

2011 Weather Adjustment - Preliminary (V2)

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New York Independent System Operator

LFTF

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Summary of Results

- ◆ NYCA's EMS & DSS databases agree to within 13 MW (33,865 MW vs 33,852 MW)
 - *Identified 80.8 MW of municipally-owned generation excluded from DSS data. (Municipal load is net-metered.)*
 - *MW for these units have always been accounted for in TO side of load reconciliation.*
- ◆ NYCA load data agrees with TO & municipal load data to within 30 MW (33,852 vs 33,822).
 - *Still need to reconcile some TOs MW to within 1% of NYISO's.*
- ◆ Weather normalization results still being reviewed.
- ◆ Economic data for developing & evaluating regional load growth factors is presented.

2011 Summer Peak MW Data		NYISO DSS Actual MW Data				TO & ELRR Data - Actual & Wthr Adj MW			
7/22/2011, Hour Ended 4 PM		Actual Load	Losses	Load + Losses	Percent Losses	Actual Load Data	Weather Adjustments	Demand Response	TOs' W/N MW With DSM
Version 2 11/22/2011									
Central Hudson		1,176.5	32.0	1,208.5	2.65%	1,211.0	-116.0	29.0	1,124.0
Consolidated Edison		13,049.1	117.1	13,166.2	0.89%	13,188.8	-575.5	486.7	13,100.0
Long Island Power Authority		5,833.3	80.7	5,945.9	1.36%	5,783.0	-718.0	124.3	5,189.3
Full Requirement Customers						48.2	-6.0	1.0	43.2
Other Municipal Load						125.9	-15.6	2.7	113.0
Other Municipal Generation		31.9					-	-	-
New York Power Authority		566.1	5.0	571.1	0.88%	548.2	-4.1	4.0	548.1
New York State Electric & Gas		3,161.3	98.3	3,263.3	3.01%	3,025.7	-282.3	170.6	3,012.3
Losses						102.0			
Full Requirement Customers			1.3			41.4	-3.9	2.3	41.1
Partial Requirement Customers			2.4			72.9	-6.8	4.1	72.6
National Grid		6,437.5	448.6	6,965.6	6.44%	6,080.3	-383.8	454.0	6,599.1
Losses						479.2			
Full Requirement Customers			8.7			117.6	-7.4	8.8	127.7
Partial Requirement Customers			16.0			216.5	-13.7	16.2	235.0
Jamestown			5.9			80.3	-5.1	6.0	87.1
Other Municipal Generation		48.9					-	-	-
Orange & Rockland Utilities		1,147.7	17.0	1,164.7	1.46%	1,149.0	-72.0	30.0	1,107.0
RG&E		1,539.5	26.9	1,566.4	1.72%	1,551.8	-62.0	91.0	1,580.8
Partial Requirement Customers							-	-	-
Totals		32,991.8	859.9	33,851.7	2.54%	33,821.8	-2,272.2	1,430.7	32,980.3

2011 Summer Peak MW Data			Adjustments to TO's WN MW With DSM				Proportional		2011
7/22/2011, Hour Ended 4 PM		TOs' W/N MW With DSM	W/N Losses	Station Power	Intra TD Loads	Adj. W/N Load Less Losses	Allocation of Losses	Adj. W/N Load Less Losses	Adjusted W/N MW
Version 2 11/22/2011									
Central Hudson		1,124.0	29.7	1.2		1,093.1	28.9	1,093.1	1,122.0
Consolidated Edison		13,100.0	116.3	15.0		12,968.7	343.3	12,968.7	13,312.0
Long Island Power Authority		5,189.3	69.9			5,119.4	135.6	5,119.4	5,255.0
Full Requirement Customers		43.2	0.6			42.6	1.1	42.6	43.7
Other Municipal Load		113.0	1.5			111.5	3.0	111.5	114.5
Other Municipal Generation		-	-			-		-	-
		5,345.5	72.0			5,273.5		5,273.5	5,413.2
New York Power Authority		548.1	5.0			543.1	14.4	543.1	557.5
New York State Electric & Gas		3,012.3	94.8			2,917.5	77.3	2,917.5	2,994.8
Losses						-			-
Full Requirement Customers		41.1	1.3			39.8	1.1	39.8	40.9
Partial Requirement Customers		72.6	2.3			70.3	1.9	70.3	72.2
		-	-			-		-	-
		3,126.0	98.4			3,027.6		3,027.6	3,107.9
National Grid		6,599.1	453.5	28.4		6,117.2	162.0	6,117.2	6,279.2
Losses						-			-
Full Requirement Customers		127.7	8.8			118.9	3.1	118.9	122.0
Partial Requirement Customers		235.0	16.1			218.9	5.8	218.9	224.7
Jamestown		87.1	6.0			81.1	2.1	81.1	83.2
Other Municipal Generation		-						-	-
		-	-			-		-	-
		7,048.9	484.4			6,536.1		6,536.1	6,709.1
Orange & Rockland Utilities		1,107.0	16.4			1,090.6	28.9	1,090.6	1,119.5
RG&E		1,580.8	27.4			1,553.4	41.1	1,553.4	1,594.5
Partial Requirement Customers		-	-			-		-	-
		1,580.8	27.4			1,553.4		1,553.4	1,594.5
Totals		32,980.3	849.6	44.6	0.0	32,086.1	849.6	32,086.1	32,935.7

Note: Station Loads are excluded from the final weather adjusted total. All other loads are included.

Details of Load Reconciliation (1)

- ◆ Actual Load + Weather Adjustment + Demand Response = Initial Adjusted Actual Load
 $33,821.8 - 2,272.2 + 1,430.7 = 32,980.3$
- ◆ Weather normalized load for municipalities is proportional to weather adjustment in their Transmission District
*LIPA's Muni Load: $-718 * (125.9 / 5783) = -15.6$*
- ◆ Similar approach for Demand Response
- ◆ Weather normalized losses = Actual Losses * (Initial Adjusted Actual Load / Actual Load)
*Con-Ed: $117.1 * (13,100 / 13,189) = 116.3$*
- ◆ Calculations for municipalities when losses are in separate rows are also proportional to TO loads, but math is more detailed.

Details of Load Reconciliation (2)

- ♦ Adjusted Load-Less-Losses (WN-LLL) = Initial Adjusted Actual Load – Weather Normalized Losses – Station Power

$$32,980.3 - 849.6 - 44.6 = 32,086.1$$

- ♦ TO & municipality weather normalized losses are adjusted proportional to WN-LLL.

$$N\text{-Grid: } 849.6 * (6,117.2 / 32,085.9) = 162.0$$

- ♦ TO's final Adjusted Actual Load = WN-LLL + Weather Normalized Losses. (This is also equal to Initial Adjusted Actual Load – Station Power)

$$32,086.1 + 849.6 = 32,935.7$$

$$32,980.3 - 44.6 = 32,935.7$$

Summary of Economic Data

TD & Indicator	Units	2006	2007	2008	2009	2010	2011	2012	2013
Employment_CENHUD	(000)	202	202	200	194	193	192	194	197
GDP_CENHUD	\$M	17,994	18,191	18,218	17,737	18,340	18,822	19,306	19,779
Households_CENHUD	(000)	196	197	198	198	199	200	200	201
Income_CENHUD	\$M	18,534	19,348	19,291	18,929	19,067	19,203	19,876	20,787
Population_CENHUD	(000)	526	527	529	529	530	531	533	534
Employment_CON-ED	(000)	4,098	4,184	4,235	4,113	4,126	4,156	4,211	4,295
GDP_CON-ED	\$M	553,163	564,029	565,929	546,261	573,444	593,627	620,659	646,831
Households_CON-ED	(000)	3,417	3,433	3,441	3,452	3,461	3,477	3,483	3,492
Income_CON-ED	\$M	441,420	463,061	455,685	436,172	446,819	449,498	464,190	488,650
Population_CON-ED	(000)	9,040	9,075	9,089	9,114	9,144	9,164	9,189	9,206
Employment_LIPA	(000)	1,251	1,268	1,266	1,229	1,228	1,231	1,247	1,265
GDP_LIPA	\$M	131,332	134,374	133,131	130,803	136,833	141,590	146,273	150,822
Households_LIPA	(000)	945	946	946	948	950	956	958	960
Income_LIPA	\$M	145,487	153,446	150,645	144,532	146,502	147,971	153,274	160,729
Population_LIPA	(000)	2,830	2,832	2,829	2,832	2,839	2,847	2,854	2,858
Employment_NGrid	(000)	1,862	1,867	1,876	1,833	1,822	1,829	1,846	1,881
GDP_NGrid	\$M	177,900	180,525	179,929	176,719	182,870	188,085	192,738	197,925
Households_NGrid	(000)	1,588	1,594	1,601	1,608	1,615	1,621	1,620	1,622
Income_NGrid	\$M	126,304	130,709	131,903	132,437	134,117	135,434	139,945	146,803
Population_NGrid	(000)	3,986	3,988	3,993	3,996	4,000	4,005	4,008	4,010

Data from Moody's Analytics: August 2011

Summary of Economic Data

TD & Indicator	Units	2006	2007	2008	2009	2010	2011	2012	2013
Employment_NYPA	(000)	37	37	37	36	36	36	36	38
GDP_NYPA	\$M	3,643	3,603	3,468	3,420	3,423	3,572	3,631	3,810
Households_NYPA	(000)	31	31	31	32	32	32	32	32
Income_NYPA	\$M	2,284	2,400	2,400	2,428	2,471	2,532	2,612	2,768
Population_NYPA	(000)	82	82	82	82	82	82	82	82
Employment_NYSEG	(000)	422	425	426	417	415	421	424	434
GDP_NYSEG	\$M	37,089	37,912	37,924	37,076	38,171	39,321	40,226	41,536
Households_NYSEG	(000)	391	393	395	396	397	398	398	399
Income_NYSEG	\$M	30,389	31,500	31,825	31,608	32,026	32,496	33,520	35,225
Population_NYSEG	(000)	1,006	1,008	1,008	1,008	1,009	1,010	1,012	1,014
Employment_OR	(000)	253	256	258	250	251	253	257	262
GDP_OR	\$M	25,408	26,039	25,445	24,961	25,968	26,850	27,875	28,886
Households_OR	(000)	221	222	223	225	226	228	229	231
Income_OR	\$M	26,730	27,995	27,882	27,090	27,639	27,877	28,929	30,429
Population_OR	(000)	669	673	678	683	687	692	697	701
Employment_RGE	(000)	544	546	548	534	534	542	548	554
GDP_RGE	\$M	55,346	55,328	54,209	52,916	54,988	57,180	59,078	60,695
Households_RGE	(000)	433	436	439	443	446	447	446	446
Income_RGE	\$M	37,679	38,878	39,071	38,730	39,168	39,654	40,590	42,086
Population_RGE	(000)	1,105	1,108	1,112	1,115	1,118	1,120	1,122	1,124

Data from Moody's Analytics: August 2011

The New York Independent System Operator (NYISO) is a not-for-profit corporation that began operations in 1999. The NYISO operates New York's bulk electricity grid, administers the state's wholesale electricity markets, and performs comprehensive reliability and resource planning for the state's bulk electricity system.

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