NYSRC Fall Forecast Update – Preliminary 2019 Weather Normalization and 2020 IRM Forecast

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NEW YORK INDEPENDENT SYSTEM OPERATOR

Overview

1. Summary of 2019 Weather Normalized Peaks
2. Weather-Normalization Models
3. Update of Ratios of Non-Coincident Peaks to Coincident Peaks
4. Preliminary 2020 IRM Forecast

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1. Summary of Weather-Normalized Peaks

Actual and 20-Year Normal Peak-Producing CTHI Statistics – 2000-2019

Peak - Producing CTHI									
Statistic	**CE**	**CH**	**LI**	**N Grid**	**NYPA**	**NYSEG**	**OR**	**RGE**	**NYCA**
Max	90.73	89.63	89.71	86.42	87.72	87.44	89.60	87.75	88.06
20 Yr Avg	85.52	85.52	84.74	82.36	82.07	82.53	84.71	83.07	83.79
Min	80.76	81.18	79.12	77.35	77.13	77.94	81.17	77.80	78.87
StDev	2.56	2.42	2.91	2.46	3.16	2.52	2.53	2.55	2.52
50th	85.52	85.52	84.74	82.36	82.07	82.53	84.71	83.07	83.79
67th	86.63	86.57	86.00	83.42	83.44	83.62	85.80	84.17	84.88
90th	88.80	88.62	88.47	85.51	86.12	85.76	87.95	86.34	87.02
2019	86.69	86.72	86.74	83.22	85.87	83.84	86.32	84.60	84.96
Percentile	68%	69%	75%	64%	89%	70%	74%	73%	68%
z (2019)	0.46	0.50	0.69	0.35	1.20	0.52	0.64	0.60	0.46
CTHI Delta	1.17	1.20	2.00	0.86	3.80	1.31	1.61	1.53	1.17

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Weather Normalization Models and Method

- **Weather-Response Method Using Pooled Data**
  1. Weekday & weekend data from 2018 & 2019 (June to August).
  2. Obtain a regression equation and take its derivative f'(CTHI) (i.e., the slope of the regression line).
  3. Evaluate derivative at design condition. Multiply by difference of (Normal – Actual) CTHI.
  4. Add this change in load to the actual observed MW value.
  5. Weekend binary included in the regression to estimate difference in load levels between weekend days and weekdays.
  6. Add the weekend adjustment MW to calculate what the weather-normalized peak load would have been on a weekday.

Note: The NYCA peak occurred on Saturday, July 20, 2019, Hour Beginning 16.

Summary of 2019 Preliminary Weather Normalization

Weather Adjustment Method					
TD	Actual MW	Weather Adjustment	Weekend Adjustment	Total Adjustment	2019 WN MW
CE	11,623	-16	1,334	1,318	12,941
CH	1,125	-34	35	1	1,126
LIPA	5,323	-287	280	-7	5,316
NG	6,497	-108	425	317	6,814
NYPA	362	-3	9	6	368
NYSEG	3,024	-80	190	110	3,134
OR	1,004	-12	53	41	1,045
RGE	1,452	-58	117	59	1,511
NYCA	**30,410**	**-598**	**2,443**	**1,845**	**32,255**

Notes

1. Con-Edison & O&R are at 67th percentile design conditions.
2. Excludes DR impacts and municipal generation
3. The NYCA peak occurred on Saturday, July 20, 2019, Hour Beginning 16.

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Summary of 2019 Preliminary Peak Weather Adjustment

Peak Weather Adjustment								
TD	Actual CTHI	Design CTHI	Delta CTHI	MW per Degree	CTHI60 Coefficient	CTHI60-Squared Coefficient	CTHI60-Cubed Coefficient	Weather Adjustment
CE	86.69	86.63	-0.06	247	-54.179	18.399	-0.319	-16
CH	86.72	85.52	-1.20	28	-11.064	1.998	-0.032	-34
LIPA	86.74	84.74	-2.00	144	-27.667	9.957	-0.175	-287
NG	83.22	82.36	-0.86	125	-31.888	9.716	-0.185	-108
NYPA	85.87	82.07	-3.80	1	0.762			-3
NYSEG	83.84	82.53	-1.31	61	-16.487	5.138	-0.101	-80
OR	86.32	85.80	-0.52	24	-6.797	2.024	-0.037	-12
RGE	84.60	83.07	-1.53	38	-5.133	2.148	-0.035	-58
NYCA	**84.96**			**668**				**-598**

Notes

1. Con-Edison & O&R are at 67th percentile design conditions.
2. Excludes DR impacts and municipal generation
3. The NYCA peak occurred on Saturday, July 20, 2019, Hour Beginning 16.

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Summary of 2019 Preliminary Weather Normalization
Transmission District Weather Normalized Peak Loads
NYCA Coincident Peaks

(1)	(2)	(3a)	(3b)	(4)	(5)	(6) = (3b)+(4)+(5)	(7)	(8) = (7)-(6)	(9) = (8)/(7)
Transmission District	2019 Actual MW, 7/20/2019 HB 16	Demand Response Estimate MW	2019 Actual MW, with DR Estimate	Estimated Muni Self-Gen	Total Weather Adjustment MW	2019 Weather Normalized MW	2019 ICAP Forecast, Without Loss Adjustment	TO Forecast, Over /Under MW	TO Forecast Error, Percent Over /Under
Con Edison	11,623	130	11,753	0	1,318	13,071	13,153	82	0.6%
Cen Hudson	1,125	0	1,125	0	1	1,126	1,093	-33	-3.0%
LIPA	5,323	22	5,345	7	-7	5,345	5,214	-131	-2.5%
Nat. Grid	6,497	0	6,497	53	317	6,867	6,805	-62	-0.9%
NYPA	362	0	362	0	6	368	352	-16	-4.5%
NYSEG	3,024	0	3,024	0	110	3,134	3,170	36	1.1%
O&R	1,004	0	1,004	0	41	1,045	1,102	57	5.2%
RG&E	1,452	0	1,452	0	59	1,511	1,491	-20	-1.3%
Grand Total	30,410	152	30,562	60	1,845	32,467	32,380	-87	-0.3%

Total Weather Adjustment includes weekend adjustment.

Summary of 2019 Preliminary Weather Normalization Transmission District Weather Normalized Peak Loads Locality Peaks

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Locality	Date and Time (Hr Beginning)	2019 Actual MW	Demand Response Estimate MW	Estimated Muni Self-Gen	Locality Weather Adjustment MW	2019 Adjusted MW	2019 ICAP Market Forecast MW	Over/Under MW	Percent Over/Under
Zone J - NYC	7/17/2019 HB 17	10,769	10	0	680	11,459	11,607	148	1.3%
Zone K - LI	7/21/2019 HB 17	5,452	22	7	-63	5,418	5,240	-178	-3.3%
Zone GHIJ	7/17/2019 HB 17	14,585	10	0	1,177	15,772	15,846	74	0.5%

Locality weather adjustment based upon coincident peak results and NCP/CP ratios for each Locality.

2. Weather Normalization Models

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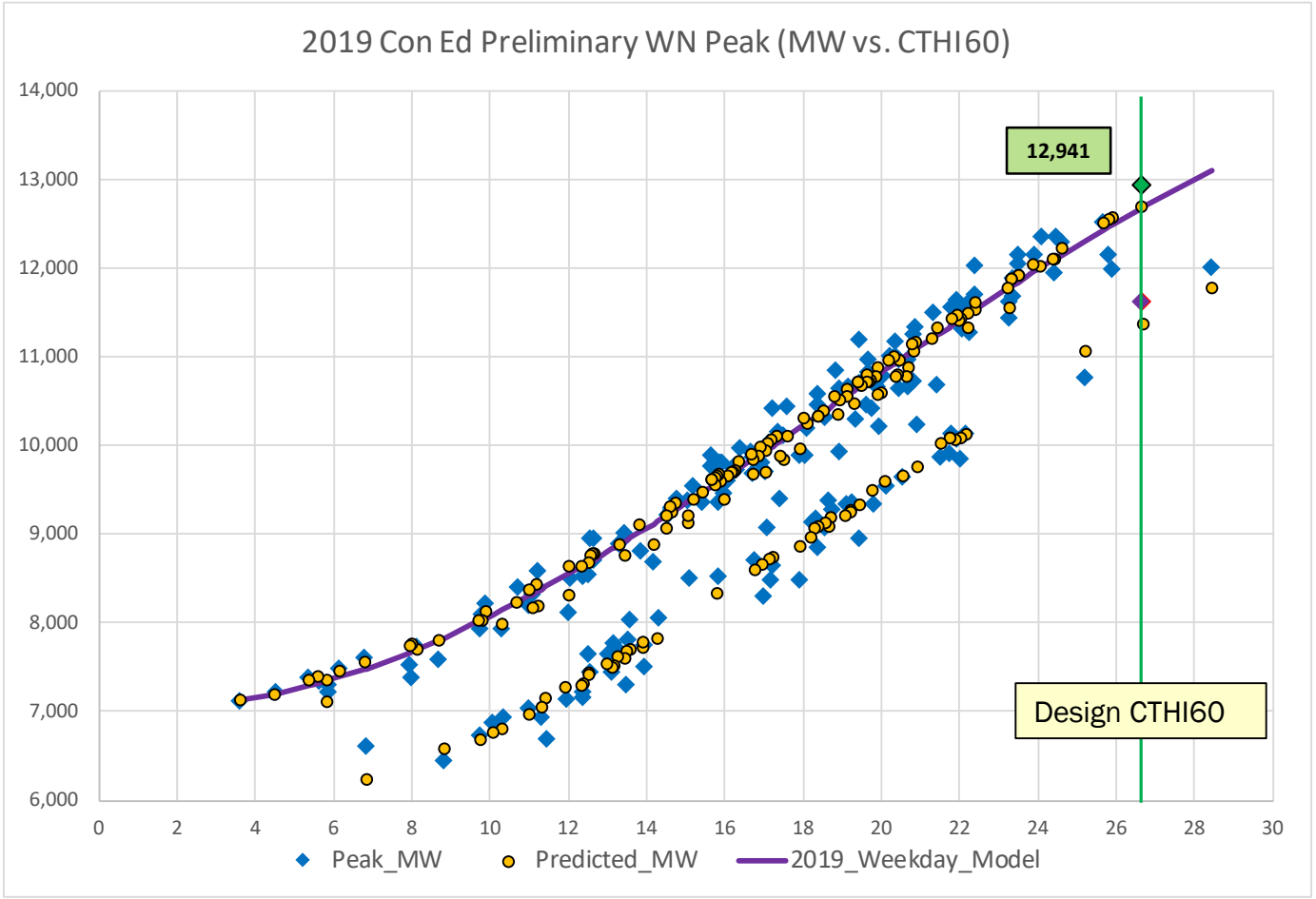

Design condition is 67th percentile. CTHI60 is CTHI relative to 60 degrees.

Red dot shows 2019 coincident peak.

Purple dot shows weather adjustment.

Green dot shows weekend adjustment and weather normalized peak (prior to DR addback).

2019 CP	11,623
2019 CTHI	86.69
Design CTHI	86.63
Delta CTHI	-0.06
MW / CTHI	247
Weather Adj	-16
Weekend Adj	1,334
Total Adj	1,318
WN Peak	**12,941**

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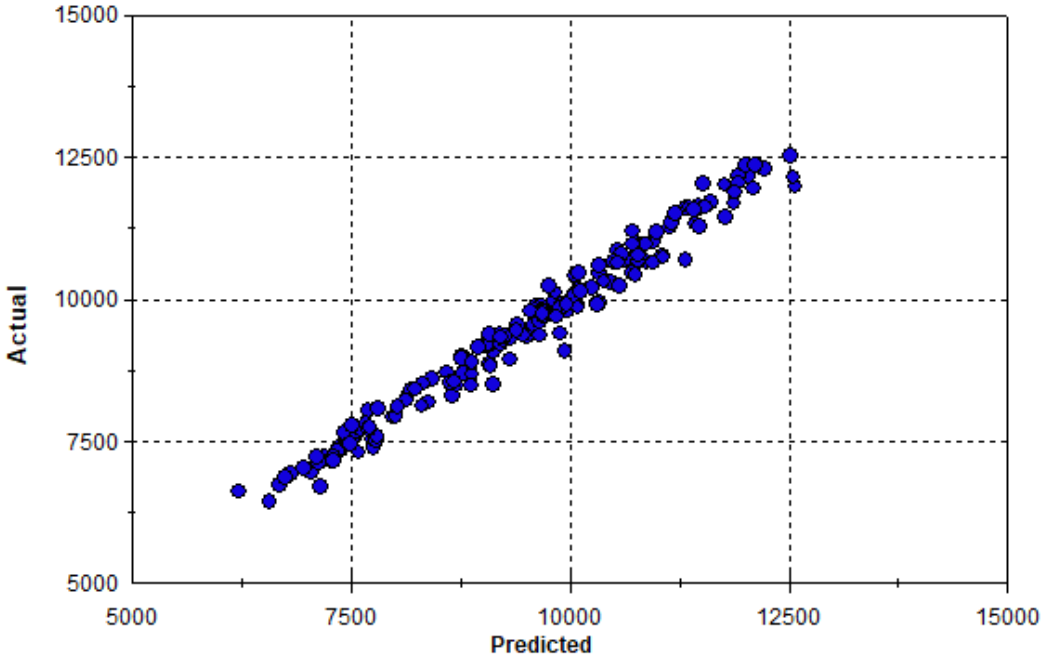
Con Ed Model Results

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	7099.855	277.817	25.556	0.00%
CE.CTHI60	-54.179	60.439	-0.896	37.13%
CE.CTHI60_Sq	18.399	4.036	4.559	0.00%
CE.CTHI60_Cb	-0.319	0.084	-3.782	0.02%
CE.Y2018	77.402	34.624	2.236	2.67%
CE.Fri	-235.444	51.057	-4.611	0.00%
CE.Wkend	-1333.681	40.273	-33.116	0.00%

Model Statistics	
Iterations	1
Adjusted Observations	176
Deg. of Freedom for Error	169
R-Squared	0.978
Adjusted R-Squared	0.977
AIC	10.909
BIC	11.035
F-Statistic	1241.184
Prob (F-Statistic)	0



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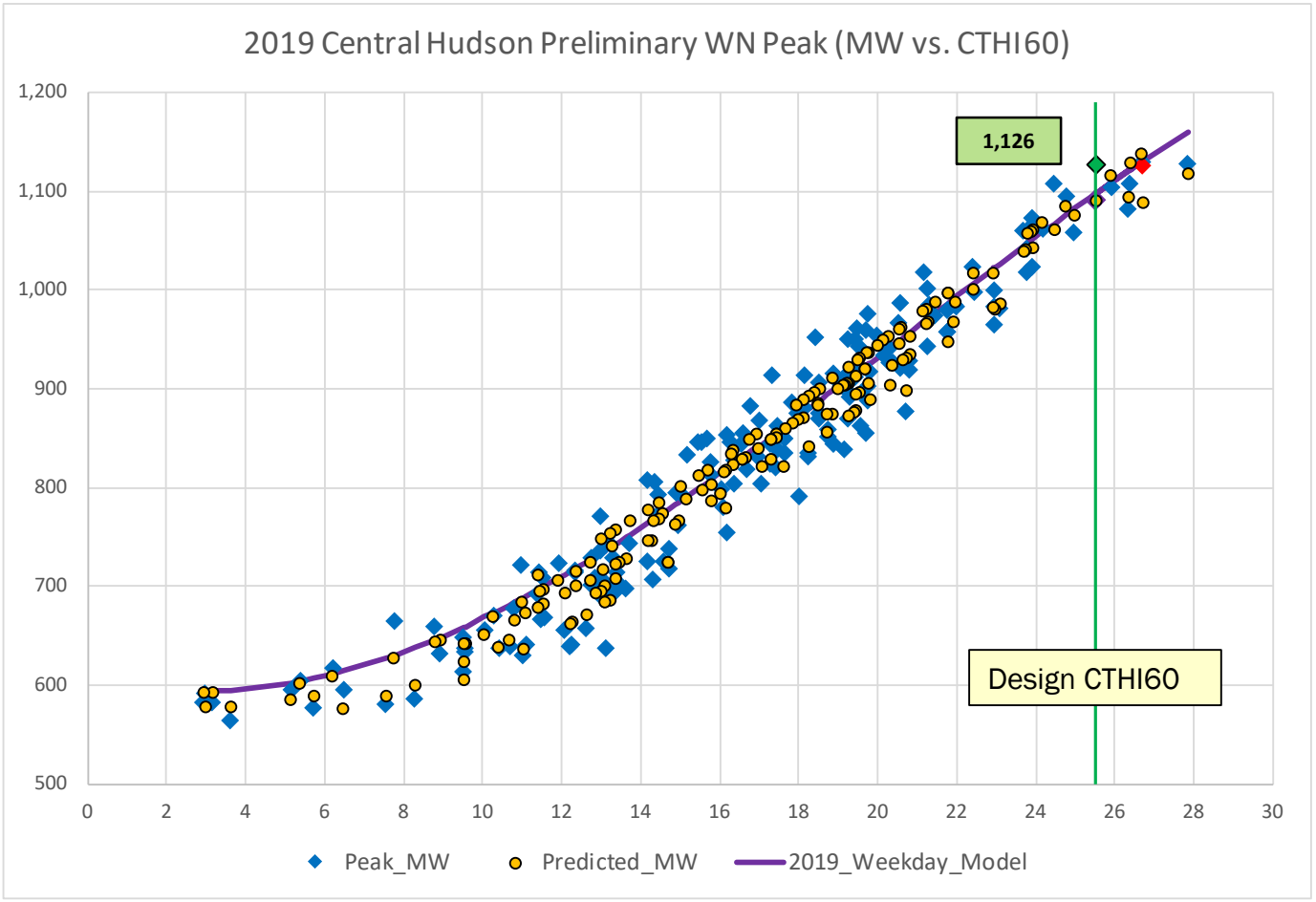

Design condition is 50th percentile.
CTHI60 is CTHI relative to 60 degrees.

Red dot shows 2019 coincident peak.

Purple dot shows weather adjustment.

Green dot shows weekend adjustment and weather normalized peak.

2019 CP	1,125
2019 CTHI	86.72
Design CTHI	85.52
Delta CTHI	-1.20
MW / CTHI	28
Weather Adj	-34
Weekend Adj	35
Total Adj	1
WN Peak	**1,126**

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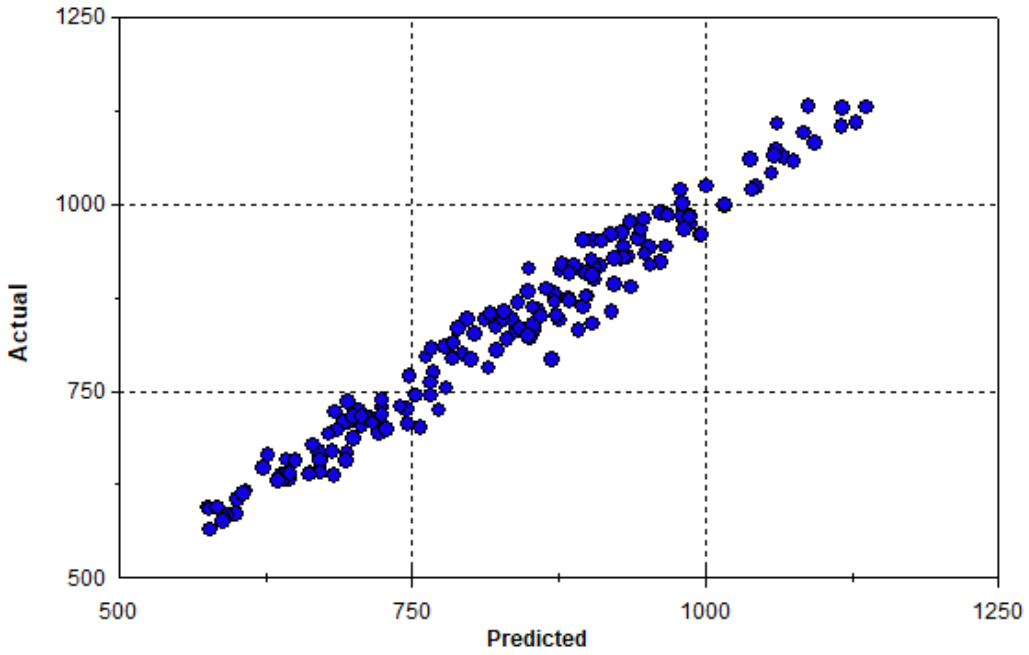
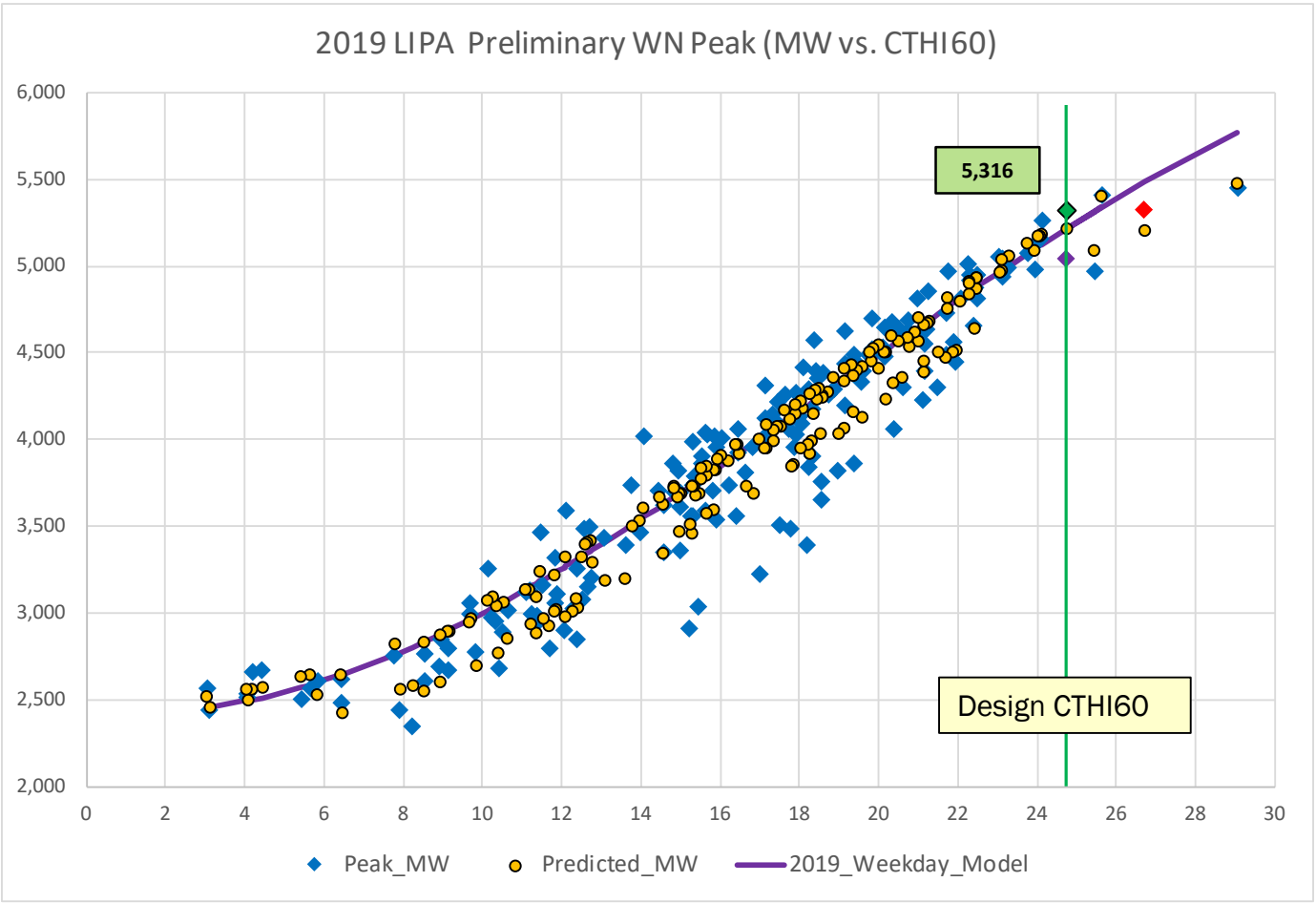
Central Hudson Model Results

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	610.488	24.003	25.434	0.00%
CH.CTHI60	-11.064	5.337	-2.073	3.97%
CH.CTHI60_Sq	1.998	0.377	5.297	0.00%
CH.CTHI60_Cb	-0.032	0.008	-3.962	0.01%
CH.June	-17.307	5.371	-3.222	0.15%
CH.Wkend	-34.825	4.403	-7.91	0.00%
CH.Y2018	14.917	3.953	3.774	0.02%

Model Statistics	
Iterations	1
Adjusted Observations	176
Deg. of Freedom for Error	169
R-Squared	0.967
Adjusted R-Squared	0.966
AIC	6.566
BIC	6.692
F-Statistic	829.678
Prob (F-Statistic)	0





Design condition is 50th percentile. CTHI60 is CTHI relative to 60 degrees.

Red dot shows 2019 coincident peak.

Purple dot shows weather adjustment.

Green dot shows weekend adjustment and weather normalized peak (prior to DR addback).

2019 CP	5,323
2019 CTHI	86.74
Design CTHI	84.74
Delta CTHI	-2.00
MW / CTHI	144
Weather Adj	-287
Weekend Adj	280
Total Adj	-7
WN Peak	**5,316**

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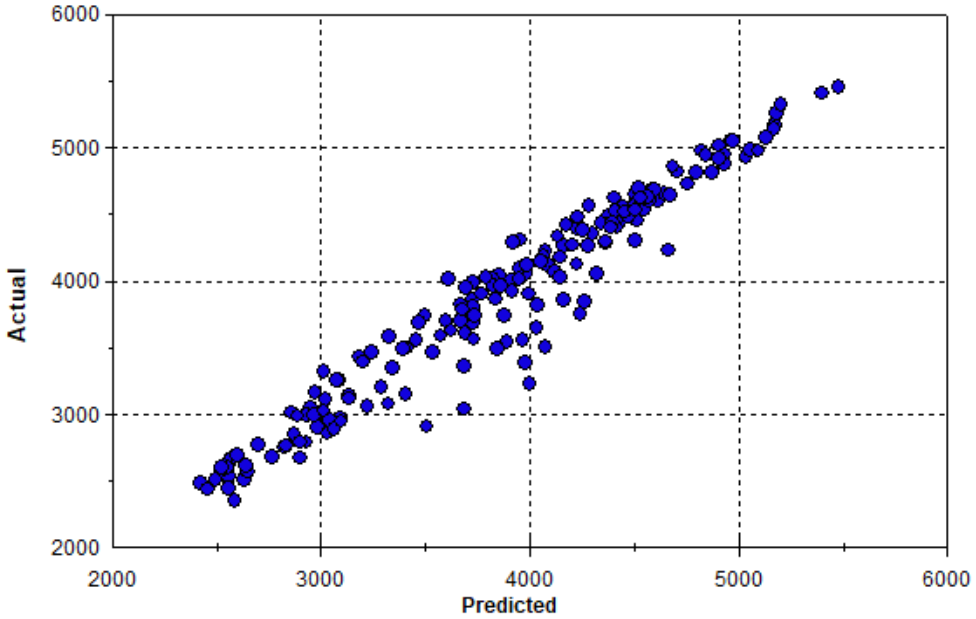
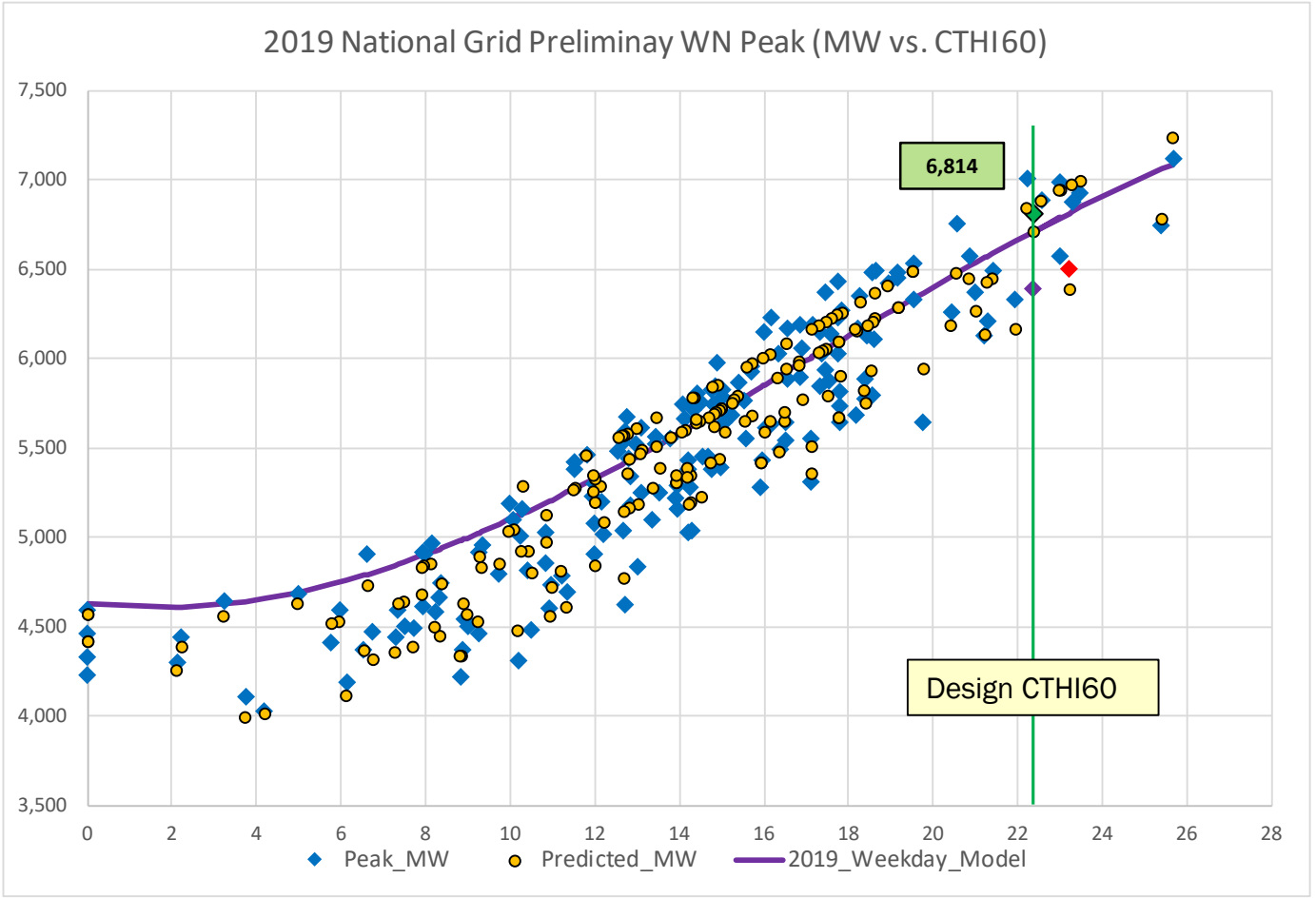
LIPA Model Results

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	2455.185	174.599	14.062	0.00%
LIPA.CTHI60	-27.667	40.072	-0.69	49.09%
LIPA.CTHI60_Sq	9.957	2.8	3.556	0.05%
LIPA.CTHI60_Cb	-0.175	0.061	-2.893	0.43%
LIPA.Y2018	62.01	29.339	2.114	3.60%
LIPA.Wkend	-279.957	34.222	-8.181	0.00%
LIPA.Fri	-70.887	43.189	-1.641	10.26%

Model Statistics	
Iterations	1
Adjusted Observations	176
Deg. of Freedom for Error	169
R-Squared	0.94
Adjusted R-Squared	0.938
AIC	10.573
BIC	10.699
F-Statistic	442.101
Prob (F-Statistic)	0





Design condition is 50th percentile. CTHI60 is CTHI relative to 60 degrees.

Red dot shows 2019 coincident peak.

Purple dot shows weather adjustment.

Green dot shows weekend adjustment and weather normalized peak.

2019 CP	5,323
2019 CTHI	83.22
Design CTHI	82.36
Delta CTHI	-0.86
MW / CTHI	125
Weather Adj	-108
Weekend Adj	425
Total Adj	317
WN Peak	**6,814**

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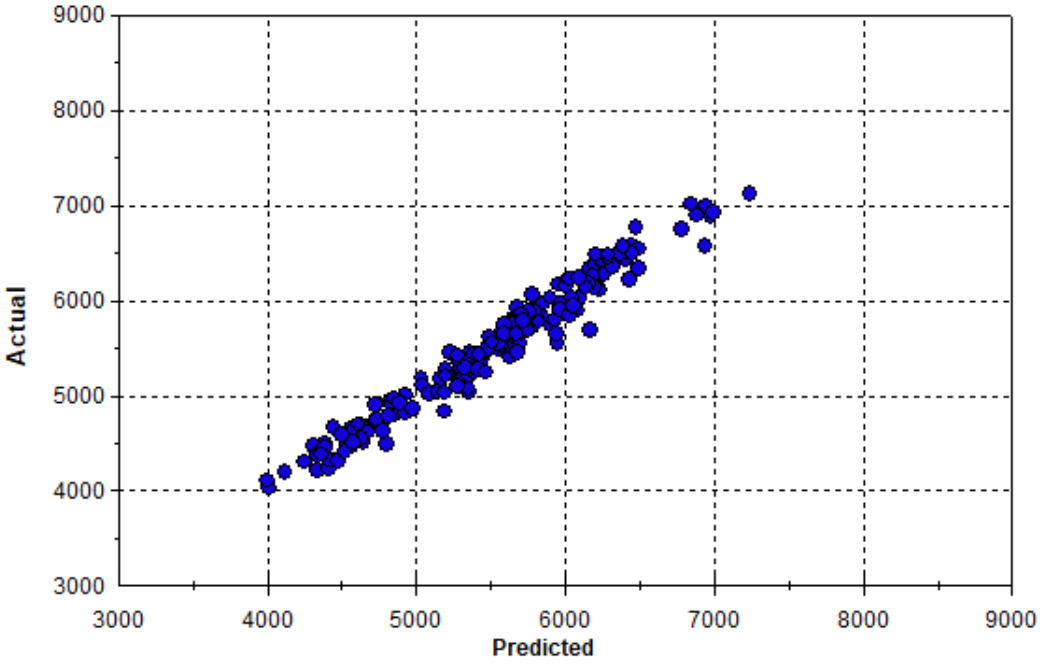
National Grid Model Results

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	4635.397	67.698	68.471	0.00%
NG.CTHI60	-31.888	17.153	-1.859	6.48%
NG.CTHI60_Sq	9.716	1.536	6.324	0.00%
NG.CTHI60_Cb	-0.185	0.04	-4.592	0.00%
NG.Y2018	154.943	21.253	7.29	0.00%
NG.June	-221.384	28.84	-7.676	0.00%
NG.Wkend	-424.987	24.18	-17.576	0.00%
NG.Fri	-135.688	30.819	-4.403	0.00%

Model Statistics	
Iterations	1
Adjusted Observations	176
Deg. of Freedom for Error	168
R-Squared	0.963
Adjusted R-Squared	0.961
AIC	9.914
BIC	10.058
F-Statistic	617.753
Prob (F-Statistic)	0



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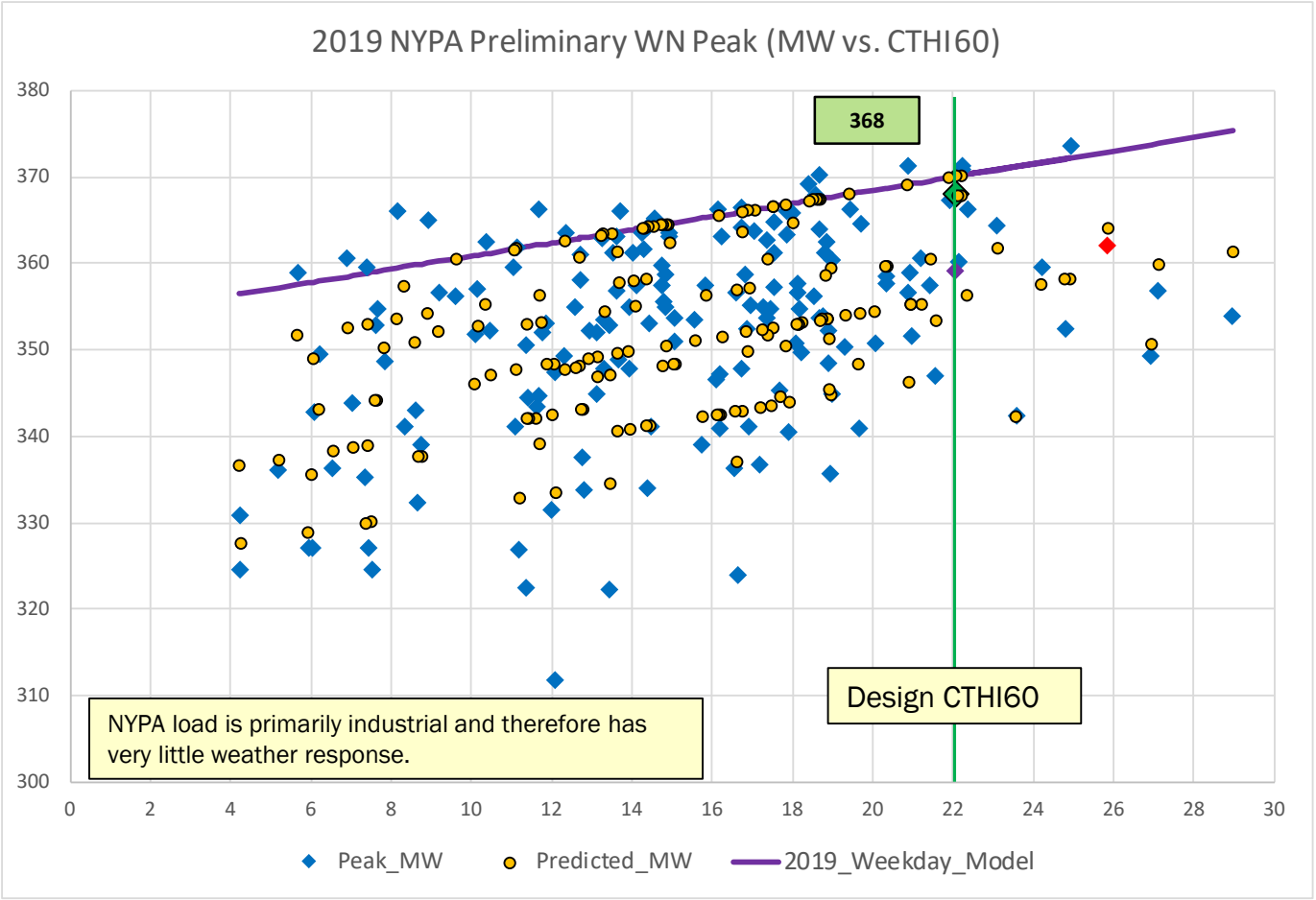

Design condition is 50th percentile.
CTHI60 is CTHI relative to 60 degrees.

Red dot shows 2019 coincident peak.

Purple dot shows weather adjustment.

Green dot shows weekend adjustment and weather normalized peak.

2019 CP	362
2019 CTHI	85.87
Design CTHI	82.07
Delta CTHI	-3.80
MW / CTHI	1
Weather Adj	-3
Weekend Adj	9
Total Adj	6
WN Peak	**368**

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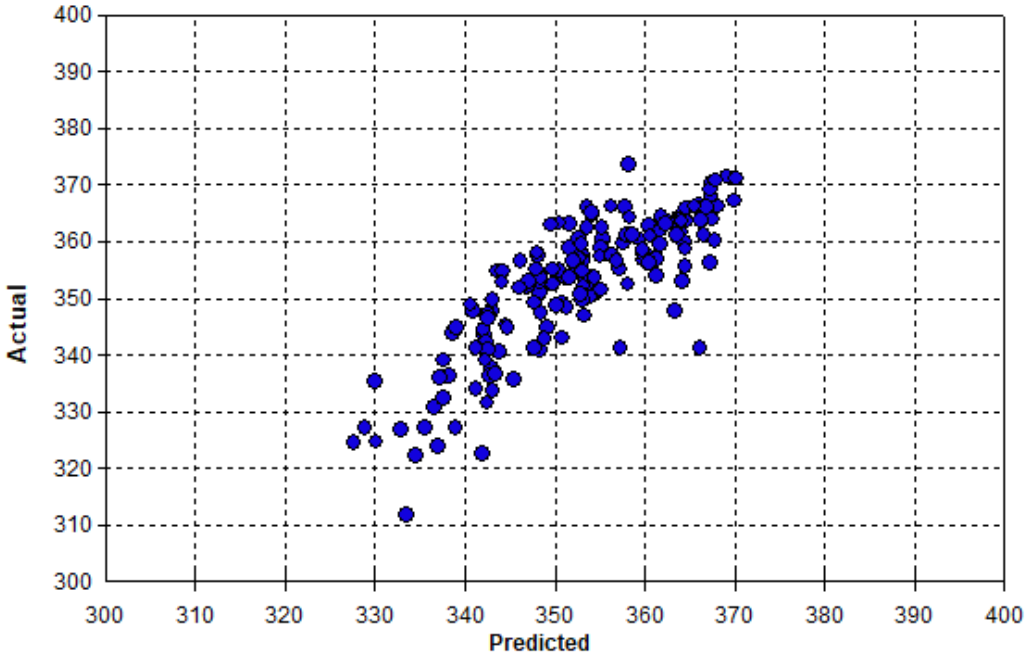
NYPA Model Results

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	353.233	2.3	153.605	0.00%
NYPA.CTHI60	0.762	0.127	5.983	0.00%
NYPA.Y2018	-14.013	1.076	-13.025	0.00%
NYPA.June	-5.891	1.386	-4.249	0.00%
NYPA.Wkend	-8.969	1.211	-7.41	0.00%
NYPA.Fri	-2.288	1.546	-1.48	14.08%

Model Statistics	
Iterations	1
Adjusted Observations	164
Deg. of Freedom for Error	158
R-Squared	0.682
Adjusted R-Squared	0.672
AIC	3.875
BIC	3.989
F-Statistic	67.731
Prob (F-Statistic)	0



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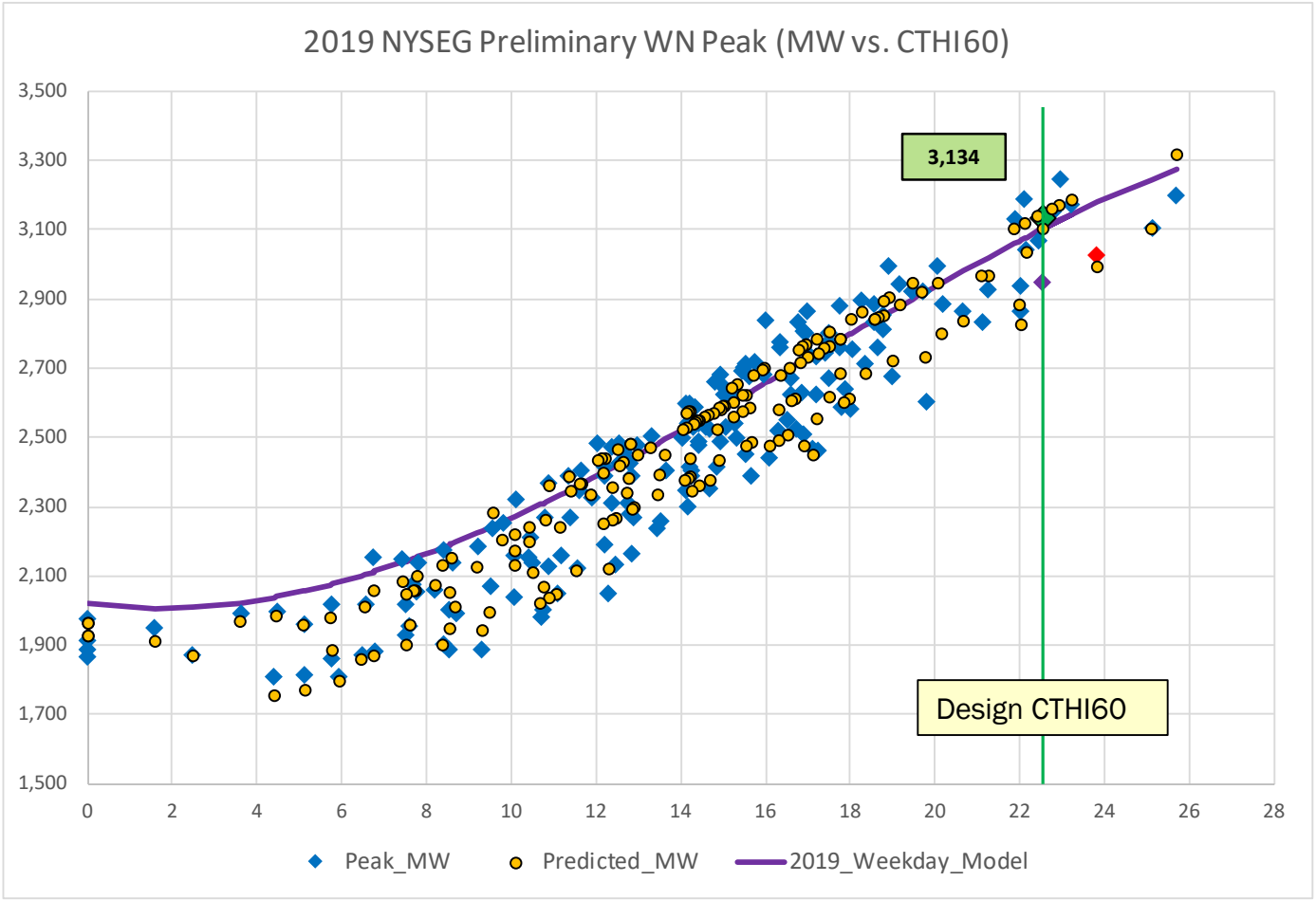

Design condition is 50th percentile. CTHI60 is CTHI relative to 60 degrees.

Red dot shows 2019 coincident peak.

Purple dot shows weather adjustment.

Green dot shows weekend adjustment and weather normalized peak.

2019 CP	3,024
2019 CTHI	83.84
Design CTHI	82.53
Delta CTHI	-1.31
MW / CTHI	61
Weather Adj	-80
Weekend Adj	190
Total Adj	110
WN Peak	**3,134**

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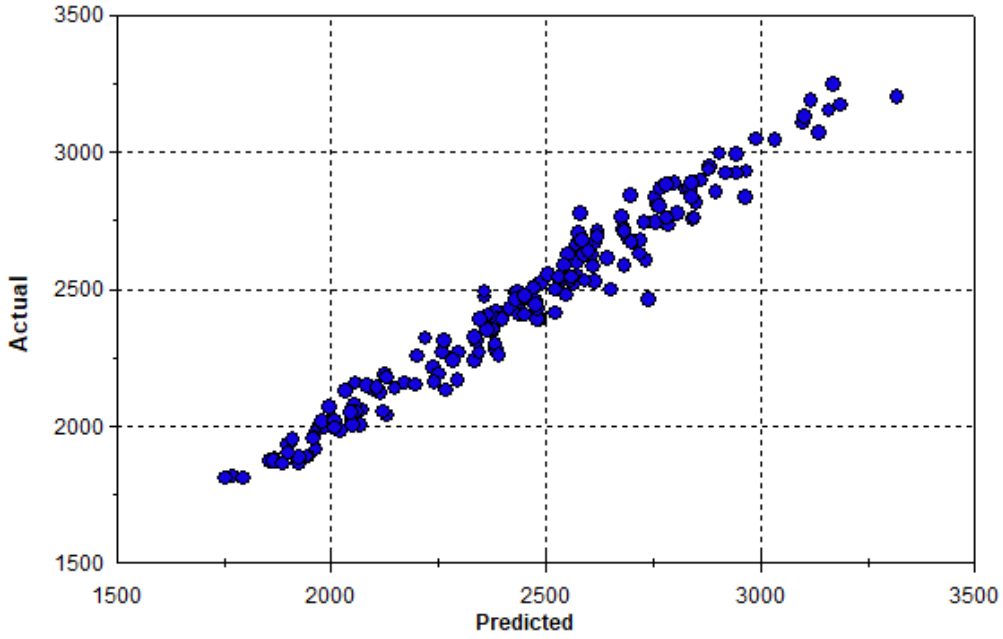
NYSEG Model Results

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	2019.747	32.137	62.847	0.00%
NYSEG.CTHI60	-16.487	8.178	-2.016	4.54%
NYSEG.CTHI60_Sq	5.138	0.73	7.034	0.00%
NYSEG.CTHI60_Cb	-0.101	0.019	-5.241	0.00%
NYSEG.Y2018	40.933	10.065	4.067	0.01%
NYSEG.June	-95.414	13.539	-7.047	0.00%
NYSEG.Wkend	-189.784	11.522	-16.472	0.00%
NYSEG.Fri	-45.488	14.656	-3.104	0.23%

Model Statistics	
Iterations	1
Adjusted Observations	176
Deg. of Freedom for Error	168
R-Squared	0.966
Adjusted R-Squared	0.964
AIC	8.427
BIC	8.571
F-Statistic	676.203
Prob (F-Statistic)	0



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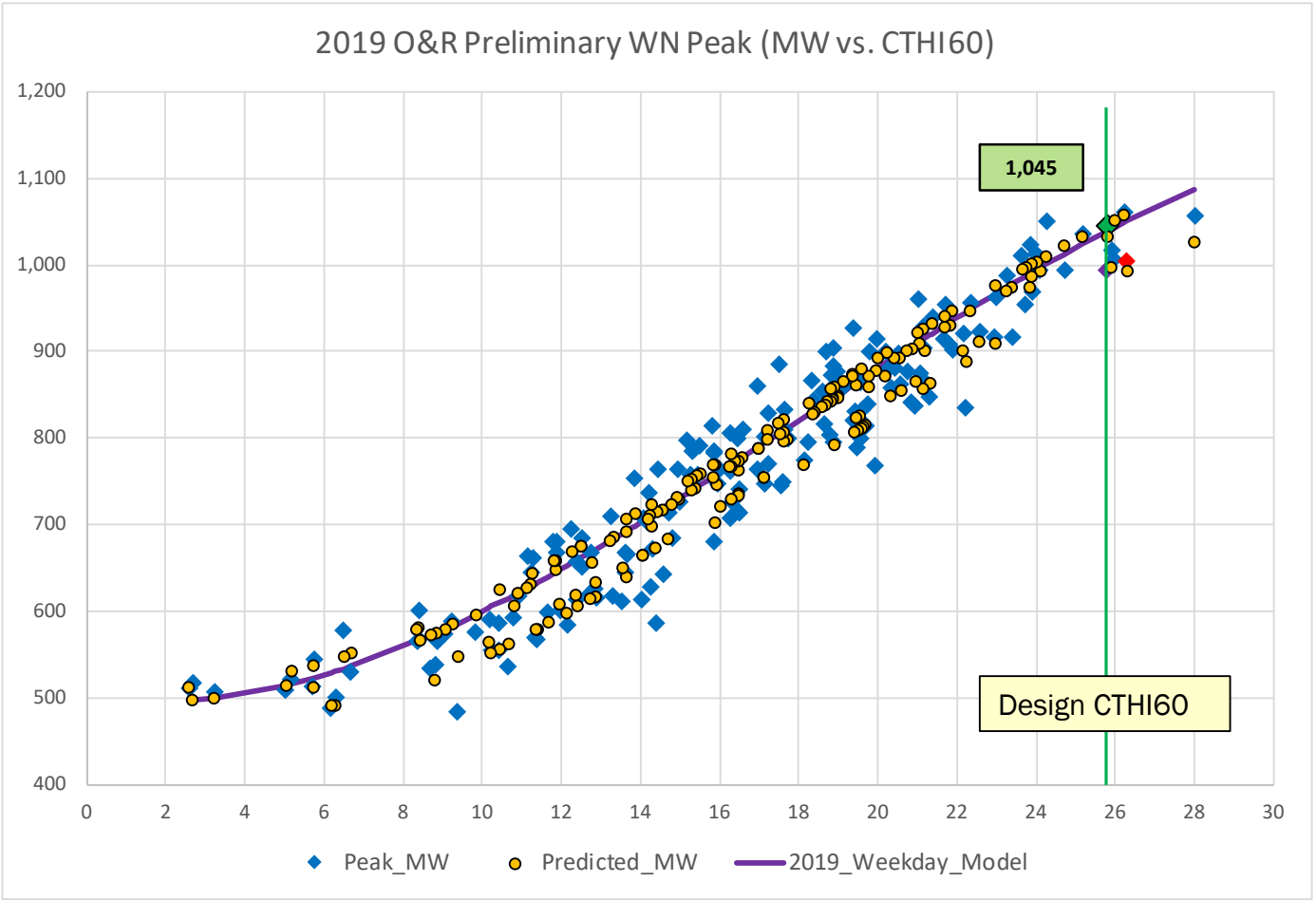

Design condition is 67th percentile.
CTHI60 is CTHI relative to 60 degrees.

Red dot shows 2019 coincident peak.

Purple dot shows weather adjustment.

Green dot shows weekend adjustment and weather normalized peak.

2019 CP	1,004
2019 CTHI	86.32
Design CTHI	85.80
Delta CTHI	-0.52
MW / CTHI	24
Weather Adj	-12
Weekend Adj	53
Total Adj	41
WN Peak	**1,045**

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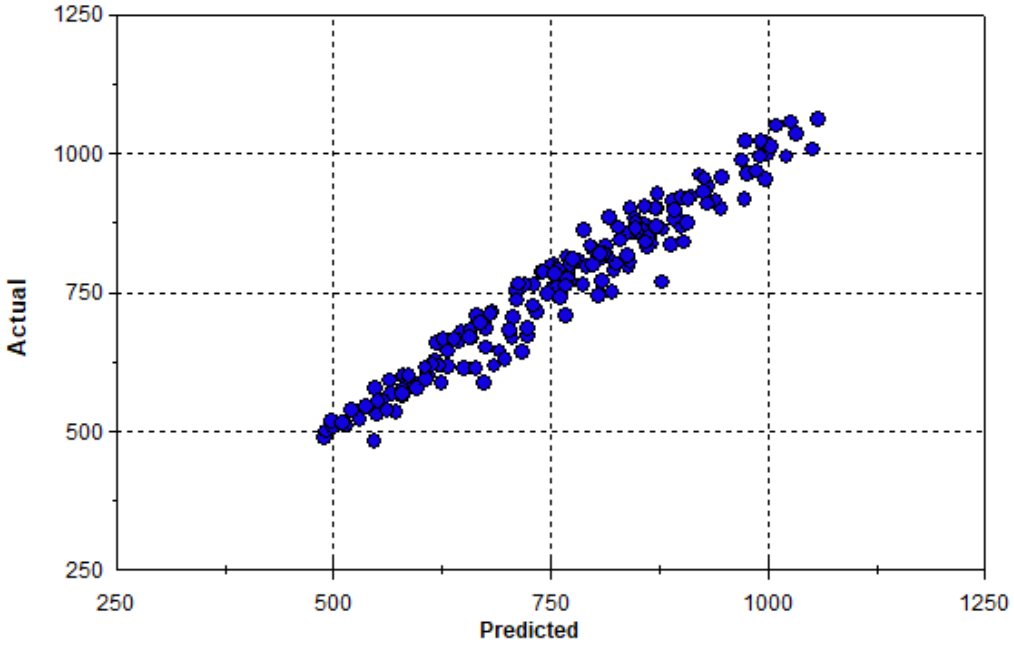
O&R Model Results

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	502.757	29.392	17.105	0.00%
OR.CTHI60	-6.797	6.753	-1.007	31.55%
OR.CTHI60_Sq	2.024	0.475	4.261	0.00%
OR.CTHI60_Cb	-0.037	0.01	-3.614	0.04%
OR.Y2018	14.213	4.928	2.884	0.44%
OR.Wkend	-53.111	5.69	-9.335	0.00%
OR.Fri	-11.729	7.251	-1.617	10.77%

Model Statistics	
Iterations	1
Adjusted Observations	176
Deg. of Freedom for Error	169
R-Squared	0.952
Adjusted R-Squared	0.95
AIC	7.008
BIC	7.134
F-Statistic	556.13
Prob (F-Statistic)	0



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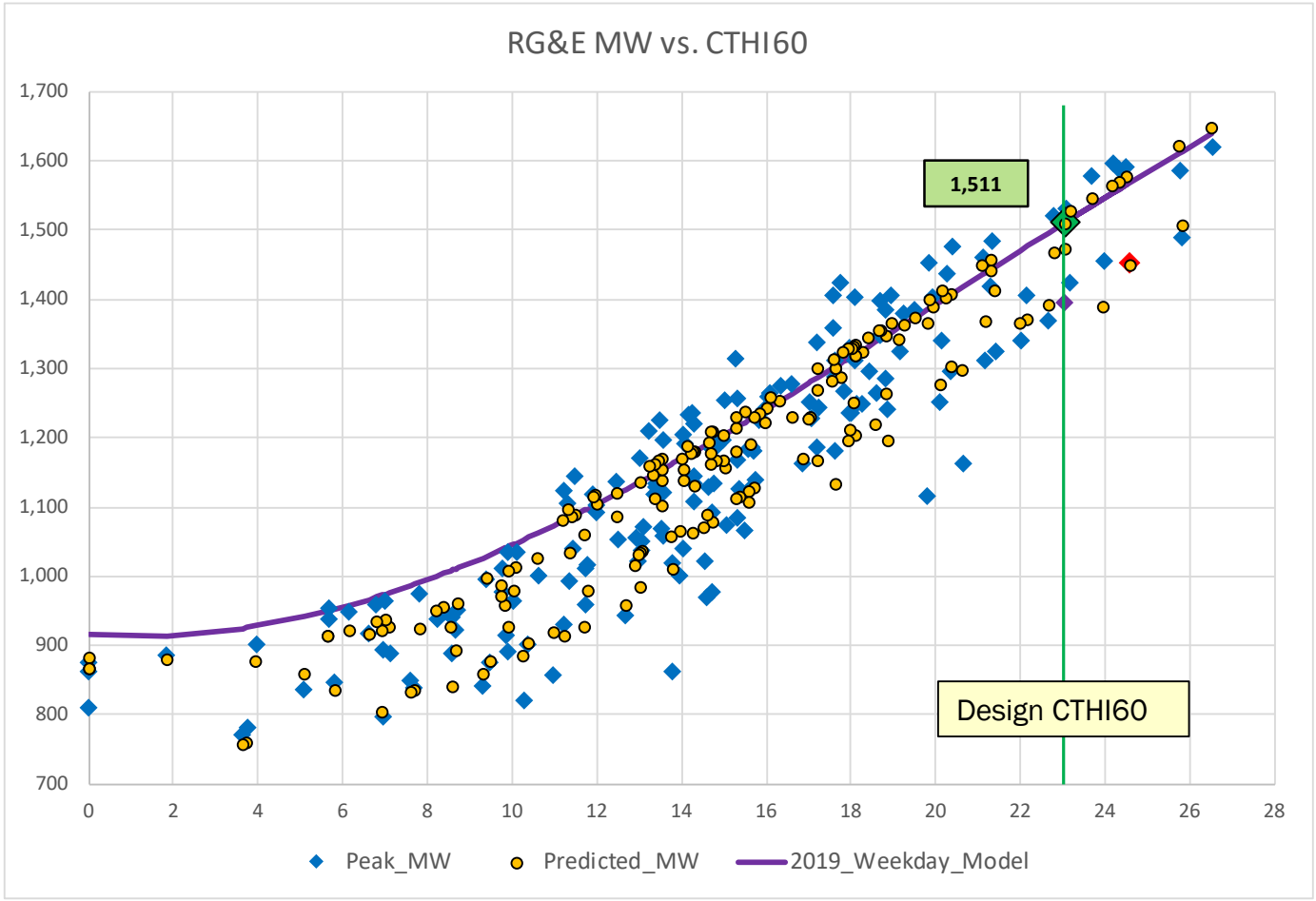

Design condition is 50th percentile. CTHI60 is CTHI relative to 60 degrees.

Red dot shows 2019 coincident peak.

Purple dot shows weather adjustment.

Green dot shows weekend adjustment and weather normalized peak.

2019 CP	1,452
2019 CTHI	84.60
Design CTHI	83.07
Delta CTHI	-1.53
MW / CTHI	38
Weather Adj	-58
Weekend Adj	117
Total Adj	59
WN Peak	**1,511**

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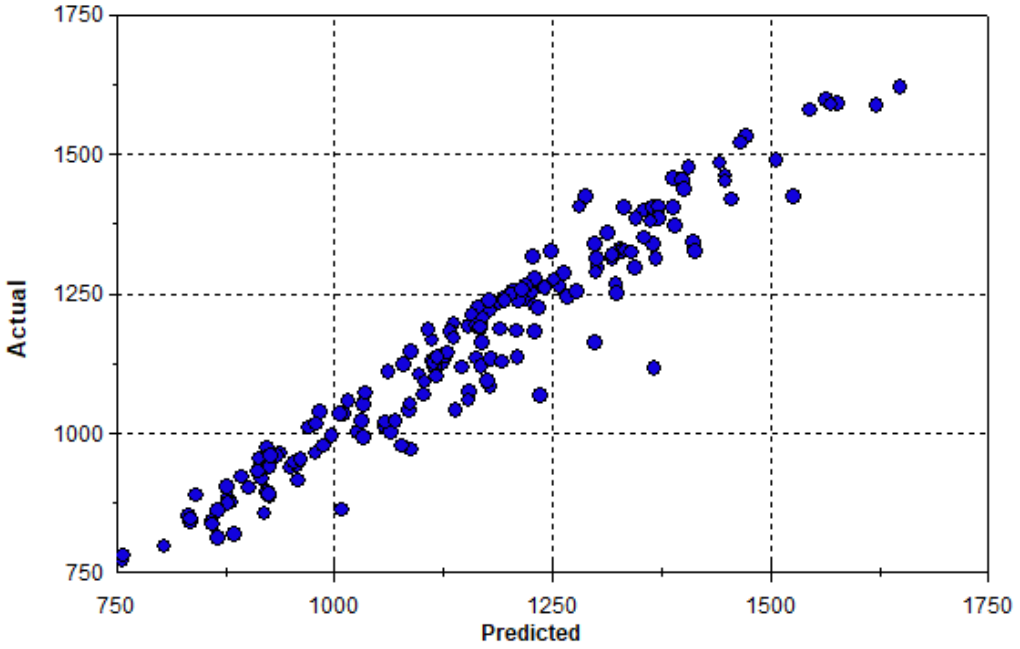
RG&E Model Results

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	916.822	28.339	32.352	0.00%
RGE.CTHI60	-5.133	6.762	-0.759	44.89%
RGE.CTHI60_Sq	2.148	0.558	3.848	0.02%
RGE.CTHI60_Cb	-0.035	0.014	-2.559	1.14%
RGE.Y2018	14.461	8.168	1.771	7.85%
RGE.June	-50.505	10.643	-4.746	0.00%
RGE.Wkend	-117.309	9.136	-12.84	0.00%
RGE.Fri	-31.765	11.704	-2.714	0.73%

Model Statistics	
Iterations	1
Adjusted Observations	176
Deg. of Freedom for Error	168
R-Squared	0.933
Adjusted R-Squared	0.931
AIC	7.976
BIC	8.12
F-Statistic	336.356
Prob (F-Statistic)	0



NEW YORK INDEPENDENT SYSTEM OPERATOR

DRAFT – FOR DISCUSSION PURPOSES ONLY

3. Ratios of Non-Coincident to Coincident Peaks

NEW YORK INDEPENDENT SYSTEM OPERATOR

Update of Ten-Year Rolling Average of Coincident and Locality Peaks To Obtain NCP/CP Ratios for 2020

NYCA Coincident Peak Dates & Times & Zonal MW

Year	NYCA Date	Hr Beg	Zone G	Zones H+I	Zone J	NYCA CP
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
2017	7/19/2017	17	2,011	1,898	10,249	14,158
2018	8/29/2018	16	2,189	1,966	11,037	15,192
2019	7/20/2019	16	2,199	1,935	9,999	14,133

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

Year	G-to-J Date	Hr Beg	Zone G	Zones H+I	Zone J	G-J NCP
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
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
2015	7/20/2015	16	2,059	1,996	10,675	14,730
2016	8/11/2016	16	2,069	1,993	11,006	15,068
2017	7/20/2017	16	2,046	1,936	10,722	14,704
2018	8/29/2018	16	2,189	1,966	11,037	15,192
2019	7/17/2019	17	1,942	1,874	10,769	14,585

All data is from DSS and is subject to further review.

Update of Ten-Year Rolling Average of Coincident and Locality Peaks To Obtain NCP/CP Ratios for 2019

Zone J Locality Peak Dates & Times & Zonal MW

Year	Zone J Date	Hr Beg	Zone G	Zones H+I	Zone J	G-J NCP
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
2012	7/18/2012	15	2,115	2,002	11,438	15,554
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
2015	7/20/2015	16	2,059	1,996	10,675	14,730
2016	8/11/2016	16	2,069	1,993	11,006	15,068
2017	7/20/2017	17	2,046	1,936	10,722	14,704
2018	8/29/2018	16	2,189	1,966	11,037	15,192
2019	7/17/2019	17	1,942	1,874	10,769	14,585

Zone K Locality Peak Dates & Times & Zonal MW

Year	Zone K Date	Hr Beg	CP	NCP	NCP/CP Ratio	Difference
2010	7/6/2010	16	5,755	5,822	1.0115	66
2011	7/22/2011	15	5,896	5,914	1.0030	18
2012	6/21/2012	16	5,079	5,510	1.0848	431
2013	7/18/2013	16	5,589	5,764	1.0314	175
2014	9/2/2014	16	5,054	5,054	1.0000	-
2015	7/20/2015	16	5,136	5,247	1.0216	111
2016	8/12/2016	16	5,190	5,411	1.0426	221
2017	7/20/2017	16	4,989	5,137	1.0297	148
2018	8/29/2018	16	5,412	5,412	1.0000	-
2019	7/21/2019	17	5,323	5,452	1.0242	129

All data is from DSS and is subject to further review.

Calculation of G-to-J NCP/CP Ratio

Coincident Peaks

Period	Zone G	Zone H+I	Zone J	G-to-J CP
3 Yr Avg	2,133	1,933	10,428	14,494
5 Yr Avg	2,108	1,944	10,549	14,601
10 Yr Avg	2,212	2,040	10,988	15,240

15,372/15,240 = 1.0087

G-to-J Locality Peaks

Period	Zone G	Zone H+I	Zone J	G-to-J NCP
3 Yr Avg	2,059	1,925	10,843	14,827
5 Yr Avg	2,061	1,953	10,842	14,856
10 Yr Avg	2,190	2,045	11,137	15,372

Period	Zone G	Zone H+I	Zone J	G-to-J NCP
3 Yr Avg	(74)	(8)	414	333
5 Yr Avg	(47)	9	293	255
10 Yr Avg	(22)	5	149	132

Period	Zone G	Zone H+I	Zone J	G-to-J NCP
3 Yr Avg	0.9653	0.9960	1.0397	1.0229
5 Yr Avg	0.9779	1.0044	1.0277	1.0174
10 Yr Avg	0.9902	1.0023	1.0135	1.0087

Calculation of Zone J NCP/CP Ratio

Coincident Peaks

Period	Zone G	Zone H+I	Zone J	G-to-J CP
3 Yr Avg	2,133	1,933	10,428	14,494
5 Yr Avg	2,108	1,944	10,549	14,601
10 Yr Avg	2,212	2,040	10,988	15,240

11,143/10,988 = 1.0141

Zone J Locality Peaks

Period	Zone G	Zone H+I	Zone J	G-to-J NCP
3 Yr Avg	2,059	1,925	10,843	14,827
5 Yr Avg	2,061	1,953	10,842	14,856
10 Yr Avg	2,162	2,025	11,143	15,330

Period	Zone G	Zone H+I	Zone J	G-to-J NCP
3 Yr Avg	(74)	(8)	414	333
5 Yr Avg	(47)	9	293	255
10 Yr Avg	(50)	(15)	155	90

Period	Zone J
3 Yr Avg	1.0397
5 Yr Avg	1.0277
10 Yr Avg	1.0141

Calculation of Zone K NCP/CP Ratio

Zone K Coincident Peak	
2019 CP	5,323
2019 CTHI	86.74
Design CTHI	84.74
Delta CTHI	-2.00
MW / CTHI	143.67
Weather Adj	-287
Weekend Adj	280
Total Adj	-7
WN Peak	**5,316**

Zone K NCP	
CP Design	84.74
NCP Design	85.32
Delta CTHI	0.58
MW/CTHI	126
NCP Adj MW	73
WN NCP	**5,389**
NCP to CP Ratio	**1.0137**

5,389/5,316 = 1.0137

NCP Adjustment represents MW difference between Zone K CP and NCP.
Excludes DR impacts and municipal generation.

4. Preliminary 2020 IRM Forecast

2020 IRM Coincident Peak Forecast by Transmission District

2020 IRM Coincident Peak Forecast by Transmission District for NYSRC

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(6)*(7)	(9)	(10)=(8)+(9)
Transmission District	2019 Actual MW	Demand Response Estimate MW	2019 Estimated Muni Self-Gen	Total Weather Adjustment MW	2019 Weather Normalized MW	Regional Load Growth Factors	2020 Forecast, Before Adjustments	BTM:NG and Other Adjustments to Load	2020 IRM Final Forecast
Con Edison	11,623	130	0	1,318	13,071	1.0038	13,121		13,121.0
Cen Hudson	1,125	0	0	1	1,126	0.9950	1,120		1,120.0
LIPA	5,323	22	7	-7	5,345	0.9861	5,271	39.0	5,310.0
NGrid	6,497	0	53	317	6,867	0.9920	6,812		6,812.0
NYPA	362	0	0	6	368	1.0000	368		368.0
NYSEG	3,024	0	0	110	3,134	0.9968	3,124	10.2	3,134.2
O&R	1,004	0	0	41	1,045	0.9822	1,026		1,026.0
RG&E	1,452	0	0	59	1,511	0.9940	1,502		1,502.0
Total	30,410	152	60	1,845	32,467	0.9962	32,344	49.2	32,393.2
				2020 Forecast from 2019 Gold Book			32,202		
				Change from 2019 Gold Book			142		

Total Weather Adjustment includes weekend adjustment.

2019 IRM Locality Peak Forecast

2020 IRM Locality Peak Forecast by Transmission District for NYSRC

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)=(8)+(11)
Locality	2019 Actual MW	Demand Response Estimate MW	2019 Estimated Muni Self-Gen	Locality Weather Adjustment MW	2019 Weather Normalized MW	Regional Load Growth Factors	2020 Forecast, Before Adjustments	2020 Forecast from 2019 Gold Book	Change from Gold Book Forecast	BTM:NG and Other Adjustments to Load	2020 IRM Final Forecast
Zone J - NYC	10,769	10	0	680	11,459	1.0038	11,503	11,651	-148		11,503.0
Zone K - LI	5,452	22	10	-66	5,418	0.9861	5,343	5,134	209	40.6	5,383.6
Zone GHIJ	14,585	10	0	1,177	15,772	1.0015	15,795	15,911	-116		15,795.0

Locality adjustment based upon coincident peak results and NCP/CP ratios for each Locality.

2020 IRM Coincident Peak Forecast by Transmission District and Zone

2020 IRM Final Coincident Peak Forecast by Transmission District and Zone, With Adjustments

	A	B	C	D	E	F	G	H	I	J	K	NYCA
Con Edison								297.1	1,481.1	11,342.8		13,121.0
Cen Hudson					4.0		1,116.0					1,120.0
LIPA											5,310.0	5,310.0
Nat. Grid	1,838.6	427.8	1,343.7	93.7	918.3	2,189.9						6,812.0
NYPA				368.0								368.0
NYSEG	576.2		1,449.7	108.0	446.5	157.3	24.9	371.6				3,134.2
O&R							1,026.0					1,026.0
RG&E		1,502.0										1,502.0
Total	2,414.8	1,929.8	2,793.4	569.7	1,368.8	2,347.2	2,166.9	668.7	1,481.1	11,342.8	5,310.0	32,393.2

2019 IRM Non-Coincident Peak Forecast by Transmission District and Zone

2020 IRM Final Non-Coincident Peak Forecast by Transmission District and Zone, With Adjustments

	A	B	C	D	E	F	G	H	I	J	K
Con Edison								301.3	1,502.0	11,503.0	
Cen Hudson					4.2		1,132.7				
LIPA											5,383.6
Nat. Grid	1,942.3	442.5	1,394.0	99.1	958.2	2,252.5					
NYPA				389.4							
NYSEG	608.7		1,503.9	114.3	465.9	161.8	25.3	376.8			
O&R							1,041.4				
RG&E		1,553.7									
Total	2,551.0	1,996.2	2,897.9	602.8	1,428.3	2,414.3	2,199.4	678.1	1,502.0	11,503.0	5,383.6

2019 IRM G-to-J Locality Forecast by Transmission District and Zone

2020 IRM Final G-to-J Locality Peak Forecast

	G	H	I	J	G-J	RLGF
Con Edison		299.7	1,494.0	11,440.8	13,234.5	**1.0038**
Cen Hudson	1,125.7				1,125.7	**0.9950**
LIPA					0.0	
Nat. Grid					0.0	
NYPA					0.0	
NYSEG	25.1	374.8			399.9	**0.9968**
O&R	1,034.9				1,034.9	**0.9822**
RG&E					0.0	
Total	2,185.7	674.5	1,494.0	11,440.8	15,795.0	**1.0015**
NCP/CP Ratio	**1.0087**	**1.0087**	**1.0087**	**1.0087**		

NEW YORK INDEPENDENT SYSTEM OPERATOR

Questions?

NEW YORK INDEPENDENT SYSTEM OPERATOR

The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefits 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

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