



Public Service
Commission

Expanding the Application of Peak Hour Forecast

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ICAPWG/MIWG/PRLWG

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Purpose

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- Kick-off discussion of the Expanding Application of Peak Hour Forecast project.
- Market Design Proposal presented by NYISO at the ICAPWG meeting on July 27, 2021.
- This project will continue from the Market Design Concept Proposed and determine what changes are needed to implement an alternative to the way that capacity obligations are allocated to Load Serving Entities (LSEs).
- Findings and resulting suggestions will be reported and discussed with stakeholders.
- The project deliverable will be Market Design Complete and proposal for deployment.

Outline

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- Background
- Previous Market Design Concept Proposed
- Why does the DPS care about this project?
- Changes that make this project important
 - Expansion of Advanced Metering
 - Need to engage the demand side of the market
 - Increase in flexible loads
- DPS Staff Proposal
- Additional analysis needed
- Next steps

Background

Date	Working Group	Discussion Points and Links to Materials
February 25, 2021	ICAP/MIWG	Kick-off presentation discussion the current process: https://www.nyiso.com/documents/20142/19520392/Expanding%20Application%20of%20Peak%20Hour%20Forecasts%202.25.2021%20ICAPWG%20FINAL.pdf/800c1e4b-6169-7e31-3647-ad417a236221
March 25, 2021	ICAP/MIWG	Discuss potential analyses: https://www.nyiso.com/documents/20142/20226859/Expanding%20Application%20of%20Peak%20Hour%20Forecasts%203.25.2021%20ICAPWG%20FINAL.pdf/5334cd44-5d5f-06d8-f12e-bd294bbcbec1
May 4, 2021	ICAP/MIWG	Discuss load duration analysis: https://www.nyiso.com/documents/20142/21189817/Expanding%20Application%20of%20Peak%20Hour%20Forecasts%205.4.2021%20ICAPWG.pdf/5a2115b3-cd4d-b977-b3de-6fd3115b13a9
June 3, 2021	ICAP/MIWG	Discus process flow and tariff review: https://www.nyiso.com/documents/20142/21942500/Expanding_Application_of_Peak_Hour_Forecasts_6.3.2021_ICAPWG_FINAL.pdf/501b1132-e916-9b67-48b8-8d958bed927d Expanding the Application of Peak Hour Forecasts Appendix Data
June 30, 2021	ICAP/MIWG	Discuss peak load days and weighting: https://www.nyiso.com/documents/20142/22643498/Expanding_Application_of_Peak_Hour_Forecasts_6.30.2021_FINAL.pdf/8c6b7640-a78e-05fd-b47b-448acfd03c5c
July 27, 2021	ICAP/MIWG	Discuss NYISO Market Design Concept Proposal: https://www.nyiso.com/documents/20142/23319404/Expanding_Peak_Hour_Forecasts_7.27.2021_MDCP_FINAL.pdf/18b8258d-a3c8-ec08-a97a-e3fe4c77bc63
August 30, 2023	BPWG	2024 Market Project Candidates: https://www.nyiso.com/documents/20142/39653286/August%2030%20BPWG%20Market%20Project%20Descriptions.pdf/7ade6560-c017-c29a-7ab9-769cd3a4c01e

Background

- If the project had been prioritized for 2022, the NYISO would have worked toward a goal of Market Design Complete (MDC) in 2023.
- The project did not get prioritized in 2022.
- DPS Staff put the project forward for consideration as a 2024 project.
- On Wednesday April 27, 2023, DPS Staff presented the project at the BPWG.
- At the August 30, 2023, BPWG, project was included in 2024 Final Project Budget
- On September 27th, 2023, the BPWG Chair presented the NYISO budget proposal at the Management Committee meeting
- November 14, 2023, BOD Approval decision on NYISO budget proposal

Previous Market Design Concept Proposed

- The NYISO proposed to use the NYCA coincident peak load from the highest load hour on each of the top three unique peak load days, with the identification of these peak load days to include only non-holiday weekdays in July and August, consistent with design conditions.
 - This approach is intended to balance concerns that the incentive to reduce load during peak hours would be reduced with the desire to have that incentive apply to more peak load days.
- Actual load data would be used to identify the peak load hours, as opposed to reconstituted load data.
- The top three peak load days used in the allocation would be equally weighted.
 - The NYISO offered, if there was not broad stakeholder consensus that a weighting of the top three peak load days used in the allocation to LSEs is desirable, then the NYISO would work with stakeholders within the next phase of the market design to develop a more appropriate methodology.

Why does the DPS care about this project?

- The DPS would like a better signal to the demand side of the market of what capacity cost are caused by customer behavior, to better allocate capacity cost to the cost causer.
- A better signal of capacity cost should produce a more efficient response by customers.
- The single hour capacity tag rate element does not signal customers how many hours capacity is needed.
 - For example, the 2023 Quarter 2 STAR identified that the New York City zone is deficient by as much as 446 MW for a duration of **nine hours** on the peak day during expected weather conditions when accounting for forecasted economic growth and policy-driven increases in demand. A single hour of demand response, would not solve this need. Customers should be signaled for multiple peak hours.
 - While a single peak hour may correctly measure what an LSE would have used during peak hours, it is not best measure for individual customers. We have always measured customer baseline over multiple peak hours.
- As Utilities are better able to track individual customer's demand on a more granular level, they should be better able to determine who is responsible for capacity costs.

Changes that make this project important

- Expansion of Advanced Metering
 - In the past only the largest C&I customers had hourly metering data, other classes of customers are billed based on class average load shapes.
 - Con Edison, Orange & Rockland, and Long Island Power Authority have all fully implemented AMI. National Grid, NYSEG, and RG&E have approved AMI implementation plans and will have AMI fully deployed in the next couple years. Only Central Hudson does not have an approved plan to implement AMI.
 - AMI meters measure all customer loads on an hourly basis and allows LSEs to track individual customers contribution to capacity need.

Changes that make this project important

- Need to engage the demand side of the market
 - The most efficient way to signal the demand side of the energy market is through retail rate structures that reflect wholesale market prices.
 - Capacity costs are reflected explicitly in some retail tariffs
 - Hourly Pricing for Large C&I customers incorporates the ICAP tag.
 - VDER tariffs allow three options for capacity rate element: ICAP tag, a kWh credit recovered over approximately 240 likely peak hours (2 pm through 7 pm weekday non-Holiday June 24 to August 31), or a \$/kWh where the capacity portion of the supply charge is set using a service class with a load profile most similar to a solar generation profile.
 - Stand-by rates use the ICAP tag
 - Some Time of Use tariffs allocate capacity costs to peak or super peak periods.
 - When rates are not aligned with cost causation, cost can be misallocated.
 - To engage the demand side of the market, a better rate element is needed to signal when capacity is needed.

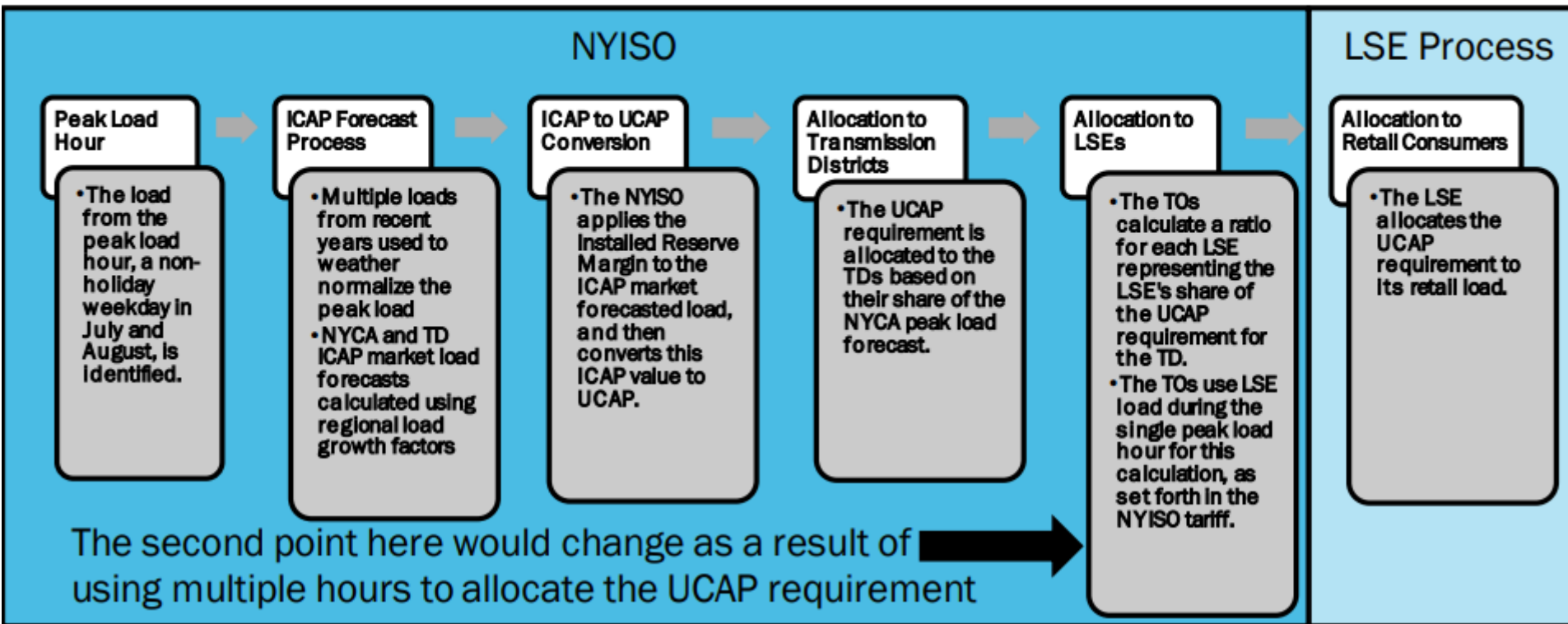
Changes that make this project important

- Increase in flexible loads
 - The [2024 Long Term Forecast Assumptions: Load Modifiers](#) presented at the Feb. 22 LFTF/ESPWG forecasts growth in BTM Solar, EE, Energy Storage, and other DG
 - As these load modifiers grow on the system, there should be better price signals to these customers that reflect the value of the capacity they provide to the system.
 - Better capacity signals could help consumers make the more efficient EE choices.
 - As BTM Solar is paired with storage, there should be incentives to maximize the value of this hybrid resource.
 - With new loads like electric vehicles tariffs should signal the true cost of charging at peak periods.
 - Providing incentives for load modifiers to be used most efficiently, helps to meet our energy goals most efficiently.

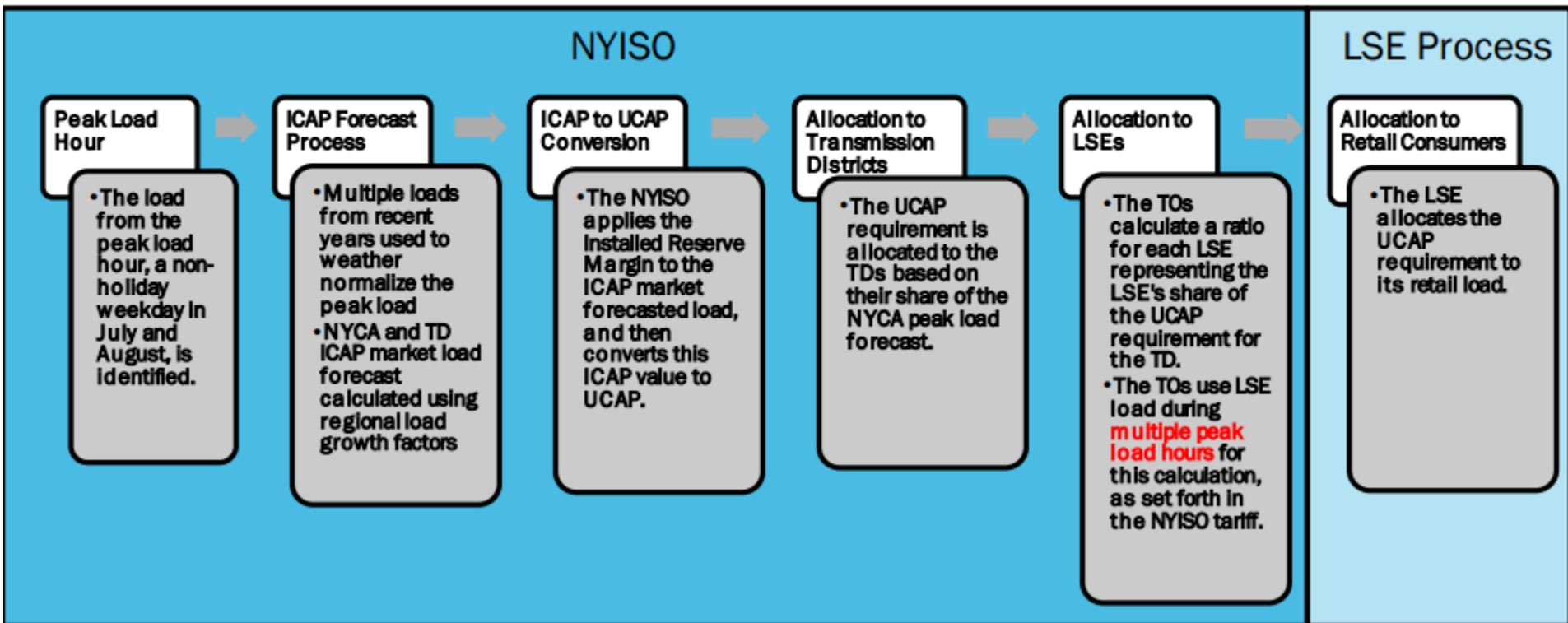
DPS Staff Proposal

- The DPS Staff proposes to use the top ten NYCA coincident peak load hours on a least three unique peak load days, with the identification of these peak load days to include only non-holiday weekdays in July and August, consistent with design conditions.
 - This approach is intended to provide a better allocation of capacity cost to LSE and a more representative rate element to allocate capacity costs to retail customers.
- Actual load data would be used to identify the peak load hours, as opposed to reconstituted load data.
- The top ten peak load hours used in the allocation would be equally weighted.
 - If there was not broad stakeholder consensus that a weighting of the top ten peak load hours used in the allocation to LSEs is desirable, then the DPS Staff would work with stakeholders within the next phase of the market design to develop a more appropriate methodology.
- If adopted by stakeholders, DPS Staff proposes that the change to the allocation methodology go into effect with the May 2026 capacity period. This will give TOs time to implement and test needed billing changes.

Current Process Flow



Proposed Process Flow



DPS Staff Proposal - Example

The NYISO Forecast the 2023 Peak Load MW, then determines the ICAP requirement for TOs and then determines their UCAP requirement based on their share of the Peak Load Forecast.

Transmission Owner	Forecasted Peak Load MW	ICAP MW Requirement	UCAP MW Requirement
Metering Authority - Central Hudson Gas and Electr	1,026.2	1,231.4	1,106.6
Metering Authority - Consolidated Edison of NY	12,811.7	15,374.1	13,815.1
Metering Authority - Long Island Power Authority	5,060.6	6,072.7	5,457.0
Metering Authority - New York Power Authority	511.9	614.3	552.0
Metering Authority - New York State Electric & Gas	3,142.4	3,770.9	3,388.5
Metering Authority - Niagara Mohawk	6,820.6	8,184.7	7,354.8
Metering Authority - Orange and Rockland Utilities	1,117.2	1,340.6	1,204.7
Metering Authority - Rochester Gas and Electric	1,558.3	1,870.0	1,680.3
Total	32,048.9	38,458.7	34,559.0

Fictitious Example of three LSE making up O&R Load

Peak load hours Summer 2022	LSE 1	LSE 2	LSE 3	Total
7/20/2022 17:00	300	600	182	1,082
8/8/2022 17:00	350	500	222	1,072
7/20/2022 18:00	250	650	172	1,072
7/20/2022 16:00	350	500	221	1,071
8/8/2022 18:00	360	540	169	1,069
8/8/2022 16:00	340	490	236	1,066
8/8/2022 15:00	330	480	251	1,061
7/20/2022 15:00	340	400	317	1,057
8/8/2022 14:00	300	460	288	1,048
8/9/2022 17:00	400	500	145	1,045
Total	3,320	5,120	2,204	10,644
Average	332	512	220	1,064
LSE allocated UCAP 2023	375.7	579.5	249.5	1,204.7

The TOs calculate the LSEs share of the UCAP requirement based on their load during the top ten load hours.

LSE1's UCAP requirement = O&R UCAP requirement $\times \frac{\text{LSE 1's Average Load over top 10 hour}}{\text{Average O\&R Total Load over top 10 hours}}$

$$\text{LSE1's UCAP requirement} = 1,204.7 \times \frac{332}{1,064} = 375.7 \text{ MW}$$

Next Steps

- Next Steps
 - Gather feedback from market participants
 - Return to ICAPWG with feedback from MP
 - Updated data appendix
 - Provide a comparison NYISO and DPS Staff proposals
 - Refine the Market Design Proposed with feedback from MPs
 - Move to Market Design Complete