

Preliminary NYSRC Fall Forecast Update for 2016 Installed Reserve Margin Study

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Rensselaer, NY

Actual and 20-Year Normal Peak-Producing CTHI Statistics – 1996 to 2015

Statistic	CE	CH	LI	N_Grid	NYPA	NYSEG	OR	RGE	NYCA
Max	91.90	91.40	91.70	87.34	87.54	86.31	90.92	88.28	88.59
20-Yr Avg	86.54	86.55	85.41	82.83	81.87	81.61	85.20	83.42	84.01
Min	81.77	81.36	78.98	77.97	76.96	76.62	80.30	78.36	78.19
Std	2.96	2.94	3.52	2.77	3.07	2.72	3.08	2.71	2.88
50th	86.54	86.55	85.41	82.83	81.87	81.61	85.20	83.42	84.01
67th: CE, OR	87.81	87.81	86.93	84.02	83.19	82.78	86.53	84.59	85.26
90th	90.33	90.32	89.92	86.37	85.79	85.10	89.14	86.89	87.71
2015	84.07	84.38	82.98	82.87	83.16	81.08	82.42	82.78	82.79
Percentile	20%	23%	25%	51%	66%	42%	18%	41%	34%
z(2014)	-0.84	-0.74	-0.69	0.02	0.42	-0.20	-0.90	-0.24	-0.42
CTHI Delta	-2.47	-2.17	-2.43	0.04	1.30	-0.53	-2.78	-0.64	-1.22

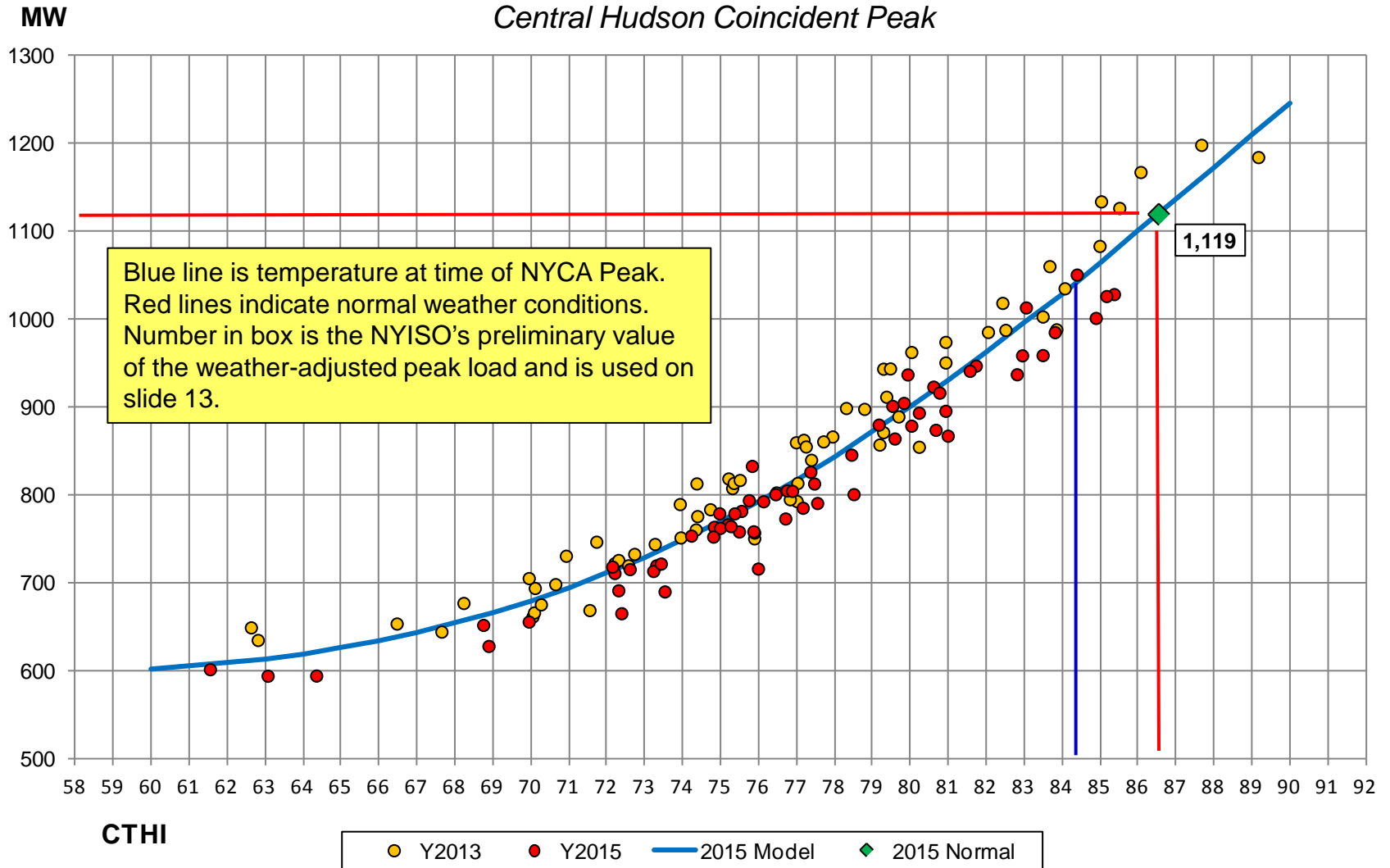
$$Z = \frac{(\text{CTHI} - \text{Avg})}{\text{Std Dev}}$$

Con-Ed and O&R use the 67th percentile for design conditions. All others use the 50th percentile.

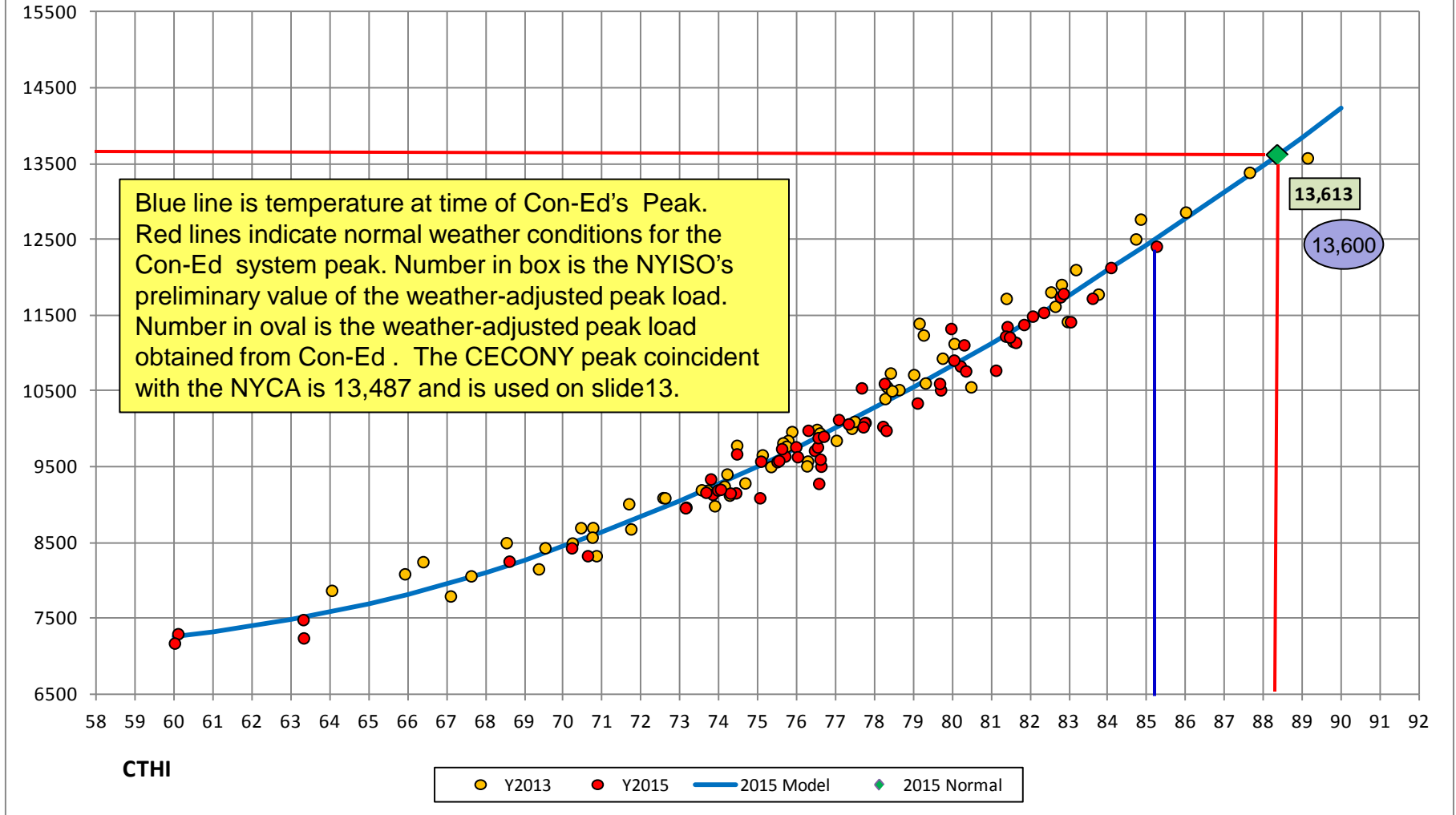
Peak-producing CTHI is the Cumulative Temperature-Humidity Index that occurs on the day of the NYCA peak each year.

Preliminary 2015 Weather Normalization Model

Central Hudson Coincident Peak

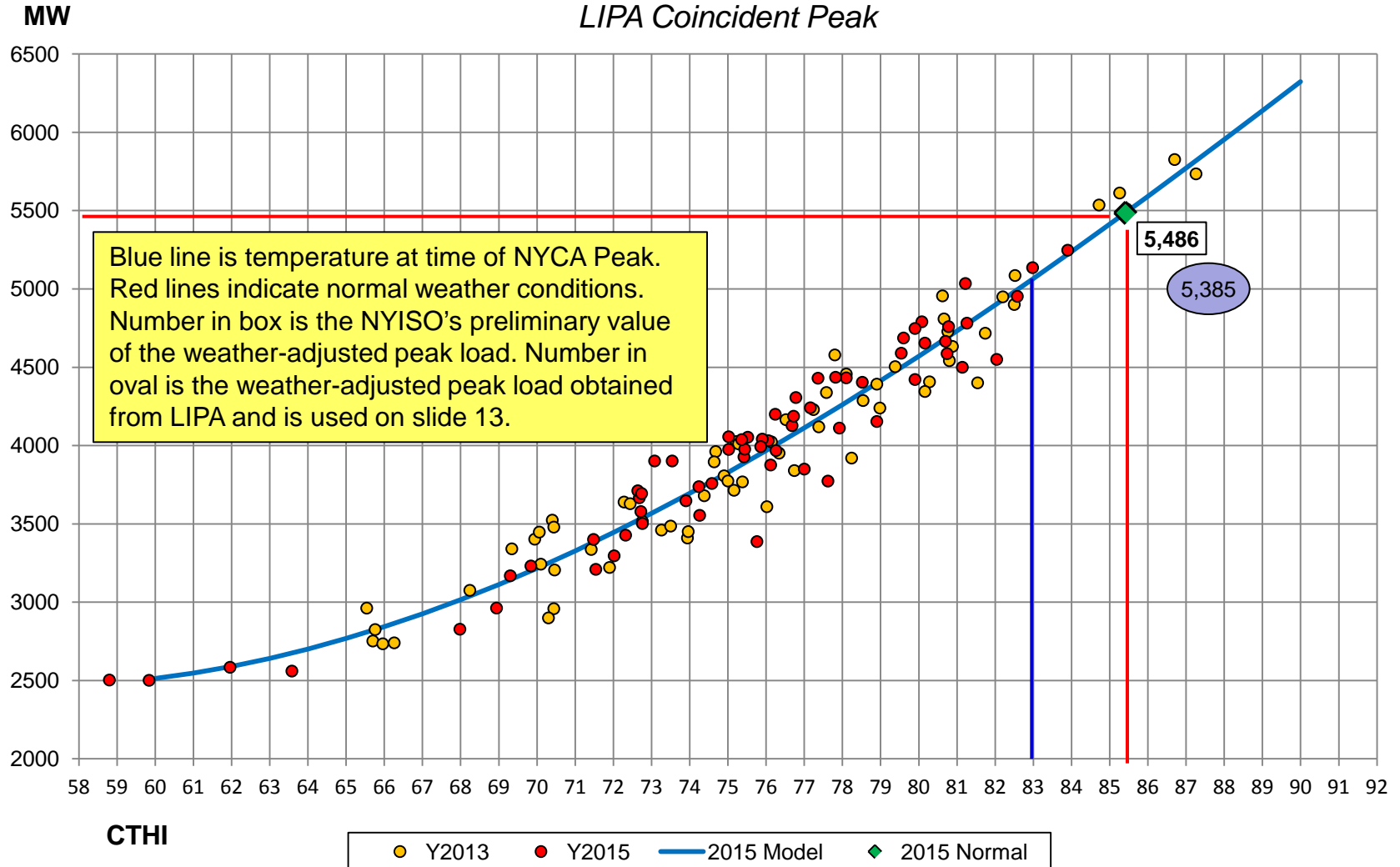


Preliminary 2015 Weather Normalization Model Con-Ed Non-Coincident Peak



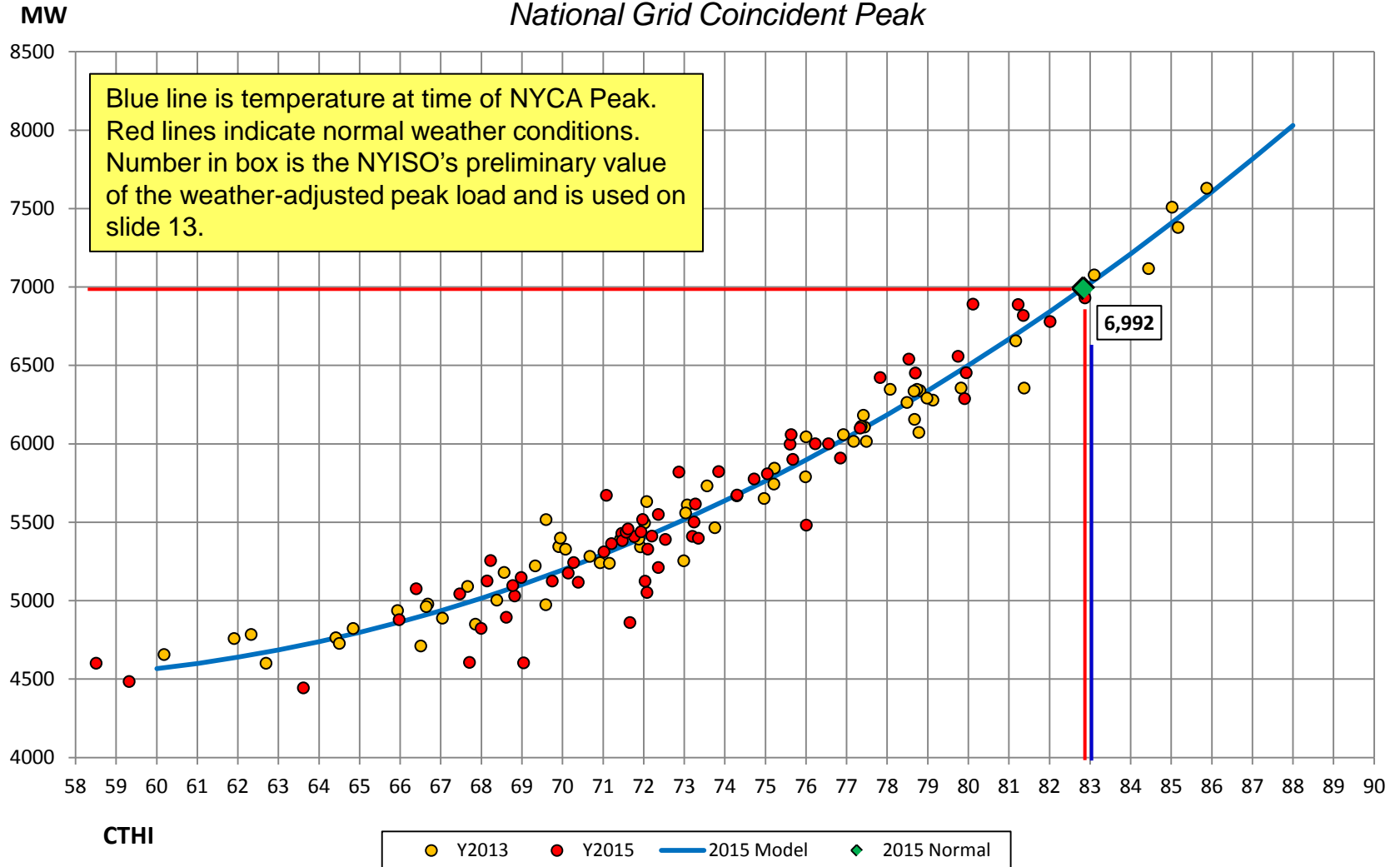
Preliminary 2015 Weather Normalization Model

LIPA Coincident Peak



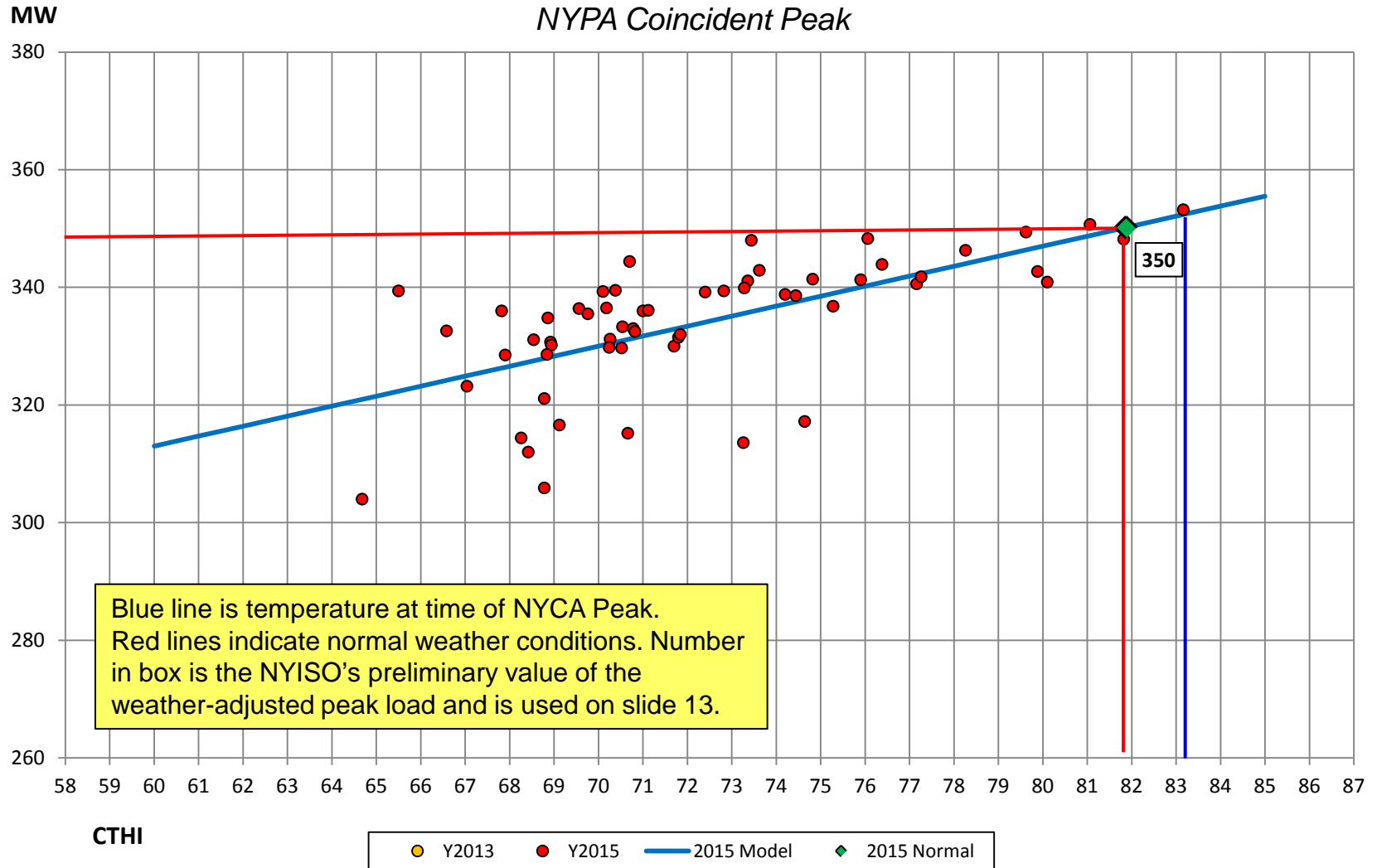
Preliminary 2015 Weather Normalization Model

National Grid Coincident Peak



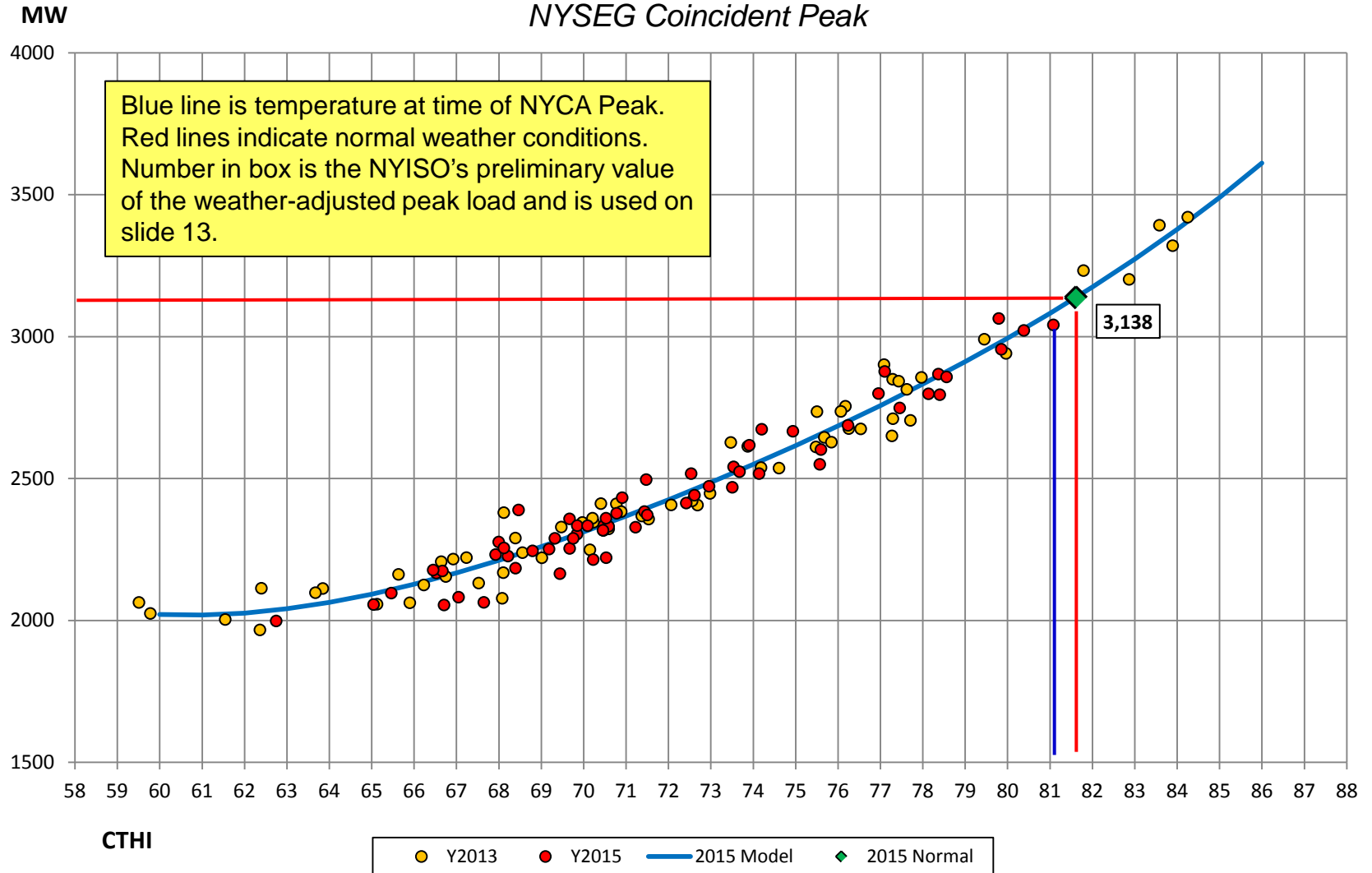
Preliminary 2015 Weather Normalization Model

NYPA Coincident Peak



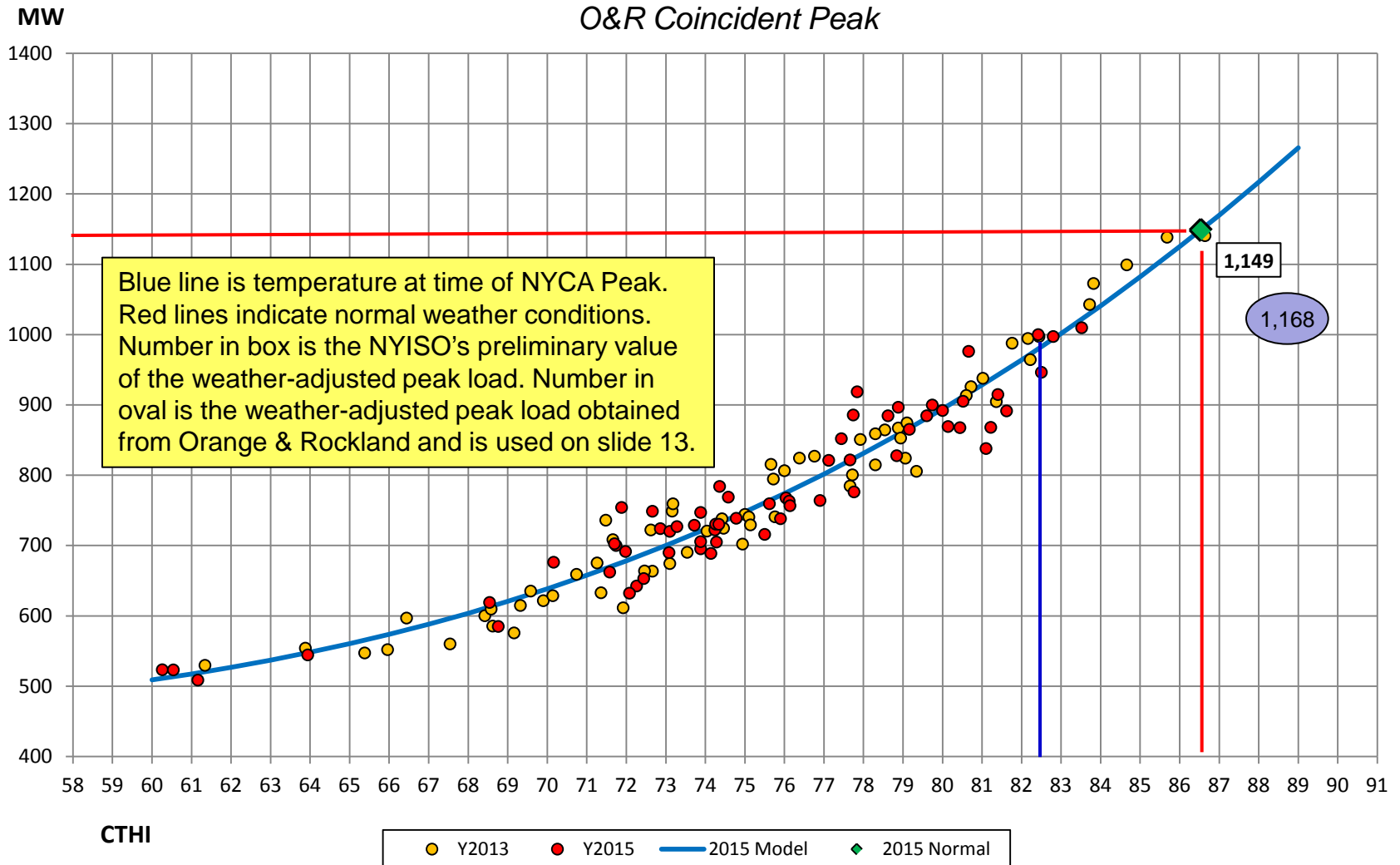
Preliminary 2015 Weather Normalization Model

NYSEG Coincident Peak



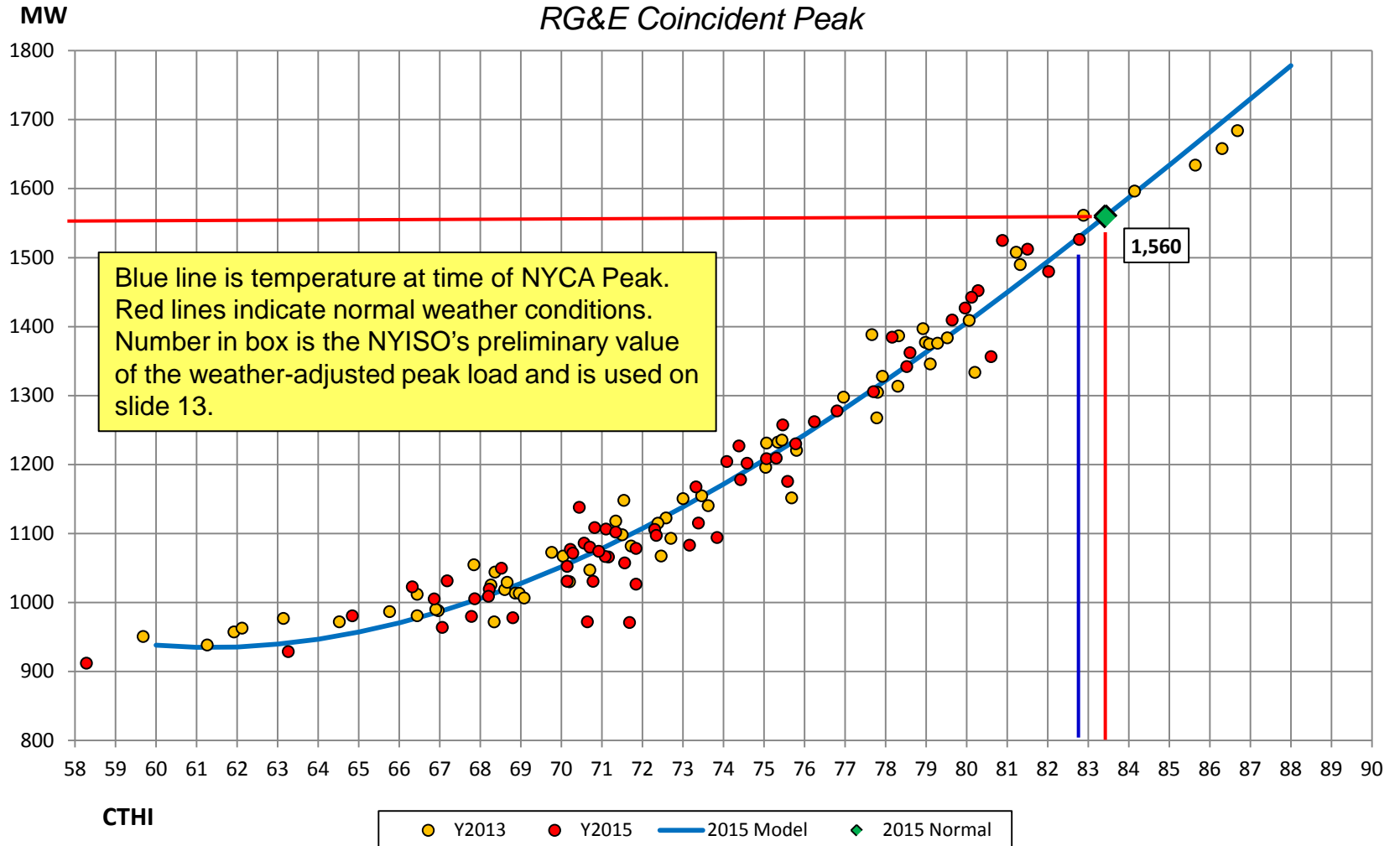
Preliminary 2015 Weather Normalization Model

O&R Coincident Peak



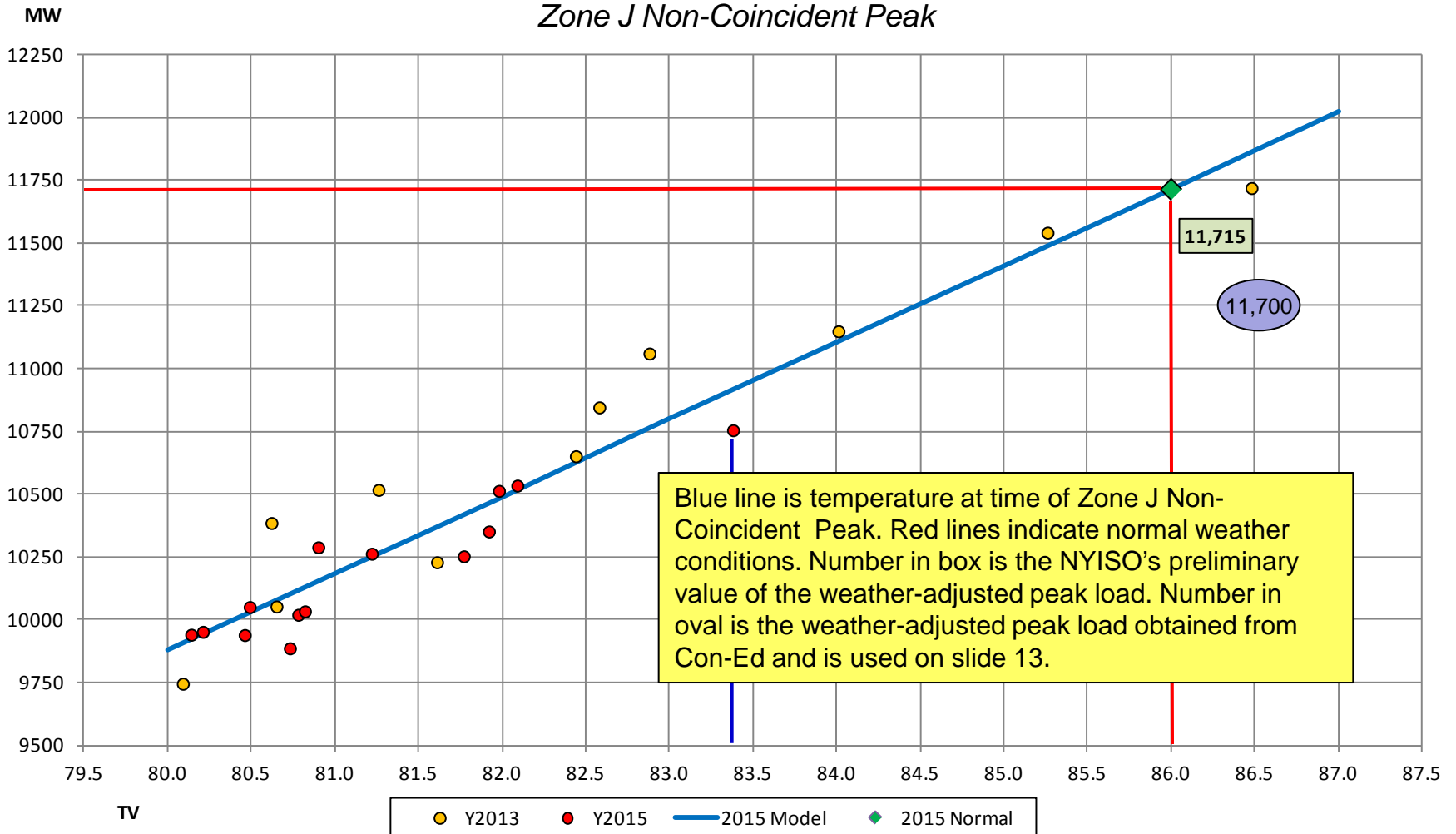
Preliminary 2015 Weather Normalization Model

RG&E Coincident Peak

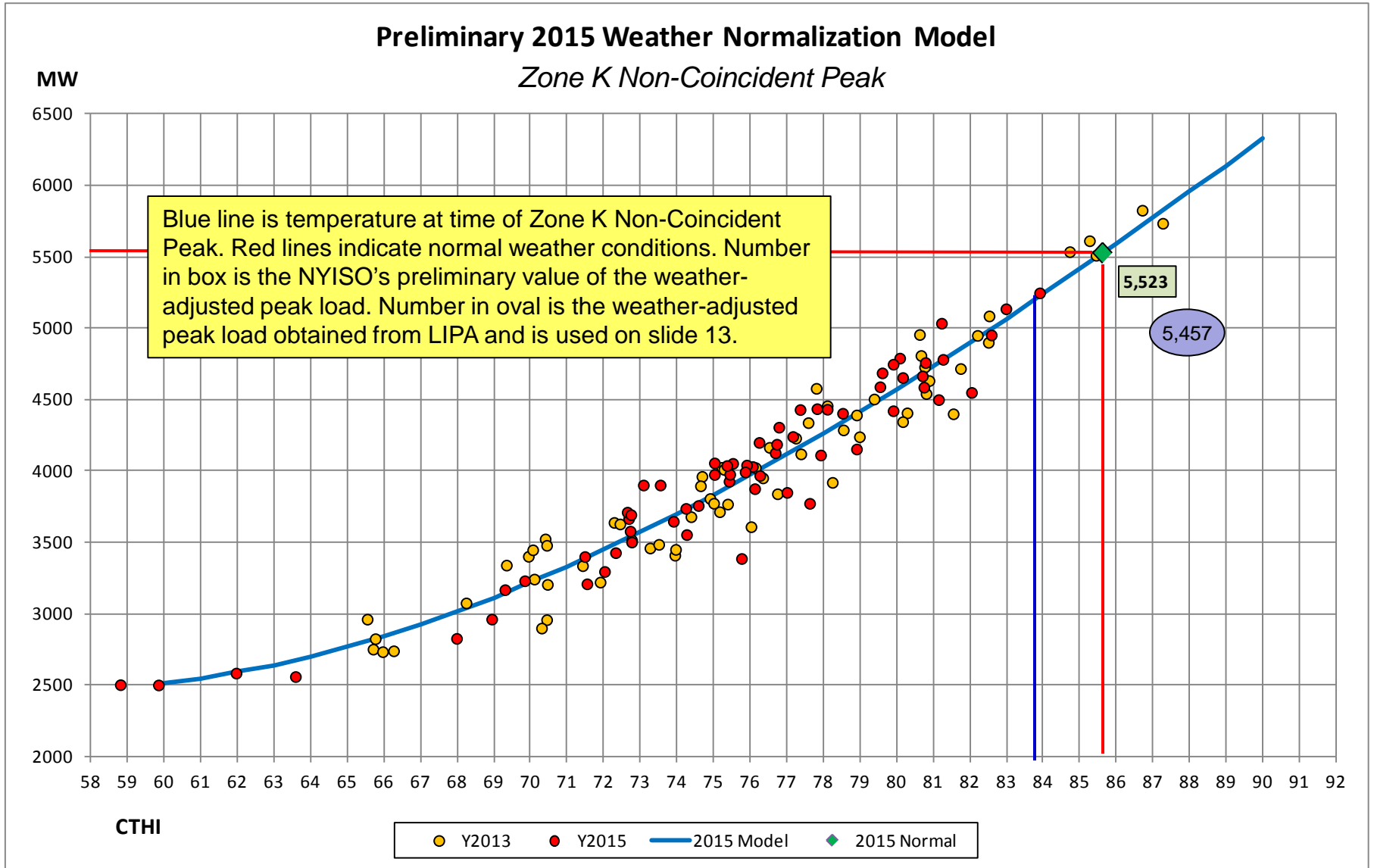


Preliminary 2015 Weather Normalization Model

Zone J Non-Coincident Peak



Preliminary 2015 Weather Normalization Model Zone K Non-Coincident Peak



2015 Weather Adjusted Peaks & Comparison to 2015 ICAP Forecast

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Transmission District	2015 Actual MW, 7/20/2015 HB 16	Adjustments to Load	SCR/EDRP Estimate MW	Weather Adjustment MW	2015 Weather Normalized MW	Loss Reallocation MW	2015 WN MW, Adj for Losses	2015 ICAP Forecast MW	Over/Under MW	Percent Over/Under
Gen. Hudson	1,048	0	0	71	1,119	-7	1,112	1,084	28	2.6%
Con Ed	12,050	0	0	1,437	13,487	166	13,653	13,793	-140	-1.0%
LIPA	5,136	0	0	249	5,385	53	5,438	5,541	-103	-1.9%
NGrid	6,931	0	0	61	6,992	-252	6,740	6,880	-140	-2.1%
NYPA	344	0	0	6	350	5	355	326	29	8.2%
NYSEG	3,041	0	0	97	3,138	8	3,146	3,180	-34	-1.1%
O&R	1,000	0	0	168	1,168	9	1,177	1,162	15	1.3%
RG&E	1,526	0	0	34	1,560	17	1,577	1,601	-24	-1.5%
Grand Total	31,076	0	0	2,123	33,199	-1	33,198	33,567	-370	-1.1%

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Locality	2015 Actual MW	Other Changes	SCR/EDRP Estimate MW	Locality Weather Adjustment MW	2015 Adjusted MW	2015 ICAP Forecast MW	Over/Under MW	Percent Over/Under
Zone J - NYC	10,586	0	0	1,276	11,700	11,929	-229	-2.0%
Zone K - LI	5,235	0	0	222	5,457	5,539	-82	-1.5%
Zone GHIJ	14,730	0	0	1,532	16,262	16,340	-78	-0.5%

2016 Transmission Districts - Coincident Peak Forecasts

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Transmission District	2015 Actual MW	2015 Estimated SCR & Muni Self-Gen	SCR/EDRP Estimate MW	Weather Adjustment MW	2015 Weather Normalized MW	Loss Reallocation MW	2015 WN MW, Adj for Losses	Regional Load Growth Factors	2016 IRM Preliminary Forecast
Central Hudson	1,048	0	0	71	1,119	-7	1,112	1.0020	1,114
Con Ed	12,050	0	0	1,437	13,487	166	13,653	1.0066	13,743
LIPA	5,136	0	0	249	5,385	53	5,438	1.0000	5,438
NGrid	6,931	0	0	61	6,992	-252	6,740	1.0060	6,781
NYPA	344	0	0	6	350	5	355	0.9951	353
NYSEG	3,041	0	0	97	3,138	8	3,146	1.0050	3,162
O&R	1,000	0	0	168	1,168	9	1,177	1.0161	1,196
RG&E	1,526	0	0	34	1,560	17	1,577	1.0080	1,590
Grand Total	31,076	0	0	2,123	33,199	-1	33,198	1.0054	33,377

2016 Locality Peak Forecasts, Non-Coincident

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Locality	2015 Actual MW	2015 Estimated SCR & Muni Self-Gen	SCR/EDRP Estimate MW	Weather Adjustment MW	2015 Weather Normalized MW	Regional Load Growth Factors	2016 IRM Preliminary Forecast
Zone J - NYC	10,586		0	1,114	11,700	1.0066	11,777
Zone K - LI	5,235		0	222	5,457	1.0000	5,457
Zone GHIJ	14,730		0	1,532	16,262	1.0069	16,375

2016 G-to-J Locality Peak Forecast - Details

(1) 2015 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	1,048.0	264.0	1,332.0	10,454.0	12,050.0
NYSEG O&R	22.0 1,000.0	335.0			357.0 1,000.0
Total	2,070.0	599.0	1,332.0	10,454.0	14,455.0

(2) 2015 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	1,119.0	311.0	1,573.0	11,603.0	13,487.0
NYSEG O&R	22.7 1,168.0	345.7			368.4 1,168.0
Total	2,309.7	656.7	1,573.0	11,603.0	16,142.4

(3) 2015 Weather Normalized Locality 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	1,127.3	313.3	1,584.6	11,688.9	13,586.8
NYSEG O&R	22.9 1,176.6	348.3			371.2 1,176.6
Total	2,326.8	661.6	1,584.6	11,688.9	16,261.9
NCP/CP Ratio	1.0074	1.0074	1.0074	1.0074	1.0074

(4) 2016 Forecast for G-to-J Locality						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Transmission District	Zone G	Zone H	Zone I	Zone J	Total, GHJ	RLGF
Cen. Hud. Con Ed	1,129.6	315.4	1,595.1	11,766.0	13,676.5	1.0066
NYSEG O&R	23.0 1,195.5	350.0			373.1 1,195.5	1.0050 1.0161
Total	2,348.1	665.4	1,595.1	11,766.0	16,374.6	1.0069

The RLGF is the Regional Load Growth Factor for 2016.

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



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