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Independent System Operator

2020 RNA Reliability Needs

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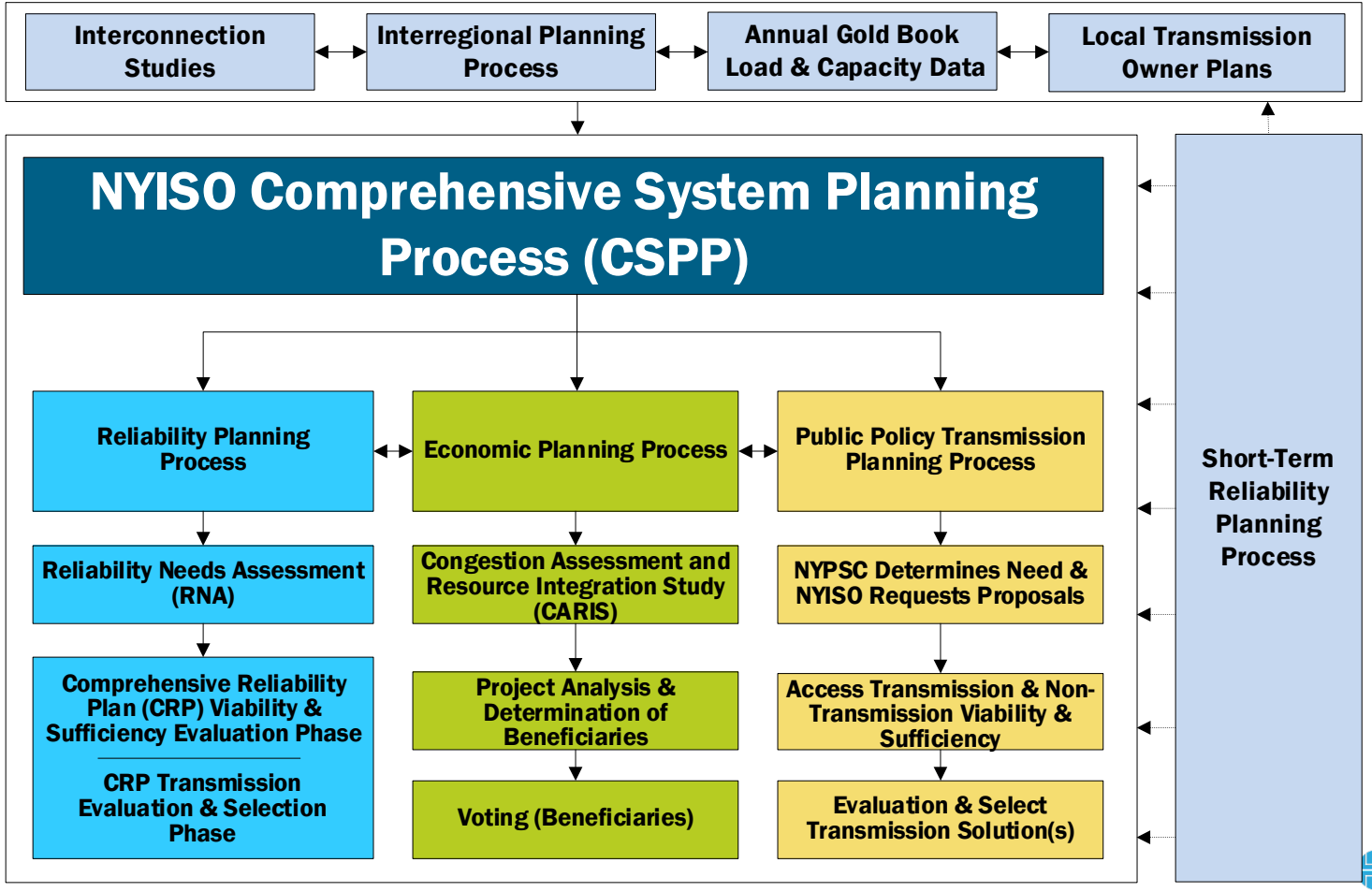
2020 RNA Background



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2020 RNA Background

- The RPP is part of the Comprehensive System Planning Process (CSPP) and is performed pursuant to the Attachment Y of the NYISO OATT; Section 31.1 and 31.2.
  - Additional implementation details, including recently updated RNA Base Case inclusion rules, are captured in the RPP Manual #26
- The 2020-2021 Reliability Planning Process (RPP) starts with the 2020 Reliability Needs Assessment (2020 RNA) followed by the Comprehensive Reliability Plan (CRP)
  - 2020 RNA Study Period: year 4 (2024) through year 10 (2030)
- Effective May 1, 2020, the Short Term Reliability Process (STRP) addresses short term reliability needs through a quarterly Short Term Assessment of Reliability (STAR). The first quarterly STAR commenced on July 15, 2020. The NYISO has conducted STARs for the third and fourth quarters of 2020 and is currently conducting a STAR for the first quarter of 2021.
  - STAR Study Period: year 1 (2021) through year 5 (2025)

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2020 RNA Background, cont.

- Reliability evaluations consist of resource adequacy and transmission security evaluations of the New York Bulk Power Transmission Facilities (BPTFs) over the RNA Study Period
- The 2020 RNA is based on the information from the 2020 Gold Book, the 2020 FERC 715 filing (*i.e.,* power flow cases and auxiliary files), historical data, and market participant data

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2020 RNA: Base Case Development Background

- **Based on the RNA Base Case, the NYISO identifies Reliability Needs of the BPTFs in accordance with applicable Reliability Criteria (*i.e.*, NERC, NPCC, and NYSRC)**
- **2020 RNA Base Case:**
  - For the **transmission security** evaluations, the NYISO uses the 2020 FERC Form 715 filing and the information from the 2020 Gold Book as a starting point for developing the base case system models with the application of the inclusion rules.
  - For the **resource adequacy** evaluations, the models are developed starting with prior resource adequacy models, and are updated with information from the 2020 Gold Book and historical production data, with the application of the inclusion rules. Information on modeling of neighboring systems is based on the input received from the NPCC CP-8 working group. Power flow evaluations are based on the models described under the transmission security evaluations.
- **An updated Reliability Planning Process Manual was approved on December, 2019, with certain changes related to the inclusion rules**
  - The inclusion rules are used to determine what proposed projects will be included in the RNA Base Case, and also how to treat generator deactivations

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2020 RNA Base Case Major Assumptions

2020 RNA: Summer Peak Load Forecast Assumptions

High Load Scenario, Baseline and Adjusted Summer Peak Forecast

Annual MW	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2020 High Load Scenario[1]	32,452	32,502	32,743	32,611	32,623	32,641	32,863	33,163	33,562	33,976	34,380
+ 2020 Solar PV (Impact on High Load)	539	658	779	904	1,006	1,101	1,176	1,229	1,260	1,271	1,268
2020 RNA High Load Scenario Case[3]	32,991	33,160	33,522	33,515	33,629	33,742	34,039	34,392	34,822	35,247	35,648
2020 Gold Book Baseline[2]	32,296	32,129	32,128	31,918	31,838	31,711	31,670	31,673	31,756	31,865	31,992
+ 2020 Solar PV (Impact on Baseline)	555	707	841	986	1,102	1,204	1,287	1,351	1,392	1,411	1,411
2020 RNA Base Case[3]	32,851	32,836	32,969	32,904	32,940	32,915	32,957	33,024	33,148	33,276	33,403

1. High Load forecast from 2020 Gold Book
2. The transmission security power flow RNA Base Cases use this Gold Book Baseline forecast
3. For the resource adequacy (RA) study RNA Base Case, the 2020 Gold Book Baseline and High Load forecast were modified by removing the behind-the-meter (BtM) solar PV impacts in order to model the solar PV explicitly as a generation resource to account for the intermittent nature of its availability

Note: The 2020 Gold Book contains additional details on the load forecast: https://www.nyiso.com/documents/20142/2226333/2020-Gold-Book-Final-Public.pdf

Comparison of Base Case Peak Forecasts - 2018 & 2020 RNA (MW)

Annual MW	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2018 RNA Base Case[1]	33,344	33,423	33,318	33,225	33,182	33,173	33,204	33,262	33,332	33,420	33,507	NA	NA
2020 RNA Base Case[1]			32,851	32,836	32,969	32,904	32,940	32,915	32,957	33,024	33,148	33,276	33,403
Change from 2020 RNA	NA	NA	-467	-389	-213	-269	-264	-347	-375	-396	-359	NA	NA

[1] For the resource adequacy study, the Gold Book baseline load forecast was modified by removing the behind-the-meter solar PV impacts in order to model the solar PV explicitly as a generation resource to account for the intermittent nature of its availability

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2020 RNA: Inclusion Rules Application

- **Proposed generation and transmission to be included:**
  - Next slide contains a list of added projects
- **Generation deactivations: all plant deactivations listed in the 2020 Gold Book Section IV are modeled out of service in the RNA Base Case**
  - Certain peaker units listed in Table IV-6 are assumed out-of-service during summer ozone season only (additional details in this presentation)
- **Proposed Local Transmission Owner Plans (LTP) to be included:**
  - All BPTF LTPs listed in the 2020 GB Section VII as firm, with consideration for the in-service date
  - All non-BPTF LTPs listed by the Transmission Owner as firm
- **Existing transmission facilities modeled out-of-service include:**
  - Con Edison's B3402 and C3403 345 kV cables for the entire study period

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Proposed Generation and Transmission Projects

Proposed Projects Included in the 2020 RNA Base Case

Queue #	Project Name	Zone	Point of Interconnection	Summer Peak (MW)	2020 RNA Commercial Operation Date
Proposed Transmission Additions, other than Local Transmission Owner Plans					
Q545A*	Empire State Line	A	Dysinger - Stolle 345kV	n/a	6/2022
556	Segment A Double Circuit	E,F	Edic - New Scotland 345kV	n/a	12/2023
543	Segment B Knickerbocker-Pleasant Valley 345 kV	F,G	Greenbush - Pleasant Valley 345kV	n/a	12/2023
430	Cedar Rapids Transmission Upgrade	D	Dennison - Alcoa 115kV	80	10/2021
System Deliverability Upgrades*	Leeds-Hurley SDU	F,G	Leeds- Hurley SDU 345kV	n/a	summer 2021
Proposed Generations Additions					
387*	Cassadaga Wind	A	Dunkirk - Moon Station 115 kV	126.5	12/2021
396	Baron Winds	C	Hillside - Meyer 230kV	238.4	12/2021
422	Eight Point Wind Energy Center	B	Bennett 115kV	101.8	12/2021
505	Ball Hill Wind	A	Dunkirk - Gardenville 230kV	100.0	12/2022
546	Roaring Brook Wind	E	Chases Lake Substation 230kV	79.7	12/2021
678	Calverton Solar Energy Center	K	Edwards Substation 138kV	22.9	12/2021
			MW Additions from 2019-2028 CRP	543	
			Total MW generation additions	669	

*also included in the 2019-2028 CRP Base Cases

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DEC Peaker Rule Impacts on the 2020 RNA Base Case

DEC Peaker Rule Background

- New York State Department of Environmental Conservation (DEC) adopted a regulation to limit nitrogen oxides (NOx) emissions from simple-cycle combustion turbines ("Peaking Units") (referred to as the "Peaker Rule")
- The Peaker Rule required all impacted plant owners to file compliance plans by March 2, 2020
- NYISO considered generators' compliance plans in the development of the 2020 Reliability Needs Assessment Base Case
- The following slides show zonal breakdown of the related information from slide 16 (*i.e.* 2020 GB Table iV-6)

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Status Change due to DEC Peaker Rule, Zone G

Units	Nameplate MW	CRIS (MW)		Capability (MW)		2023 Ozone Season	2023 non-Ozone Season	2024 Ozone Season	2024 non-Ozone Season	2025 Ozone Season	2025 non-Ozone Season
		Summer	Winter	Summer	Winter	*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	20	26	20	24	O/S	O/S	O/S	O/S	O/S	O/S
South Cairo	22	20	26	18	23	O/S	O/S	O/S	O/S	O/S	O/S
Unavailable MW = Impacted MW	43	40	52	38	46						

O/S - Out-of-service

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 plants with compliance plans that resulted in a change of status (*i.e.*, as also listed in the 2020 Gold Book Table iV-6)

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Status Change due to DEC Peaker Rule, Zone J

Units	Nameplate MW	CRIS (MW)		Capability (MW)		2023 Ozone Season	2023 non-Ozone Season	2024 Ozone Season	2024 non-Ozone Season	2025 Ozone Season	2025 non-Ozone Season
		Summer	Winter	Summer	Winter	*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	16	21	14	19	I/S	I/S	I/S	I/S	O/S	I/S
Gowanus 1&4 (1-1 through 1-8, and 4-1 through 4-4)	320	279	364	274	365	O/S	I/S	O/S	I/S	O/S	I/S
Gowanus 2&3 (2-1 through 2-8 and 3-1 through 3-8)	320	300	391	278	373	I/S	I/S	I/S	I/S	O/S	I/S
Narrows 1&2 (1-1 through 1-8, and 2-1 through 2-8)	352	309	404	287	380	I/S	I/S	I/S	I/S	O/S	I/S
Ravenswood GTs (01, 10, 11)	69	50	64	41	57	O/S	O/S	O/S	O/S	O/S	O/S
Arthur Kill GT1	20	17	22	12	15	I/S	I/S	I/S	I/S	O/S	O/S
Astoria GTs (2-1 through 2-4, 3-1 through 3-4, 4-1 through 4-4)	558	504	621	415	543	O/S	O/S	O/S	O/S	O/S	O/S
Con Ed 59th St	17	15	20	16	20	I/S	I/S	I/S	I/S	O/S	O/S
Con Ed 74th St	37	39	49	35	41	O/S	O/S	O/S	O/S	O/S	O/S
Con Ed Hudson Ave 5	16	15	20	14	20	O/S	O/S	O/S	O/S	O/S	O/S
Unavailable MW *(Summer Capability)*						779	506	779	506	1,385	533
Available MW (Summer Capability)						606	880	606	880	0	852
Impacted MW	1,725	1,544	1,975	1,385	1,834						

O/S - Out-of-service

I/S - In-service

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 plants with compliance plans that resulted in a change of status (*i.e.*, as also listed in the 2020 Gold Book Table iV-6)

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Status Change due to DEC Peaker Rule, Zone K

Units	Nameplate MW	CRIS (MW)		Capability (MW)		2023 Ozone Season	2023 non-Ozone Season	2024 Ozone Season	2024 non-Ozone Season	2025 Ozone Season	2025 non-Ozone Season
		Summer	Winter	Summer	Winter	*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	14.6	19.1	11.4	14.5	O/S	O/S	O/S	O/S	O/S	O/S
Northport GT	16	13.8	18.0	11.7	15.1	O/S	O/S	O/S	O/S	O/S	O/S
Port Jefferson GT1	16	14.1	18.4	12.9	16.6	O/S	O/S	O/S	O/S	O/S	O/S
Unavailable MW = Impacted MW	48	42.5	55.5	36.0	46.2						

O/S - Out-of-service

I/S - In-service

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 plants with compliance plans that resulted in a change of status (*i.e.*, as also listed in the 2020 Gold Book Table iV-6)

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Resource Adequacy
RNA Results

2020 RNA: LOLE Results

Study Year	NYCA Baseline Summer Peak Load (MW)	Area J Peak Load (MW) (Non-coincident)	RNA Base Case NYCA LOLE (days/year)
2024	31,838	11,557	0.04
2025	31,711	11,552	0.08
2026	31,670	11,609	0.10
2027	31,673	11,667	0.12
2028	31,756	11,747	0.13
2029	31,865	11,836	0.17
2030	31,992	11,924	0.19

- 2026: LOLE at 0.10 (0.097) d/y is at criterion
- 2027: Criterion violation (*i.e.,* LOLE>0.1 days/year) observed through 2030
- Removal of Area J peakers drives the increase in LOLE
  - removed approximately 1,400 MW by 2025
- The LOLE increase from 2026 to 2030 is due to load growth

Note: The first Short-Term Assessment of Reliability (STAR) started on July 15, 2020. Its Study Period encompasses year 1 through year 5 following the STAR starting date. The study assumptions and results related with the STAR Study Period will be updated, as applicable in subsequent STARs.

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Compensatory MW Concept for Resource Adequacy

- Resource adequacy compensatory megawatt amounts are determined by adding generic "perfect capacity" resources to zones (or combination of zones) to address the shortfall
  - "Perfect capacity" is capacity that is not derated (*e.g.,* due to ambient temperature or unit unavailability caused by factors such as equipment failures or lack of "fuel"), not subject to energy duration limitations, and not tested for transmission security or interface impacts. Actual resources would need to be larger in order to achieve the same impact as perfect-capacity resources.
- The compensatory MW additions are not intended to represent specific solutions, as the impact of a specific solution can depend on the type of the solution and its location on the grid
- Resource needs could potentially be met by combinations of solutions including generation, transmission, energy efficiency, and demand response measures
- No transmission constraints within Zones J or K are modeled in MARS

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Individual Zonal Compensatory MW

Study Year	NYCA LOLE (dy/yr)	Zones for Additions			
		Only in A-F	Only in G-I	Only in J	Only in K
2024	0.04	-	-	-	-
2025	0.09	-	-	-	-
2026	0.10	-	-	-	-
2027	0.12	700	700	100	not feasible
2028	0.14	1,600	1,650	150	not feasible
2029	0.17	not feasible	not feasible	300	not feasible
2030	0.19	not feasible	not feasible	350	not feasible

Notes:

(+) positive values are for those study years with NYCA LOLE above the criterion, and the values represent the MW that can be added to each zone to restore the NYCA LOLE to 0.1 days/year

“Not feasible” - Either a large, or no amount of capacity added in the zone can bring NYCA LOLE below 0.1

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Transmission Security RNA Results

2020 RNA: NYISO's Transmission Security BPTF Results Summary

- No steady state voltage or short circuit Reliability Criteria violations identified on the BPTF
- No thermal Reliability Criteria violations for N-0, N-1 or N-1-0 conditions on the BPTF
- Thermal Reliability Criteria violations are identified starting in Year 5 (2025) on the BPTF for N-1-1 and N-1-1-0 conditions on Con Edison transmission facilities
  - N-1-1-0 Reliability Needs were identified starting in Year 5 (2025) and increase through Year 10 (2030)
  - The observed maximum deficiency (i.e. compensatory MW) in 2025 is 700 MW (may be observed for ~9 hours (3,853 MWh)) and in 2030 is 1,075 MW (may be observed for ~12 hours (7,672 MWh))
- Dynamics Reliability Criteria violations identified in Year 4 (2024) on the BPTF for N-1 and N-1-1 conditions that are exacerbated as the system changes through Year 10 (2030)
  - Criteria violations include transient voltage response, loss of generator synchronism, and undamped voltage oscillations
  - The dynamic stability criteria violations arise on transmission facilities owned by Con Edison in its Transmission District and extend into areas adjacent to its service territory
  - The compensatory MVA to address the dynamic stability criteria violations is 490 MVA in 2025 growing to 1,390 MVA in 2030

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2020 RNA Base Case Conclusions

2020 RNA: BPTF Conclusions

- Unavailability of Zone J peakers in summer:
  - 779 MW in 2023, 2024; 1,385 MW in 2025 and beyond
- Resource deficiency (LOLE > 0.1) beginning in 2026
  - 350 MW deficiency in Zone J by 2030
- Several 345 kV circuits on the Con Edison service territory are overloaded equating to a deficiency of 700 MW in 2025 (may be observed for ~9 hours (3,853 MWh)) and increasing to 1,075 MW in 2030 (may be observed for ~12 hours (7,672 MWh))
- Dynamic stability criteria violations (transient voltage response, loss of generator synchronism, and undamped voltage oscillations) are observed for the entire study period ranging from 490 MVA in 2024 to 1,390 MVA in 2030
- The needs can potentially be met by combinations of solutions including generation, transmission, and load reduction (energy efficiency, demand response, *etc.*) measures

Summary of Compensatory MW/MVA

Summary of Reliability Needs (Compensatory MW/MVA)

Study Year	Bulk Facilities			Non-Bulk Facilities	
	Resource Adequacy (Zone J, MW)	Transmission Loading (Zone J, MW)	Dynamic Instability (Zone J, MVA)	ConEdison Astoria East/ Corona 138 kV (MW)	ConEdison Greenwood/Fox Hills 138 kV (MW)
2024	below criterion	below criterion	490	115	below criterion
2025	below criterion	700	1,020	110	360
2026	below criterion	760	1,080	115	350
2027	100	820	1,140	120	360
2028	150	900	1,210	125	360
2029	300	990	1,300	170	370
2030	350	1,075	1,390	180	370

- Actual resources would need to be larger in order to achieve the same impact as perfect-capacity resources.
- The Reliability Needs could be met by combinations of solutions including generation, transmission, energy efficiency, demand response measures, or changes in operating protocols.
- All Reliability Needs arise within Con Edison's transmission district in New York City (Zone J). Therefore, Con Edison is the Responsible Transmission Owner for regulated backstop solutions, as defined by the NYISO OATT.

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2020 RNA: non-BPTF Conclusions

For the non-BPTF (included for information only)

- **Central Hudson***
  - Various voltage constraint and reserve capability needs for local transformer outage concerns without the Coxsackie and South Cairo generators
- **Con Edison***
  - Deficiencies in the Astoria East/Corona 138 kV Transmission Load Area (TLA) starting in 2023 (year 3)
    - Deficiencies range from 110 MW in 2023 (year 3) to 180 MW in 2030 (year 10).
    - Duration of the deficiency ranges from 10 hours in 2023 (year 3) to 13 hours in 2030 (year 10)
  - Deficiencies in the Greenwood/Fox Hills 138 kV TLA starting in 2025 (year 5)
    - Deficiencies range from 360 MW in 2025 (year 5) to 370 MW in 2030 (year 10)
    - Duration of the deficiency is 14 hours
  - Astoria East/Corona 138 kV TLA and Greenwood/Fox Hills 138 kV TLA have transient voltage recovery violations for various faults within and without the TLA

***Additional details under the June 19, 2020 ESPWG/TPAS meeting materials**

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RNA Scenarios Based on the 2019 70x30 CARIS Scenarios

RNA 70x30 Scenario Background

- The CLCPA mandates that 70% of New York's end-use energy consumption be served by renewable energy by 2030 ("70x30"), including specific technology-based targets for distributed solar (6,000 MW by 2025), storage (3,000 MW by 2030), and offshore wind (9,000 MW by 2035)
- The RNA 70x30 scenario models are based on the 2019 CARIS 70x30 scenario assumptions and output information
  - The 2019 CARIS Report is available on the NYISO website [link]
- The CARIS 70x30 scenario analyzed the system congestion and constrained generation pockets that arise from implementing 70% renewable energy on the New York system by 2030
- The purpose of this analysis is to augment the effort with reliability perspectives on potential system changes undertaken to meet state policy goals
  - Additional assumptions details are in Appendix C of the August 20 ESPWG presentation

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Resource Adequacy Analysis Steps

1. **Model the CARIS 70x30 "Base Load" and "Scenario Load" along with their corresponding renewable resources mix and calculate NYCA LOLE**
   - Identify Zonal Resource Adequacy Margin (ZRAM)
2. **For each load model, if the system has surplus resources (LOLE less than 0.1) then remove fossil plants based on age until NYCA exceeds the LOLE criterion ("model at criterion")**
   - This age-based approach is a simple analytical approach as a proxy to represent unit retirements that may occur as surplus resources increase. In reality many factors will affect specific generator status decisions
   - Quantify (MW) fossil plant removals that may be possible while maintaining resource adequacy

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Fossil Removal on “Base Load”

	Total Thermal Capacity (MW)				Cumulative Capacity Removed (MW)				
Cases (Age >=)	Zone J	Zone K	Other Zones	Total	Zone J	Zone K	Other Zones	Total	NYCA LOLE
Total	8,190	3,962	15,012	27,165	0	0	0	0	0.00
70	6,978	3,564	14,616	25,160	1,212	398	396	2,005	0.02
68	6,601	3,371	14,616	24,590	1,589	591	396	2,575	0.05
67*	6,386	3,360	14,616	24,364	1,804	602	396	2,801	0.11
67	6,236	3,360	14,616	24,214	1,954	602	396	2,951	0.15

Observations

- NYCA meets the LOLE criterion with 2,575 MW removed
- NYCA exceeds the LOLE criterion when 2,801 MW are removed (67*)
  - The increase in LOLE is primarily driven by Zone J capacity removals

Notes:

- Case 67: most, but not all units age 67 years and older were retired in this case
- Case 67*: a special evaluation of Case 67 where the marginal unit was derated instead of fully removed to obtain an LOLE closer to 0.1 days/year

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Fossil Removal on “Scenario Load”

	Total Thermal Capacity (MW)				Cumulative Capacity Removed (MW)				
Cases (Age >=)	Zone J	Zone K	Other Zones	Total	Zone J	Zone K	Other Zones	Total	NYCA LOLE
Total	8,190	3,962	15,012	27,165	0	0	0	0	0
50	4,354	1,541	11,228	17,124	3,836	2421	3784	10,041	0.03
40	4,354	1,393	10,247	15,995	3,836	2569	4765	11,170	0.07
39	4,354	1,349	10,197	15,901	3,836	2613	4815	11,264	0.09
38	3,563	1,325	9,935	14,824	4,627	2637	5077	12,341	0.11

Observations

- NYCA meets the LOLE criterion with 11,264 MW removed
- NYCA exceeds the LOLE criterion when 12,341 MW are removed

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Transmission Security Analysis Cases

- **The purpose of this assessment is to identify reliability risks focusing on steady-state thermal loading on the BPTF for N-1 and N-1-1 conditions**
- **This assessment modeled six different output levels of intermittent renewable resources and load levels**
  - The six cases considered cover, within reasonable bounds, load levels that can be seen for many hours (2 peak, 2 light load, and 2 shoulder load cases)
  - The renewable generation mix for each case was selected based on observations from the CARIS 70x30 Base Load case results for similar load levels
    - One exception to this dispatch was included to reflect an evening peak condition assuming no MW output from the wind and solar resources
- **The basis for the load and renewable resource mix is the 70x30 Base Load**
  - The amount of dispatchable resources included in the transmission security base case is approximately 24,700 MW (after age-based and peaker removals)
  - For this assessment both 10-minute and 30-minute operating reserve levels were maintained by utilizing the remaining synchronous generation

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Transmission Security Analysis Results

- **The peak load cases show thermal loading violations in the Con Edison service territory under N-1 conditions**
  - These violations are primarily driven by local load pocket deficiencies created by the age-based generation removals
- **The peak load cases show thermal loading violations in the Con Edison, Orange and Rockland, and PSEG-Long Island service territories**
  - This assessment did not consider the potential duration of the deficiencies
- **The thermal loading issues indicate transmission constraints that may occur with high renewable output as well as under peak load conditions without these resources**
  - To secure the transmission system additional dispatchable resources would be needed (approximately 750 MW in addition to the 24,700 MW)
- **This assessment did not consider the sudden loss of all off-shore wind but did include contingency events for the loss of renewable resources due to electrical faults**

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Next Steps

Short-Term Reliability Process (STRP)
Short-Term Assessment of Reliability (STAR)

- **The 2020 Q3 STAR, commenced on July 15, 2020 and the first STAR Report was issued on October 13, 2020**
  - Assessment looked at years 1 – 5 (2021-2025), but focuses on years 1 – 3 (2021-2023) and found needs as early as 2023
  - Solicitation for solutions (*i.e.*, market-based solutions, and also backstop regulated solutions form Consolidated Edison) was issued December 3, 2020 and the solutions were due February 1, 2021
- **2020 Q4 STAR commenced on October 15, 2020, and the report was posted on January 13, 2021**
  - The findings are consistent with the 2020 Q3 STAR
- **2021 Q1 STAR commenced January 15, 2021**

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Post-RNA Base Case Updates and Solicitation of Solutions

- **Q1 2020**
  - Stakeholders' presentations of project status updates (*e.g.,* local transmission plans, generation additions, demand changes), that may reduce or eliminate the Reliability Needs noted in the final RNA
    - Updates must meet the inclusion rules
  - The NYISO re-evaluates the status updates and inclusion rule updates, if necessary, and presents updated Reliability Needs
  - NYISO issues solicitation of solutions to remaining Reliability Needs: responses due within 60 days from Solicitation Letter
  - Developers submitting solutions must be qualified via the applicable NYISO qualification process: Reliability Planning Process Manual 26 Attachment A, Attachment B, Attachment C

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Questions?

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

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