



BSM Renewable Exemption Cap Proposal

NYISO

March 10, 2020, NYISO



Background on Renewable Exemption Cap

- In April 2016, NYISO filed a compliance plan with FERC that, amongst other things, proposed an exemption for intermittent resources from Buyer Side Mitigation, up to 1000MWs per year, measured in ICAP.
- On February 20, 2020, FERC ruled on the NYISO compliance filing. FERC generally accepted the NYISO's compliance filing, however FERC rejected NYISO's proposed cap and ordered the NYISO to propose a new cap.
- The NYISO's response is due March 23, 2020.

Proposal Concept

- **Per the FERC order, the Renewable Exemption MW cap (RE Cap) will be:**
 1. Narrowly tailored for mitigated capacity Localities;
 2. Based on UCAP MWs; and
 3. Designed to limit the risk that the REE significantly impacts market prices
- **The NYISO's proposed REE MW cap for each mitigated Locality will consider:**
 1. Load forecast changes (Based on existing BSM process)
 2. Subset of resource retirements
 3. Impacts of additional renewable resources on the URM (New process that requires a few MARS runs to determine)
 4. Market pricing impact threshold (defined by a \$0.50/kW-mo threshold to be consistent with Supply-Side Mitigation thresholds)

Proposal Concept Details

- **First Class Year Cap Determination of RE Cap for each mitigated Locality =**

Greater of (Load Forecast Changes + UCAP Retirements + URM Impact due to Renewable Entry) or Market Price Impact

- Any unused RE Cap is added to a Class Year Bank

- **Subsequent Class Year Cap Determination for RE Cap for each mitigated Locality =**

Bank

+ [Greater of (Load Forecast Changes + UCAP Retirements + URM Impact due to Renewable Entry) or Market Price Impact]



Proposal Concept Details

- Load Forecast Changes = (LF from Last Year of MSP_{CurrentCY} - LF from Current Market) adjusted for URM%
- Incremental Load Forecast Changes = (LF from Last Year of MSP_{CurrentCY} - LF from Last Year of MSP_{PrevCY}) adjusted for URM%
- UCAP Retirements = Subset of incremental retirements since previous CY
- URM Impact due to Renewable Entry = Change in URM adjusted Load Forecast to capture New Renewable entry contribution to LOLE
- Insignificant Market Price Impact = Quantity of Renewable UCAP MWs that is equivalent to a \$0.50/kW-month reduction in market prices

Load Forecast Changes example

- Assume a class year begins in 2019 and the end of the Mitigation Study Period is 2025
 - 2019 peak: 11,608 MW
 - 2025 peak: 11,616 MW
- Raw Load delta: 8 MW
- Contribution to renewable cap, converted to UCAP using URM%
 - $URM\% = LCR * (1 - \text{Locality EFORD})$
 - $8 \text{ MW} * URM\%$
 - ~6 MW

2019 Load & Capacity Data Report

Table I-4a: Baseline Summer Non-Coincident Peak Demand, Historical and Forecast

Reflects Impacts of Energy Saving Programs & Behind-the-Meter Generation

Non-Coincident Summer Peak Demand by Zone - MW

Year	A	B	C	D	E	F	G	H	I	J	K
2009	2,608	1,939	2,780	721	1,420	2,188	2,178	600	1,323	10,661	5,194
2010	2,768	2,075	2,932	566	1,469	2,379	2,407	700	1,492	11,213	5,832
2011	2,921	2,199	3,042	811	1,519	2,425	2,415	730	1,512	11,424	5,935
2012	2,746	2,113	2,889	809	1,433	2,388	2,273	681	1,414	11,112	5,516
2013	2,821	2,103	2,998	822	1,559	2,423	2,367	721	1,517	11,456	5,747
2014	2,620	1,898	2,832	552	1,410	2,300	2,052	590	1,348	10,572	5,035
2015	2,728	1,954	2,815	595	1,403	2,306	2,204	632	1,398	10,586	5,296
2016	2,800	2,023	2,830	704	1,397	2,342	2,198	652	1,392	10,990	5,394
2017	2,494	1,828	2,649	736	1,362	2,192	2,125	633	1,395	10,671	5,121
2018	2,769	2,073	3,021	620	1,409	2,424	2,251	642	1,399	11,070	5,394
2019	2,732	1,983	2,847	569	1,351	2,425	2,249	640	1,407	11,608	5,240
2020	2,691	1,959	2,801	666	1,320	2,367	2,232	637	1,412	11,651	5,134
2021	2,672	1,953	2,779	663	1,301	2,342	2,210	637	1,417	11,695	5,056
2022	2,653	1,953	2,759	663	1,284	2,317	2,207	637	1,418	11,704	5,035
2023	2,625	1,947	2,735	662	1,264	2,291	2,213	635	1,407	11,608	4,969
2024	2,602	1,944	2,714	661	1,246	2,264	2,209	634	1,406	11,598	4,894
2025	2,582	1,940	2,695	658	1,229	2,242	2,206	635	1,408	11,616	4,823
2026	2,565	1,937	2,678	657	1,214	2,225	2,196	636	1,408	11,616	4,758
2027	2,548	1,937	2,666	654	1,203	2,208	2,184	636	1,406	11,598	4,719
2028	2,537	1,937	2,653	654	1,193	2,197	2,174	637	1,405	11,589	4,730
2029	2,530	1,941	2,646	652	1,184	2,191	2,170	639	1,404	11,580	4,815
2030	2,520	1,941	2,633	651	1,177	2,174	2,159	639	1,403	11,572	4,833
2031	2,513	1,942	2,623	651	1,169	2,162	2,151	641	1,404	11,580	4,857
2032	2,510	1,945	2,618	650	1,166	2,154	2,150	645	1,413	11,600	4,876
2033	2,508	1,949	2,614	650	1,164	2,147	2,161	649	1,424	11,749	4,902
2034	2,509	1,955	2,610	650	1,161	2,143	2,163	654	1,437	11,863	4,928
2035	2,512	1,962	2,613	650	1,161	2,142	2,169	661	1,456	12,013	4,966
2036	2,518	1,973	2,615	650	1,165	2,145	2,175	667	1,473	12,155	5,003
2037	2,526	1,981	2,622	652	1,168	2,149	2,182	676	1,492	12,313	5,051
2038	2,536	1,993	2,632	652	1,173	2,157	2,188	684	1,511	12,472	5,096
2039	2,549	2,006	2,641	653	1,181	2,168	2,207	691	1,524	12,581	5,152

Note: Historical values reflect actual experienced weather conditions. Forecasted values assume normal weather conditions.

New UCAP Retirements example

- **NYISO forecasts that 400 MW of ICAP will retire in NYC by 2025**
 - For example, due to the NYS DEC NOx rule
- **NYISO will convert this to UCAP using the resources' NERC Class Average EFORd values**
- **Contribution to the renewable cap, converted to UCAP**
 - $400 \text{ MW} * (1 - \text{EFORd})$
 - ~375 MW (assumes a 6% EFORd, actual EFORd could be different)

URM Impact due to Renewable Entry

- **The New York State Reliability Council identified that the NYC UCAP Requirement increased by approximately 250 MW when approximately 600 MW of offshore wind UCAP were added to NYC**
 - In ratio form, NYC UCAP Requirement increases by ~0.4 MW per MW of offshore wind UCAP added
 - As discussed above, this ratio will be calculated each Class Year for each renewable resource type seeking a renewable exemption in each location an exemption is sought
- **In the ICAP Market, adding 1 MW of offshore wind UCAP will only decrease prices by the equivalent of 0.6 MW UCAP from traditional generation (1 MW UCAP Supply – 0.4 Requirement Increase)**
- **Renewable requests will consume the cap such that capacity prices would not be suppressed**
 - For example, each MW of additional offshore wind UCAP in NYC would reduce the Renewable Cap by 0.6 MW of UCAP

Insignificant Market Price Impact

- **Based on the Demand Curve slope adjusted for UCAP, the quantity of Renewable UCAP MW additions that is equivalent to no more than a \$0.50/kW-month price impact**
 - This value was selected to be consistent with the market price impact thresholds used in Supply Side mitigation in the MST.
- **For example, if the Demand Curve slope is \$1.37/kW-month per 100MW then a \$0.50/kW-month price impact would result in 67MWs of offshore wind UCAP**
 - Offshore UCAP = $((\$0.50/\$1.37)*100)/(1-\text{Renewable Entry URM}\%)$
 - $67 = 36/(1 - 0.46)$

“Bank” Carryover to Subsequent CY Cap

- The purpose of the bank is to ensure that any MWs derived from retirements or derived from the impact on requirements due to the entrance of renewable resources (URM Impact) remain available to renewable resources in subsequent class years.
- **Subsequent Class Year’s formula would be:**
 - *Bank + [Greater of (Load Forecast Changes + UCAP Retirements + URM Impact due to Renewable Entry) or Market Price Impact]*

Next Steps

- NYISO intends to return to the March 18th ICAPWG with further details on this proposal.
- NYISO intends to file with FERC its response to the compliance Order on March 23rd.
- Given the very short timeframe on this compliance filing, NYISO requests that stakeholders provide feedback on the proposal as quickly as possible.