



2016 Final Weather Normalized MW for 2017 ICAP Forecast

Arthur Maniaci

*Supervisor, Load Forecasting & Energy Efficiency
New York Independent System Operator*

LFTF – Load Forecasting Task Force

December 21, 2016

Rensselaer, NY

2016 Load Reconciliation	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	NYISO DSS Actual MW Data					Transmission Owner Load Data					
	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
Central Hudson											
Central Hudson LSE Load						995.4	27.0	1,022.4	43.0	4.0	1,069.4
Transmission District Load Served						995.4	27.0	1,022.4	43.0	4.0	1,069.4
Deduction for BTM:NG							0.0	0.0			
Transmission District Total Load	995.4	27.0		1,022.4	2.6%	995.4	27.0	1,022.4			
Consolidated Edison											
Con-Ed LSE Load						12,564.2	87.8	12,652.0	685.0	3.0	13,340.0
Transmission District Load Served						12,564.2	87.8	12,652.0	685.0	3.0	13,340.0
Deduction for BTM:NG							0.0	0.0			
Transmission District Total Load	12,564.2	87.8		12,652.0	0.7%	12,564.2	87.8	12,652.0			
Long Island Power Authority											
LIPA LSE Load						4,927.4	59.3	4,986.7	213.1	0.0	5,199.8
NYPA Load & Greenport Load						94.0	1.1	95.1	4.1	0.0	99.2
Freeport & Rockville Centre Load			10.7			113.2	1.4	114.6	4.9	0.0	119.5
Transmission District Load Served						5,134.6	61.8	5,196.4	222.1	0.0	5,418.5
Deduction for BTM:NG							0.0	0.0			
Transmission District Total Load	5,127.8	61.8	10.7	5,200.3	1.2%	5,134.6	61.8	5,196.4			
New York Power Authority											
NYPA LSE Load						235.8	1.7	237.5		0.0	237.5
NYMPA Load						76.8	0.6	77.4	-1.2	0.0	76.2
Transmission District Load Served						312.6	2.3	314.9	-1.2	0.0	313.7
Deduction for BTM:NG						0.0	0.0	0.0			
Transmission District Total Load	312.6	2.3		314.9	0.7%	312.6	2.3	314.9			

2016 Load Reconciliation	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	NYISO DSS Actual MW Data					Transmission Owner Load Data					
	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
8/11/2016, Hour Beginning 4 PM											
V3. 12/20/2016											
New York State Electric & Gas											
NYSEGLSE Load						2,979.8	77.4	3,057.2	45.1	8.0	3,110.3
NYPA Load						42.5	1.1	43.6	0.6	0.0	44.2
NYMPA Load						71.0	1.8	72.8	1.1	0.0	73.9
Transmission District Load Served						3,093.3	80.3	3,173.6	46.8	8.0	3,228.4
Deduction for BTM:NG						0.0	0.0	0.0			
Transmission District Total Load	3,093.3	80.3		3,173.6	2.5%	3,093.3	80.3	3,173.6			
National Grid											
National Grid LSE						6,330.8	327.7	6,658.5	-55.5	141.5	6,744.5
NYPA Load						36.8	1.9	38.7	-0.3	0.0	38.4
NYMPA Load						285.2	14.8	300.0	-2.5	0.0	297.5
Jamestown Load			53.7			64.8	3.4	68.2	-0.6	0.0	67.6
Green Island Load						6.3	0.3	6.6	-0.1	0.0	6.5
Transmission District Load Served						6,723.9	348.1	7,072.0	-59.0	141.5	7,154.5
Deduction for BTM:NG						0.0	0.0	0.0			
Transmission District Total Load	6,655.4	348.1	53.7	7,057.2	4.9%	6,723.9	348.1	7,072.0			
Orange & Rockland Utilities											
O&R LSE Load						1,016.4	11.4	1,027.8	135.2	0.0	1,163.0
Transmission District Load Served						1,016.4	11.4	1,027.8	135.2	0.0	1,163.0
Deduction for BTM:NG							0.0	0.0			
Transmission District Total Load	1,016.4	11.4		1,027.8	1.1%	1,016.4	11.4	1,027.8			
Rochester Gas & Electric											
RG&E LSE Load						1,565.2	20.6	1,585.8	-46.4	10.5	1,549.9
NYMPA Load						11.7	0.6	12.3	-0.1	0.0	12.2
Transmission District Load Served						1,576.9	21.2	1,598.1	-46.5	10.5	1,562.1
Deduction for BTM:NG							0.0	0.0			
Transmission District Total Load	1,576.9	21.2		1,598.1	1.3%	1,576.9	21.2	1,598.1			
Totals	31,342.0	639.9	64.4	32,046.3	2.0%	31,417.3	639.9	32,057.2	1,025.4	167.0	33,249.6

2016 Load Reconciliation	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	TOs' W/N MW With DR	Reallocation of Losses			Proportional Allocation of Losses	Adj. W/N Load Less Losses	2016 Adjusted Actual Load (MW)	2016 (1 + WNF)	2016 Adj Load Prior to Loss Adjustment	
8/11/2016, Hour Beginning 4 PM		W/N Losses	Station Power	Adj. W/N Load Less Losses	Percent Loss Allocation					
V3. 12/20/2016										
Central Hudson										
Central Hudson LSE Load	1,069.4	28.2		1,041.2	3.20%	21.0	1,041.2	1,062.2		
Transmission District Load Served	1,069.4	28.2		1,041.2	3.20%	21.0	1,041.2	1,062.2	1.0671	1,069.4
Deduction for BTM:NG										
Transmission District Total Load										
Consolidated Edison										
Con-Ed LSE Load	13,340.0	92.6		13,247.4	40.68%	266.3	13,247.4	13,513.7		
Transmission District Load Served	13,340.0	92.6		13,247.4	40.68%	266.3	13,247.4	13,513.7	1.0756	13,340.0
Deduction for BTM:NG										
Transmission District Total Load										
Long Island Power Authority										
LIPA LSE Load	5,199.8	61.8		5,138.0	15.78%	103.30	5,138.00	5,241.3		
NYPA Load & Greenport Load	99.2	1.2		98.0	0.30%	2.00	98.00	100.0		
Freeport & Rockville Centre Load	119.5	1.4		118.1	0.36%	2.40	118.10	120.5		
Transmission District Load Served	5,418.5	64.4		5,354.1	16.44%	107.7	5,354.1	5,461.8	1.0637	5,418.5
Deduction for BTM:NG										
Transmission District Total Load										
New York Power Authority										
NYPA LSE Load	237.5	1.7		235.8	0.72%	4.7	235.8	240.5		
NYMPA Load	76.2	0.6		75.6	0.23%	1.5	75.6	77.1		
Transmission District Load Served	313.7	2.3		311.4	0.95%	6.2	311.4	317.6	1.0160	313.7
Deduction for BTM:NG										
Transmission District Total Load										

2016 Load Reconciliation	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	8/11/2016, Hour Beginning 4 PM V3. 12/20/2016	TOs' W/N MW With DR	Reallocation of Losses			Proportional Allocation of Losses	Adj. W/N Load Less Losses	2016 Adjusted Actual Load (MW)	2016 (1 + WNF)	2016 Adj Load Prior to Loss Adjustment
W/N Losses			Station Power	Adj. W/N Load Less Losses	Percent Loss Allocation					
New York State Electric & Gas										
NYSEGLSE Load	3,110.3	78.7		3,031.6	9.31%	61.0	3,031.6	3,092.6		
NYPA Load	44.2	1.1		43.1	0.13%	0.9	43.1	44.0		
NYMPA Load	73.9	1.9		72.0	0.22%	1.4	72.0	73.4		
Transmission District Load Served	3,228.4	81.7		3,146.7	9.66%	63.3	3,146.7	3,210.0	1.0377	3,228.4
Deduction for BTM:NG										
Transmission District Total Load										
National Grid										
National Grid LSE	6,744.5	331.7	24.9	6,387.9	19.61%	128.5	6,387.9	6,516.4		
NYPA Load	38.4	1.9		36.5	0.11%	0.7	36.5	37.2		
NYMPA Load	297.5	14.9		282.6	0.87%	5.7	282.6	288.3		
Jamestown Load	67.6	3.4		64.2	0.20%	1.3	64.2	65.5		
Green Island Load	6.5	0.3		6.2	0.02%	0.1	6.2	6.3		
Transmission District Load Served	7,154.5	352.2	24.9	6,777.4	20.81%	136.3	6,777.4	6,913.7	1.0282	7,129.6
Deduction for BTM:NG										
Transmission District Total Load										
Orange & Rockland Utilities										
O&R LSE Load	1,163.0	12.9		1,150.1	3.53%	23.1	1,150.1	1,173.2		
Transmission District Load Served	1,163.0	12.9		1,150.1	3.53%	23.1	1,150.1	1,173.2	1.1543	1,163.0
Deduction for BTM:NG										
Transmission District Total Load										
Rochester Gas & Electric										
RG&E LSE Load	1,549.9	20.5		1,529.4	4.70%	30.8	1,529.4	1,560.2		
NYMPA Load	12.2	0.2		12.0	0.04%	0.3	12.0	12.3		
Transmission District Load Served	1,562.1	20.7		1,541.4	4.73%	31.1	1,541.4	1,572.5	0.9972	1,562.1
Deduction for BTM:NG										
Transmission District Total Load										
Totals	33,249.6	655.00	24.9	32,569.70	100.00%	655.00	32,569.70	33,224.7	1.0575	33,224.7

2017 New York Control Area Peak Load Forecast (MW)

Final VI 12/21/2016	Transmission Districts	2016 Weather Normalized MW Load + Losses MW	Regional Load Growth Factor	2017 Load At Time of NYCA Peak	2017 Deductions	2017 ICAP Market Forecast	2017 Locality Forecasts		
							J Locality	K Locality	G-J Locality
	Central Hudson	1,062.2	0.9820	1,043.1	0.0	1,043.1			1,053.7
	Consolidated Edison	13,513.7	1.0015	13,534.0	0.0	13,534.0	11,670.0		13,444.0
	Long Island Power Authority	5,241.3	0.99367	5,208.1	0.0	5,208.1			
	NYPA & Greenport	100.0	0.99367	99.4	0.0	99.4			
	Freeport & Rockville Centre	120.5	0.99367	119.7	0.0	119.7			
	LIPA Total	5,461.8	0.99367	5,427.2	0.0	5,427.2		5,427.1	
	New York Power Authority	240.5	0.9472	227.8	0.0	227.8			
	NYMPA	77.1	1.0013	77.2	0.0	77.2			
	NYPA Total	317.6	0.9603	305.0	0.0	305.0			
	New York State Electric & Gas	3,092.6	1.0040	3,105.0	0.0	3,105.0			389.2
	NYPA	44.0	1.0040	44.2	0.0	44.2			
	NYMPA	73.4	1.0040	73.7	0.0	73.7			
	NYSEG Total	3,210.0	1.0040	3,222.9	0.0	3,222.9			
	National Grid	6,516.4	1.0030	6,535.9	43.0	6,492.9			
	NYPA	37.2	1.0030	37.3	0.0	37.3			
	NYMPA	288.3	1.0030	289.2	0.0	289.2			
	Jamestown	65.5	1.0030	65.7	0.0	65.7			
	Green Island Power Authority	6.3	1.0030	6.3	0.0	6.3			
	National Grid Total	6,913.7	1.0030	6,934.4	43.0	6,891.4			
	Orange & Rockland Utilities	1,173.2	1.0035	1,177.3	0.0	1,177.3			1,174.4
	Rochester Gas & Electric	1,560.2	1.0028	1,564.6	0.0	1,564.6			
	NYMPA	12.3	1.0028	12.3	0.0	12.3			
	RG&E Total	1,572.5	1.0028	1,576.9	0.0	1,576.9			
	Total Load in NYCA or Locality	33,224.7	0.9986	33,220.8	43.0	33,177.8	11,670.0	5,427.1	16,061.3

(1) 2016 Actual Coincident Peak MW for G-to-J Locality

(1)	(2)	(3)	(4)	(5)	(6)
Transmission District	Zone G	Zone H	Zone I	Zone J	Total, GHJ
Cen. Hud. Con Ed	1,019.4	277.1	1,413.2	10,961.7	1,019.4 12,652.0
NYSEG O&R	22.3 1,027.8	345.7			368.0 1,027.8
Total	2,069.5	622.8	1,413.2	10,961.7	15,067.2

(2) 2016 Weather Normalized Coincident Peak for G-to-J Locality

(1)	(2)	(3)	(4)	(5)	(6)
Transmission District	Zone G	Zone H	Zone I	Zone J	Total, GHJ
Cen. Hud. Con Ed	1,066.3	292.2	1,490.0	11,557.8	1,066.3 13,340.0
NYSEG O&R	23.4 1,163.0	361.8			385.2 1,163.0
Total	2,252.7	654.0	1,490.0	11,557.8	15,954.5

(3) 2016 Weather Normalized Locality Peak for Zones G, H, I and J

(1)	(2)	(3)	(4)	(5)	(6)
Transmission District	Zone G	Zone H	Zone I	Zone J	Total, GHJ
Cen. Hud. Con Ed	1,073.0	294.0	1,499.4	11,630.6	1,073.0 13,424.0
NYSEG O&R	23.5 1,170.3	364.1			387.6 1,170.3
Total	2,266.8	658.1	1,499.4	11,630.6	16,054.9

(4) 2017 Locality Forecast for Zones G, H, I and J

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Transmission District	Zone G	Zone H	Zone I	Zone J	Total, GHJ	RLGF
Cen. Hud. Con Ed	1,053.7	294.4	1,501.6	11,648.0	1,053.7 13,444.0	0.9820 1.0015
NYSEG O&R	23.6 1,174.4	365.6			389.2 1,174.4	1.0040 1.0035
Total	2,251.7	660.0	1,501.6	11,648.0	16,061.3	

NCP/CP	1.0063	1.0063	1.0063	1.0063	1.0063
---------------	---------------	---------------	---------------	---------------	---------------

NYCA Coincident Peak Dates & Times & Zonal MW

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	NYCA Peak Date	Hr Beg	Zone G	Zones H+I	Zone J	G-to-J CP
2007	8/8/2007	17	2,316	2,033	10,971	15,320
2008	6/9/2008	17	2,277	2,056	10,979	15,311
2009	8/17/2009	16	2,159	1,875	10,366	14,400
2010	7/6/2010	17	2,399	2,187	11,600	16,186
2011	7/22/2011	16	2,482	2,239	11,826	16,546
2012	7/17/2012	14	2,282	2,082	11,405	15,769
2013	7/19/2013	17	2,384	2,253	11,736	16,373
2014	9/2/2014	16	2,036	1,917	10,567	14,520
2015	7/29/2015	16	2,070	1,930	10,455	14,455
2016	8/11/2016	16	2,069	1,993	11,006	15,068
Average						15,395

G-to-J Locality Peak Dates & Times & Zonal MW

(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15) = (14-7)
Year	G-to-J Peak Date	Hr Beg	Zone G	Zones H+I	Zone J	G-J NCP	G-to-J Delta
2007	8/8/2007	17	2,316	2,033	10,971	15,320	-
2008	6/10/2008	17	2,338	2,101	11,262	15,701	390
2009	8/21/2009	15	2,117	1,879	10,661	14,657	257
2010	7/6/2010	17	2,399	2,187	11,600	16,186	-
2011	7/22/2011	16	2,482	2,239	11,826	16,546	-
2012	7/18/2012	13	2,288	2,071	11,424	15,783	14
2013	7/19/2013	17	2,384	2,253	11,736	16,373	-
2014	9/2/2014	17	2,046	1,933	10,572	14,551	32
2015	7/20/2015	16	2,059	1,996	10,675	14,730	275
2016	8/11/2016	16	2,069	1,993	11,006	15,068	-
Average						15,492	97

Ratio of G-to-J Locality Peak to G-to-J Coincident Peak (15,492/15,395)

1.0063

NYCA Coincident Peak Dates & Times & Zonal MW

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	NYCA Peak Date	Hr Beg	Zone G	Zones H+I	Zone J	G-to-J CP
2007	8/8/2007	17	2,316	2,033	10,971	15,320
2008	6/9/2008	17	2,277	2,056	10,979	15,311
2009	8/17/2009	16	2,159	1,875	10,366	14,400
2010	7/6/2010	17	2,399	2,187	11,600	16,186
2011	7/22/2011	16	2,482	2,239	11,826	16,546
2012	7/17/2012	14	2,282	2,082	11,405	15,769
2013	7/19/2013	17	2,384	2,253	11,736	16,373
2014	9/2/2014	16	2,036	1,917	10,567	14,520
2015	7/29/2015	16	2,070	1,930	10,455	14,455
2016	8/11/2016	16	2,069	1,993	11,006	15,068
Average					11,091	

Zone J Locality Peak Dates & Times & Zonal MW

(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15) = (13-6)
Year	Zone J Peak Date	Hr Beg	Zone G	Zones H+I	Zone J	G-to-J, Coin. with J	Zone J Delta
2007	8/8/2007	17	2,316	2,033	10,971	15,320	-
2008	6/10/2008	17	2,338	2,101	11,262	15,701	283
2009	8/21/2009	15	2,117	1,879	10,661	14,657	294
2010	7/6/2010	17	2,399	2,187	11,600	16,186	-
2011	7/22/2011	12	2,375	2,107	11,876	16,358	50
2012	7/18/2012	15	2,115	2,002	11,438	15,554	33
2013	7/19/2013	17	2,384	2,253	11,736	16,373	-
2014	9/2/2014	17	2,046	1,933	10,572	14,551	5
2015	7/20/2015	16	2,059	1,996	10,675	14,730	220
2016	8/11/2016	16	2,069	1,993	11,006	15,068	-
Average					11,180		88

Ratio of J Locality Peak to J Coincident Peak (11,180/11,091)

1.0080

The mission of the New York Independent System Operator, in collaboration with its 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 policy makers, stakeholders and investors in the power system*

www.nyiso.com