



# **Class Year 2019 Renewable Exemption Limit Assumptions and Calculations**

**November 11, 2020**

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## Objective

This document fulfills the requirements specified in Section 23.4.5.7.13.5 of the Market Services Tariff (“MST”),<sup>1</sup> which states: *“The ISO will post on its website the assumptions and calculations made for the Renewable Exemption Limit available in each Class Year Study, Additional SDU Study, and Expedited Deliverability Study with its posting of the BSM Forecast inputs in accordance with Section 23.4.5.7.15 of this Services Tariff, subject to any restrictions on the disclosure of Confidential Information or Critical Energy Infrastructure Information.”*

A list of Class Year 2019 (“CY2019”) Examined Facilities that requested a Renewable Exemption can be found on the NYISO website.<sup>2</sup>

## Renewable Exemption Limit Overview

The formula for calculating the Renewable Exemption Limit (“REL”) is specified in Section 23.4.5.7.13.5 of the MST. The REL is calculated separately for each Mitigated Capacity Zone in UCAP MW as the greater of:

- a) the UCAP MW associated with the Minimum Renewable Exemption Limit as described in Section 23.4.5.7.13.5.1 or
- b) the sum of
  - i. the UCAP MW associated with the change in forecasted peak Load calculated by the ISO in accordance with Section 23.4.5.7.13.5.2,
  - ii. the UCAP MW value identified by the ISO associated with the Incremental Regulatory Retirements calculated by the ISO in accordance with Section 23.4.5.7.13.5.3,
  - iii. the URM impact of the Qualified Renewable Exemption Applicants in the Class Year Study, Additional SDU Study, or Expedited Deliverability Study calculated by the ISO in accordance with Section 23.4.5.7.13.5.4, and
  - iv. the UCAP MW in the Renewable Exemption Bank for each Mitigated Capacity Zone determined in accordance with Sections 23.4.5.7.13.5.5.

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<sup>1</sup> Terms with initial capitalization not defined herein shall have the meaning set forth in the Services Tariff.

<sup>2</sup> Available at: <https://www.nyiso.com/market-monitoring> → ICAP Market Mitigation → Buyer Side Mitigation → Class Year 2019 → [Class Year 2019 Exemption Requests](#).

Each of these components is discussed in further detail below.

## Minimum Renewable Exemption Limit

The Minimum Renewable Exemption Limit is equal to the UCAP MW value that is forecasted to cause a price decrease to the Installed Capacity Spot Auction results of \$0.50/kW-month. This value is determined by the slope of the applicable demand curve. For each Mitigated Capacity Zone, a demand curve slope was forecasted for every year of the Mitigation Study Period and then averaged together. The CY2019 limits are shown below in Table 1. Full data inputs for the BSM Forecast for CY2019 are located on the NYISO’s website.<sup>3</sup>

**Table 1: Minimum Renewable Exemption Limit**

	NYC Locality	G-J Locality
Minimum Renewable Exemption Limit <sub>UCAP</sub> [MW]	35.4	53.9

## Change in Forecasted Peak Load

The UCAP MW associated with the change in forecasted peak Load is calculated as specified in Section 23.4.5.7.13.5.2 of the MST. For CY2019, it is the difference between the peak load for 2020, published in the ISO’s 2020 Load and Capacity Report (“Gold Book 2020”), and the forecasted peak Load for the last year of the applicable Mitigation Study Period (“MSP”). The last Capability Year of the CY2019 MSP would use the peak Load for Summer 2024. These values, as reported in the 2020 Load and Capacity Report, are presented in Table 2.

**Table 2: Forecasted Peak Load (Gold Book 2020)**

	NYC Locality <sup>4</sup>	G-J Locality <sup>5</sup>
2020 Peak Load [MW]	11,477	15,695
2024 Peak Load [MW]	11,577	15,733

<sup>3</sup> Available at: <https://www.nyiso.com/market-monitoring> → ICAP Market Mitigation → Buyer Side Mitigation → Class Year 2019 → ICAP Buyer Side Mitigation Test Data for Class Year 2019 Initial Decision Round November 12, 2020.

<sup>4</sup> Table I-4a: Baseline Summer Non-Coincident Peak Demand, Historical & Forecast. Gold Book 2020 is available at: <https://www.nyiso.com/documents/20142/2226333/2020-Gold-Book-Final-Public.pdf/>

<sup>5</sup> Table I-5: Baseline Peak Demand in G-to-J Locality, Historical and Forecast, Historical & Forecast.

The nominal differences in peak Load values are converted to UCAP using the zonal Summer 2020 ICAP/UCAP translation factors. The calculated Change in Forecasted Peak Load is as noted in Table 3, based on the following equation:

$$\Delta PeakLoad_{UCAP} = (PeakLoad_{2024} - PeakLoad_{2020}) \times (1 - TranslationFactor)$$

**Table 3: Change in Forecasted Peak Load**

	NYC Locality	G-J Locality
$\Delta PeakLoad_{ICAP}$ [MW]	100	38
ICAP/UCAP Translation Factor	3.51%	4.18%
<b><math>\Delta PeakLoad_{UCAP}</math> [MW]</b>	<b>96.5</b>	<b>36.4</b>

## Incremental Regulatory Retirements

The UCAP MW value associated with the Incremental Regulatory Retirements is calculated as specified in Section 23.4.5.7.13.5.3 of the MST. The value is a subset of Generator Retirements, forecasted in accordance with Sections 23.4.5.7.15.6 and 23.4.5.7.15.7, and only reflect the units that have retired or are planning to permanently cease operation in response to regulatory action. Only incremental MW of Generator Retirements that have not previously been accounted for in prior BSM determinations are included in this component. Table IV-6 of Gold Book 2020 lists the Generators that have proposed status changes of their simple-cycle combustion turbines to comply with the New York State Department of Environmental Conservation (“DEC”) final rule regulating emissions from simple-cycle combustion turbine generators (“Peaker Rule”).<sup>6</sup> Table 4 identifies those Generators that plan to permanently cease operation during the MSP (May 2022 through April 2025), in order to comply with the Peaker Rule. These facilities make up the Incremental Regulatory Retirements included in this component for CY2019.

**Table 4: Identified Incremental Regulatory Retirements**

PTID	Unit Name	Zone	Summer CRIS
23611	Coxsackie GT	G	19.9
23612	South Cairo	G	19.8
23657	Hudson Ave 5	J	15.1

<sup>6</sup> DEC Peaker Ruler: <https://www.dec.ny.gov/regulations/116131.html>

PTID	Unit Name	Zone	Summer CRIS
23729	Ravenswood 01	J	8.8
24094	Astoria GT 2-1	J	41.2
24095	Astoria GT 2-2	J	42.4
24096	Astoria GT 2-3	J	41.2
24097	Astoria GT 2-4	J	41.0
24098	Astoria GT 3-1	J	41.2
24099	Astoria GT 3-2	J	43.5
24100	Astoria GT 3-3	J	43.0
24101	Astoria GT 3-4	J	43.0
24102	Astoria GT 4-1	J	42.6
24103	Astoria GT 4-2	J	41.4
24104	Astoria GT 4-3	J	41.1
24105	Astoria GT 4-4	J	42.8
24258	Ravenswood 10	J	21.2
24259	Ravenswood 11	J	20.2
24260	74th St. GT 1	J	19.0
24261	74th St. GT 2	J	20.1

To determine the total UCAP MW value from these units their total Summer CRIS was adjusted by the applicable zonal UCAP Deration Factor (“UCDF”) used in the CY2019 deliverability studies as noted below in Table 5.

**Table 5: UCAP MW value of Incremental Regulatory Retirement**

	NYC Locality	G-J Locality
Total Summer CRIS [MW]	608.8	648.5
Class Year Deliverability Study UCDF <sup>7</sup>	9.67%	9.35%
<b>Regulatory Retirement UCAP [MW]</b>	<b>549.9</b>	<b>587.9</b>

<sup>7</sup> Class Year 2019 UCDF values were presented at the May 21, 2020 meeting of the Operating Committee:

[www.nyiso.com/documents/20142/12632536/09c\\_CY19\\_PreliminaryDIS\\_Report\\_vo\\_OC-May212020\\_Draft\\_Rev.pdf](http://www.nyiso.com/documents/20142/12632536/09c_CY19_PreliminaryDIS_Report_vo_OC-May212020_Draft_Rev.pdf), page 15.

## URM Impact

The UCAP MW value associated with the Unforced Capacity Reserve Margin (“URM”) impact of the Qualified Renewable Exemption Applicants is calculated as specified in section 23.4.5.7.13.5.4 of the MST. The impact on the URM due to the entry of Qualified Renewable Exemption Applicants (“QREAs”) is forecasted using similar methods as those used to calculate the zonal Locational Minimum Installed Capacity Requirements (LCRs). Two cases were run to identify the difference in the UCAP requirement with and without the QREAs. For each case, the Installed capacity Reserve Margin (“IRM”) was determined using the Tan45 process and then optimized LCRs were determined using the NYISO Optimized LCR method. The LCR optimizer calculated the individual zonal contributions to meet the forecasted NYCA requirement. The resulting URM impact values for the Mitigated Capacity Zones are shown in Table 6. The G-J Locality URM impact is negative because the optimizer shifted requirements out of Zones G, H, and I into Zones A through F, J, and K, due to higher zonal EFORD values in zones G, H, and I.

**Table 6: URM Impact UCAP**

	<b>NYC Locality</b>	<b>G-J Locality</b>
URM Impact [UCAP MW]	24.4	-70.1

## Renewable Exemption Bank

The Renewable Exemption Bank for the NYC Locality and the Renewable Exemption Bank for the G-J Locality are both zero for the REL applicable for CY2019 as specified in Section 23.4.5.7.13.5.5.1 of the MST.

The Renewable Exemption Bank that will remain available from the CY2019 Study for the subsequent Additional SDU Study or Expedited Deliverability Study will be calculated and posted by the NYISO after deducting the UCAP equivalent MW of the CRIS MW granted Renewable Exemptions in the CY2019 Study’s Final Decision Round.

## Renewable Exemption Limit Calculation

For CY2019, the REL for each of the Mitigated Capacity Zones is summarized in Table 7 below.

**Table 7: Renewable Exemption Limit**

	<b>NYC Locality</b>	<b>G-J Locality</b>
Minimum Renewable Exemption Limit <sub>UCAP</sub> [MW]	35.4	53.9
$\Delta PeakLoad_{UCAP}$ [MW]	96.5	36.4
Regulatory Retirement UCAP [MW]	549.9	587.9
URM Impact [UCAP MW]	24.4	-70.1
Renewable Exemption Bank [UCAP MW]	0	0
<b>Renewable Exemption Limit [UCAP MW]</b>	<b>670.8</b>	<b>554.2</b>