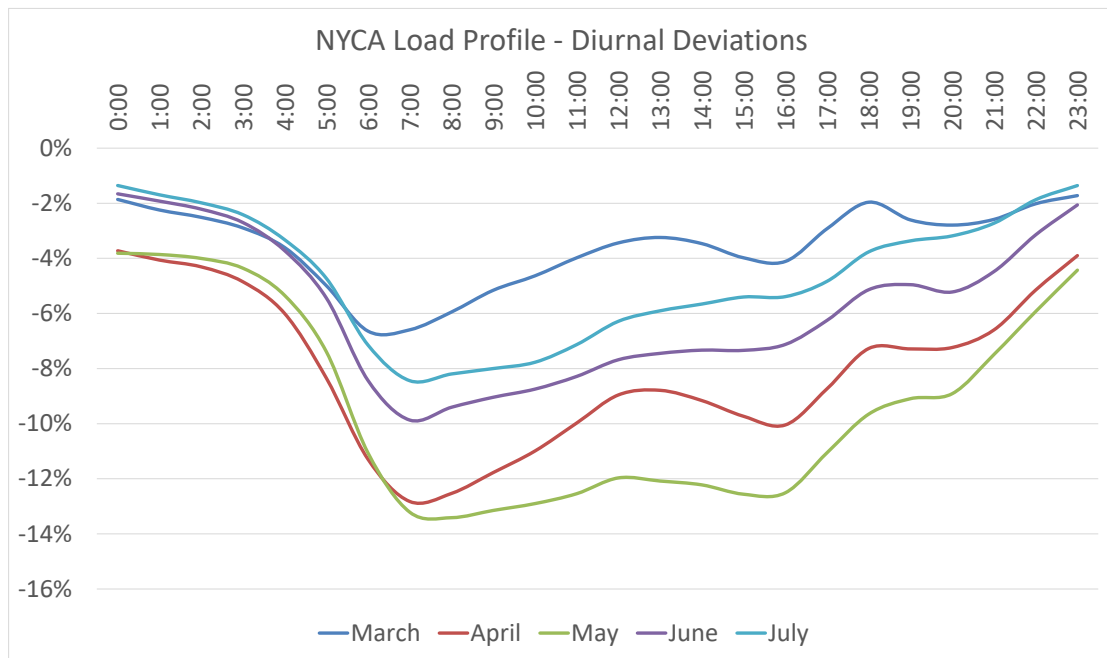
Weather normalized deficits show effects of COVID-19 shutdowns

# Regional Impacts on Daily Energy Patterns

2020 Weather Normalized Load Relative to Expected Load, 7-Day Moving Average (Daily Energy)



# Impacts on Hourly Load Patterns

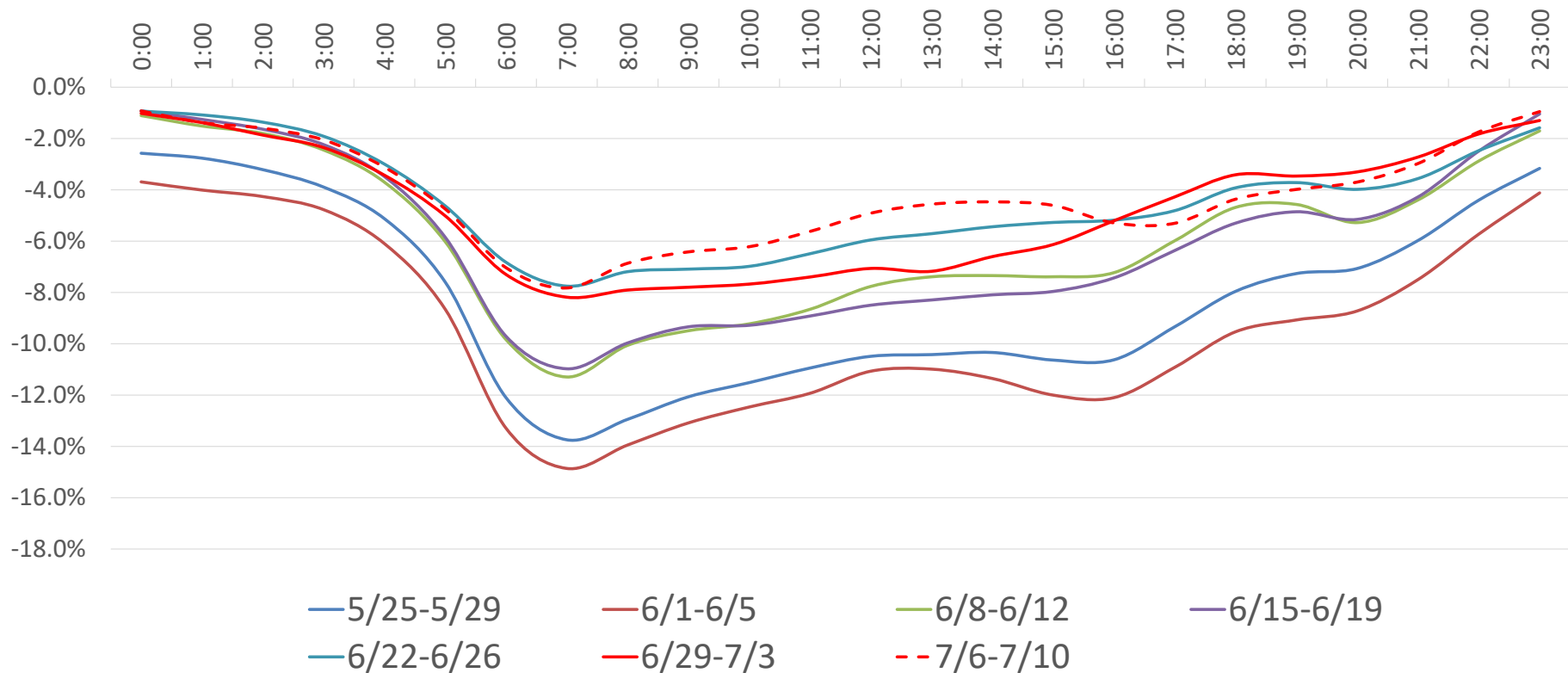


- Largest differences remain in the morning pick-up period
- Estimated peak deficits by month:
  - March: -2% to -4%
  - April: -7% to -9%
  - May: -8% to -10%
  - June: -5% to -7%
  - July: -3% to -5%

Note: July contains data thru the 11<sup>th</sup> only

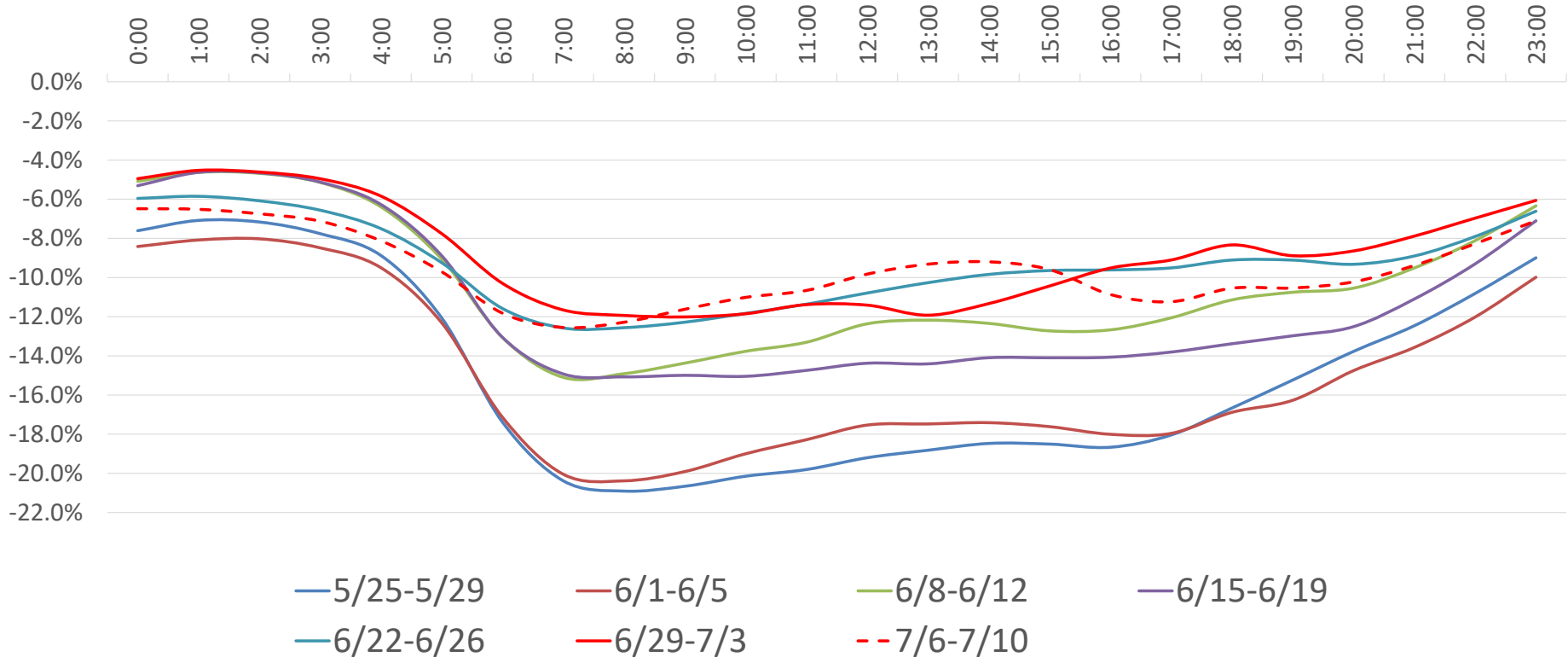
# Impacts on Hourly Load Patterns

NYCA Load Profile - Weekday Diurnal Load Changes



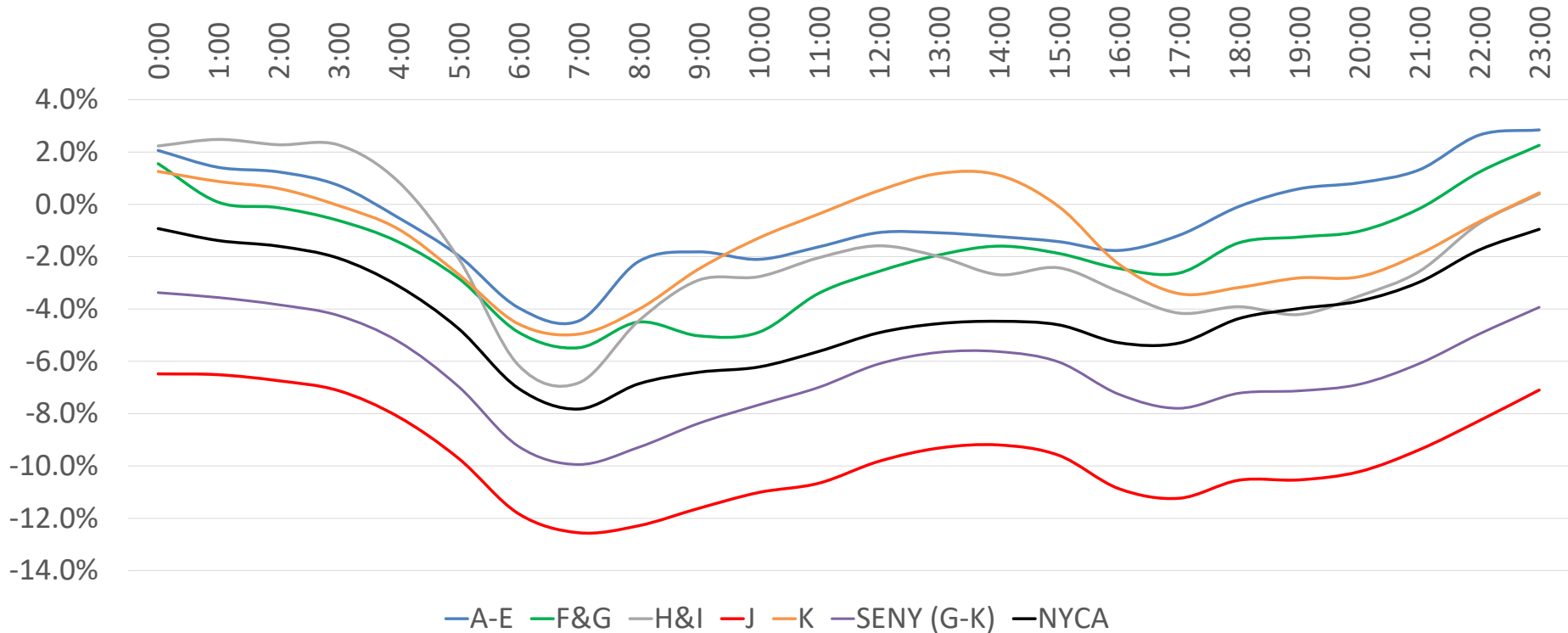
# Impacts on Hourly Load Patterns

Zone-J Load Profile - Weekday Diurnal Load Changes



# Impacts on Hourly Load Patterns (Area)

Average Hourly Deficit by Area - Week of 7/6- 7/10 (Weekdays)





# Impacts on Hourly Load Patterns (Area)

| Hour  | A-E   | F&G   | H&I   | J      | K     | SENY (G-K) | NYCA  |
|-------|-------|-------|-------|--------|-------|------------|-------|
| 0:00  | 2.1%  | 1.6%  | 2.2%  | -6.5%  | 1.3%  | -3.4%      | -0.9% |
| 1:00  | 1.4%  | 0.1%  | 2.5%  | -6.5%  | 0.9%  | -3.6%      | -1.4% |
| 2:00  | 1.2%  | -0.1% | 2.3%  | -6.7%  | 0.6%  | -3.8%      | -1.6% |
| 3:00  | 0.7%  | -0.6% | 2.3%  | -7.1%  | 0.0%  | -4.2%      | -2.1% |
| 4:00  | -0.5% | -1.4% | 0.9%  | -8.1%  | -0.9% | -5.2%      | -3.1% |
| 5:00  | -2.0% | -2.8% | -2.1% | -9.7%  | -2.7% | -7.0%      | -4.7% |
| 6:00  | -4.0% | -4.9% | -6.1% | -11.8% | -4.6% | -9.2%      | -7.0% |
| 7:00  | -4.5% | -5.5% | -6.8% | -12.6% | -5.0% | -9.9%      | -7.8% |
| 8:00  | -2.2% | -4.5% | -4.5% | -12.3% | -4.0% | -9.3%      | -6.9% |
| 9:00  | -1.8% | -5.0% | -2.9% | -11.6% | -2.5% | -8.4%      | -6.4% |
| 10:00 | -2.1% | -4.9% | -2.8% | -11.0% | -1.3% | -7.7%      | -6.2% |
| 11:00 | -1.6% | -3.4% | -2.0% | -10.7% | -0.4% | -7.0%      | -5.6% |
| 12:00 | -1.1% | -2.6% | -1.6% | -9.8%  | 0.5%  | -6.1%      | -4.9% |
| 13:00 | -1.1% | -1.9% | -2.0% | -9.3%  | 1.2%  | -5.7%      | -4.6% |
| 14:00 | -1.2% | -1.6% | -2.7% | -9.2%  | 1.1%  | -5.6%      | -4.5% |
| 15:00 | -1.4% | -1.9% | -2.4% | -9.6%  | -0.1% | -6.0%      | -4.6% |
| 16:00 | -1.8% | -2.4% | -3.3% | -10.9% | -2.3% | -7.3%      | -5.3% |
| 17:00 | -1.2% | -2.6% | -4.2% | -11.2% | -3.4% | -7.8%      | -5.3% |
| 18:00 | -0.1% | -1.5% | -3.9% | -10.5% | -3.2% | -7.2%      | -4.4% |
| 19:00 | 0.6%  | -1.3% | -4.2% | -10.5% | -2.8% | -7.1%      | -4.0% |
| 20:00 | 0.8%  | -1.0% | -3.5% | -10.2% | -2.8% | -6.9%      | -3.7% |
| 21:00 | 1.3%  | -0.2% | -2.6% | -9.4%  | -1.9% | -6.1%      | -3.0% |
| 22:00 | 2.6%  | 1.2%  | -0.7% | -8.3%  | -0.7% | -5.0%      | -1.7% |
| 23:00 | 2.8%  | 2.3%  | 0.4%  | -7.1%  | 0.4%  | -3.9%      | -0.9% |

Average Hourly  
Load Deficit  
By Area  
Week of  
7/6 - 7/10

# Impacts on Hourly Load Patterns (Zone)

| Hour  | A   | B   | C   | D    | E   | F   | G   | H   | I   | J    | K   |
|-------|-----|-----|-----|------|-----|-----|-----|-----|-----|------|-----|
| 0:00  | -2% | 6%  | 3%  | 0%   | 5%  | 4%  | -1% | 4%  | 1%  | -6%  | 1%  |
| 1:00  | -3% | 6%  | 2%  | -3%  | 5%  | 2%  | -2% | 4%  | 2%  | -7%  | 1%  |
| 2:00  | -3% | 6%  | 2%  | -3%  | 5%  | 1%  | -2% | 4%  | 1%  | -7%  | 1%  |
| 3:00  | -3% | 5%  | 2%  | -4%  | 4%  | 1%  | -2% | 4%  | 2%  | -7%  | 0%  |
| 4:00  | -4% | 4%  | 0%  | -5%  | 3%  | 0%  | -3% | 3%  | 0%  | -8%  | -1% |
| 5:00  | -5% | 2%  | -1% | -5%  | 0%  | -2% | -5% | -1% | -3% | -10% | -3% |
| 6:00  | -7% | -1% | -3% | -4%  | -2% | -3% | -7% | -5% | -7% | -12% | -5% |
| 7:00  | -8% | -2% | -3% | -6%  | -2% | -3% | -8% | -4% | -8% | -13% | -5% |
| 8:00  | -5% | 0%  | -1% | -4%  | -1% | -2% | -8% | -1% | -6% | -12% | -4% |
| 9:00  | -5% | 1%  | 0%  | -2%  | -1% | -3% | -8% | 1%  | -5% | -12% | -2% |
| 10:00 | -6% | 1%  | -1% | -3%  | -1% | -3% | -8% | 0%  | -4% | -11% | -1% |
| 11:00 | -5% | 2%  | 0%  | -3%  | -1% | -1% | -6% | 1%  | -3% | -11% | 0%  |
| 12:00 | -4% | 2%  | 0%  | -6%  | 0%  | 0%  | -5% | 1%  | -3% | -10% | 1%  |
| 13:00 | -4% | 2%  | 0%  | -7%  | 1%  | 1%  | -5% | -1% | -3% | -9%  | 1%  |
| 14:00 | -3% | 1%  | 1%  | -9%  | 0%  | 1%  | -5% | -2% | -3% | -9%  | 1%  |
| 15:00 | -4% | 0%  | 1%  | -9%  | 0%  | 0%  | -4% | -1% | -3% | -10% | 0%  |
| 16:00 | -4% | 0%  | 1%  | -10% | 0%  | -1% | -4% | -2% | -4% | -11% | -2% |
| 17:00 | -3% | 1%  | 1%  | -10% | 1%  | -2% | -4% | -2% | -5% | -11% | -3% |
| 18:00 | -2% | 2%  | 1%  | -9%  | 3%  | 0%  | -3% | -3% | -4% | -11% | -3% |
| 19:00 | -2% | 4%  | 2%  | -10% | 4%  | 0%  | -2% | -3% | -5% | -11% | -3% |
| 20:00 | -3% | 5%  | 4%  | -10% | 4%  | 0%  | -2% | -3% | -4% | -10% | -3% |
| 21:00 | -2% | 5%  | 4%  | -11% | 5%  | 1%  | -2% | -3% | -2% | -9%  | -2% |
| 22:00 | -1% | 6%  | 4%  | -4%  | 5%  | 3%  | -1% | -1% | -1% | -8%  | -1% |
| 23:00 | 0%  | 7%  | 4%  | -5%  | 5%  | 4%  | 0%  | 1%  | 0%  | -7%  | 0%  |

Average Hourly Load Deficit by Zone, Week of 7/6 - 7/10

# Current Activities and Next Steps

- **NYISO Operations and Demand Forecasting Team continue to monitor and assess the impacts of the COVID-19 shutdowns**
  - Track trends daily/hourly energy deficits vs. expected values
  - Track changes to load-weather sensitivity
  - Track available medium and long-term economic forecasts and continue to consult with Transmission Owners on sector impacts
- **Updates to energy forecasts are currently underway**
- **Short-term Forecasting System updates for Day-Ahead and Real Time Commitment**

# Our mission, in collaboration with our stakeholders, is to serve the public interest and provide benefit to consumers by:

- 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

