

2021 Final ICAP Forecast

Max Schuler

Demand Forecasting & Analysis

Load Forecasting Task Force

December 15 2020

Agenda

- **Summary of updates**
- **Proportional Loss Reallocation**
- **2020 Weather Normalized Peak Load**
- **2021 ICAP Forecast**

Summary of Updates

- Due to updated demand response, station power, municipal load, municipal self generation, and regional load growth information, the NYCA peak forecast has marginally decreased by 4 MW.
- Transmission District coincident peak forecasts have changed for Central Hudson (+5 MW), LIPA (-10 MW), National Grid (-2 MW), and NYPA (+3 MW). The remaining Transmission District forecasts are unchanged.
- Due to the updated coincident peaks, the Locality peak forecasts for the G-to-J Locality (+5 MW), and the Zone K Locality (-9 MW) have changed. There is no change in the Zone J Locality forecast.
- The Con Edison Behind-the-Meter Net Generation Weather Normalization Factor (1+WNF) has been updated.

Proportional Loss Reallocation

- For the New York Control Area (NYCA) ICAP Market peak forecast, bulk power system losses are reallocated among the Transmission Districts proportional to their weather normalized peak load (less losses). This approach provides that for the NYCA ICAP Market, bulk power system losses are shared equitably among Transmission Owners according to their share of the total statewide peak load.
- For the ICAP Locality peak forecasts (Zone J, Zone K, and Zones G-to-J), there is no reallocation of bulk power system losses. These forecasts include local (i.e., Transmission District) bulk power system losses as found. This approach provides that the Locality peak forecasts accurately estimate the total load expected in the Locality during the Locality peak hour.
- The NYCA-Coincident peak forecast by Transmission District is also presented. This forecast represents the expected coincident peak load by Transmission District and Zone during the hour of the NYCA peak, including local bulk power system losses as found (no loss reallocation).

2020 Weather Normalized Peak Load

2020 Load Reconciliation		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
7/27/2020, Hour Beginning 5 PM		NYISO DSS Actual MW Data					Transmission District Load Data					
V5 - 12/9/20		Actual Load	BPS Losses	Muni Gen	Load + Losses	Percent Losses	Actual Load Less Losses	Actual Losses	Actual Load With Losses	*Weather Adjustments	Demand Response	TOs' W/N MW With DR
Consolidated Edison												
Con-Ed LSE Load							11,250.2	147.2	11,397.4	597.5	115.2	12,110.1
Transmission District Load Served							11,250.2	147.2	11,397.4	597.5	115.2	12,110.1
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		11,250.2	147.2		11,397.4	1.3%	11,250.2	147.2	11,397.4			
Central Hudson												
Central Hudson LSE Load							1,066.9	26.0	1,092.9	14.9	5.0	1,112.8
Transmission District Load Served							1,066.9	26.0	1,092.9	14.9	5.0	1,112.8
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		1,066.9	26.0		1,092.9	2.4%	1,066.9	26.0	1,092.9			
Long Island Power Authority												
LIPA LSE Load							5,067.8	63.0	5,130.8	-139.9	12.5	5,003.4
NYPA Load & Greenport Load							105.4	1.3	106.7	-2.9	0.0	103.8
Freeport & Rockville Centre Load							109.5	1.4	110.9	-3.0	0.0	107.9
Transmission District Load Served							5,282.7	65.7	5,348.4	-145.8	12.5	5,215.1
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		5,278.1	65.7	4.1	5,347.9	1.2%	5,282.7	65.7	5,348.4			
National Grid												
National Grid LSE							6,053.1	322.0	6,375.1	34.3	214.6	6,624.0
NYPA Load							35.8	1.9	37.7	0.2	0.0	37.9
NYMPA Load							268.0	14.3	282.3	1.5	0.0	283.8
Jamestown Load							61.7	3.3	65.0	0.3	0.0	65.3
Green Island Load							5.9	0.3	6.2	0.0	0.0	6.2
Transmission District Load Served							6,424.5	341.8	6,766.3	36.3	214.6	7,017.2
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		6,386.1	341.8	38.40	6,766.3	5.1%	6,424.5	341.8	6,766.3			
Totals		29,940.8	657.0	42.5	30,640.3	2.1%	29,983.8	657.0	30,640.8	663.6	433.8	31,738.2

2020 Load Reconciliation		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
7/27/2020, Hour Beginning 5 PM		NYISO DSS Actual MW Data					Transmission District Load Data					
V5 - 12/9/20		Actual Load	BPS Losses	Muni Gen	Load + Losses	Percent Losses	Actual Load Less Losses	Actual Losses	Actual Load With Losses	*Weather Adjustments	Demand Response	TO's W/N MW With DR
New York Power Authority												
NYPA LSE Load							347.6	3.9	351.5	-1.3	0.0	350.2
NYMPA Load							51.9	0.6	52.5	-0.1	0.0	52.4
Transmission District Load Served							399.5	4.5	404.0	-1.4	0.0	402.6
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		399.5	4.5	404.0	1.1%	399.5	4.5	404.0				
New York State Electric & Gas												
NYSEGLSE Load							3,010.8	47.6	3,058.4	-20.2	65.5	3,103.7
NYPA Load							48.5	0.8	49.3	-0.3	0.0	49.0
NYMPA Load							67.5	1.1	68.6	-0.5	0.0	68.1
Transmission District Load Served							3,126.8	49.5	3,176.3	-21.0	65.5	3,220.8
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		3,126.8	49.5	3,176.3	1.6%	3,126.8	49.5	3,176.3				
Orange & Rockland Utilities												
O&R LSE Load							1,030.4	7.8	1,038.2	38.7	12.0	1,088.9
Transmission District Load Served							1,030.4	7.8	1,038.2	38.7	12.0	1,088.9
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		1,030.4	7.8	1,038.2	0.8%	1,030.4	7.8	1,038.2				
Rochester Gas & Electric												
RG&E LSE Load							1,392.5	14.4	1,406.9	143.3	9.0	1,559.2
NYMPA Load							10.3	0.1	10.4	1.1	0.0	11.5
Transmission District Load Served							1,402.8	14.5	1,417.3	144.4	9.0	1,570.7
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		1,402.8	14.5	1,417.3	1.0%	1,402.8	14.5	1,417.3				
Totals		29,940.8	657.0	42.5	30,640.3	2.1%	29,983.8	657.0	30,640.8	663.6	433.8	31,738.2

2020 Load Reconciliation	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	7/27/2020, Hour Beginning 5 PM	TOs' W/N MW With DR	Reallocation of Losses			Proportional Allocation of Losses	Adj. W/N Load Less Losses	2020 Adjusted Actual Load (MW)	2020 BTM:NG (1 + WNF)	2020 Adj Load Prior to Loss Adjustment
			W/N Losses	Station Power	Adj. W/N Load Less Losses					
Consolidated Edison										
Con-Ed LSE Load	12,110.1	156.4		11,953.7	38.51%	262.0	11,953.7	12,215.7		
Transmission District Load Served	12,110.1	156.4		11,953.7	38.51%	262.0	11,953.7	12,215.7	1.0280	12,110.1
Deduction for BTM:NG										
Transmission District Total Load										
Central Hudson										
Central Hudson LSE Load	1,112.8	26.5		1,086.3	3.50%	23.8	1,086.3	1,110.1		
Transmission District Load Served	1,112.8	26.5		1,086.3	3.50%	23.8	1,086.3	1,110.1	1.0219	1,112.8
Deduction for BTM:NG										
Transmission District Total Load										
Long Island Power Authority										
LIPA LSE Load	5,003.4	61.5		4,941.9	15.92%	108.30	4,941.90	5,050.2		
NYPA Load & Greenport Load	103.8	1.3		102.5	0.33%	2.20	102.50	104.7		
Freeport & Rockville Centre Load	107.9	1.3		106.6	0.34%	2.30	106.60	108.9		
Transmission District Load Served	5,215.1	64.1		5,151.0	16.59%	112.8	5,151.0	5,263.8	1.0219	5,215.1
Deduction for BTM:NG										
Transmission District Total Load										
National Grid										
National Grid LSE	6,624.0	334.0	15.4	6,274.6	20.21%	137.5	6,274.6	6,412.1		
NYPA Load	37.9	2.0		35.9	0.12%	0.8	35.9	36.7		
NYMPA Load	283.8	14.8		269.0	0.87%	5.9	269.0	274.9		
Jamestown Load	65.3	3.4		61.9	0.20%	1.4	61.9	63.3		
Green Island Load	6.2	0.3		5.9	0.02%	0.1	5.9	6.0		
Transmission District Load Served	7,017.2	354.5	15.4	6,647.3	21.41%	145.7	6,647.3	6,793.0	1.0219	7,001.8
Deduction for BTM:NG										
Transmission District Total Load										
Totals	31,738.2	680.50	15.4	31,042.30	100.00%	680.50	31,042.30	31,722.8	1.0219	31,722.8

2020 Load Reconciliation	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	7/27/2020, Hour Beginning 5 PM	TOs' W/N MW With DR	Reallocation of Losses			Proportional Allocation of Losses	Adj. W/N Load Less Losses	2020 Adjusted Actual Load (MW)	2020 BTM:NG (1 + WNF)	2020 Adj Load Prior to Loss Adjustment
			W/N Losses	Station Power	Adj. W/N Load Less Losses					
New York Power Authority										
NYPA LSE Load	350.2	3.9		346.3	1.12%	7.6	346.3	353.9		
NYMPA Load	52.4	0.6		51.8	0.17%	1.2	51.8	53.0		
Transmission District Load Served	402.6	4.5		398.1	1.29%	8.8	398.1	406.9	1.0219	402.6
Deduction for BTM:NG										
Transmission District Total Load										
New York State Electric & Gas										
NYSEG LSE Load	3,103.7	48.3		3,055.4	9.84%	67.0	3,055.4	3,122.4		
NYPA Load	49.0	0.8		48.2	0.16%	1.1	48.2	49.3		
NYMPA Load	68.1	1.1		67.0	0.22%	1.5	67.0	68.5		
Transmission District Load Served	3,220.8	50.2		3,170.6	10.21%	69.6	3,170.6	3,240.2	1.0219	3,220.8
Deduction for BTM:NG										
Transmission District Total Load										
Orange & Rockland Utilities										
O&R LSE Load	1,088.9	8.2		1,080.7	3.48%	23.7	1,080.7	1,104.4		
Transmission District Load Served	1,088.9	8.2		1,080.7	3.48%	23.7	1,080.7	1,104.4	1.0219	1,088.9
Deduction for BTM:NG										
Transmission District Total Load										
Rochester Gas & Electric										
RG&E LSE Load	1,559.2	16.0		1,543.2	4.97%	33.8	1,543.2	1,577.0		
NYMPA Load	11.5	0.1		11.4	0.04%	0.3	11.4	11.7		
Transmission District Load Served	1,570.7	16.1		1,554.6	5.01%	34.1	1,554.6	1,588.7	1.0219	1,570.7
Deduction for BTM:NG										
Transmission District Total Load										
Totals	31,738.2	680.50	15.4	31,042.30	100.00%	680.50	31,042.30	31,722.8	1.0219	31,722.8

2021 Final ICAP Forecast

2021 New York Control Area ICAP Market Peak Load Forecast (MW)

12/9/20 V5	Transmission Districts	2020 Weather Normalized MW Load + Losses MW *	(1 + Regional Load Growth Factor)	2021 Load At Time of NYCA Peak *	2021 Deductions	2021 ICAP Market Forecast *	2021 Locality Forecasts ^		
							J Locality	K Locality	G-J Locality
Consolidated Edison		12,215.7	1.04920	12,816.7	0.0	12,816.7	11,199.0		12,808.8
Central Hudson		1,110.1	0.99500	1,104.5	0.0	1,104.5			1,112.5
Long Island Power Authority		5,050.2	1.00302	5,065.5	0.0	5,065.5			
NYPA & Greenport		104.7	1.00302	105.0	0.0	105.0			
Freeport & Rockville Centre		108.9	1.00302	109.2	0.0	109.2			
LIPA Total		5,263.8	1.00302	5,279.7	0.0	5,279.7		5,248.6	
National Grid		6,412.1	1.00000	6,412.1	0.0	6,412.1			
NYPA		36.7	1.00000	36.7	0.0	36.7			
NYMPA		274.9	1.00000	274.9	0.0	274.9			
Jamestown		63.3	1.00000	63.3	0.0	63.3			
Green Island Power Authority		6.0	1.00000	6.0	0.0	6.0			
National Grid Total		6,793.0	1.00000	6,793.0	0.0	6,793.0			
New York Power Authority		353.9	1.02990	364.5	0.0	364.5			
NYMPA		53.0	1.06170	56.3	0.0	56.3			
NYPA Total		406.9	1.03420	420.8	0.0	420.8			
New York State Electric & Gas		3,122.4	1.00140	3,126.8	0.0	3,126.8			
NYPA		49.3	1.00140	49.4	0.0	49.4			
NYMPA		68.5	1.00140	68.6	0.0	68.6			
NYSEG Total		3,240.2	1.00140	3,244.8	0.0	3,244.8			388.3
Orange & Rockland Utilities		1,104.4	1.00360	1,108.4	0.0	1,108.4			1,101.7
Rochester Gas & Electric		1,577.0	0.98520	1,553.7	0.0	1,553.7			
NYMPA		11.7	0.98520	11.5	0.0	11.5			
RG&E Total		1,588.7	0.98520	1,565.2	0.0	1,565.2			
Total Load in NYCA or Locality		31,722.8	1.01924	32,333.1	0.0	32,333.1	11,199.0	5,248.6	15,411.3

Notes

* Including Reallocated Bulk Power System Losses

^ No Loss Reallocation

2021 New York Control Area Coincident Peak Load Forecast (MW)						
12/9/20 V5	Transmission Districts	2020 Weather Normalized MW Load + Losses MW ^	(1 + Regional Load Growth Factor)	2021 Load At Time of NYCA Peak ^	2021 Deductions	2021 NYCA Coincident Peak Forecast ^
Consolidated Edison						
		12,110.1	1.04920	12,705.9	0.0	12,705.9
Central Hudson						
		1,112.8	0.99500	1,107.2	0.0	1,107.2
Long Island Power Authority						
		5,003.4	1.00302	5,018.5	0.0	5,018.5
	NYPA & Greenport	103.8	1.00302	104.1	0.0	104.1
	Freeport & Rockville Centre	107.9	1.00302	108.2	0.0	108.2
LIPA Total						
		5,215.1	1.00302	5,230.8	0.0	5,230.8
National Grid						
		6,608.6	1.00000	6,608.6	0.0	6,608.6
	NYPA	37.9	1.00000	37.9	0.0	37.9
	NYMPA	283.8	1.00000	283.8	0.0	283.8
	Jamestown	65.3	1.00000	65.3	0.0	65.3
	Green Island Power Authority	6.2	1.00000	6.2	0.0	6.2
National Grid Total						
		7,001.8	1.00000	7,001.8	0.0	7,001.8
New York Power Authority						
		350.2	1.02990	360.7	0.0	360.7
	NYMPA	52.4	1.06170	55.6	0.0	55.6
NYPA Total						
		402.6	1.03400	416.3	0.0	416.3
New York State Electric & Gas						
		3,103.7	1.00140	3,108.0	0.0	3,108.0
	NYPA	49.0	1.00140	49.1	0.0	49.1
	NYMPA	68.1	1.00140	68.2	0.0	68.2
NYSEG Total						
		3,220.8	1.00140	3,225.3	0.0	3,225.3
Orange & Rockland Utilities						
		1,088.9	1.00360	1,092.8	0.0	1,092.8
Rochester Gas & Electric						
		1,559.2	0.98520	1,536.1	0.0	1,536.1
	NYMPA	11.5	0.98520	11.3	0.0	11.3
RG&E Total						
		1,570.7	0.98520	1,547.4	0.0	1,547.4
NYCA Coincident Peak Load						
		31,722.8	1.01906	32,327.5	0.0	32,327.5

Notes

^ No Loss Reallocation

The NYCA Coincident Peak forecast differs from the NYCA ICAP Market forecast due to the application of Transmission District RLGs prior to proportional reallocation of bulk power system losses.

(1) 2020 Actual Coincident Peak in G to J Locality

7/27/2020 HB 17

Transmission District	G	H	I	J	G-to-J Total
Con Edison		264.0	1,318.0	9,815.4	11,397.4
Cen Hudson	1,088.9				1,088.9
LIPA					
Nat. Grid					
NYPA					
NYSEG	20.8	365.5			386.3
O&R	1,038.2				1,038.2
RG&E					
Total	2,147.9	629.5	1,318.0	9,815.4	13,910.8

(2) 2020 Weather-Adjusted Coincident Peak in G to J Locality

Transmission District	G	H	I	J	G-to-J Total
Con Edison		263.2	1,317.5	10,529.4	12,110.1
Cen Hudson	1,109.1				1,109.1
LIPA					
Nat. Grid					
NYPA					
NYSEG	23.0	361.7			384.7
O&R	1,088.9				1,088.9
RG&E					
Total	2,221.0	624.9	1,317.5	10,529.4	14,692.8

(3) 2020 Weather-Adjusted Locality Peak for G-to-J

Transmission District	G	H	I	J	G-to-J Total
Con Edison		265.3	1,328.2	10,614.7	12,208.2
Cen Hudson	1,118.1				1,118.1
LIPA					
Nat. Grid					
NYPA					
NYSEG	23.2	364.6			387.8
O&R	1,097.7				1,097.7
RG&E					
Total	2,239.0	629.9	1,328.2	10,614.7	14,811.8
NCP/CP ratio	1.0081	1.0081	1.0081	1.0081	

(4) 2021 Peak Forecast for G-to-J Locality*Prior to BTM:NG Resources*

Transmission District	G	H	I	J	G-to-J Total	RLGF
Con Edison		278.4	1,393.5	11,136.9	12,808.8	1.0492
Cen Hudson	1,112.5				1,112.5	0.9950
LIPA						
Nat. Grid						
NYPA						
NYSEG	23.2	365.1			388.3	1.0014
O&R	1,101.7				1,101.7	1.0036
RG&E						
Total	2,237.4	643.5	1,393.5	11,136.9	15,411.3	1.0405

No Loss Reallocation

Zone J and K Locality Peaks, Prior to BTM:NG Resources

Locality	2020 Locality Peak Actual Load	Municipal Self-Generation	Demand Response	2020 Locality Peak Total Load	Locality Weather Adjustment	2020 Locality Weather Adjusted Peak	Regional Load Growth Factor	2021 Locality Forecast
Zone J Locality	10,075.3	0.0	12.4	10,087.7	586.0	10,673.7	1.0492	11,199.0
Zone K Locality	5,421.6	4.5	14.1	5,440.2	-207.5	5,232.7	1.0030	5,248.6

No Loss Reallocation

2020 Weather-Normalized Coincident Peak Loads by Transmission District and Zone, Prior to Proportional Allocation of Losses

	A	B	C	D	E	F	G	H	I	J	K	Total
Con Edison								263.2	1,317.5	10,529.4		12,110.1
Cen Hudson					3.7		1,109.1					1,112.8
LIPA											5,215.1	5,215.1
Nat. Grid	2,018.0	417.8	1,335.8	87.9	943.6	2,198.7						7,001.8
NYPA				402.6								402.6
NYSEG	674.7		1,457.7	114.8	423.9	165.0	23.0	361.7				3,220.8
O&R							1,088.9					1,088.9
RG&E		1,570.7										1,570.7
Total	2,692.7	1,988.5	2,793.5	605.3	1,371.2	2,363.7	2,221.0	624.9	1,317.5	10,529.4	5,215.1	31,722.8

Includes station power deduction.

2021 Coincident Peak Forecast, Prior to BTM:NG Resources

	A	B	C	D	E	F	G	H	I	J	K	Total	RLGF
Con Edison								276.1	1,382.3	11,047.4		12,705.8	1.0492
Cen Hudson					3.7		1,103.5					1,107.2	0.9950
LIPA											5,230.8	5,230.8	1.0030
Nat. Grid	2,018.0	417.8	1,335.8	87.9	943.6	2,198.7						7,001.8	1.0000
NYPA				416.4								416.4	1.0342
NYSEG	675.6		1,459.7	115.0	424.5	165.2	23.0	362.2				3,225.2	1.0014
O&R							1,092.8					1,092.8	1.0036
RG&E		1,547.5										1,547.5	0.9852
Total	2,693.6	1,965.3	2,795.5	619.3	1,371.8	2,363.9	2,219.3	638.3	1,382.3	11,047.4	5,230.8	32,327.5	1.0192

No Loss Reallocation. The NYCA Coincident Peak forecast of 32,327.5 MW differs from the ICAP Market forecast of 32,333.1 MW due to the application of the Transmission District RLGs prior to proportional reallocation of bulk power system losses.

2021 Transmission District Forecast of BTM:NG Resources

	Transmission District	2020 Peak Proxy Load	(1 + WNF)	(1 + RLGF)	2021 Average Coincident Host Load
Row	(a)	(b)	(c)	(d)	(e)=(b)*(c)*(d)
1	Con-Ed	16.8	1.0280	1.0492	18.1
2	Central Hudson				
3	LIPA	36.3	1.0219	1.0030	37.2
4	National Grid	2.0	1.0219	1.0000	2.0
5	NYPA				
6	NYSEG	19.5	1.0219	1.0014	20.0
7	O&R				
8	RG&E				
	Total	74.6			77.3

2021 Coincident Peak Forecast for LCR Study, Including BTM:NG Resources

	A	B	C	D	E	F	G	H	I	J	K	Total
Con Edison								276.1	1,382.3	11,065.5		12,723.9
Cen Hudson					3.7		1,103.5					1,107.2
LIPA											5,268.0	5,268.0
Nat. Grid	2,018.0	417.8	1,335.8	87.9	945.6	2,198.7						7,003.8
NYPA				416.4								416.4
NYSEG	675.6		1,479.7	115.0	424.5	165.2	23.0	362.2				3,245.2
O&R							1,092.8					1,092.8
RG&E		1,547.5										1,547.5
Total	2,693.6	1,965.3	2,815.5	619.3	1,373.8	2,363.9	2,219.3	638.3	1,382.3	11,065.5	5,268.0	32,404.8

BTM:NG & Load Modifiers			20.0		2.0					18.1	37.2	77.3
-------------------------	--	--	------	--	-----	--	--	--	--	------	------	-------------

These BTM:NG values are included in the table above.

2021 G-to-J Locality Peaks, Including BTM:NG Resources

	A	B	C	D	E	F	G	H	I	J	K	Total
G-to-J Peaks							2,237.4	643.5	1,393.5	11,155.0		15,429.4

2021 Non-Coincident Zonal Peaks, Including BTM:NG Resources

	A	B	C	D	E	F	G	H	I	J	K
NC Peaks	2,851.7	2,027.6	2,882.6	633.8	1,433.1	2,401.7	2,256.1	649.3	1,403.3	11,217.1	5,285.8

No Loss Reallocation

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

