Attachment #4.1.1
Return to Agenda

NYCA IRM Requirement Study 2022-2023 Final Base Case (FBC) Model Assumptions Matrix

Draft V 1.0

NYSRC

Installed Capacity Subcommittee Meeting #252

October 6, 2021

Load Forecast

#	Parameter	2021 Model Assumptions	2022 Model Assumptions	Basis for Recommendation	Model Change
1	Peak Load Forecast (Preliminary Base Case – Parametric & Sensitivities)	2020 Gold Book NYCA: 32,129MW[1] NYC: 11,460 MW LI: 5,139 MW G-J: 15,660 MW (Attachment A1)	2021 Gold Book NYCA: 32,308 MW[1] NYC: 11,286 MW LI: 5,192 MW G-J: 15,453 MW (Attachment A1)	Most recent Gold Book Forecast is used for Preliminary Base Case parametric study and sensitivity cases	N
2	Peak Load Forecast (Final Base Case)	October 2020 Fcst. NYCA: 32,243 MW[2] NYC: 11,232 MW LI: 5,282.0 MW G-J: 15,385 MW	October 2021 Fcst. NYCA: 32,139 MW[1] NYC: 10,944 MW LI: 5,159 MW G-J: 15,193 MW	Forecast based on examination of 2021 weather normalized peaks	N
3	Load Shape (Multiple Load Shape)	Bin 1: 2006 Bin 2: 2002 Bins 3-7: 2007	Bin 1: 2006 Bin 2: 2002 Bins 3-7: 2007	ICS Recommendation	N
4	Load Forecast Uncertainty (LFU)-	Zonal Model to reflect current data with input from Con Ed and LIPA. (Attachment A2)	Zonal Model to reflect current data with input from Con Ed and LIPA. (Attachment A2)	Based on TO and NYISO data analyses	N
5	LFU Winter	Attachment A3	Attachment A3	Based on TO and NYISO data analyses	N

1 BTM-NG loads have been incorporated into these numbers.

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Generation Parameters

#	Parameter	2021 Model Assumptions	2022 Model Assumptions	Basis for Recommendation	Model Change
6	Existing Generating Unit Capacities	2020 Gold Book Values. Use min. (DMNC vs. CRIS) capacity value	2021 Gold Book Values. Use min. (DMNC vs. CRIS) capacity value	Latest Gold Book publication	N
7	Proposed New Units (Thermal) and re-ratings	0 MW of new Thermal resources, plus 56.6 MW of project related re-ratings. (Attachment B1)	111.2 MW of new Thermal resources,** (Attachment B1)	NYISO recommendation based on documented process that includes the latest Gold Book publication, NYISO interconnection queue, and generation notifications	N
8	Deactivations and Removals[3]	1,104 MW of unit deactivations and 192.7 MW of unit removals (Attachment B2)	19.1 MW of unit deactivations and (Attachment B2)	Latest Gold Book publications and generator notifications	N
9	Forced and Partial Outage Rates	Five-year (2015-2019) GADS data for each unit represented. Those units with less than five years – use representative data. (Attachment C)	Five-year (2016-2020) GADS data for each unit represented. Those units with less than five years – use representative data. (Attachment C)	Transition Rates representing the Equivalent Forced Outage Rates (EFORd) during demand periods over the most recent five-year period	N
10	Planned Outages	Based on schedules received by the NYISO and adjusted for history	Based on schedules received by the NYISO and adjusted for history	Updated schedules	N

[3]Units that did not participate in the Capacity Market have been removed from this year's study.

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Generation Parameters

#	Parameter	2021 Model Assumptions	2022 Model Assumptions	Basis for Recommendation	Model Change
11	Summer Maintenance	Nominal 50 MWs – divided equally between Zones J and K	Nominal 50 MWs – divided equally between Zones J and K	Review of recent data	N
12	Combustion Turbine Derates	Derate based on temperature correction curves provided	Derate based on temperature correction curves provided	Operational history indicates the derates are in line with manufacturer's provided curves	N
13	Existing and Proposed New Wind Units[4]	126.5 MW of Wind Capacity additions totaling 1865.7 MW of qualifying wind (Attachment B3)	158.1 MW of Wind Capacity additions totaling 2017.5 MW of qualifying wind (Attachment B3)	ICAP units based on RPS agreements, interconnection queue and ICS input.	N
14	Wind Shape	Actual hourly plant output over the period 2015-2019. New units will use zonal hourly averages or nearby units.	Actual hourly plant output over the period 2016-2020. New units will use zonal hourly averages or nearby units.	Program randomly selects a wind shape of hourly production from the most recent five- year period for each model iteration.	N
15	Existing and Proposed New Solar Resources[4]	0 MW of Solar Capacity additions totaling 31.5MW of qualifying Solar Capacity. (Attachment B3)	182.9 MW of Solar Capacity additions totaling 214.4 MW of qualifying Solar Capacity. (Attachment B3)	ICAP Resources connected to Bulk Electric System	N
16	Solar Shape	Actual hourly plant output over the period 2015-2019. New units will use zonal hourly averages or nearby units.	Actual hourly plant output over the period 2016-2020. New units will use zonal hourly averages or nearby units.	Program randomly selects a solar shape of hourly production from the most recent five-year period for each model iteration.	N

[4] Units that did not participate in the Capacity Market have been removed from this year's study.

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Generation Parameters

#inimal	Parameter	2021 Model Assumptions	2022 Model Assumptions	Basis for Recommendation	Model Change
17	BTM- NG Program	Two new BTM NG resource (Attachment B5)	One new BTM NG resource (Attachment B5)	Both the generation of the participating resources and the full host loads are modeled.	N
18	Small Hydro Resources	Actual hourly plant output over the period 2015-2019.	Actual hourly plant output over the period 2016-2020.	Program randomly selects a hydro shape of hourly production from the most recent five-year period for each model iteration.	N
19	Large Hydro	Probabilistic Model based on five years of GADS data (2015-2019)	Probabilistic Model based on five years of GADS data (2016-2020)	Transition Rates representing the Equivalent Forced Outage Rates (EFORd) during demand periods over the most recent five-year period.	N
20	Landfill Gas	Actual hourly plant output over the period 2015-2019.	Actual hourly plant output over the period 2016-2020.	Program randomly selects a LFG shape of hourly production from the most recent five-year period for each model iteration.	N
21	New ESR (Energy Storage Resources)[4]	0 MW of new battery storage scheduled. 0MW of total battery storage modeled (see attachment B4)	0 MW of new battery storage scheduled. 0 MW of total battery storage modeled (see attachment B4)	Sensitivities on simplified model and GE software enhancement	N
22	Energy Limited Resources (ELR)	Based upon elections made by August 1st 2020	Based upon elections made by August 1st 2021	Existing elections are made by August 1st and will be incorporated into the model.	N

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Transactions- Imports and Exports

#	Parameter	2021 Model Assumptions	2022 Model Assumptions	Basis for Recommendation	Model Change
23	Capacity Purchases	Existing Rights: PJM – 1,080 MW HQ – 1,110 MW All contracts modeled as equivalent contracts	Existing Rights: PJM – 1,080 MW HQ – 1,190 MW All contracts modeled as equivalent contracts. New 80 MW addition	Grandfathered Rights, ETCNL, and other awarded long-term rights.	N
24	Capacity Sales	Long Term firm sales Summer 265.9 MW	Long Term firm sales Summer 265.9 MW	These are long term FERC approved contracts.	N
25	FCM Sales from a Locality[5]	No sales modeled within study period	No sales modeled within study period	NYISO recommendation	N
26	Wheels through NYCA	300 MW HQ to NE equivalent contract	300 MW HQ to NE equivalent contract	HQ Wheel has an ISO-NE capacity supply obligation (CSO) for 2022-23	N
27	New UDRs (Unforced capacity Deliverability Rights)	Projects with expired CRIS will be modeled as Emergency Assistance Only: HTP	Projects with expired CRIS will be modeled as Emergency Assistance Only: HTP	Existing UDR elections are made by August 1st and will be incorporated into the model	TBD
28	New EDRs (External Deliverability Rights)	0 MWs for 2021 Study	80 MWs for 2021 Study	80 MWs from Cedars upgrade	Y

[5] Final FCM sales that will materialize are unknowable at the time of the IRM study. To reflect the impact these sales have on reliability, the NYISO applies a Locality Exchange Factor in the market.

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Topology

#	Parameter	2021 Model Assumptions	2022 Model Assumptions	Basis for Recommendation	Model Change
29	Interface Limits	Removal of PJM-SENY Group Interface, PSEG-LI updates to increase Zone K Imports/Exports: Jamaica ties no longer dependent on Barrett Availability (Attachment E-E2)	Revisions due to Western NY Public Policy impacts, Central East derate, Cedars upgrade, ConEd-LIPA dynamic limit (Attachment E-E3)	Based on the most recent NYISO studies and processes, such as Operating Study, Operations Engineering Voltage Studies, Comprehensive System Planning Process, and additional analysis including interregional planning initiatives	Y
30	New Transmission	None Identified	Cedars EDR from HQ	Based on TO provided models and NYISO's review	Y
31	AC Cable Forced Outage Rates	All existing Cable EFORds for NYC and LI to reflect most recent five-year history (2015-2019)	All existing Cable EFORds for NYC and LI to reflect most recent five-year history (2016-2020) (Attachment E4)	TO provided transition rates with NYISO review	N
32	UDR Line Unavailability	Five year history of forced outages (2015-2019)	Five year history of forced outages (2016-2020)	NYISO/TO Review	N

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Emergency Operating Procedures

#	Parameter	2021 Model Assumptions	2022 Model Assumptions	Basis for Recommendation	Model Change
33	Special Case Resources	July 2020 –1195 MW based on registrations and modeled as 822 MW of effective capacity. Monthly variation based on historical experience.	July 2021 –1164 MW based on registrations and modeled as 812 MW of effective capacity. Monthly variation based on historical experience.	SCRs sold for the program discounted to historic availability. Summer values calculated from July 2021 registrations. Performance calculation updated per ICS presentations on SCR performance.	N
34	Other EOPs	844.4 MW of non- SCR/non-EDRP resources (Attachment D)	863.6 MW of non- SCR/non-EDRP resources (Attachment D)	Based on TO information, measured data, and NYISO forecasts	N
35	EOP Structure	10 EOP steps modeled	10 EOP steps modeled	Based on agreement with ICS	N

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External Control Areas

#	Parameter	2021 Model Assumptions	2022 Model Assumptions	Basis for Recommendation	Model Change
36	PJM	Load and Capacity data will be provided by ISONE/NPCC CP-8 Data may be adjusted per NYSRC Policy 5 (Attachment E & E3)	Load and Capacity data will be provided by ISONE/NPCC CP-8 Data may be adjusted per NYSRC Policy 5 (Attachment E)	Initial Review performed by the NPCC CP-8 WG prior to Policy 5 changes	N
37	ISONE, Quebec, IESO	Load and Capacity data will be provided by ISONE/NPCC CP-8 Data adjusted per NYSRC Policy 5 (Attachment E & E2)	Load and Capacity data will be provided by ISONE/NPCC CP-8 Data adjusted per NYSRC Policy 5 (Attachment E)	Initial Review performed by the NPCC CP-8 WG prior to Policy 5 changes	N
38	External Adjustments per Policy 5	If needed, add load to externals proportional to existing excess capacity	If needed, add load to externals proportional to existing excess capacity	White paper on external Control Area adjustments	N
39	Reserve Sharing	All NPCC Control Areas indicate that they will initially share reserves equally among all members and then among non-members	All NPCC Control Areas indicate that they will initially share reserves equally among all members and then among non-members	Per NPCC CP-8 WG	N
40	Emergency Assistance	Statewide Limit of 3,500 MW of emergency assistance allowed from neighbors.	Statewide Limit of 3,500 MW of emergency assistance allowed from neighbors.	White Paper on Modeling of Emergency Assistance for NYCA in IRM studies	N

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Miscellaneous

#	Parameter	2021 Model Assumptions	2022 Model Assumptions	Basis for Recommendation	Model Change
41	MARS Model Version	3.31.1546	4.2.1765	Per testing and ICS recommendation	Y
42	Environmental Initiatives	No new rules for 2021 Capability Year	No new rules for 2022 Capability Year	Review of existing regulations and rules	N

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Attachment A1

NYCA Summer Load Forecast Coincident and Non-Coincident Peak:
2022 PBC and FBC

2022 PBC													
Area	A	B	C	D	E	F	G	H	I	J	K	NYCA	G_J
NCP - Forecast	2799	2056.4	2847.8	692	1420	2385	2215	648	1400	11286.2	5191.6		
CP - Forecast	2644	1994.4	2781.8	676	1361	2347	2179	637	1379	11134.2	5174.6	32308	
G-J Peak - Forecast							2197	642	1390	11224.2			15453.2

2022 FBC													
Area	A	B	C	D	E	F	G	H	I	J	K	NYCA	G_J
NCP - Forecast	2917.9	2112.1	2881.2	671.0	1425.1	2419.8	2256.1	634.4	1408.9	10943.7	5158.5		
CP - Forecast	2764.2	1994.7	2772.7	655.7	1364.4	2381.7	2219.3	625.9	1390	10774.8	5037	31980.4	
G-J Peak - Forecast							2243.1	632.6	1404.9	10890.5			15171.1

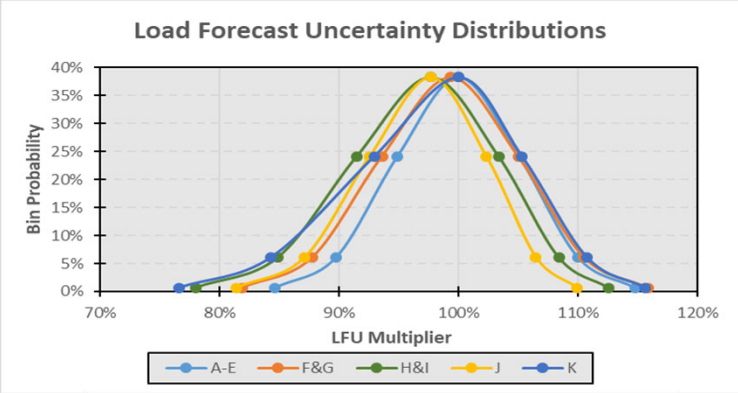
Delta													
Area	A	B	C	D	E	F	G	H	I	J	K	NYCA	G_J
NCP - Forecast	-118.9	-55.7	-33.4	21	-5.1	-34.8	-41.1	13.6	-8.9	342.5	33.1		
CP - Forecast	-120.2	-0.3	9.1	20.3	-3.4	-34.7	-40.3	11.1	-11	359.4	137.6	327.6	
G-J Peak - Forecast							-46.1	9.4	-14.9	333.7			282.1

SO

Attachment A2

NYCA Summer Load Forecast Uncertainty Model: 2021 and 2022

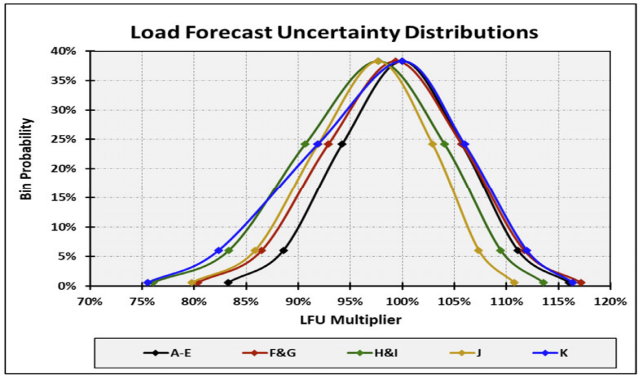
Load Forecast 2022



Bin	Probability	A-E	F&G	H&I	J	K
B1	0.62%	114.78%	115.85%	112.55%	109.95%	115.63%
B2	6.06%	110.01%	110.53%	108.40%	106.49%	110.73%
B3	24.17%	105.06%	105.01%	103.36%	102.33%	105.30%
B4	38.30%	100.00%	99.36%	97.68%	97.67%	100.00%
B5	24.17%	94.88%	93.61%	91.50%	92.58%	92.96%
B6	6.06%	89.73%	87.77%	84.89%	87.13%	84.32%
B7	0.62%	84.63%	81.88%	77.98%	81.38%	76.60%

Delta	A-E	F&G	H&I	J	K
B1 -B4	14.78%	16.49%	14.87%	12.28%	15.63%
B4- B7	15.37%	17.48%	19.70%	16.29%	23.40%
Total Range	30.15%	33.97%	34.57%	28.57%	39.03%

Load Forecast 2021



Bin	Probability	A-E	F&G	H&I	J	K
B1	0.62%	116.02%	117.17%	113.56%	110.73%	116.38%
B2	6.06%	111.11%	111.70%	109.46%	107.33%	111.97%
B3	24.17%	105.70%	105.70%	104.06%	102.89%	105.98%
B4	38.30%	100.00%	99.36%	97.68%	97.67%	100.00%
B5	24.17%	94.22%	92.89%	90.66%	91.91%	91.88%
B6	6.06%	88.58%	86.48%	83.35%	85.86%	82.34%
B7	0.62%	83.28%	80.33%	76.06%	79.79%	75.52%

Delta	A-E	F&G	H&I	J	K
B1 - B4	16.02%	17.80%	15.88%	13.06%	16.38%
B4 - B7	16.72%	19.04%	21.62%	17.88%	24.48%
Total Range	32.74%	36.84%	37.50%	30.94%	40.87%

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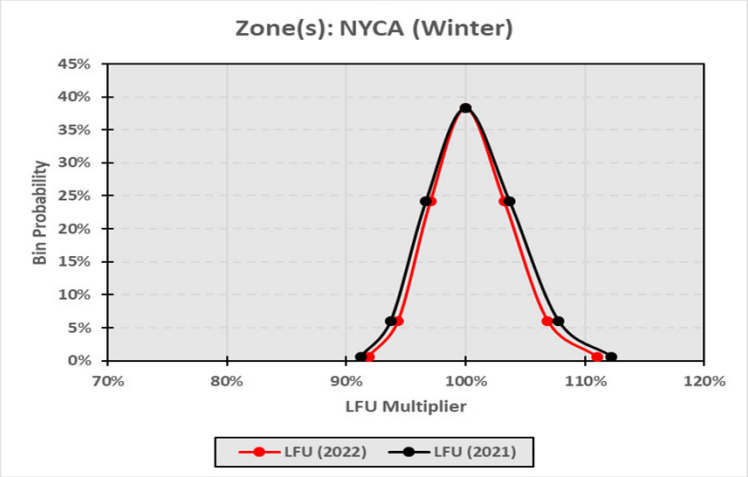
Attachment A3

NYCA Winter Load Forecast Uncertainty Model: 2021 and 2022



Bin	Probability	LFU (2022)	LFU (2021)
B1	0.62%	111.01%	112.22%
B2	6.06%	106.89%	107.77%
B3	24.17%	103.25%	103.69%
B4	38.30%	100.00%	100.00%
B5	24.17%	97.05%	96.69%
B6	6.06%	94.34%	93.76%
B7	0.62%	91.85%	91.22%

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Attachment B1

New Thermal Units and Unit Re-Ratings[7]

New Thermal Units and Unit Re-ratings (summer ratings)					
Project or Generator Name	Zone	2021 Gold Book (MW) CRIS	2021 Gold Book (MW) DMNC	New or Incremental (MW)	2022 MARS Model (MW)
New Units					
King's Plaza	J	6.0	6.0	6.0	6.0
Fulton County Landfill*	F	3.2	3.2	3.2	3.2
Ontario Landfill*	B	11.2	11.2	3.6	11.2
Sithe Independence**	C	1013.0	995.0	10.9	1005.9
Cricket Valley Energy Center	G	1020.0	1088.0	69.6	1089.6
Bowline 1	G	577.7	586.0	16.3	594.0
Bowline 2	G	567.4	573.6	7.6	575.0
Total New Units and Uprates (MW)				111.2	

[7] Unit re-ratings are for generation facilities that have undergone uprate projects.

*Existing LFG units with incremental DMNC and/or CRIS; modeled in MARS with shapes.

**1013 and 995 MW are 2021 Gold Book values prior to generator re-ratings.

***Draft Generator inclusion, under review.

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Attachment B2

Deactivations and Removals[4]

Unit Removal since 2021 IRM Study			
Generator Name	**Type**	**Zone**	**CRIS(MW)**
Gowanus 1-8	Gas Turbine	J	16.1
Sissonsville	Hydro	B	3
Total Removals			19.1

[4] Units that did not participate in the Capacity Market have been removed from this year's study.

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Attachment B3

New Intermittent Resources

New Intermittent Units				
Resource	Zone	CRIS (MW)	Summer Capability (MW)	MARS Modeled Capacity
Wind				
Arkwright Summit Wind Farm*	A	78.4	78.4	78.4
Roaring Brook	E	79.7	79.7	79.7
Total Wind				158.1
Solar				
Calverton Solar Energy Center	K	22.9	22.9	22.9
Grissom Solar	F	20	20	20
Darby Solar	F	20	20	20
Branscomb Solar	F	20	20	20
ELP Stillwater Solar	F	20	20	20
Regan Solar	F	20	20	20
Janis Solar	C	20	20	20
Puckett Solar	E	20	20	20
Pattersonville Solar	F	20	20	20
Total Solar				182.9

* This is an existing resource that became an ICAP supplier.

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Attachment B4

New Energy Storage Resources*

Energy Storage				
Resource	Zone	CRIS (MW)	Summer Capability (MW)	Lesser of Summer Capability VS CRIS
New Battery Units				
Total New Energy Storage				

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Attachment B5

Resources in the Behind the Meter Net Generation Program (BTM-NG)

Attachment B4 -Units in the Behind the Meter Net Generation Program*			
Generator Name	**Zone**	**Resource Value (MW)[9]**	**Peak Load Adjustment (MW)[10]**
Existing:			
Stony Brook	K	36.2	42.0
Greenidge 4	C	103.4	32.0
Lyons Falls Hydro	E	8.0	2.7
(CONFIDENTIAL)***	J		21.3
New:			
Red Rochester	B	74	51.4
Total BTM-NG			149.4

*The IRM study independently models the generation and load components of BTM:NG Resources.

[9] Based on adjusted Dependable Maximum Gross Capability (DMGC) value.

[10] Based on Average Coincident Host Load (ACHL).

*** One existing resource in Zone J is expected to begin participating in the BTM:NG program prior to 6/1/2022.

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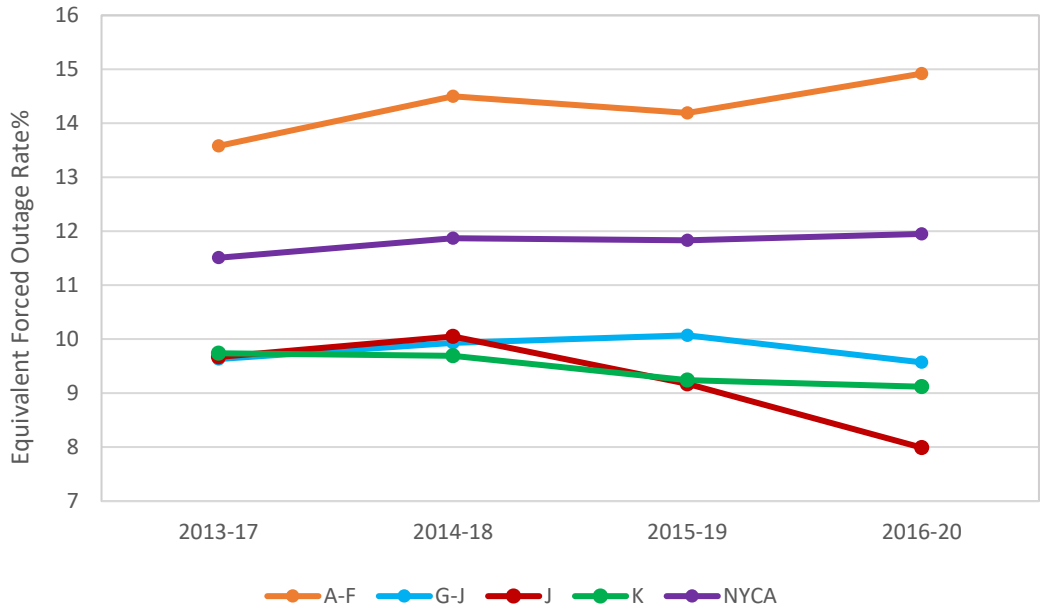
Attachment C

NYCA Five Year Derating Factors*



The resources included in the calculation of these values include thermal, large hydro, wind, solar, landfill gas, and run-of-river resources with CRIS.

*2016-20 Derating Factor values are preliminary.

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Attachment D

Emergency Operating Procedures

Step	Procedure	2021 MW Value	2022 MW Value
1	Special Case Resources –Load, Gen	1,195 MW Enrolled/ 822 MW modeled	1,164 MW Enrolled/ 812 MW modeled
2	5% manual voltage Reduction	59.64 MW	60.43 MW
3	Thirty-minute reserve to zero	655 MW	655 MW
4	5% remote voltage reduction	445.42 MW	483.09 MW
5	Voluntary industrial curtailment	259.36 MW	240.05 MW
6	General Public Appeals	80 MW	80 MW
7	Emergency Purchases	Varies	Varies
8	Ten-minute reserves to zero	1,310 MW	1,310 MW
9	Customer disconnections	As needed	As needed
10	Adjustment used if IRM is lower than technical study margin	As needed	As needed

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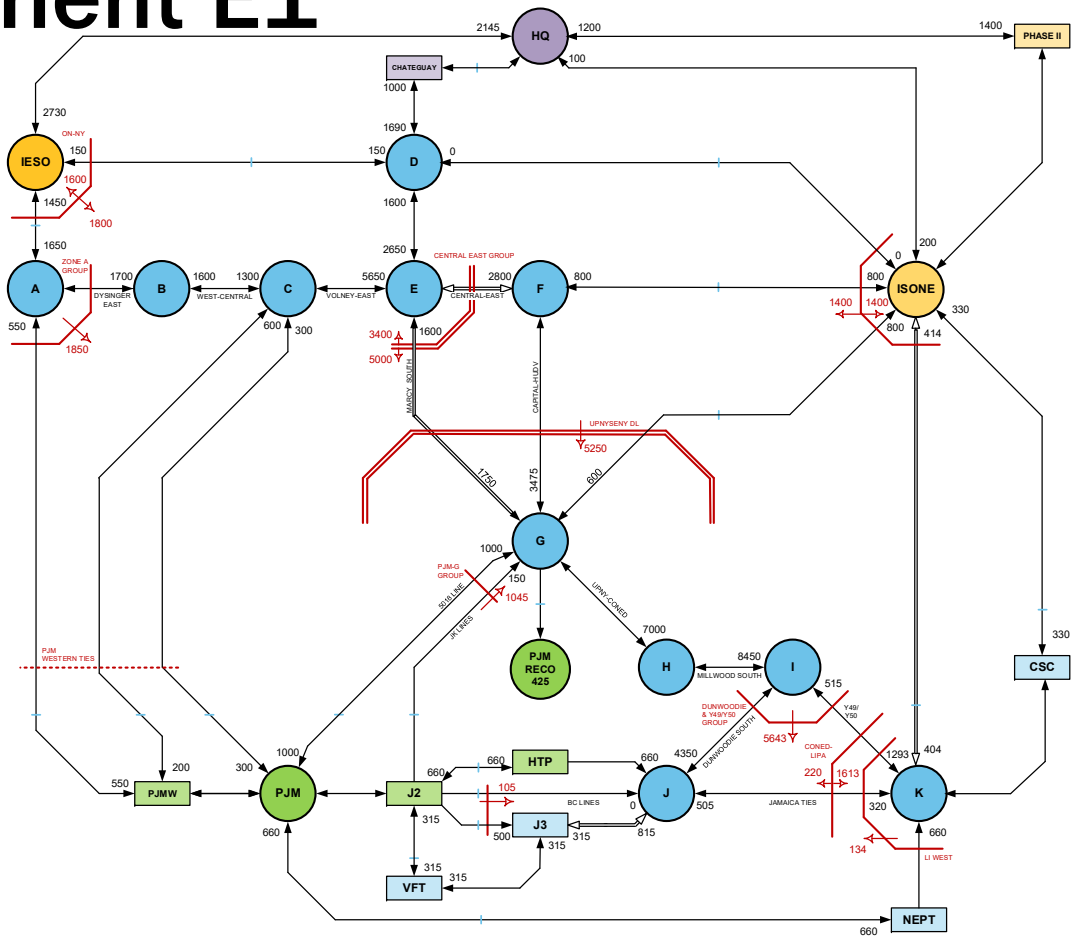
Attachment E1

IRM Topology



Notes

1. PJM to NY emergency assistance (EA) assumption for calculating the PJM-NY Western ties, PJM-G Group, and ABC Line Group flow distribution limit: 1500MW

2. NYCA EA simultaneous import limit: 3,500 MW

3. External areas representation based upon information received from the NPCC CP-8 WG

Legend

- Interface
- Unidirectional Interface
- Interface w/ Dynamic Ratings
- Interface Group
- Interface Group w/ Dynamic Ratings
- Monitoring Interface Group
- NYCA EA Interface Group Marker
- xx "Dummy Bubble" i.e. no load

NOTE: An interface is considered to not have a MW limitation if no number is specified

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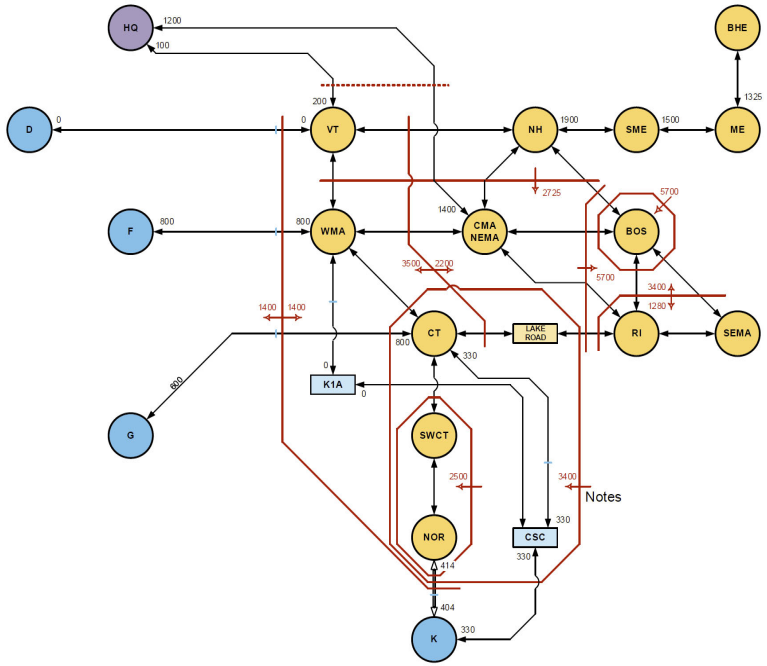
Attachment E2

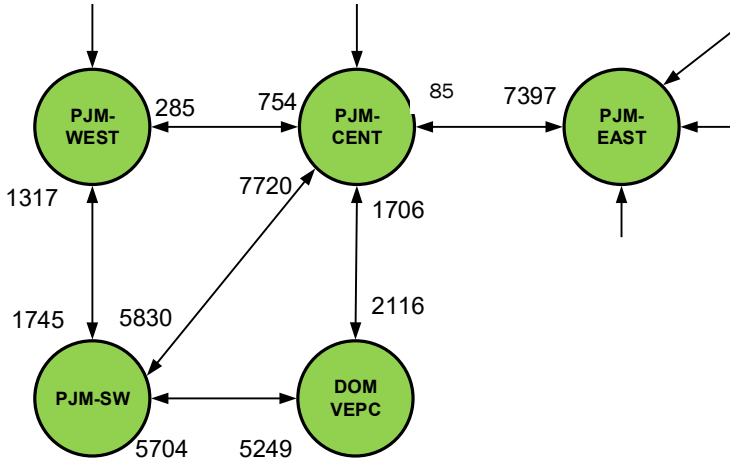
ISO-NE 14 Bubble Model



New York ISO

Attachment E3

PJM Bubble Model



New York ISO

Attachment E4

5 Year Average Cable Outage Rate	
2016-20	2015-19
6.42%	5.15%

The facilities included in these averages are VFT, HTP, Dunwoodie-South, Y49/Y50, CSC, Neptune, Norwalk-Northport and A-Line.

New York ISO

Attachment F

SCR Determinations 2022 and 2021 IRM Studies

SCR Performance for 2022 IRM Study						
Super Zones	Enrollments (July 2021)	Forecast (2022)[1]	Performance Factor[2]	UCAP (2022)	Adjustment Factor[3]	Model Value
A-F	636.0	636.0	0.866	550.9	0.949	522.4
G-I	84.9	84.9	0.772	65.5	0.846	55.5
J	406.5	406.5	0.701	284.9	0.746	212.4
K	36.8	36.8	0.735	27.0	0.822	22.2
Totals	1164.2	1164.2		**928.4**		**812.5**
					Overall Performance = 69.8%	

SCR Performance for 2021 IRM Study						
Super Zones	Enrollments (July 2020)	Forecast (2021)[1]	Performance Factor[2]	UCAP (2021)	Adjustment Factor[3]	Model Value
A-F	622.8	622.8	0.862	537.2	0.949	509.5
G-I	102.0	102.0	0.747	76.2	0.851	64.9
J	427.3	427.3	0.693	296.2	0.752	222.7
K	43.0	43.0	0.706	30.3	0.821	24.9
Totals	1195.1	1195.1		**940.0**		**822.1**
					Overall Performance = 68.8%	

1. These values represent no growth from July 2020 ICAP based enrollments.
2. Performance Factor based on ACL methodology.
3. The SCR Adjustment factor captures two different performance derates; 1) Calculated Translation Factor (TF) between ACL and CBL values, and the Fatigue Factor (FF=1.00).

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Attachment G

Wind Units Modeled

Wind				
Resource	Zone	CRIS (MW)	Summer Capability (MW)	MARS Modeled Capability**
Bliss Wind Power [WT]	A	100.5	100.5	100.5
Canandaigua Wind Power [WT]	C	125.0	125.0	125.0
High Sheldon Wind Farm [WT]	C	112.5	118.1	112.5
Howard Wind [WT]	C	57.4	55.4	55.4
Orangeville Wind Farm [WT]	C	94.4	93.9	93.9
Wethersfield Wind Power [WT]	C	126.0	126.0	126.0
Altona Wind Power [WT]	D	97.5	97.5	97.5
Chateaugay Wind Power [WT]	D	106.5	106.5	106.5
Clinton Wind Power [WT]	D	100.5	100.5	100.5
Ellenburg Wind Power [WT]	D	81.0	81.0	81.0
Jericho Rise Wind Farm [WT]	D	77.7	77.7	77.7
Marble River Wind [WT]	D	215.2	215.2	215.2
Hardscrabble Wind [WT]	E	74.0	74.0	74.0
Madison Wind Power [WT]	E	11.5	11.6	11.5
Maple Ridge Wind [WT01]	E	231.0	231.0	231.0
Maple Ridge Wind [WT02]	E	90.7	90.8	90.7
Munnsville Wind Power [WT]	E	34.5	34.5	34.5
Cassadaga Wind [WT]	A	126.0	126.5	126.0
Arkwright Summit Wind Farm [WT]*	A	78.4	78.4	78.4
Roaring Brook [WT]	E	79.7	79.7	79.7
Total		**2020.0**	**2023.8**	**2017.5**

*This is an existing resource that became an ICAP supplier.

Draft

Attachment G1

Wind Units Not Currently Participating in ICAP Market

Wind					
Resource	Zone	Nameplate (MW)	CRIS (MW)	Summer Capability (MW)	MARS Modeled Capacity
Erie Wind [WT]	A	15.0	0.0	0.0	0.0
Steel Wind [WT]	A	20.0	0.0	0.0	0.0
Western NY Wind Power [WT]	B	6.6	0.0	0.0	0.0
Marsh Hill Wind Farm [WT]	C	16.2	0.0	0.0	0.0
Copenhagen Wind [WT]	E	79.9	79.9	0.0	0.0
Fenner Wind [WT]	C	30.0	0.0	0.0	0.0
Total		**167.7**	**79.9**	**0.0**	**0.0**

Draft

Attachment G2

Solar Units Modeled

Solar				
Resource	Zone	CRIS (MW)	Summer Capability (MW)	Lesser of Summer Capability vs. CRIS
Long Island Solar Farm [PV]	K	31.5	31.5	31.5
Calverton Solar Energy Center [PV]	K	22.9	22.9	22.9
Total		**54.4**	**54.4**	**54.4**

Draft

Attachment G3

Solar Units Not Modeled

Solar				
Resource	Zone	CRIS (MW)	Summer Capability (MW)	Lesser of Summer Capability vs. CRIS
Shoreham Solar [PV]*	K	24.9	0.0	0.0
Total		**24.9**	**0.0**	**0.0**

*Unit provides power at the distribution rather than at the transmission level.

Draft

Attachment G4

LFG Units Modeled

LFG				
Resource	Zone	CRIS (MW)	Summer Capability (MW)	Lesser of Summer Capability VS CRIS
CHAFEE [IC]	A	6.4	6.4	6.4
Model City Energy LFGE [IC]	A	5.6	5.6	5.6
Modern LFGE [IC]	A	6.4	6.4	6.4
Hyland LFGE [IC]	B	4.8	4.8	4.8
Mill Seat [IC]	B	6.4	6.4	6.4
Broome 2 [IC]	C	2.0	2.0	2.0
Broome LFGE [IC]	C	2.1	2.1	2.1
High Acres Group [IC] (23767)	C	9.6	9.6	9.6
Ontario LFGE [IC]	C	11.2	11.2	11.2
Seneca Energy Group [IC] (23797)	C	17.6	17.6	17.6
Clinton LFGE [IC]	D	6.4	6.4	6.4
DANC LFGE [IC]	E	6.4	6.4	6.4
Madison County LFGE [IC]	E	1.6	1.6	1.6
Oneida-Herkimer LFGE [IC]	E	3.2	3.2	3.2
Colonie LFGTE [IC]	F	6.4	6.4	6.4
Fulton County Landfill [IC]	F	3.2	3.2	3.2
Totals		**99.3**	**99.3**	**99.3**

Draft

Attachment G5

LFG Units Not Modeled

LFG				
Resource	Zone	CRIS (MW)	Summer Capability (MW)	Lesser of Summer Capability VS CRIS
Albany LFGE	F	4.5	5.6	4.5
Total		**4.5**	**5.6**	**4.5**

Draft

Assumption Matrix History

Date	Ver	Preliminary Base Case	Date	Ver	Final Base Case
1/28/21	V0.0	Preliminary assumptions without attachments.	9/22/21	V0.0	Delivery date and est. impacts removed, slight edits to Attachment B-1
2/3/21	V1.0	Preliminary assumptions without attachments.			
3/3/21	V2.0	Preliminary assumptions without attachments.			
3/30/21	V3.0	Preliminary assumptions without attachments.	10/6/21	V1.0	October Load Forecast; Adjustments made to Attachments A1 and B3; draft notes removed
5/5/21	V4.0	Added in LFU Models, Data from Draft of Gold Book A-B4 and E			
6/2/21	V5.0	Updated Attachments A-B5, D, E, and G-G5			
6/28/21	V6.0				
8/4/21	V7.0				

Draft