

MEMORANDUM

To: Mike DeSocio; New York Independent System Operator

From: Mark Younger; Hudson Energy Economics, LLC

**Subject: Level of Excess Adjustment Factor
Base Case Assumptions – Generation Facilities**

Date: June 12, 2020

Mike, as we discussed Wednesday, I am concerned that the NYISO's preliminary estimate of the Level of Excess Adjustment Factor ("LOE-AF") which was developed by GE based on MAPs runs is based on stale assumptions because it was based on a MAPS CARIS database that was frozen last summer, as of July 31, 2019,¹ without updating to include important system revisions. These LOE-AF have then been incorporated into the Net Energy and Ancillary Service revenues estimates that have been used by Analysis Group to determine the values for the Demand Curve Reset.

There have been numerous changes since the 2019 that must be captured to assure that the LOE-AF is set at an appropriate level. There are also identified changes required to comply with recently enacted, more stringent environmental regulations that will affect the available resources during this next demand curve reset period which will run from May, 2021 through April, 2025 and these need to be represented in the LOE-AF analysis.

The NYISO planning department is required to apply a series of "base case inclusion rules" to accurately reflect system generation composition, and thus, identify which resources will be included in NYISO reliability, economic and public policy studies. To do so, when each of these studies begins, the base case for the most recently started study is updated in accordance based on applying these base case inclusion rules. To provide consistent results across its studies, the same approach is required to be applied to the LOE-AF analysis to assure that the analysis is not based on assuming resources for the future that are not likely to be in the system. Failure to do so will overstate the adjustment factor, which when combined with the increased LBMPs that result from the units leaving, would ultimately result in a double impact on over-crediting likely Net Energy and Ancillary revenues. In fact, the NYISO recognized the importance of updating its system generation composition assumptions consistent with the base case inclusion rules for the 2016 DCRP.

¹ 2019 CARIS Base Case Results: Preliminary, p. 4. See, https://www.nyiso.com/documents/20142/8193286/06%202019_CARIS_1_Base.pdf/035ba2a0-c022-8021-7111-ccc975a6bcd3

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Specifically, this would mean that the 2019 CARIS I base case must be updated to account for the factors and changes noted below. This step of updating the CARIS I base case was recently taken when the 2020 RNA study was initiated this past spring and is the basis upon which the NYISO is currently conducting that study.

We have been told that the NYISO utilized the 2019 CARIS I base case for the DCRP LOE-AF calculations. The 2019 CARIS I base case was based on the status of units in the 2019 Gold Book together with adjustments made before the July 31, 2019, the date the base case was frozen. So, for starters, I am assuming that using this database means that the NYISO removed any units listed as having already retired in the 2019 Gold Book as well as those listed in the presentation to the September 6, ESPWG meeting. In addition, please verify whether the database used for the LOE-AF estimate represents the following changes listed in Figure 11 of the draft CARIS report, all of which are represented as happening by the beginning of May 2021 and whether the NYISO still believes these changes meet its Inclusion Rules.

- Riverhead Solar, 20 MW, in-service: 5/1/2019
- Ball Hill Wind, 100MW, in-service: 12/1/2019
- Cricket Valley Energy Center, 1,020 MW, in-service: 3/1/2020
- Indian Point 2, 1,016MW, retired on 4/30/2020
- Cassadaga Wind, 126MW, in-service: 12/1/2020
- Taylor Biomass, 19MW, in-service: 4/1/2021
- Indian Point 3, 1,038MW, retired on 4/30/2021

As noted, there have been several changes on the system since July 31, 2019, the date the base case was frozen. Please verify whether the following are represented as operating in the database for estimating the preliminary LOE-AF and whether the NYISO will remove them for the final LOE-AF estimates.

Listed as retired or pending exit in the 4/8/2020 Generation Status Update and which were not identified in the Draft CARIS report or the September 6 presentation:

- Lyonsdale Biomass
- Albany LFGE
- Hudson Ave GT 3
- Somerset (aka Kintigh)
- Greenidge 4 (Now a BTM:NG)
- Lyons Fall Hydro (now a BTM:NG)
- West Babylon IC
- Glenwood IC 1 G5 (Shown as GT1 in 6/10/2020 report)

Listed as retired or pending exit in the 6/10/2020 Generation Status Update

- Glenwood GT1
- HTP (Lost CRIS Rights on 4/30/2020)

Equally important, after the CARIS I base case had been frozen, the NYISO held a series of three meetings in October and November to develop refinements to its base case

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inclusion rules to assure that the rules were in place for future studies. These rule revisions were approved at the December 2019 Operating Committee meeting. A core change was to ensure that the Peaker Rule (and any future environmental regulations) that affected future generator operations would be accurately and adequately captured in NYISO studies. Please the Reliability Process Planning Manual² which reflects the revision made effective December 12, 2019 (again, beyond the 2019 CARIS I base case lock-down date) for the inclusion rules for units impacted by environmental compliance requirements. As part of its 2020 RNA process, the NYISO has identified the peaking units that have specified that they will change unit operations or retire in compliance plans filed in accordance with the Peaker Rule. Given that these retirement dates fall within this next demand curve reset period, please also identify whether the database assumes operation from any of the GTs that are projected to not be operating during the summer starting in 2023 in compliance with the Peaker Rule.

Based on the NYISO's TPAS presentation last week,³ we will have preliminary Reliability analysis results by next week that are likely to be definitive in regard to whether reliability violations will block any of these units from retiring or changing its operations as required by the Peaker Rule. The NYISO will present final results no later than late July -- and the NYISO may well have this information available internally well before that time:

² Reliability Process Planning Manual, p. 20. *See*, https://www.nyiso.com/documents/20142/2924447/rpp_mnl.pdf/67e1c2ea-46bc-f094-0bc7-7a29f82771de. Please also note that the CARIS Manual also uses the RPP Inclusion Rules. *See*, Economic Planning Process Manual - Congestion Assessment and Resource Integration Studies Manual, p. 7. *See*, https://www.nyiso.com/documents/20142/2924447/epp_caris_mnl.pdf/6510ece7-e0a6-7bee-e776-694abf264bae.

³ 2020 Reliability Planning Timeline, p. 3. *See*, https://www.nyiso.com/documents/20142/12898532/08_2020RNA_Timeline_June_4_2020ESPWG_TPAS.pdf/20d4c69b-ddbe-7695-3962-b8b139780303

Status Change due to DEC’s Peaker Rule, Zone G

Units	Nameplate MW	2023 OS	2023 non-OS	2024 OS	2024 non-OS	2025 OS	2025 non-OS
		May 2023 - September 2023	October 2023 - April 2024	May 2024 - September 2024	October 2024 - April 2025	May 2025 - September 2025	October 2025 - April 2026
Coxsackie GT	22	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service
South Cairo	22	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service
Unavailable Capacity		43	43	43	43	43	43
Impacted Capacity	43	OS - Ozone Season: May 1st - September 30th					

Notes:

1. The service pattern in the last two columns repeats in subsequent years of the RNA Study Period
2. Other Compliance Plans were submitted in addition to what is shown on this table. The table lists the compliance plans that resulted in a change of status.

Status Change due to DEC’s Peaker Rule, Zone J

Units	Nameplate MW	2023 OS	2023 non-OS	2024 OS	2024 non-OS	2025 OS	2025 non-OS
		May 2023 - September 2023	October 2023 - April 2024	May 2024 - September 2024	October 2024 - April 2025	May 2025 - September 2025	October 2025 - April 2026
Astoria GT1	16	In Service	In Service	In Service	In Service	Out of Service	In Service
Gowanus 1&4	320	Out of Service	In Service	Out of Service	In Service	Out of Service	In Service
Gowanus 2&3	320	In Service	In Service	In Service	In Service	Out of Service	In Service
Narrows 1&2	352	In Service	In Service	In Service	In Service	Out of Service	In Service
Ravenswood GTs	369	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service
Arthur Kill GT1	20	In Service	In Service	In Service	In Service	Out of Service	Out of Service
Astoria GTs	558	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service
Con Ed 59th St	17	In Service	In Service	In Service	In Service	Out of Service	Out of Service
Con Ed 74th St	37	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service
Con Ed Hudson Ave	49	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service
Unavailable Capacity		1,333	1,013	1,333	1,013	2,058	1,050
Available Capacity		725	1,045	725	1,045	0	1,008
Impacted Capacity	2,058	OS - Ozone Season: May 1st - September 30th					

Notes:

1. The service pattern in the last two columns repeats in subsequent years of the RNA Study Period
2. Other Compliance Plans were submitted in addition to what is shown on this table. The table lists the compliance plans that resulted in a change of status.

Status Change due to DEC’s Peaker Rule, Zone K

Units	Nameplate MW	2023 OS	2023 non-OS	2024 OS	2024 non-OS	2025 OS	2025 non-OS
		May 2023 - September 2023	October 2023 - April 2024	May 2024 - September 2024	October 2024 - April 2025	May 2025 - September 2025	October 2025 - April 2026
Glenwood GT1	16	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service
Northport GT	16	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service
Port Jefferson GT1	16	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service
West Babylon GT4	52	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service	Out of Service
Unavailable Capacity		100	100	100	100	100	100
Impacted Capacity	100	OS - Ozone Season: May 1st - September 30th					

Notes:

1. The service pattern in the last two columns repeats in subsequent years of the RNA Study Period
2. Other Compliance Plans were submitted in addition to what is shown on this table. The table lists the compliance plans that resulted in a change of status.



As a final note, please verify that the LOE-AF assumptions on whether any of the UDRs are delivering capacity, and therefore adding to the amount of load that needs to be added as part of determining the adjustment factors, are consistent with the assumption for setting the LCRs that are also used in the LOE-AF analysis.⁴ The assumption of whether a UDR is delivering capacity has a direct impact on the LCR calculations because if the line is not scheduled to deliver capacity then the MARs assumptions allow it to deliver emergency assistance. For example, if the Cross Sound Cable (“CSC”) were modeled as not having opted to exercise its UDRs for the 2020/2021 IRM/LCR process then that would have resulted in the IRM/LCR study using CSC as being available to deliver emergency assistance and therefore would result in a lower Long Island LCR than if CSC had opted to use its UDRs. It would be inappropriate to pair LCRs that were based on UDRs being used to deliver emergency assistance with now treating those lines as capacity providers in determining the LOE-AF load adjustment without also revising the target LCR.

Thank you. Please email or call me if you have any questions.

⁴ My understanding is that the LCRs used for the LOE-AF were determined based on the 2020/2021 capability year