New York ISO
Independent System Operator

2020 Comprehensive Area Transmission Review (ATR) Overview

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2020 Comprehensive ATR

- ATRs are performed on an annual basis for conformance with Northeast Power Coordinating Council (NPCC) and the New York State Reliability Council (NYSRC) criteria
  - Although this Comprehensive ATR analyzed the BPTF, only BPS facilities are subject to NPCC Directory #1 and the NYSRC Reliability Rules
- The study year for this assessment is 2025
- The previous comprehensive ATR of the New York State BPTF was performed in 2015 (for the planned year 2020), and approved by the NYSRC in March 2016 and by the NPCC Reliability Coordinating Council (RCC) in June 2016
- The case assumptions used in this ATR are the same as those used for the 2020 *Reliability Needs Assessment* (RNA)

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Key Study Assumptions

ATR Study Assumptions

- **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 of the 2020 Load and Capacity Data Report ("Gold Book") are assumed out-of-service during summer ozone season only; additional details provided 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

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Proposed Generation and Transmission Projects

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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Load and Capacity Assumptions

Description	Comprehensive Review 2015 Forecast for Summer 2020	Comprehensive Review 2020 Forecast for Summer 2025	Change From Previous CATR
Peak Load (MW)	34,309	31,711	-2,598
Total Capacity (MW)	43,779 (1)	37,902 (2)	-5,877
Reserve Margin	27%	20%	-7%

Notes:

1. This amount is derived from the NYISO 2015 Gold Book and represents the 2020 Total Resource Capability from Table V-2a; net resource changes from Tables IV-1, IV-2a, IV-2b, and IV-3.
2. This amount is derived from the NYISO 2020 Gold Book and represents the 2025 Total Resource Capability from Table V-2a plus changes in generation facilities changes included in this review.

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Scheduled Transfers

Region		Transaction (MW)
From	To	2025
NYCA	NE	83
NYCA	HQ	-1110
NYCA	PJM and Others	-817
NYCA	Ontario	0

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DEC Peaker Rule Impacts on the 2020 ATR Base Case

DRAFT – FOR DISCUSSION PURPOSES ONLY

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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 Comprehensive ATR
- The following slides show zonal breakdown of the generators' compliance plans

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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
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
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
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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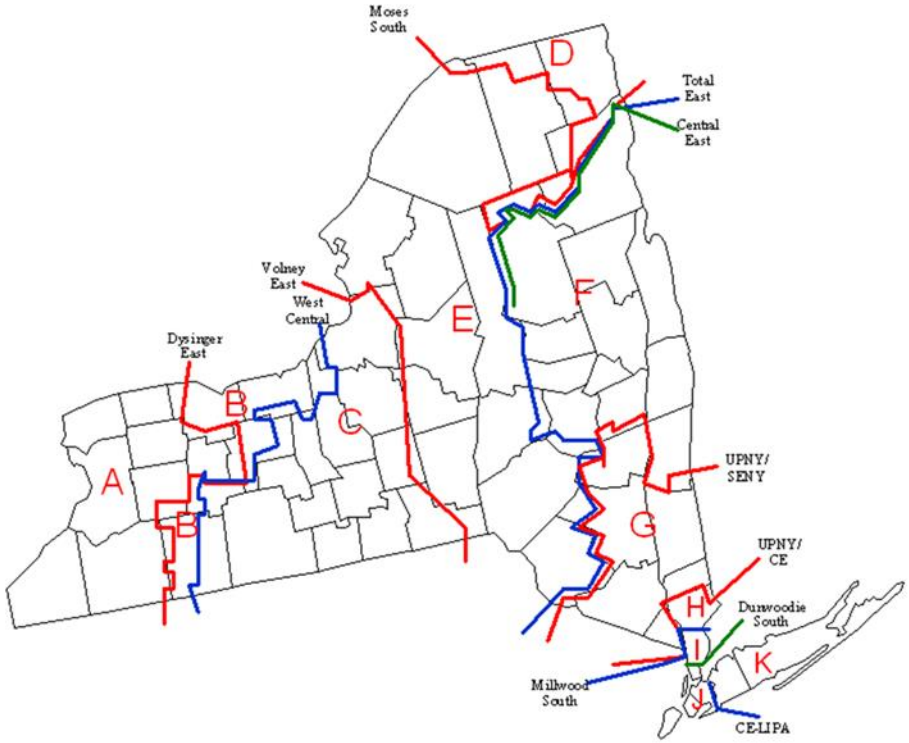
Analysis Results

Transfer Limit Analysis

NY Internal Interfaces



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Assessment of Planning Transfer Capability

Interface	2015 Comprehensive Review (Study Year 2020)				2020 Comprehensive Review (Study Year 2025)			
	Normal (MW)		Emergency (MW)		Normal (MW)		Emergency (MW)	
Dysinger East	1,750	T	2,325	T	1,800	T	2,300	T
West Central	400	T	975	T	575	T	1,075	T
Volney East	4,125	T	4,300	V	4,550	V	4,550	V
Moses South	2,350	T	2,350	T	2,425	T	2,425	T
Central East	2,350	T	2,650	T/V	3,250	T	3,325	V
Total East	4,850	T	5,100	T	6,275	T	7,100	T
UPNY-SENY	5,075	T	5,300	T	6,075	V	6,075	V
UPNY-ConEd	4,950	T	5,550	V	7,600	T	7,775	V
Sprain Brook-Dunwoodie South	5,275	V	5,275	V	5,475	T	5,750	T
Long Island Import	1,700	T	2,250	T	1,700	T	2,200	T

Notes
Transfer limits expressed in MW and rounded down to nearest 25 MW point
Thermal and voltage limits apply under summer peak load conditions
Emergency limits account for more restrictive voltage collapse limit
Limits determined in this study are not optimized

Type Codes
T – Thermal
V – Voltage Pre/Post-contingency low limit
VX – Voltage 95% from collapse point
S – Stability

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Transmission Security Analysis

Steady State Transmission Security Analysis

- Steady state transmission security analysis evaluates the thermal and voltage performance of NYCA BPTF in response to planning design criteria contingencies (over 1,000 events within NYCA)
- For this ATR, the local area operation NYSRC Reliability Rule G.1 R1, which requires that certain areas of the Con Edison system shall be designed and operated for the occurrence of a second contingency, was also evaluated

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Steady State Transmission Security Analysis Results

- No N-0 or N-1 thermal violations were observed
- The table below shows the observed N-1-1 thermal violations

Zone	Owner	Monitored Element	Normal Rating (MVA)	Contingency Rating (MVA)	1st Contingency	2nd Contingency	2025 Summer Peak Flow (%)
I/J	ConEd	Dunwoodie-Mott Haven 345 kV (71)	785	925	Loss of Ravenswood 3	Dunwoodie-Mott Haven 345 kV (72)	110
I/J	ConEd	Dunwoodie-Mott Haven 345 kV (72)	785	925	Loss of Ravenswood 3	Dunwoodie-Mott Haven 345 kV (71)	108
J	ConEd	Goethals-Gowanus 345 kV (26)	518	738	Loss of Ravenswood 3	Stuck Breaker at Goethals 5	102
J	ConEd	Goethals-Gowanus 345kV (25)	518	738	Loss of Ravenswood 3	Gowanus - Goethals 345 kV (26)	103
I	ConEd	Sprainbrook/Dunwoodie 345/138 kV (N7)	366	423	Loss of Ravenswood 3	Tower W89 & W90	106
I	ConEd	Sprainbrook/Dunwoodie 345/138 kV (S6)	309	438	Loss of Ravenswood 3	Tower W89 & W90	103

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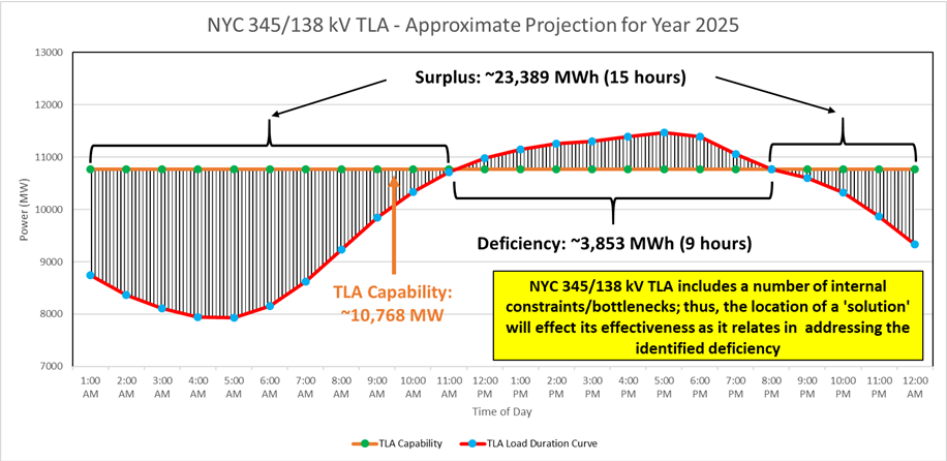
Steady State Transmission Security Analysis Results (N-1-1-0)

Zone	Owner	Monitored Element	Normal Rating (MVA)	Contingency Rating (MVA)	1st Contingency	2nd Contingency	2025 Summer Peak Flow (%)
I/J	ConEd	Dunwoodie-Mott Haven 345 kV (71)	785	925	Loss of Ravenswood 3	Dunwoodie-Mott Haven 345 kV (72)	132



Steady State Compensatory MW

- Transmission security compensatory MW amounts were determined by adding generic resources to combinations of locations of need. The compensatory MW provide a generic order-of-magnitude measure to guide the formulation of future system upgrades to correct transmission security needs
- Approximately 700 MW of compensatory MW would be required to address the transmission security needs in 2025

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Dynamics Transmission Security Analysis

- The stability analysis includes both N-1 and N-1-1 analysis
- For a stability simulation to be deemed stable, oscillations in angle and voltage must exhibit positive damping within 10 seconds after initiation of the disturbance
  - If a secondary mode of oscillation exists within the initial 10 seconds, then the simulation time is increased sufficiently to demonstrate that successive modes of oscillation exhibit positive damping before the simulation is deemed stable
- For most Transmission Owners the transient voltage response criterion is a recovery to 0.9 pu by 5 seconds after the fault has cleared
  - For PSE&G Long Island, the transient voltage response criteria is a recovery to 0.9 pu by one second after the fault has cleared
- All simulations assume that generators with an angle separation greater than 300 degrees from the rest of the system will trip out-of-service
- The out-of-step scanning model (OSSCAN) and generic relay model are used to determine the tripping of transmission lines and transformers for transient swings

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Dynamics Transmission Security Analysis

- For N-1-1 the following events are evaluated as first level outages:

First Contingency	Location
Nine Mile Point #2	Zone C
Ravenswood #3	Zone J
Northport #1	Zone K
Rochester – Pannell 345	Zone B
Marcy – Massena 765 kV	Moses South
Marcy – Coopers Corners 345 kV	Zone E
Edic – Princetown 345 kV	Central East
Niagara - Dysinger 345 kV	Dysinger East
Leeds – Pleasant Valley 345 kV	UPNY-SENY

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Dynamics Transmission Security Analysis Results

- Dynamic stability violations were observed for 2025
  - The criteria violations included transient voltage response violations, loss of generator synchronism, and undamped voltage oscillations
- The transient voltage response violations arose on transmission facilities owned by Con Edison in its Transmission District and extends into areas adjacent to its service territory
- The loss of generator synchronism was observed in generators within the Con Edison service territory and was primarily driven by the transient voltage response in the local area
- The undamped voltage oscillations were also predominantly in the Con Edison area and were primarily driven by the reduction in dynamic reactive capability and MW to serve the load

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Dynamic Stability Criteria N-1 Violations

Dynamic Stability Criteria N-1 Violations [1]			
Contingency Name	**Contingency Description**	**Generator Synchronism**	**Transient Voltage Response**
ConEd08	Fault at E. 13th St. 138 kV with stuck breaker 4E		non-BPTF
ConEd15	Fault at Greenwood 138 kV with stuck breaker 7S	X	non-BPTF
ConEd16	Fault at Hellgate 138 kV with stuck breaker 5		non-BPTF
ConEd25-Q461-Q462	Fault at E. 13th St. 138 kV with stuck breaker		non-BPTF
UC11	Fault at Sprainbrook 345 kV and L/O Sprainbrook - Tremont (X28) 345 kV and Buchanan - Sprainbrook (W93/W79) 345kV		BPTF & non-BPTF
UC25A	Fault at Ravenswood 3 345 kV and L/O Ravenswood 3	X	BPTF & non-BPTF
UC25B	Fault at Rainey 345 kV and L/O 60L 345 kV circuit	X	BPTF & non-BPTF
UC048A_Q510	Fault at Gowanus 345 kV and L/O Gowanus 345/138 kV 14TR	X	non-BPTF
UC049_Q510	Fault at Gowanus 345 kV with stuck breaker 14		non-BPTF

Notes:

- Non-BPTF issues are reported for information only.

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Dynamic Stability Criteria N-1-1 Violations

Dynamic Stability Criteria N-1-1 Violations[1]			
Second Level Contingency Name	Contingency Description	First Level: L/O Ravenswood 3	
		Generator Synchronism	Transient Voltage Response
ConEd08	Fault at E. 13th St. 138 kV with stuck breaker 4E		non-BPTF
ConEd12	Fault at Freshkills 138 kV with stuck breaker 4E		non-BPTF
ConEd14	Fault at Greenwood 138 kV with L/O Gowanus 345/138 (T2) 345 kV and PAR		non-BPTF
ConEd15	Fault at Greenwood 138 kV with stuck breaker 7S	x	non-BPTF
ConEd16	Fault at Hellgate 138 kV with stuck breaker 5		non-BPTF
ConEd25-Q461-Q462	Fault at E. 13th St. 138 kV with stuck breaker		non-BPTF
TE03-UC03	Fault at Sprainbrook 345 kV and L/O Sprainbrook - Millwood (W64/W99, W79/W93) 345 kV		BPTF & non-BPTF
TE20-UC20	Fault at Dunwoodie 345 kV and L/O Dunwoodie - Pleasantville (W89 and W90) 345 kV		BPTF & non-BPTF
UC11	Fault at Sprainbrook 345 kV and L/O Sprainbrook - Tremont (X28) 345 kV and Buchanan - Sprainbrook (W93/W79) 345kV	x	BPTF & non-BPTF
UC19	Fault at Millwood 345 kV and L/O Millwood - Sprainbrook (W82/W65 and W85/W78) 345 kV		non-BPTF
UC25A	Fault at Ravenswood 3 345 kV and L/O Ravenswood 3	x	BPTF & non-BPTF
UC25B	Fault at Rainey 345 kV and L/O 60L 345 kV circuit	x	BPTF & non-BPTF
UC048A_Q510	Fault at Gowanus 345 kV and L/O Gowanus 345/138 kV 14TR	x	non-BPTF
UC049_Q510	Fault at Gowanus 345 kV with stuck breaker 14	x	non-BPTF
UC58_Q510	Fault at Farragut 345 kV (near B44 line) with stuck breaker 11W	x	BPTF & non-BPTF

Notes:

1. Non-BPTF issues are reported for information only.

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Stability Compensation

- **The BPTF dynamic stability criteria violations compensatory values are measured by modeling fictitious generators at the Farragut 345 kV, Astoria East 138 kV, and Greenwood North 138 kV buses with a MW size determined by the compensatory MW for thermal violations**
  - The impact of the added dynamic reactive capability is highly non-linear and other event combinations and the locations of the fictitious generators may cause significant variance to the values stated below

Dynamics Compensatory Resource Values		
Location	**Machine MVA**	**Pgen (MW)**
Farragut 345 kV	400	230
Astoria East 138 kV	170	110
Greenwood North 138 kV	450	360
Total	1,020	700

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Fault Current Assessment

Fault Current Assessment

- Fault duty analysis indicates no BPS buses with over-duty breakers

Extreme Contingency Assessment

Extreme Contingency Assessment

- The purpose of the extreme contingency assessment is to obtain an indication of system strength, or to determine the extent of widespread system disturbance, even though extreme contingencies do have low probabilities of occurrence
- The system response to extreme contingencies is comparable to previous reviews with the exception of some extreme contingencies located in the Con Edison service territory which are impacted by the removal of the peaker units
- As the baseline transmission security analysis is observing various transmission security concerns in the Con Edison service territory, the ultimate solution(s) to these issues will also impact the affected extreme contingencies

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Extreme System Condition Assessment

Extreme System Condition Assessment

- NPCC Directory #1 and NYSRC Reliability Rules planning criteria require assessment of extreme system conditions.
- These conditions have a low probability of occurrence, such as extreme weather (i.e., 90th percentile load forecast), or the loss of fuel (gas) supply

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Extreme Weather Condition Analysis

- The facilities included in this review are the same as those discussed earlier in this presentation
- The load is increased to the 90th percentile forecast

Zone	A	B	C	D	E	F	G	H	I	J	K	NYCA
Baseline	2,585	1,935	2,705	693	1,271	2,276	2,118	647	1,425	11,390	4,666	31,711
90th Percentile	2,763	2,068	2,891	741	1,358	2,439	2,270	681	1,500	11,797	5,068	33,576
Delta	178	133	186	48	87	163	152	34	75	407	402	1,865

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Extreme Weather Condition Analysis

- **The NYISO uses guidelines by the Multiregional Modeling Working Group (MMWG) to accept the working dynamic case. Pursuant to the guideline, the NYISO performs a 20-second no-fault simulation and 60-second disturbance (performed at the Marcy 345 kV bus) simulation to construct an acceptable dynamic case**
  - In comparing the electrical power output of the generators between the pre-disturbance base case and the post-disturbance case, it is expected to not have more than 1 MW or 1 MVAR of generator deviation
- **The 60-second disturbance simulation applied at the Marcy 345 kV bus did not meet the defined MMWG guidelines**
  - Therefore, additional dynamic reactive capability was added to the case to meet the MMWG criteria.
  - This simulation uses the compensatory MVA resources needed to address the base case dynamics issues (see Slide 27)

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Extreme Weather Condition Analysis

- The steady state analysis indicated no thermal or voltage issues on the BPTF
- With the inclusion of the compensatory MVA resources, the dynamics analysis showed a stable response for all contingencies
- As the baseline transmission security analysis observed various transmission security concerns in the Con Edison service territory, the ultimate solution(s) to these issues will also impact the extreme weather analysis

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Loss of Gas Supply Analysis

- **The study model for this assessment uses the winter peak demand level with all NYCA gas-only units modeled as unavailable (out-of-service) for this analysis**
  - The unavailability of dual-fuel units that contain limitations on the amount of oil they can burn was considered along with reductions in peak output capability on dual-fuel units when operating on their alternative fuel source
- **The total reduction in generating capability is approximately 8,700 MW**

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Loss of Gas Supply Analysis

- The steady state analysis showed no thermal or voltage violations
- For dynamic analysis, most contingencies (with the exception of those shown in the figure below) are stable, damped, and no generating unit lost synchronism other than by fault clearing action or special protection system response

Dynamic Stability Criteria N-1 Violations (BPTF)		
Contingency Name	**Contingency Description**	**Generator Synchronism**
CE36	Fault at Scriba 345kV with stuck breaker R100	x
CE99	Fault at Scriba 345kV with stuck breaker R935	x
VE07	Fault at Clay 345kV with stuck breaker R35	Simulation collapse

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Loss of Gas Supply Analysis

- As there are dynamic instabilities in this assessment, the NYISO evaluated implementing a change to design or operating practices to address the identified issues
- The evaluation performed by the NYISO considered reductions in clearing times of the faults and dynamic reactive compensation
  - Utilizing a STATCOM as a compensatory MVA resource placed at the Independence 345 kV bus, approximately 400 MVA would be sufficient to address the dynamic instabilities
  - In consideration of the reduced clearing times (coordinated with National Grid), a STATCOM of approximately 350 MVA at the Independence 345 kV bus would be sufficient in this scenario to address the dynamic instabilities
    - The STATCOM was utilized as a compensatory MVA resource. The compensatory MVA additions are not intended to represent specific solutions, as the impact of specific solutions can depend on the type of the solution and its location on the grid. Rather, the compensatory MVA provides a generic order-of-magnitude measure to design a solution or operate the system to address the issues

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Additional Assessments

Review of Special Protection Systems

- The purpose of this review is to present the need and utilization of Type I and Type II existing and planned Special Protection Systems (SPS) as well as the validity of the classification of Type III SPS, including any back-up or redundant systems
- All NYCA Special Protection Systems were evaluated
  - No thermal or voltage issues were found on the BPTF
  - There were no significant stability issues found
    - The results showed that all Type III systems should remain Type III

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Exclusions to NPCC Design Criteria

- NYISO has no existing exclusions to NPCC Design Criteria and makes no requests for new exclusions

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Corrective Action Plans

Key Updates Prior to ATR Completion

- **The load forecast update, as presented at the November 19, 2020 ESPWG/TPAS/LFTF meeting [link]**
  - Specifically, Zone J peak load forecast decreased by 323 MW in 2025
- **LTP updates as presented by Con Edison at the January 25, 2021 ESPWG/TPAS [link]:**
  - A new 345/138 kV PAR controlled 138 kV Rainey – Corona feeder
  - A new 345/138 kV PAR controlled 138 kV Gowanus – Greenwood feeder
  - A new 345/138 kV PAR controlled 138 kV Goethals – Fox Hills feeder
- **STRP solution for addressing the 2023 short-term need [link]**
  - Series Reactors status changes, starting summer 2023:
    - Placing in service the SR on the following 345 kV cables: 71, 72, M51, M52
    - Bypassing the SR on the following 345 kV cables: 41, 42, Y49

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Corrective Action Plan

- With these three updates, all base case thermal and stability violations are resolved
- As such, no Corrective Action Plans are needed for this ATR

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Conclusion

- As the results of this ATR indicate, in consideration of the three base case updates, the planned bulk power transmission facilities, as planned through year 2025, conform to the applicable NPCC Directory #1 and NYSRC Reliability Rules

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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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