

NYSRC Forecast Update – 2011 Weather Normalized MW

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New York Independent System Operator

LFTF

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Rensselaer, NY

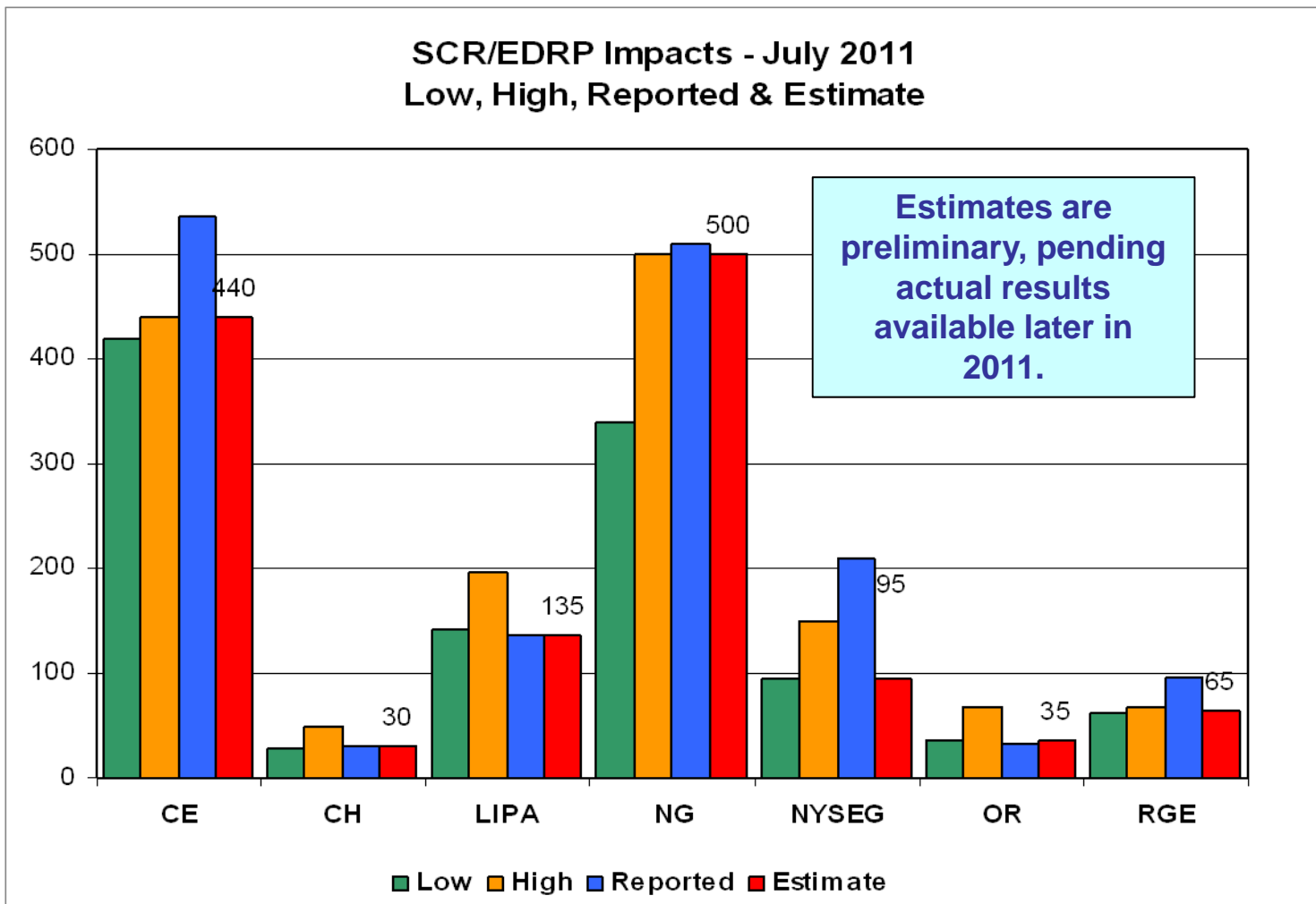
Actual and Normal Peak-Producing CTHI* Statistics – 1975 to 2011

Statistic	Stations Used for National Grid, NYSEG, RG&E, NYPA											
	A	B	C	D	F	G	H	Central Hudson	O&R	Con-Ed, J	LIPA, K	NYCA
Max	84.62	88.28	89.20	90.08	89.61	91.40	91.63	91.40	89.61	91.82	91.70	88.59
Avg	80.40	83.22	82.54	81.84	85.38	86.45	86.75	86.45	85.38	85.77	84.75	83.66
Min	74.62	75.76	77.57	73.54	80.31	81.36	82.05	81.36	80.31	79.56	78.40	78.14
Std Dev	2.47	2.71	2.53	3.44	2.32	2.45	2.59	2.45	2.32	2.80	3.06	2.45
50th	80.40	83.22	82.54	81.84	85.38	86.45	86.75	86.45	85.38	85.77	84.75	83.66
67th: CE, OR	81.46	84.39	83.63	83.32	86.38	87.51	87.86	87.51	86.38	86.97	86.07	84.71
90th	83.56	86.69	85.78	86.24	88.36	89.59	90.06	89.59	88.36	89.35	88.68	86.80
2011	84.16	85.28	85.49	83.44	88.13	90.64	90.40	90.64	88.13	90.04	88.78	87.61
Percentile	94%	78%	88%	68%	88%	96%	92%	96%	88%	94%	91%	95%
z(2011)	1.52	0.76	1.17	0.47	1.18	1.71	1.41	1.71	1.18	1.53	1.31	1.62
Temp chg	3.76	2.06	2.95	1.60	2.75	4.19	3.65	4.19	1.75	3.07	4.03	3.96

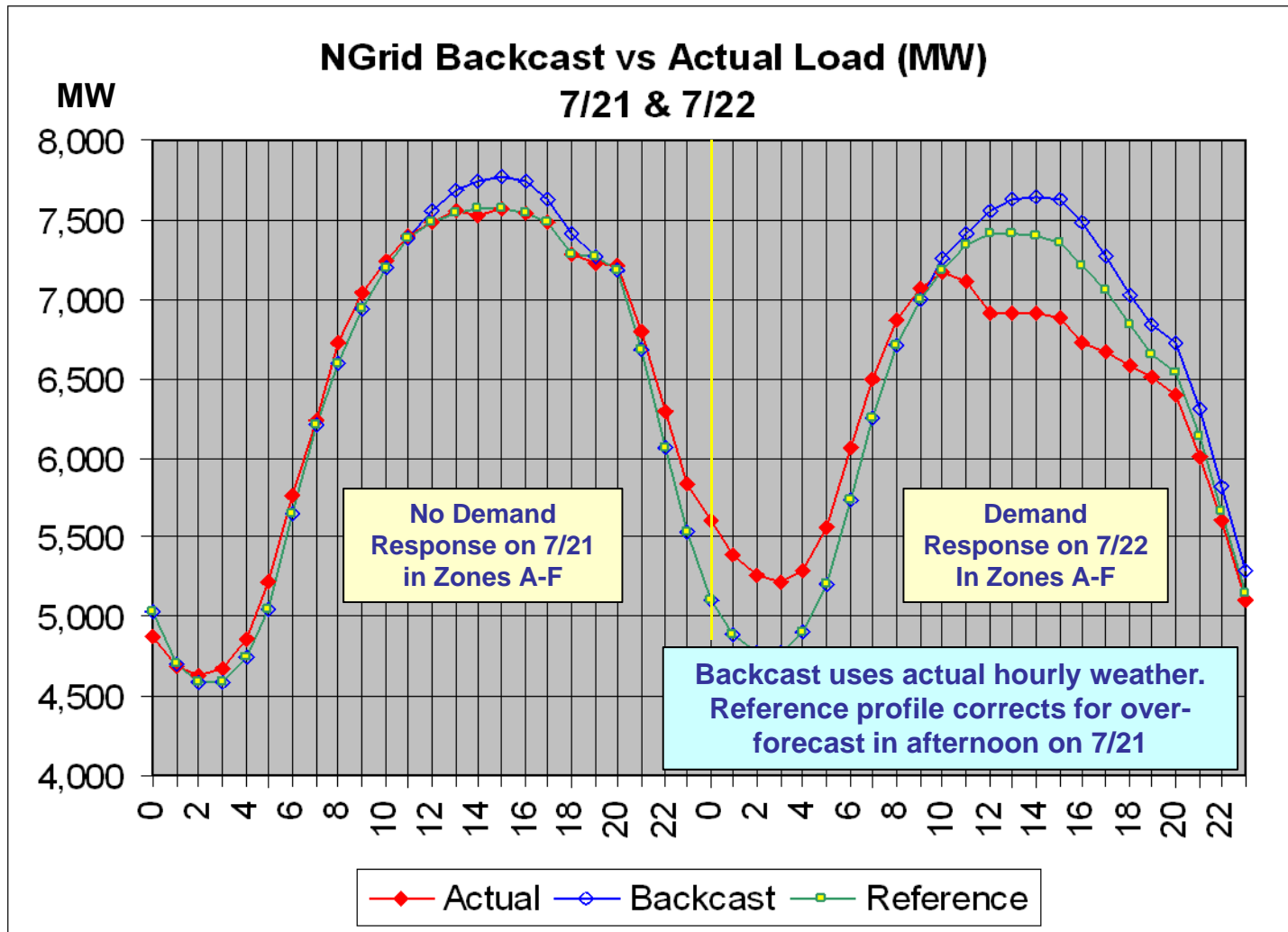
$$Z = \frac{\text{CTHI} - \text{Avg}}{\text{Std Dev}}$$

* Peak-producing CTHI is the Cumulative Temperature-Humidity Index that occurs on the day of the NYCA peak each year.

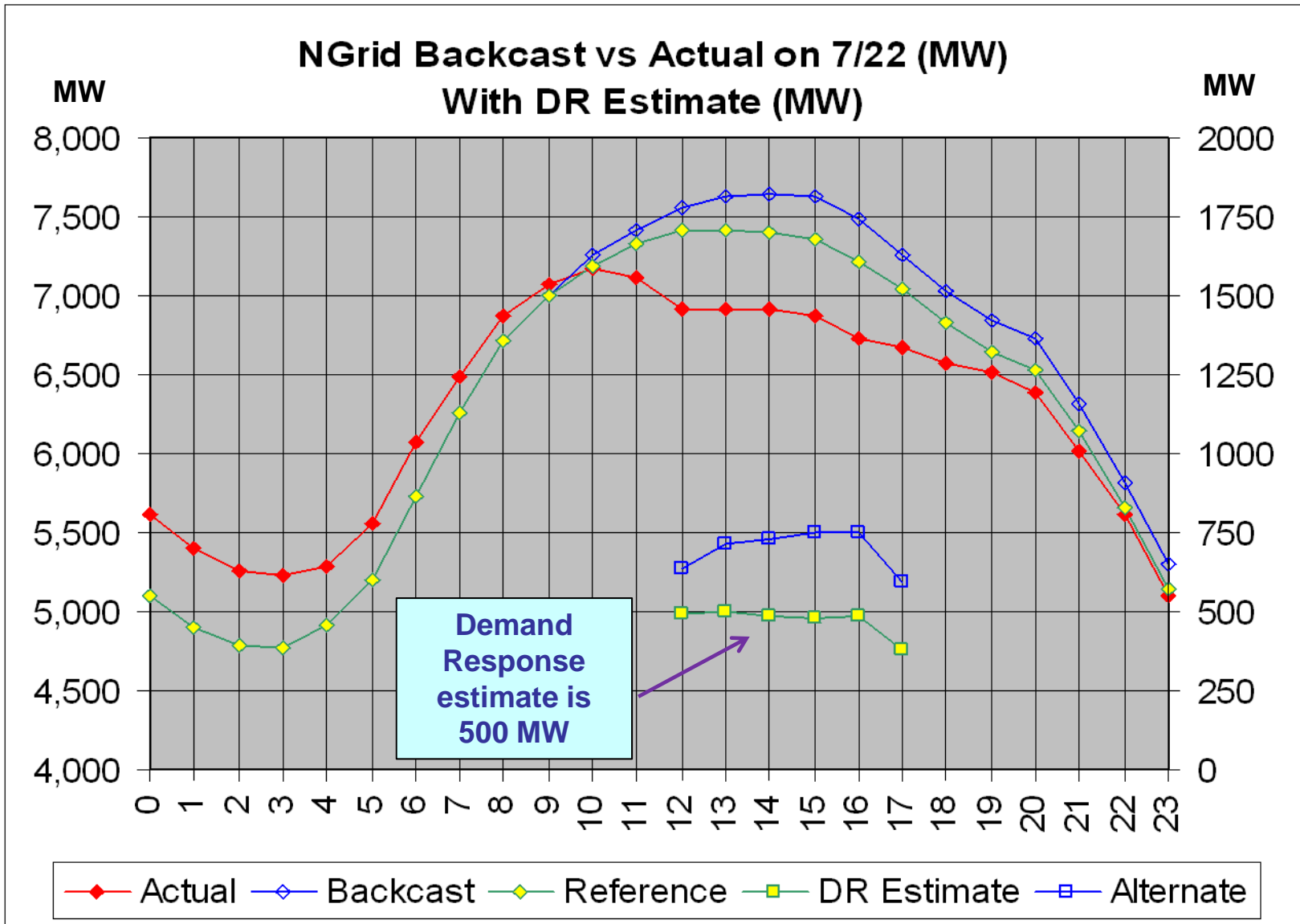
Demand Response Estimates Based on Reported Information and Additional Analysis of Load Profiles



Load Profile Analysis Used to Develop Reference Load Profile from Day-Ahead Forecast Models



NGrid Backcast vs Actual on 7/22 (MW) With DR Estimate (MW)

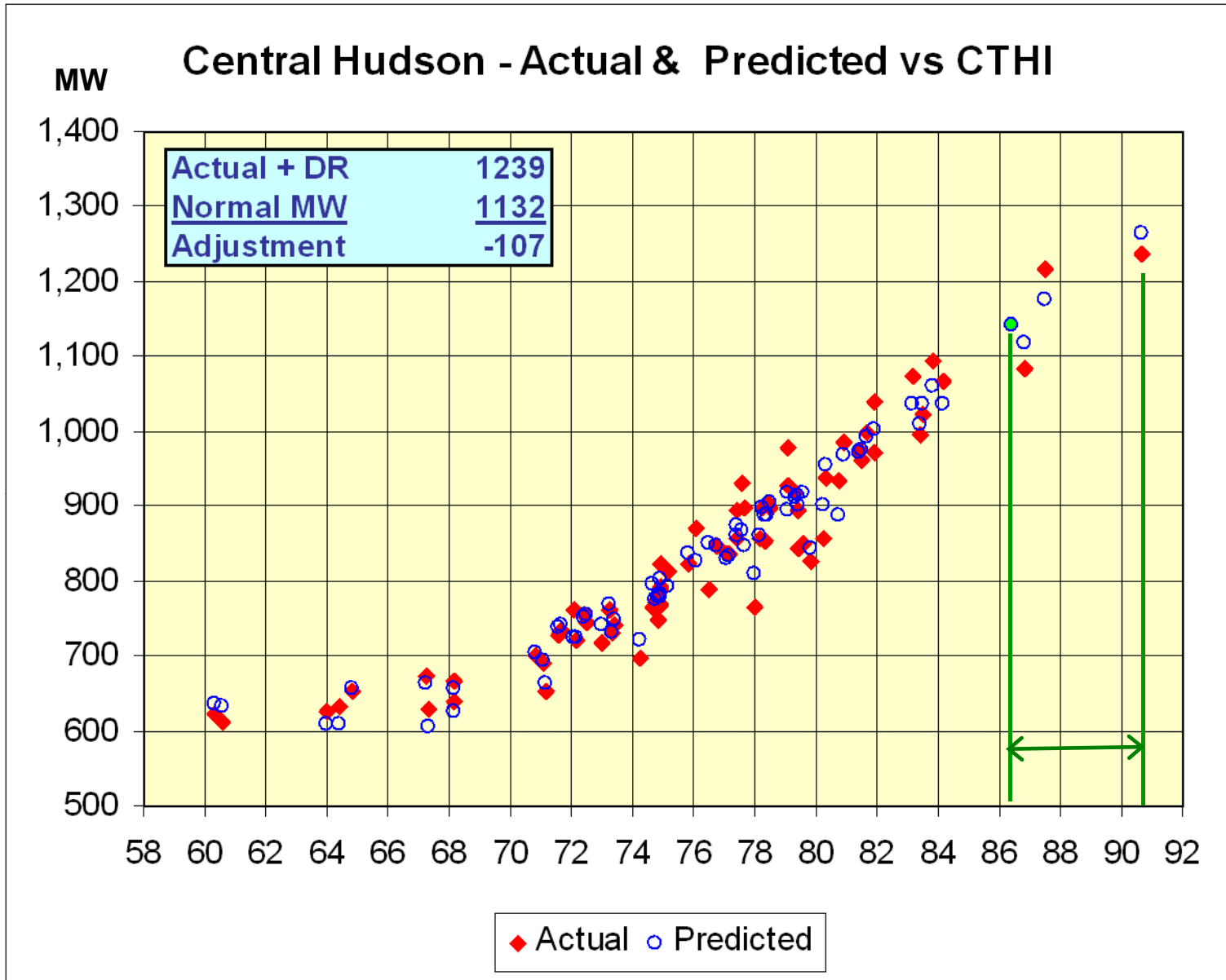


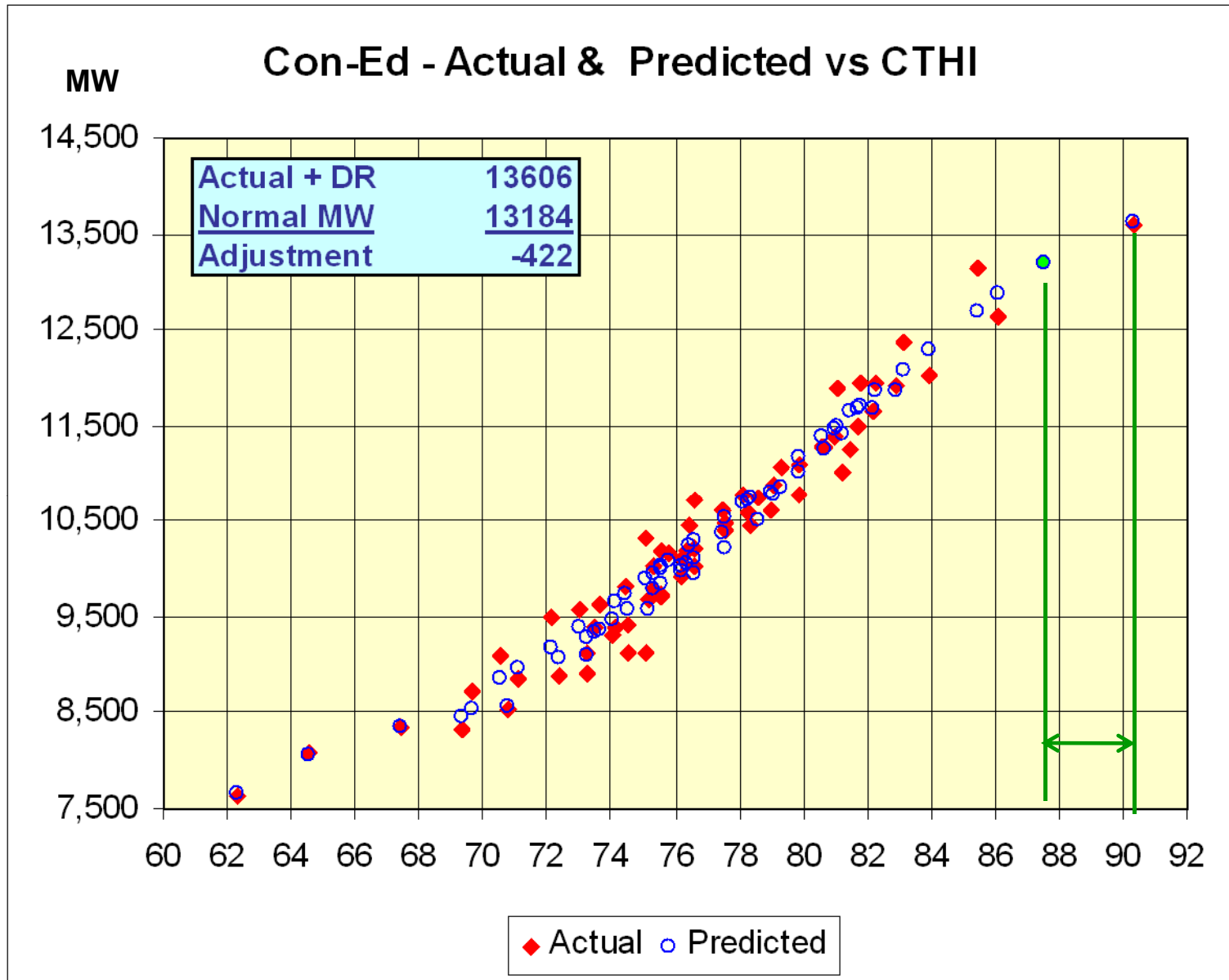
Summary of 2011 Weather Normalized Load & Comparison to 2011 ICAP Forecast

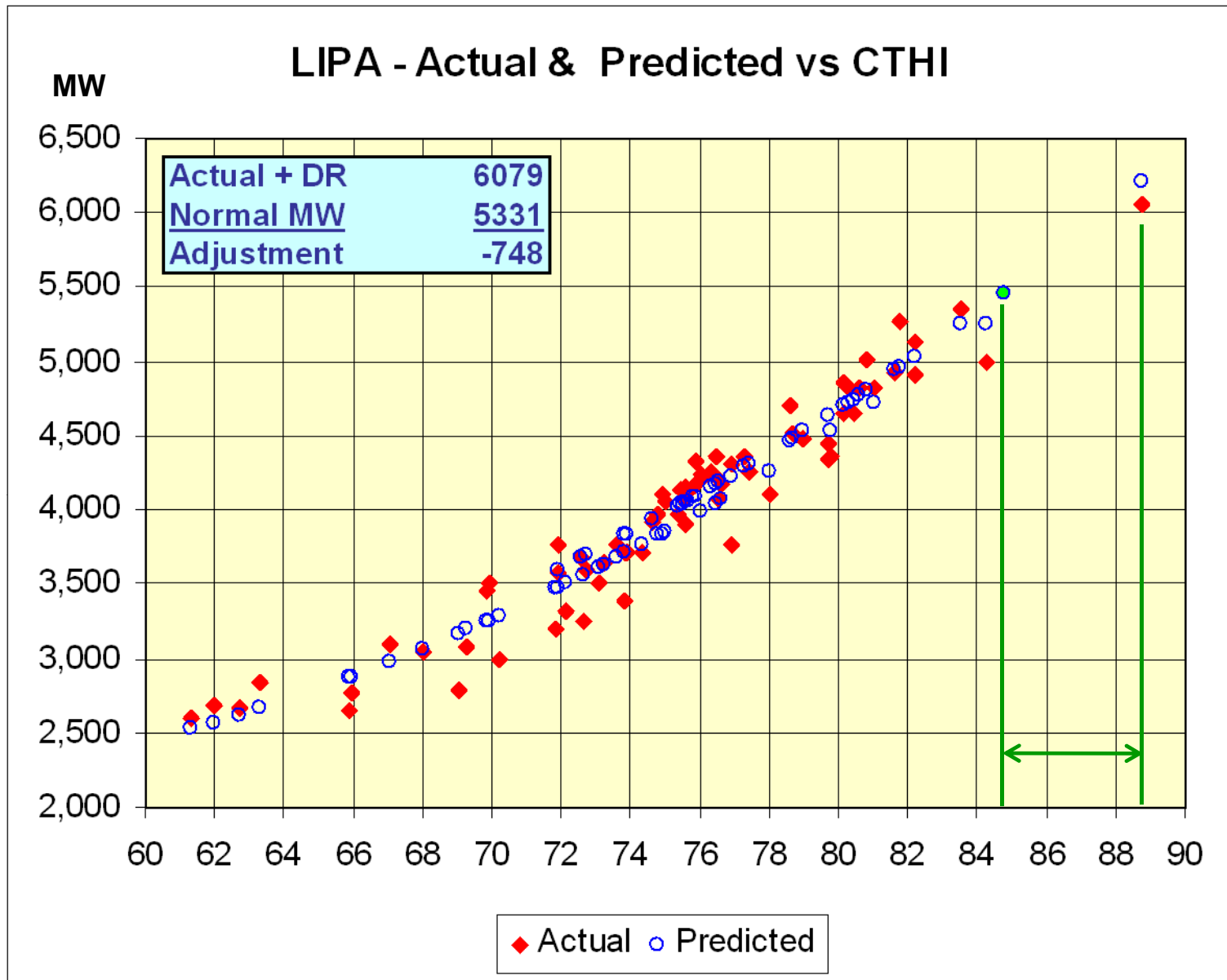
After an adjustment for Zone D load added in June, forecast error is less than 40 MW.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Transmission District	2011 Actual MW	SCR/EDRP Estimate MW	Weather Adjustment MW	2011 Adjusted MW	Loss Reallocation MW	2011 Actual Adjusted MW	2011 ICAP Forecast MW	Over/Under MW	Percent Over/Under
Central Hudson	1,209	30	-107	1,132	-1	1,131	1,177	-46	-4.1%
Con Ed	13,166	440	-422	13,184	227	13,411	13,450	-39	-0.3%
LIPA	5,944	135	-748	5,331	66	5,397	5,404	-7	-0.1%
NGrid	6,917	500	-496	6,921	-311	6,611	6,575	36	0.5%
NYPA	574	0	-3	571	10	581	320	261	45.0%
NYSEG	3,263	95	-285	3,073	-18	3,055	3,037	18	0.6%
O&R	1,165	35	-74	1,126	13	1,139	1,173	-34	-3.0%
RG&E	1,568	65	-58	1,575	14	1,589	1,576	13	0.8%
Grand Total	33,806	1,300	-2,193	32,913	0	32,913	32,712	201	0.6%
Forecast With an Adjustment for Zone D Industrial Load Added in June, 2011						32,913	32,952	-39	-0.1%

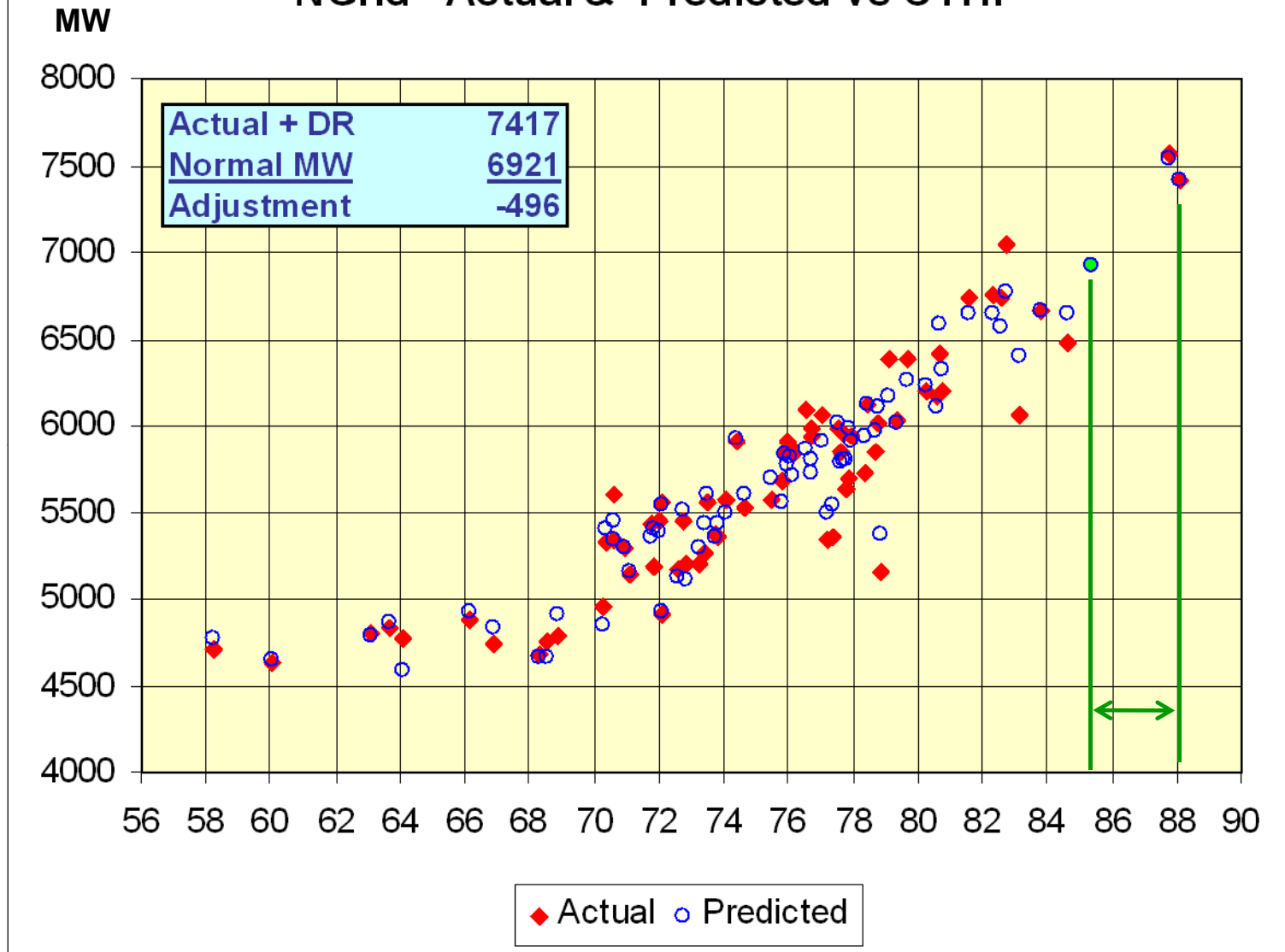
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Locality	2011 Actual MW	SCR/EDRP Estimate MW	Weather Adjustment MW	2011 Adjusted MW	Loss Reallocation MW	2011 Actual Adjusted MW	2011 ICAP Forecast MW	Over/Under MW	Percent Over/Under
Zone J - NYC	11,424	410	-348	11,486	0	11,486	11514	-28	-0.2%
Zone K - LI	5,944	135	-646	5,433	0	5,433	5434	-1	0.0%



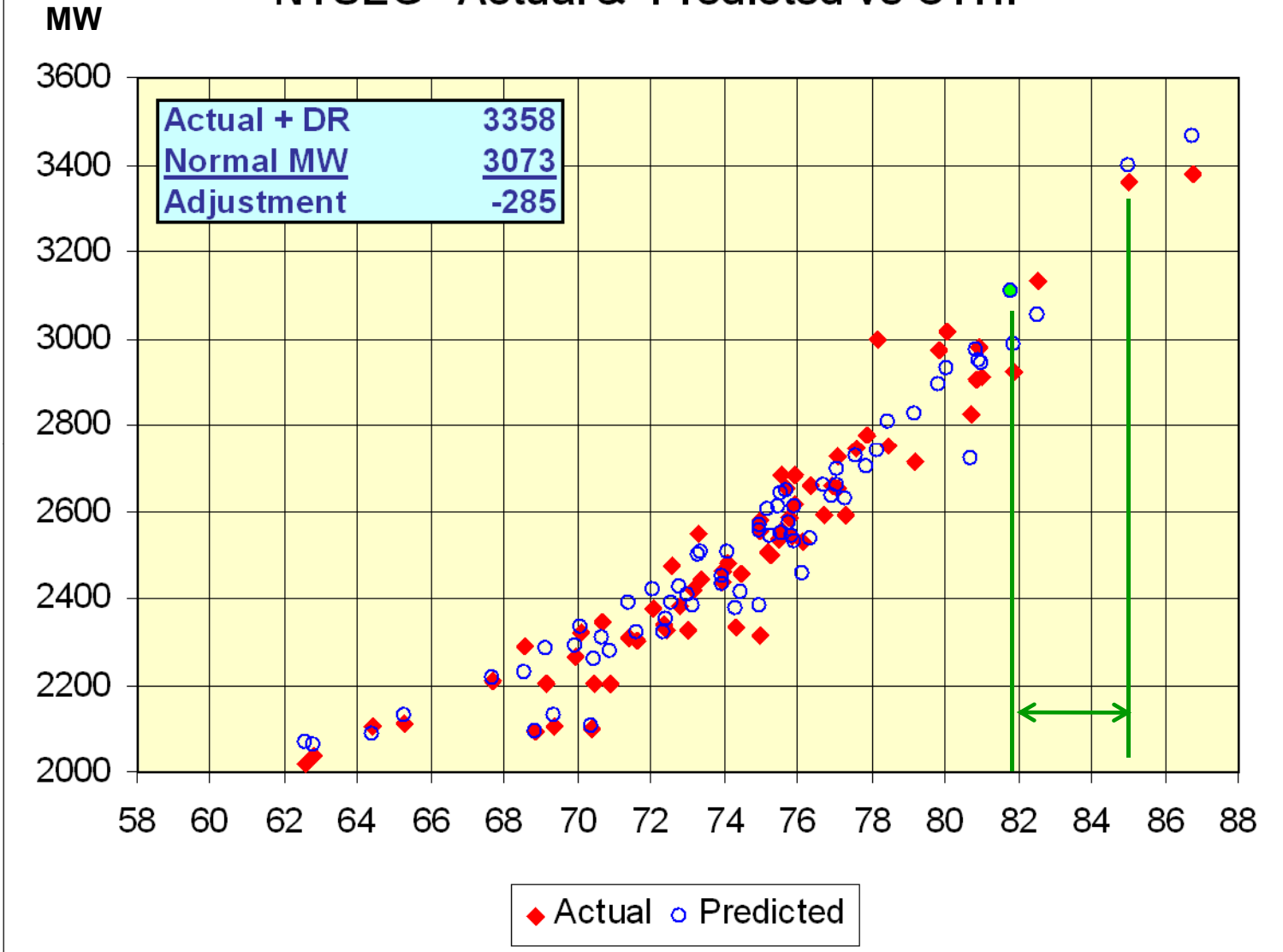




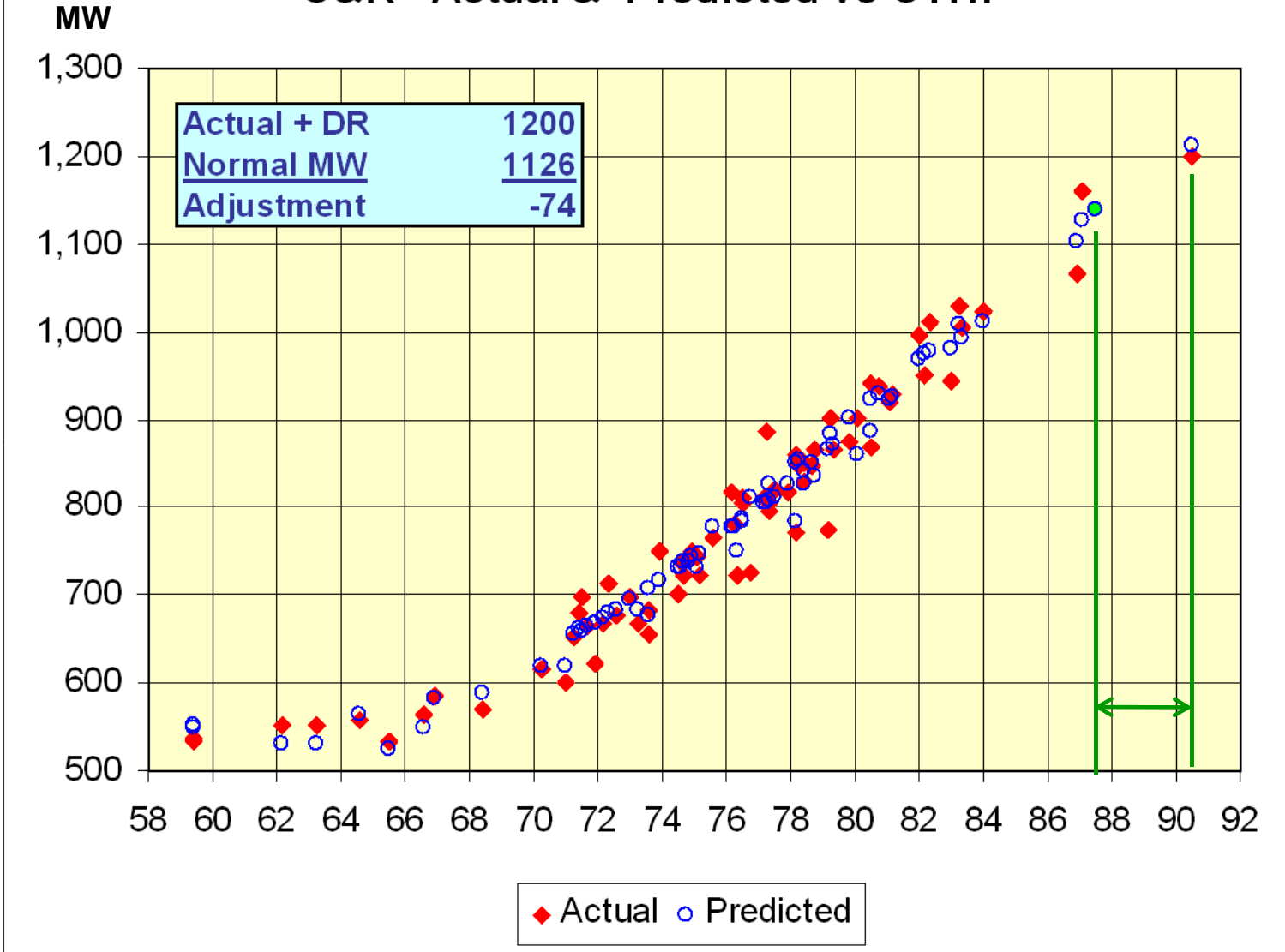
NGrid - Actual & Predicted vs CTHI

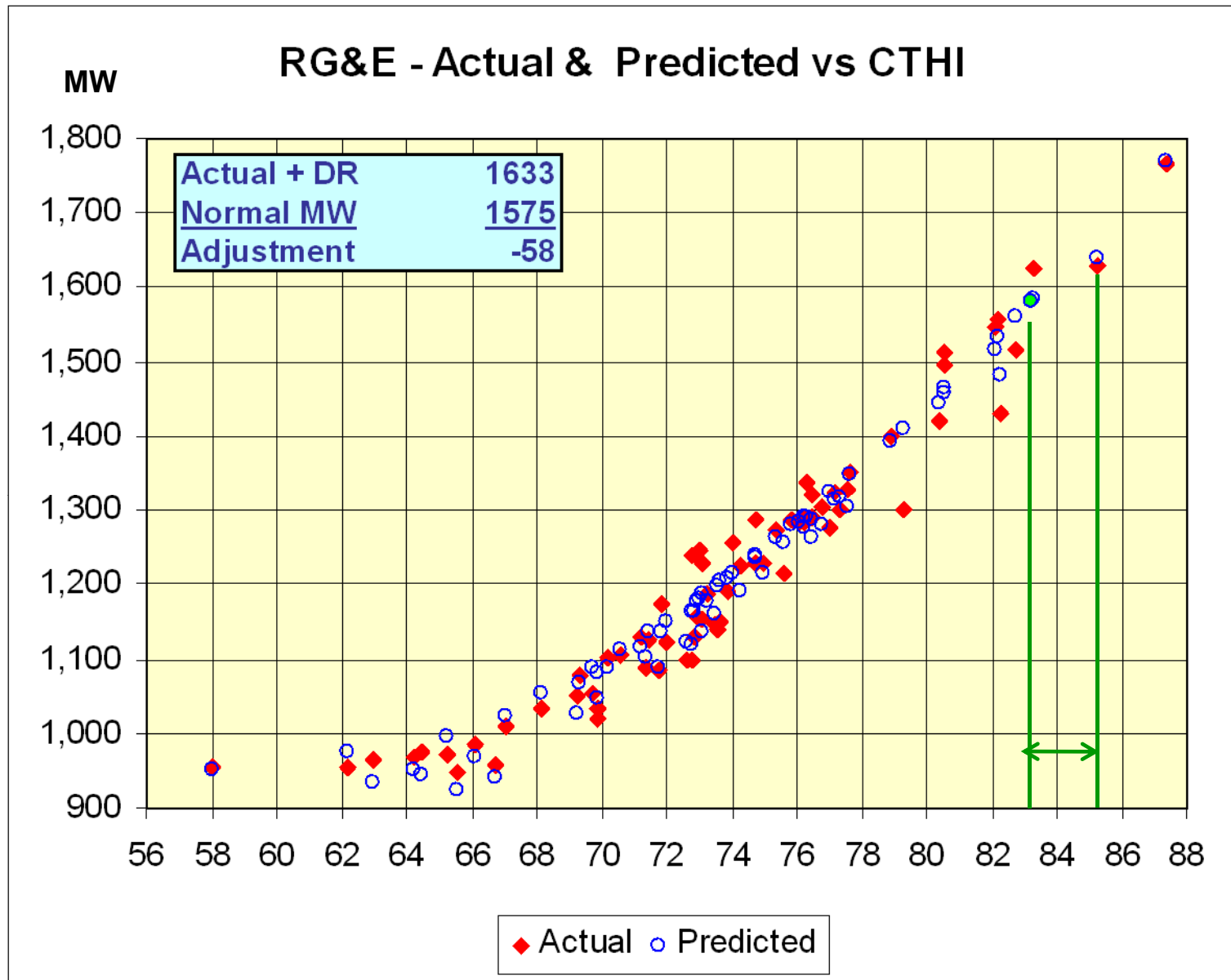


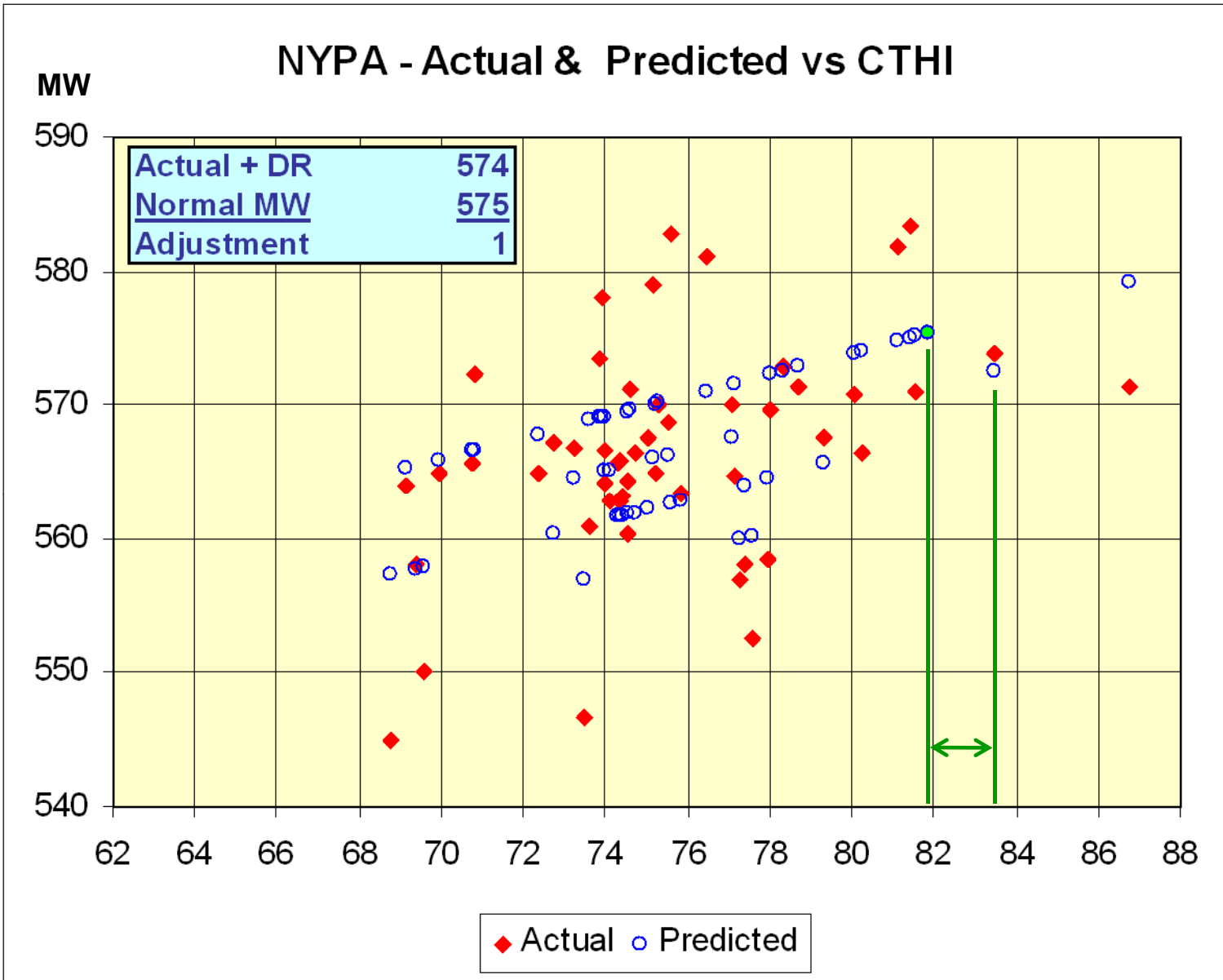
NYSEG - Actual & Predicted vs CTHI



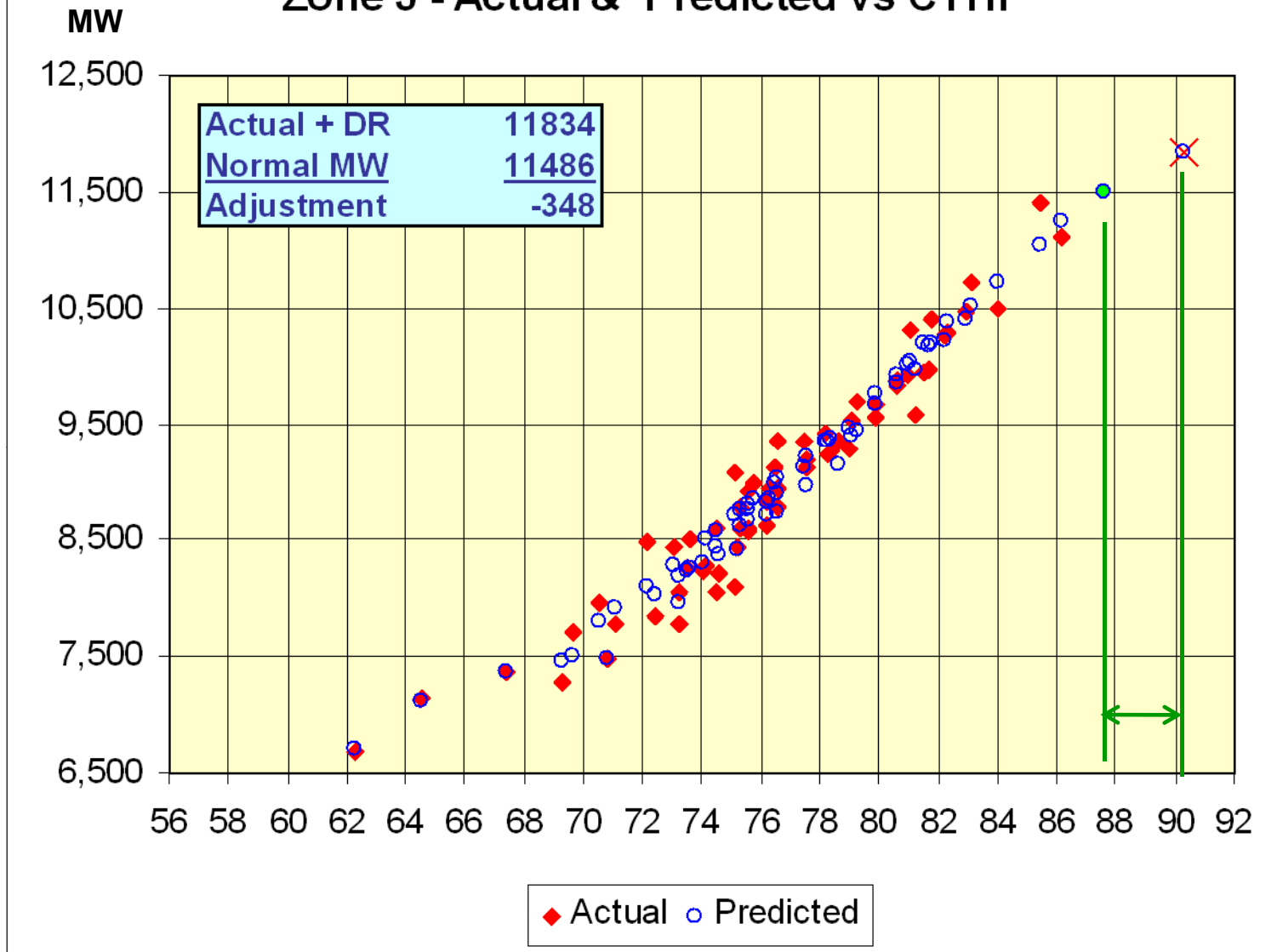
O&R - Actual & Predicted vs CTHI







Zone J - Actual & Predicted vs CTHI



Loss Reallocation Detail

Used to Align 2011 Weather Normalized Loads to ICAP Forecast

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
TO	2011 Actual MW	2011 Adjusted MW	Actual Losses	WN Losses	WN Load Less Losses	Proportion of LLL	WN Losses, Proportional	2011 Adjusted Actual MW	Loss Reallocation
Central Hudson	1,209	1,132	32.0	29.9	1,102	0.034	29	1,131	-0.9
Con Ed	13,166	13,184	117.1	117.3	13,067	0.407	344	13,411	226.7
LIPA	5,944	5,331	80.7	72.4	5,259	0.164	138	5,397	65.6
NGrid	6,917	6,921	479.2	479.5	6,442	0.201	169	6,611	-310.5
NYPA	574	571	5.0	5	566	0.018	15	581	10
NYSEG	3,263	3,073	102.0	96	2,977	0.093	78	3,055	-18
O&R	1,165	1,126	17.0	16.4	1,110	0.035	29	1,139	12.6
RG&E	1,568	1,575	26.9	27	1,548	0.048	41	1,589	14
Total	33,806	32,913	859.9	843.5	32,070	1.000	843	32,913	-0.5

(4) Actual losses were 860 MW.

(5) Weather-normalized losses were 844 MW.

(8) Losses are reallocated proportional to MW share of TD Loads-Less Losses

(10) Net change in losses for each TD

Weather Response Model Details

Central Hudson Model Parameters				
Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	672.544	32.018	21.005	0.00%
CTHI.CH	-20.195	7.113	-2.839	0.61%
CTHI.CH2	1.728	0.442	3.910	0.02%
CTHI.CH3	-0.019	0.008	-2.247	2.83%
Months.June	45.599	12.947	3.522	0.08%
Months.July	80.773	14.399	5.610	0.00%
Months.August	68.509	13.784	4.970	0.00%
Binaries.Fri	-14.501	9.383	-1.545	12.74%

RG&E Model Parameters				
Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	943.828	11.327	83.324	0.00%
CTHI.RGE	-11.511	3.927	-2.931	0.45%
CTHI.RGE2	1.888	0.344	5.483	0.00%
CTHI.RGE3	-0.021	0.008	-2.535	1.35%
Months.June	43.621	12.874	3.388	0.12%
Months.July	60.560	15.077	4.017	0.01%
Months.August	57.021	14.232	4.007	0.01%
Binaries.Fri	-32.277	9.551	-3.379	0.12%

Con-Edison Model Parameters				
Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	143512.119	41983.516	3.418	0.12%
CTHI.CE	-5514.153	1668.714	-3.304	0.17%
CTHI.CE2	72.184	22.005	3.280	0.18%
CTHI.CE3	-0.300	0.096	-3.112	0.30%
Months.June	344.346	143.612	2.398	2.00%
Months.July	315.607	158.155	1.996	5.10%
Months.August	177.238	151.495	1.170	24.72%
Binaries.Fri	-163.145	83.578	-1.952	5.61%

Orange & Rockland Model Parameters				
Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	551.371	24.034	22.941	0.00%
CTHI.OrgRock	-14.272	5.825	-2.450	1.72%
CTHI.OrgRock2	1.789	0.381	4.695	0.00%
CTHI.OrgRock3	-0.023	0.007	-3.105	0.29%
Months.June	31.163	12.614	2.471	1.63%
Months.July	49.004	14.094	3.477	0.09%
Months.August	32.628	13.413	2.432	1.79%
Binaries.Fri	-15.151	8.918	-1.699	9.45%

LIPA Model Parameters				
Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	2449.906	106.624	22.977	0.00%
CTHI.LIPA	57.324	15.311	3.744	0.04%
CTHI.LIPA2	2.402	0.527	4.558	0.00%
Months.July	124.014	65.042	1.907	6.11%
Months.August	125.000	57.753	2.164	3.42%

NYPA Model Parameters				
Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	558.650	4.392	127.192	0.00%
CTHI.NYPA	0.700	0.258	2.710	0.95%
Months.August	-7.305	2.011	-3.632	0.07%
Binaries.Fri	-4.783	2.389	-2.002	5.13%

Weather Response Model Details

National Grid Model Parameters				
Zones A, B & C				
Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	2711.650	47.858	56.661	0.00%
CTHI.NGridABC	-26.904	12.247	-2.197	3.18%
CTHI.NGridABC2	3.602	0.940	3.834	0.03%
CTHI.NGridABC3	-0.039	0.021	-1.818	7.40%
Months.June	69.588	28.856	2.412	1.89%
Months.July	109.943	33.276	3.304	0.16%
Months.August	123.031	31.578	3.896	0.02%
Binaries.Mon	62.277	22.315	2.791	0.70%

NYSE&G Model Parameters				
Zones A & C				
Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	1327.927	25.244	52.605	0.00%
CTHI.NYSEGABC	5.917	4.206	1.407	16.44%
CTHI.NYSEGABC2	1.091	0.154	7.064	0.00%
Months.June	78.091	21.020	3.715	0.04%
Months.July	99.047	24.499	4.043	0.01%
Months.August	88.268	23.198	3.805	0.03%

National Grid Model Parameters				
Zones D & E				
Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	720.180	24.608	29.266	0.00%
CTHI.NGridDEF	-9.162	3.265	-2.806	0.67%
CTHI.NGridDEF2	0.674	0.096	7.054	0.00%
Months.June	61.399	15.497	3.962	0.02%
Months.July	107.907	17.732	6.085	0.00%
Months.August	115.153	17.017	6.767	0.00%
Binaries.Mon	10.192	12.153	0.839	40.49%

NYSE&G Model Parameters				
Zones D & E				
Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	339.015	7.372	45.985	0.00%
CTHI.NYSEGDE	-4.618	1.122	-4.116	0.01%
CTHI.NYSEGDE2	0.341	0.037	9.245	0.00%
Months.June	21.904	5.692	3.849	0.03%
Months.July	62.253	6.520	9.548	0.00%
Months.August	55.518	6.238	8.899	0.00%

National Grid Model Parameters				
Zones F & G				
Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	1249.204	48.895	25.549	0.00%
CTHI.NGridDEF	-16.250	11.398	-1.426	15.91%
CTHI.NGridDEF2	2.082	0.786	2.648	1.03%
CTHI.NGridDEF3	-0.019	0.016	-1.130	26.30%
Months.June	84.276	24.467	3.444	0.10%
Months.July	148.724	27.577	5.393	0.00%
Months.August	157.768	26.466	5.961	0.00%
Binaries.Mon	23.536	18.988	1.240	21.99%

NYSE&G Model Parameters				
Zones F, G & H				
Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	268.680	8.432	31.864	0.00%
CTHI.NYSEGFGH	-1.141	1.302	-0.877	38.40%
CTHI.NYSEGFGH2	0.406	0.042	9.596	0.00%
Months.June	12.026	6.850	1.756	8.40%
Months.July	20.597	7.892	2.610	1.13%
Months.August	12.904	7.517	1.717	9.10%

Weather Response Model Details

Zone J Parameter Estimates				
Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	115970.636	34763.711	3.336	0.15%
CTHI.CE	-4442.369	1381.749	-3.215	0.22%
CTHI.CE2	58.158	18.221	3.192	0.24%
CTHI.CE3	-0.241	0.080	-3.020	0.39%
Months.June	363.582	118.916	3.057	0.35%
Months.July	310.566	130.958	2.371	2.13%
Months.August	235.105	125.442	1.874	6.63%
Binaries.Fri	-166.845	69.205	-2.411	1.93%

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 provides comprehensive reliability planning for state's bulk electricity system.

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