



2016 Weather Adjustments and 2017 Forecast for the NYSRC 2017 Installed Reserve Margin Study

Arthur Maniaci

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

NYSRC – Installed Capacity Subcommittee

*October 5, 2016
Rensselaer, NY*

2016 Weather-Adjusted NYCA Coincident Peaks

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)=(9b)-(6)	(11)=(10)/(9b)
Transmission District	2016 Actual MW, 8/11/2016 HB 16	Estimated Muni Self-Gen	Demand Response Estimate MW	Weather Adjustment MW	2016 Weather Normalized MW	Loss Reallocation MW	2016 WN MW, Adj for Losses	2016 ICAP Market Forecast MW	2016 Forecast, Without Loss Adjustment	TO Forecast, Over /Under MW	TO Forecast Error, Percent Over /Under
Gen. Hudson	1,022	0	4	43	1,069	-7	1,062	1,104	1,112	43	3.9%
Con Ed	12,652	0	3	685	13,340	165	13,505	13,705	13,536	196	1.4%
LIPA	5,190	0	0	249	5,438	42	5,480	5,491	5,437	-1	0.0%
NGrid	7,004	0	153	-59	7,098	-208	6,890	6,776	7,029	-69	-1.0%
NYPA	328	0	0	0	328	4	332	336	332	4	1.2%
NYSEG	3,174	0	8	85	3,267	-17	3,250	3,192	3,183	-84	-2.6%
O&R	1,028	0	0	135	1,163	9	1,172	1,164	1,156	-7	-0.6%
RG&E	1,598	0	8	-46	1,560	11	1,571	1,591	1,574	14	0.9%
Grand Total	31,996	0	176	1,091	33,263	0	33,263	33,359	33,359	96	0.3%

2016 Weather-Adjusted Locality Peaks (Non-Coincident)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Locality	Date and Time (Hr Beginning)	2016 Actual MW	Estimated Muni Self-Gen	Demand Response Estimate MW	Locality Weather Adjustment MW	2016 Adjusted MW	2016 ICAP Market Forecast MW	Over/Under MW	Percent Over/Under
Zone J - NYC	8/11/16 HB 16	11,006	0	3	641	11,650	11,794	144	1.2%
Zone K - LI	8/12/16 HB 16	5,410	0	50	18	5,478	5,479	1	0.0%
Zone GHIJ	8/11/16 HB 16	15,068	0	3	977	16,048	16,309	261	1.6%

2017 NYCA Coincident Peak Forecasts by Transmission District

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10a)	(10b)	(10c)
Transmission District	2016 Actual MW	2016 Estimated SCR & Muni Self-Gen	SCR/EDRP Estimate MW	Weather Adjustment MW	2016 Weather Normalized MW	Loss Reallocation MW	2016 WN MW, Adj for Losses	Regional Load Growth Factors	2017 IRM Final Forecast	Other Adjustments to Load	2017 Forecast, With Load Modifier Adjustment
Cen. Hudson	1,022	0	4	43	1,069	0	1,069	1.0000	1,069		1,069
Con Ed	12,652	0	3	685	13,340	0	13,340	1.0015	13,360		13,360
LIPA	5,190	0	0	249	5,438	0	5,438	0.9947	5,409		5,409
NGrid	7,004	0	153	-59	7,098	0	7,098	1.0060	7,140	-43	7,097
NYPA	328	0	0	0	328	0	328	1.0000	328		328
NYSEG	3,174	0	8	85	3,267	0	3,267	1.0030	3,277		3,277
O&R	1,028	0	0	135	1,163	0	1,163	1.0035	1,167		1,167
RG&E	1,598	0	8	-46	1,560	0	1,560	1.0040	1,566		1,566
Grand Total	31,996	0	176	1,091	33,263	0	33,263	1.0016	33,316	-43	33,273
									2017 Forecast from 2016 Gold Book		33,363
									Change from Gold book		-47

2017 Locality Peak Forecasts (Non-Coincident)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Locality	2016 Actual MW	2016 Estimated Muni Self-Gen	SCR/EDRP Estimate MW	Weather Adjustment MW	2016 Weather Normalized MW	Regional Load Growth Factors	2017 IRM Final Forecast	2017 Forecast from 2016 Gold Book	Change from Gold Book Forecast
Zone J - NYC	11,006	0	3	641	11,650	1.0015	11,670	11,795	-125
Zone K - LI	5,410	0	50	18	5,478	0.9949	5,450	5,422	28
Zone GHIJ	15,068	0	3	977	16,048	1.0016	16,073	16,313	-240

2017 Coincident Peak Forecasts by Transmission District and Zone

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Row Labels	A	B	C	D	E	F	G	H	I	J	K	Grand Total
CenHudson					3.1		1,065.5					1,068.6
ConEd								292.6	1,492.4	11,575.0		13,360.0
LIPA											5,409.5	5,409.5
Ngrid	1,945.2	432.3	1,443.6	92.8	967.5	2,258.2						7,139.6
NYPA				328.0								328.0
NYSEG	761.0		1,435.2	118.8	433.7	148.7	22.8	357.3				3,277.5
OR							1,167.1					1,167.1
RGE		1,566.1										1,566.1
Grand Total	2,706.2	1,998.4	2,878.8	539.6	1,404.3	2,406.9	2,255.4	649.9	1,492.4	11,575.0	5,409.5	33,316.4

2017 G to J Peak Forecasts by Transmission District and Zone

(1)	(2)	(3)	(4)	(5)	(6)
Row Labels	G	H	I	J	Grand Total
CenHudson	1,072.2				1,072.2
ConEd		294.3	1,501.7	11,647.8	13,443.8
LIPA					0.0
Ngrid					0.0
NYPA					0.0
NYSEG	22.9	359.5			382.4
OR	1,174.4				1,174.4
RGE					0.0
Grand Total	2,269.5	653.8	1,501.7	11,647.8	16,072.8

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 (11,191/11,087)

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