

# Summer 2013 Demand Response Event Response Summary

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**Management Committee**

*March 26, 2014*

*NYISO, Rensselaer, NY*

# Summer 2013 DR Events

Event Date	Zones	Event Hours	Event Duration	Mandatory or Voluntary
July 15, 2013	G-K	HB 13 through HB17	5 hours	Mandatory
July 16, 2013	G-K	HB 13 through HB17	5 hours	Mandatory
July 17, 2013	G-K	HB 13 through HB17	5 hours	Mandatory
July 18, 2013	All zones	Zones G-K: HB 12 through HB17 Zones A-F: HB 13 through HB 17	6 hours 5 hours	Mandatory
July 19, 2013	All zones	Zones G-K: HB 12 through HB17 Zones A-F: HB 13 through HB 17	6 hours 5 hours	Mandatory

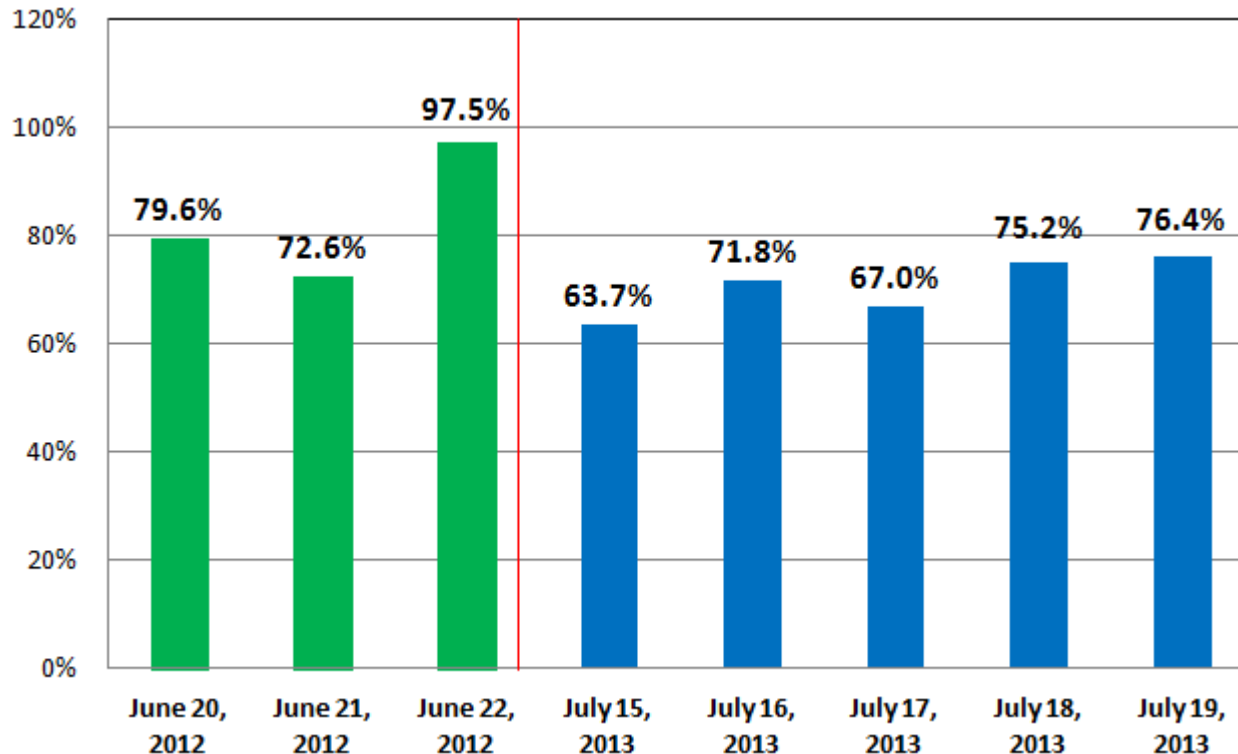
**NYISO provided 21-hour day-ahead notification and 2-hour in-day activation notification for all five summer 2013 DR events**

# Observations

- ◆ **SCR response for 2013 events is lower than for 2012 events**
- ◆ **Reliability need for SCRs for summer 2013 events extended for more than 4 hours**
  - *SCRs are only obligated to perform for 4 hours*
- ◆ **SCR response is significantly lower outside the 4 hour performance obligation window**
  - *2014 project “Market Rule Changes for DR Performance Obligations” will evaluate the SCR performance obligations*
- ◆ **NYISO has not seen significant evidence of fatigue in SCR responses with 5 contiguous days of DR activations**
- ◆ **2013 EDRP event response is comparable to 2012**

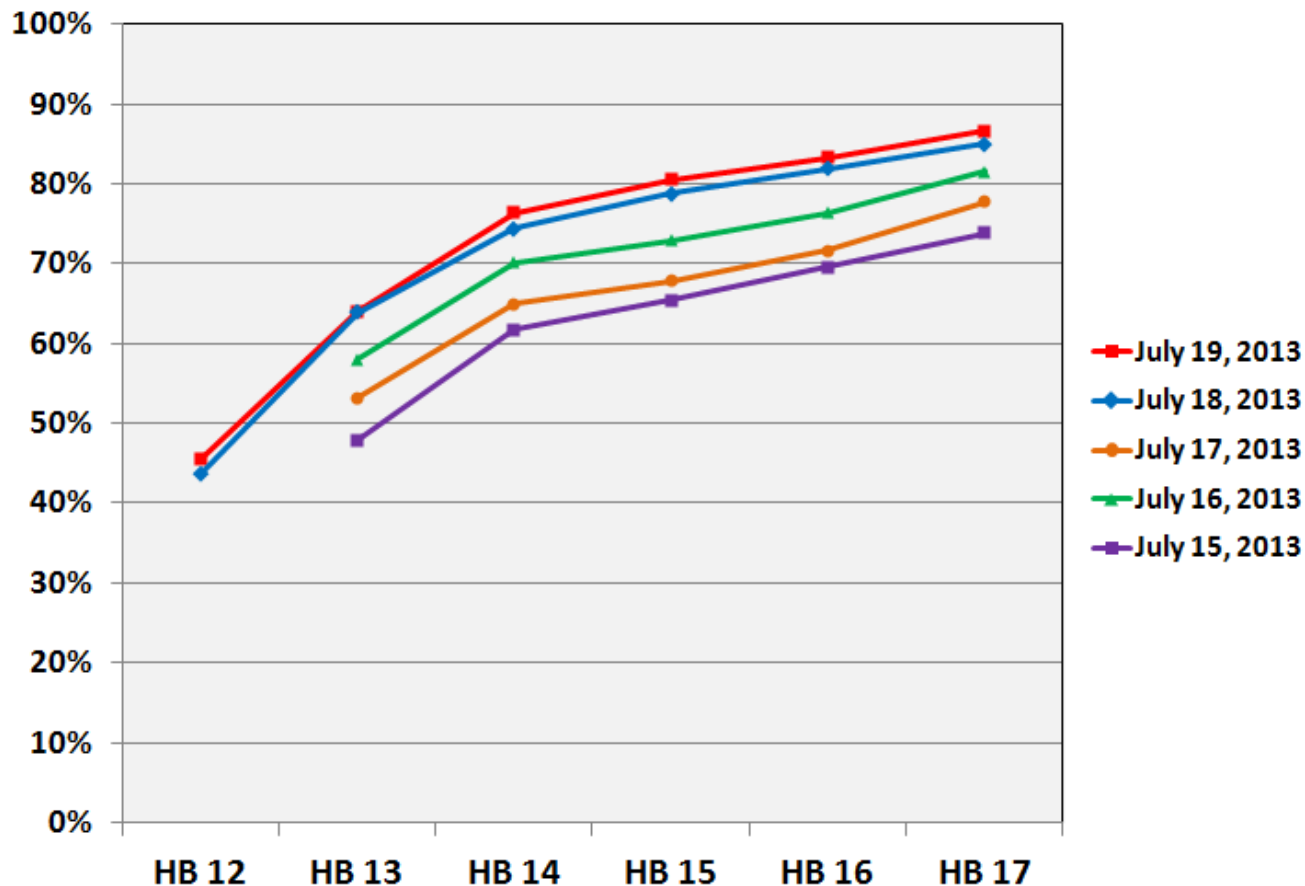
# SCR Event Average Hourly Response – ICAP/ACL Basis

- ◆ **SCR response for 2013 events is lower than for 2012 events**
  - *For reference, 2014-2015 IRM Study discounted SCR effective response at 63.4%*



# SCR Event Hourly Response – ICAP/ACL Basis

- ◆ **SCRs are obligated to perform for 4 hours. Best 4-hour response is considered for SCR performance factor calculations.**
- ◆ **SCR response for 2013 events is significantly lower outside the 4 hour performance obligation**



# SCR Event Response Summary – ICAP/ACL Basis

SCR ICAP Response	Zones	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly Response MW	Obligated SCR MW	Response as % of Obligated MW
July 15, 2013	G-K		256.7	331.0	350.8	372.6	396.0	341.4	536.1	63.7%
July 16, 2013	G-K		311.4	376.2	390.6	409.6	437.2	385.0	536.1	71.8%
July 17, 2013	G-K		284.9	348.0	363.4	383.8	416.7	359.4	536.1	67.0%
July 18, 2013	A-K*	233.6	751.6	874.4	925.5	962.6	999.2	884.0	1175.2	75.2%
July 19, 2013	A-K*	243.5	752.5	897.3	945.7	978.7	1018.5	898.1	1175.2	76.4%

\*On July 18th and 19th, the DR event started at HB 12 in zones G-K and started at HB 13 in zones A-F.

**SCR response in upstate is higher compared to downstate**

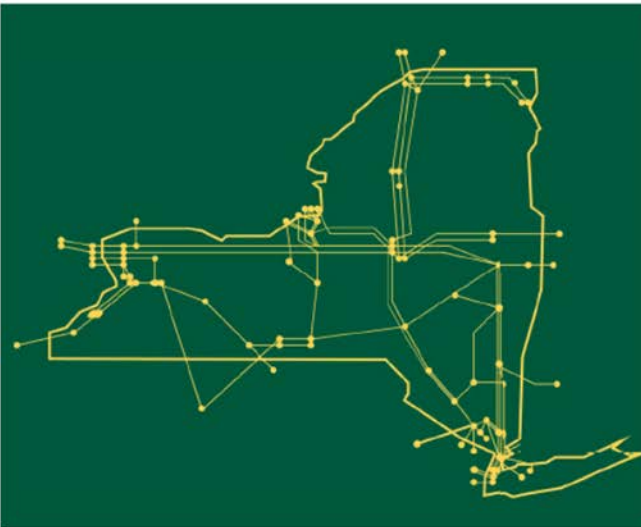
# EDRP Event Response

EDRP CBL Response	Zones	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly Response MW	Available EDRP MW	Response as % of Available MW
July 15, 2013	G-K		2.0	2.0	1.8	1.8	1.5	1.8	20.1	8.9%
July 16, 2013	G-K		2.1	2.0	2.1	2.0	2.0	2.1	20.1	10.2%
July 17, 2013	G-K		1.8	1.9	1.8	1.6	1.3	1.7	20.1	8.4%
July 18, 2013	A-K*	1.0	12.8	15.4	16.3	17.6	13.0	14.8	94.3	15.7%
July 19, 2013	A-K*	3.2	17.0	17.5	16.9	18.2	16.0	17.0	94.3	18.1%

\*On July 18th and 19th, the DR event started at HB 12 in zones G-K and started at HB 13 in zones A-F.

**2013 EDRP event response is comparable to 2012**

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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# APPENDIX

## **Detailed Hourly Event Response Data for Mandatory SCR Events and corresponding EDRP Response**

# Demand Response Event Reporting

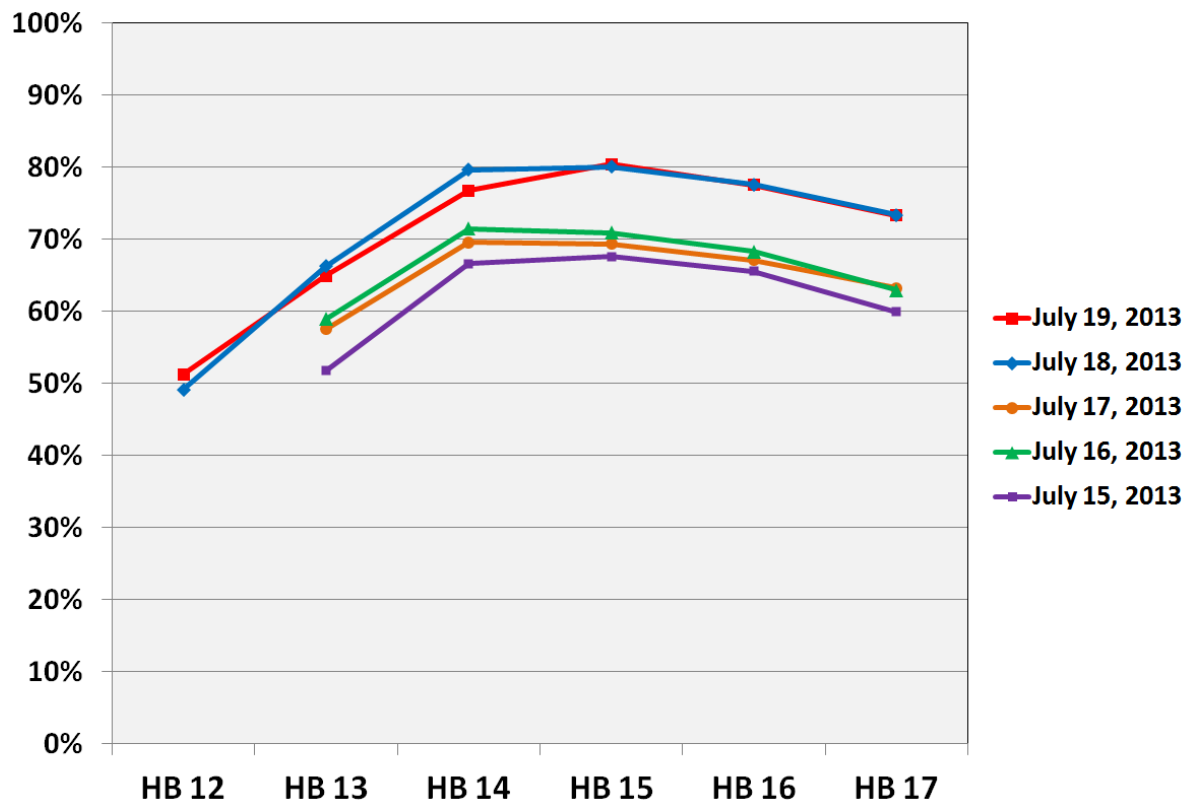
- ◆ **Post-event response estimated based on comparison to projected load**
- ◆ **Resources have 75 days after the event to report data**
- ◆ **Once received, NYISO applies data validation procedures**
- ◆ **After data validation, payment processing and response analysis are performed**
- ◆ **Final event response reported in the year-end demand response compliance filing to FERC, filed January 15 each year**
  - <http://www.nyiso.com/ViewerDocuments//Filing/Filing820/Attachments/Attachment%20I%20PUBLIC.pdf>

# Mandatory and Voluntary Response for SCRs

- ◆ **Mandatory response is required when:**
  - *NYISO provides day-ahead advisory at least 21-hour advance notice, or 24-hour advance notice if issued after 3 p.m., and*
  - *NYISO provides at least 2-hour advance notice on the day of the event*
  - *Response data reporting is required*
- ◆ **Voluntary response when:**
  - *Day-ahead advisory is not provided with minimum required advance notice, or*
  - *When no day-ahead advisory is given, or*
  - *Any Targeted Demand Response Program (TDRP) deployment*
  - *Response data reporting is optional*
- ◆ **CBL data reporting is optional**
  - *Only required to receive energy payments*

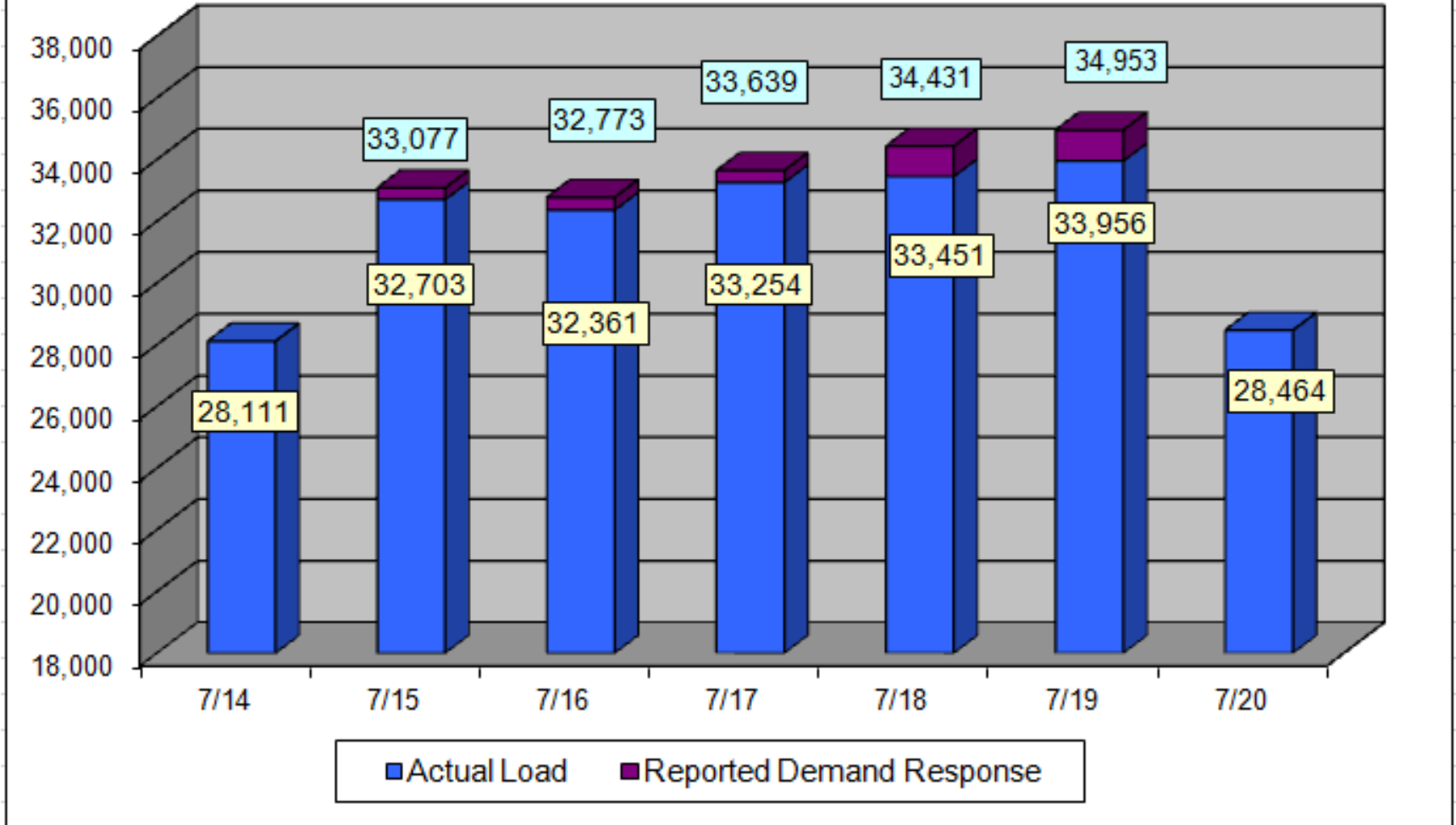
# SCR Event Hourly Response – CBL Basis

- ◆ CBL is a better reflection of the energy response delivered
- ◆ SCR CBL response is comparable to the ACL response during the initial hours of the events
- ◆ CBL response in the later hours of the events is lower than the ACL response

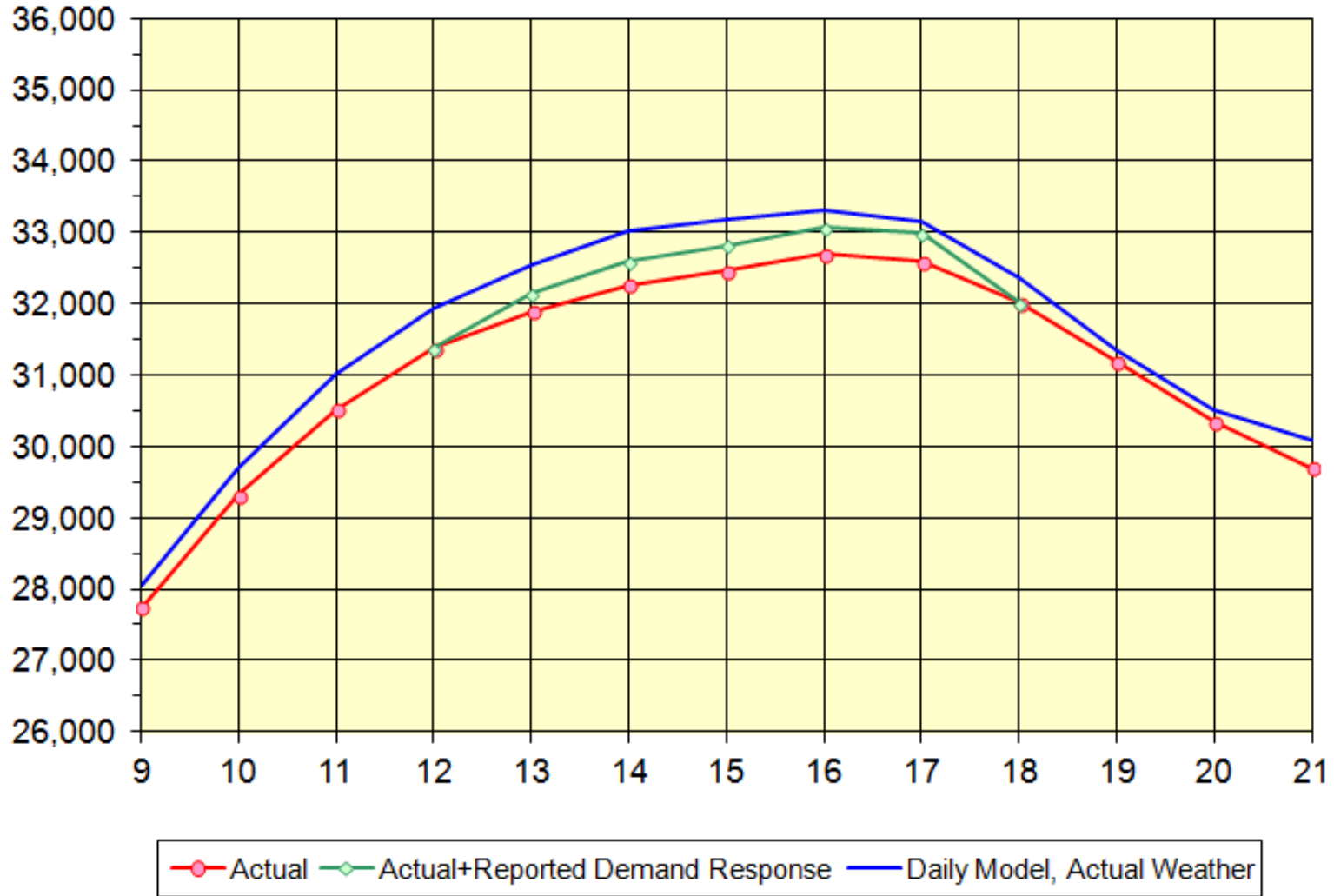


## Daily Peaks & Demand Response - MW

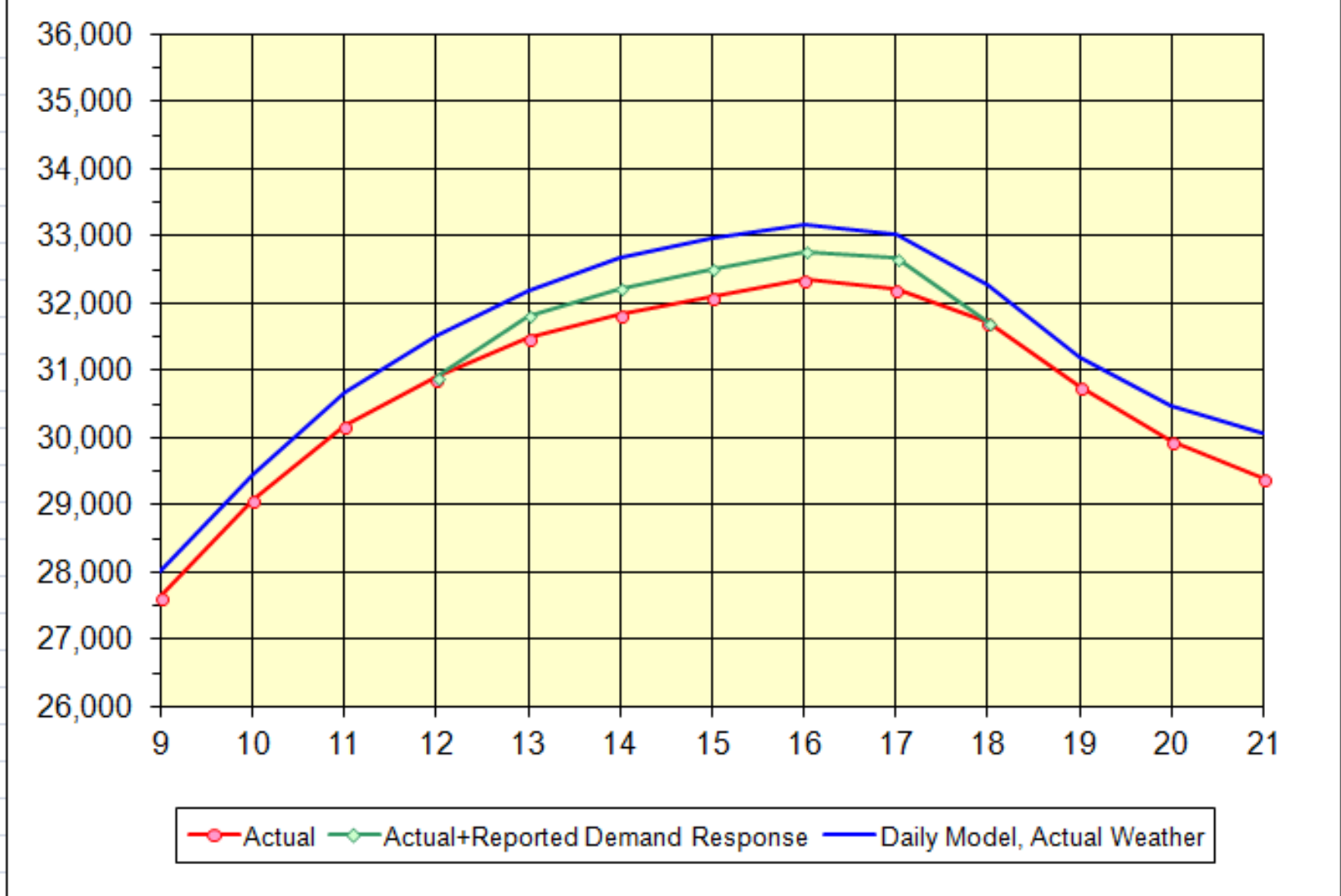
### July 14 to July 20, 2013



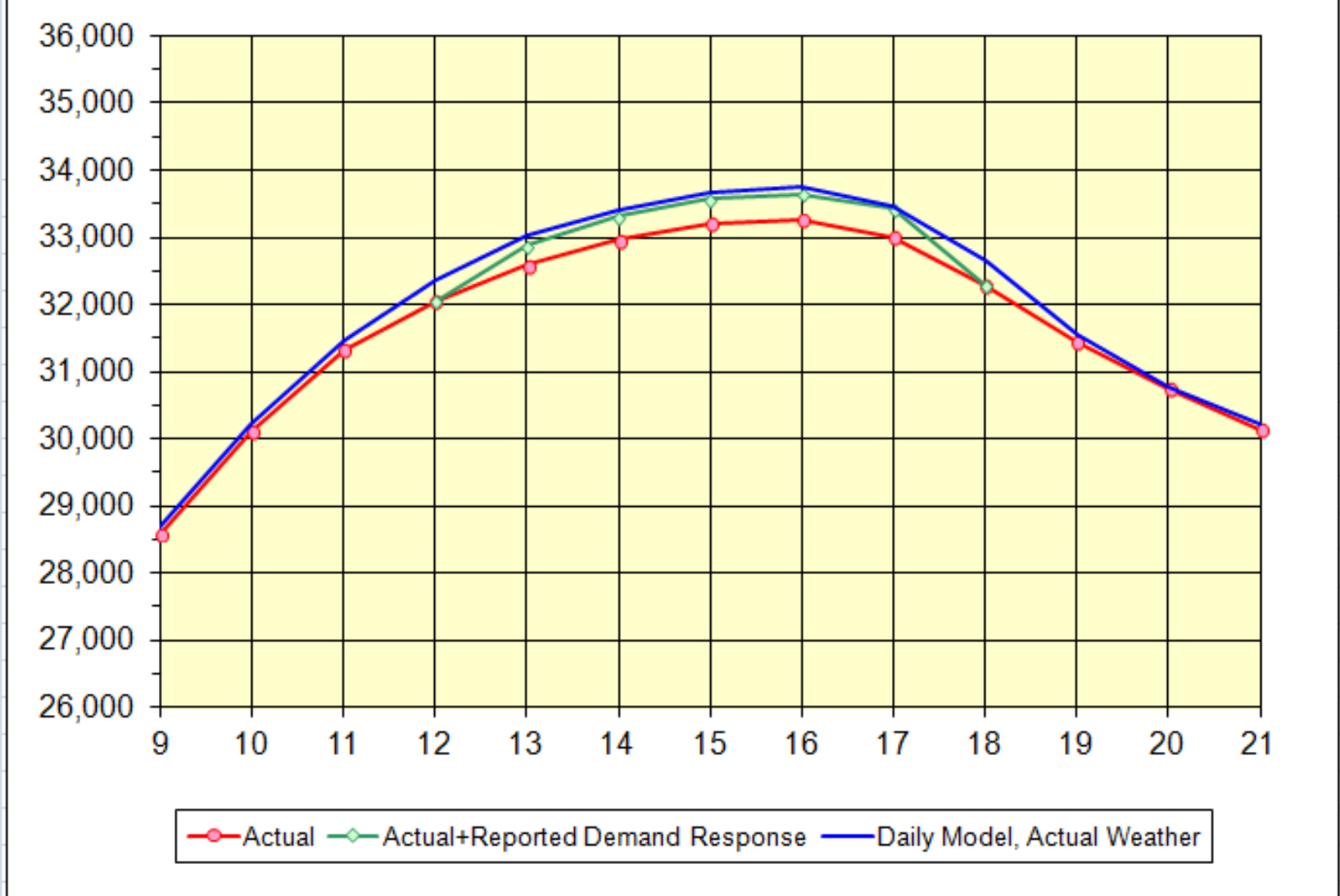
**NYCA - July 15, 2013**  
Demand Response Called in Zones G to K



**NYCA - July 16, 2013**  
Demand Response Called in Zones G to K

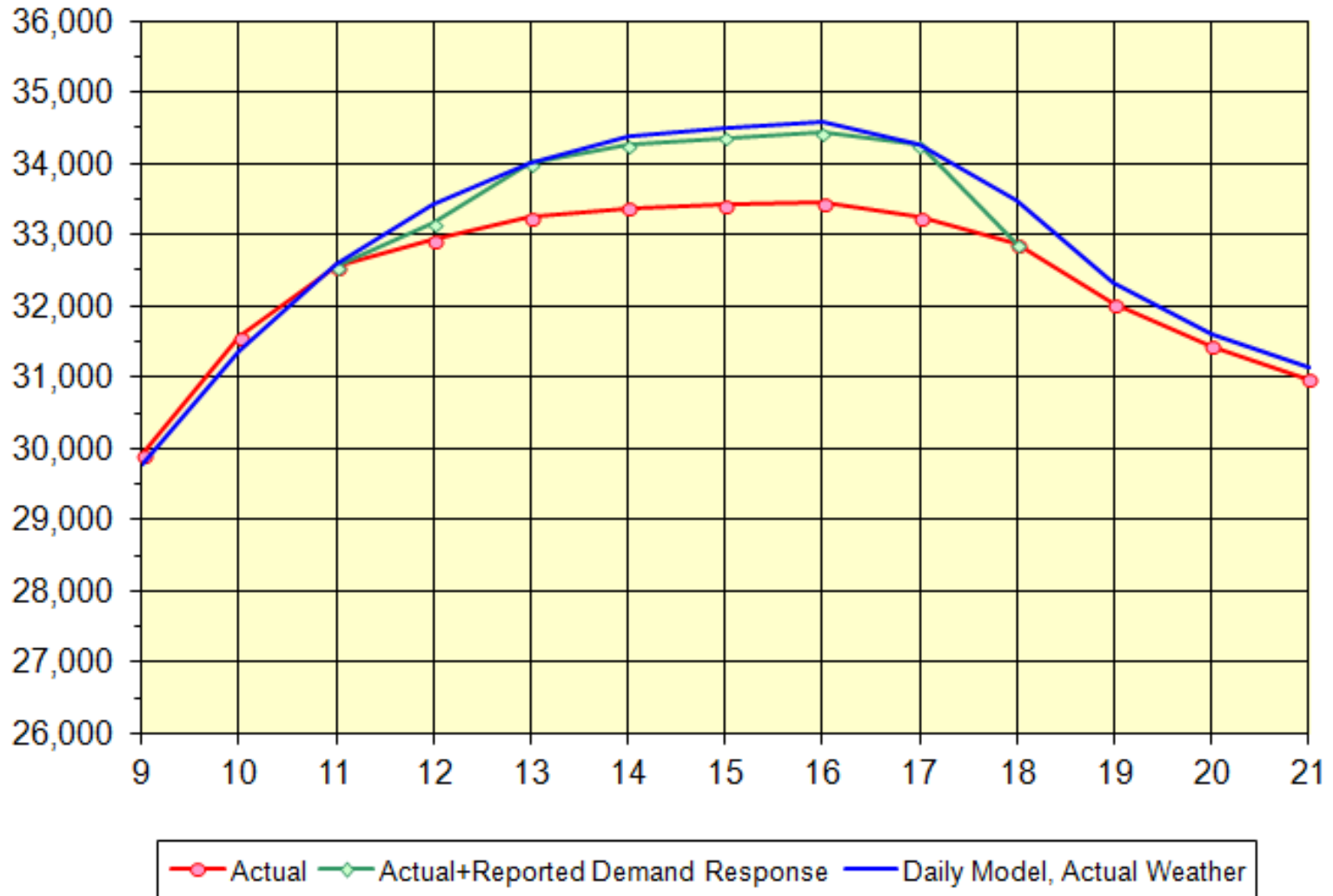


**NYCA- July 17, 2013**  
Demand Response Called in Zones G to K

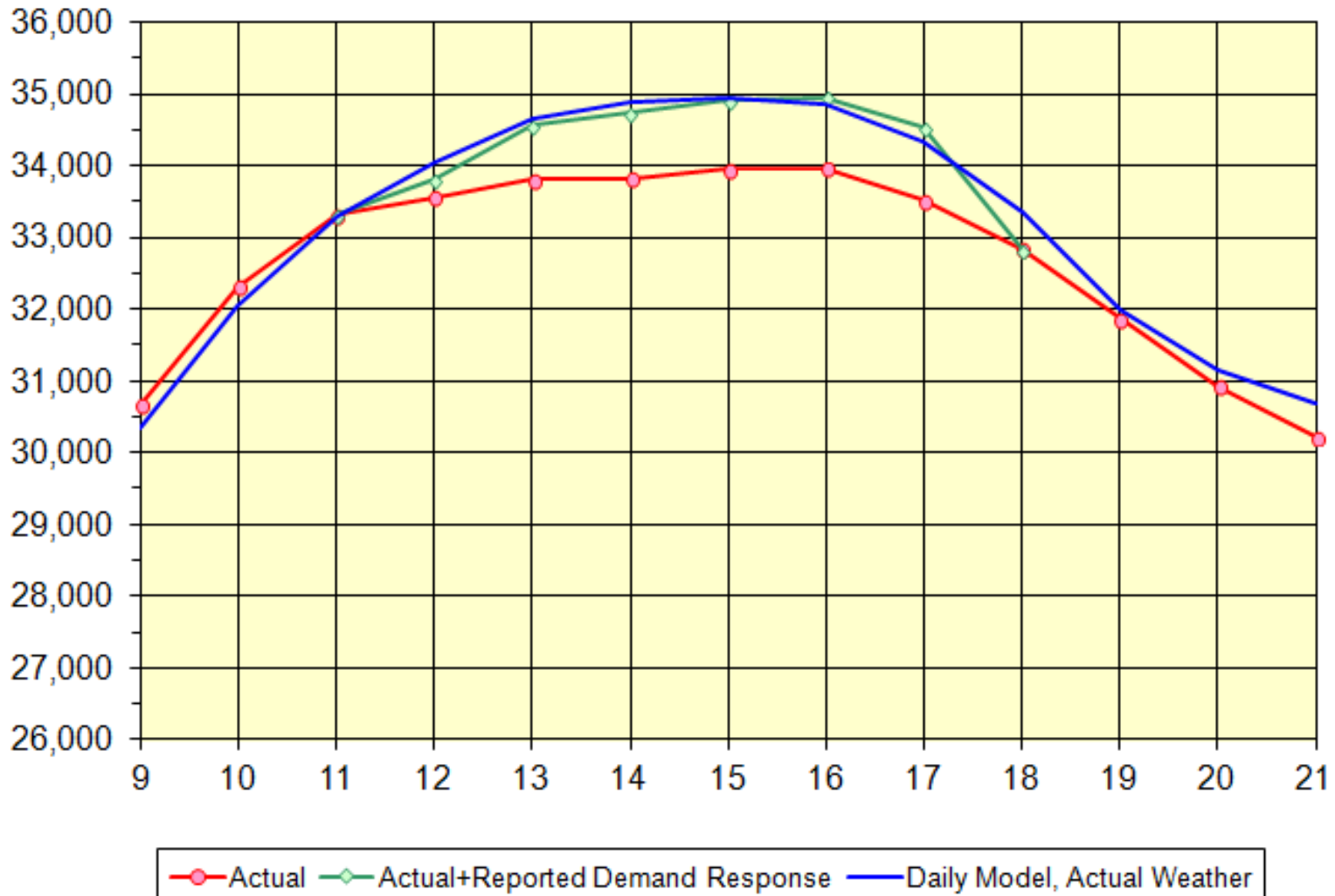




**NYCA- July 18, 2013**  
 Demand Response Called in Zones A to K



### NYCA - July 19, 2013 Demand Response Called in Zones A to K



# Event Response Summary by Day – SCR & EDRP Combined

<b>NYISO Event Date</b>	<b>Zones</b>	<b>Average Hourly Response MW</b>	<b>Obligated SCR MW and Available EDRP MW</b>	<b>Response as % of Obligated or Available MW</b>
<b>July 15, 2013</b>	<b>G-K</b>	<b>343.2</b>	<b>556.2</b>	<b>61.7%</b>
<b>July 16, 2013</b>	<b>G-K</b>	<b>387.1</b>	<b>556.2</b>	<b>69.6%</b>
<b>July 17, 2013</b>	<b>G-K</b>	<b>361.0</b>	<b>556.2</b>	<b>64.9%</b>
<b>July 18, 2013</b>	<b>A-K*</b>	<b>898.8</b>	<b>1269.5</b>	<b>70.8%</b>
<b>July 19, 2013</b>	<b>A-K*</b>	<b>915.2</b>	<b>1269.5</b>	<b>72.1%</b>

\*On July 18th and 19th, the DR event started at HB 12 in zones G-K and started at HB 13 in zones A-F.

# Energy Payment Summary by Day – SCR & EDRP Combined

NYISO Event Date	Zones	SCR	EDRP	Total	Average Event Payment (\$/MWh)
July 15, 2013	G-K	\$723,535	\$4,702	\$728,236	\$505
July 16, 2013	G-K	\$771,721	\$5,151	\$776,872	\$500
July 17, 2013	G-K	\$879,394	\$5,128	\$884,523	\$571
July 18, 2013	A-K*	\$2,238,030	\$39,198	\$2,277,227	\$519
July 19, 2013	A-K*	\$2,276,119	\$46,738	\$2,322,857	\$528
	<b>Totals</b>	<b>\$6,888,799</b>	<b>\$100,917</b>	<b>\$6,989,715</b>	<b>\$524</b>

\*On July 18th and 19th, the DR event started at HB 12 in zones G-K and started at HB 13 in zones A-F.

# SCR Mandatory Event Response based on ICAP: July 15, 2013

Hourly Response based on ICAP/UCAP Measures										
15-Jul										
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly Response MW	Obligated ICAP MW	% Response of ICAP MW All Event Hours
G		19.2	27.9	31.6	32.6	32.7		28.8	35.9	80.2%
H		4.4	4.3	4.4	4.5	4.7		4.5	4.7	95.4%
I		7.3	15.2	16.7	17.0	18.2		14.9	25.2	59.1%
J		186.3	234.0	246.3	262.5	282.4		242.3	379.2	63.9%
K		39.4	49.6	51.7	56.0	58.0		51.0	91.1	56.0%
<b>Total</b>		<b>256.7</b>	<b>331.0</b>	<b>350.8</b>	<b>372.6</b>	<b>396.0</b>		<b>341.4</b>	<b>536.1</b>	<b>63.7%</b>

# EDRP Response: July 15, 2013

15-Jul									
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly Response MW	Enrolled (MW)	% Response of Enrolled (MW)
G		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
H		0.003	0.000	0.006	0.025	0.015	0.010	1.600	0.6%
I		0.068	0.052	0.042	0.049	0.037	0.050	0.059	83.9%
J		1.5	1.6	1.6	1.6	1.4	1.5	15.9	9.6%
K		0.454	0.346	0.134	0.109	0.033	0.215	2.581	8.3%
<b>Total</b>		<b>2.0</b>	<b>2.0</b>	<b>1.8</b>	<b>1.8</b>	<b>1.5</b>	<b>1.8</b>	<b>20.1</b>	<b>8.9%</b>

# SCR Mandatory Event Response based on ICAP: July 16, 2013

Hourly Response based on ICAP/UCAP Measures										
16-Jul										
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW	% Response of ICAP MW All Event Hours
G		25.0	32.5	33.2	33.5	34.7		31.8	35.9	88.4%
H		4.4	4.8	4.8	4.8	4.9		4.7	4.7	101.5%
I		15.8	19.2	20.0	20.3	21.6		19.4	25.2	77.0%
J		225.0	269.7	280.2	294.6	317.3		277.4	379.2	73.1%
K		41.2	50.0	52.5	56.3	58.7		51.7	91.1	56.8%
Total		311.4	376.2	390.6	409.6	437.2		385.0	536.1	71.8%

# EDRP Response: July 16, 2013

16-Jul									
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly Response MW	Enrolled (MW)	% Response of Enrolled (MW)
G		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
H		0.00	0.03	0.00	0.02	0.02	0.013	1.6	0.8%
I		0.09	0.09	0.08	0.07	0.06	0.079	0.4	21.9%
J		1.8	1.8	1.9	1.8	1.8	1.8	15.6	11.7%
K		0.2	0.1	0.1	0.1	0.1	0.1	2.6	5.7%
<b>Total</b>		<b>2.1</b>	<b>2.0</b>	<b>2.1</b>	<b>2.0</b>	<b>2.0</b>	<b>2.1</b>	<b>20.1</b>	<b>10.2%</b>



# SCR Mandatory Event Response based on ICAP: July 17, 2013

Hourly Response based on ICAP/UCAP Measures										
17-Jul										
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly Response MW	Obligated ICAP MW	% Response of ICAP MW All Event Hours
G		21.8	27.9	28.2	29.4	29.7		27.4	35.9	76.2%
H		4.5	4.8	4.8	4.9	4.8		4.8	4.7	101.8%
I		15.4	19.1	20.0	20.5	22.8		19.5	25.2	77.6%
J		204.3	247.4	258.5	272.8	300.7		256.7	379.2	67.7%
K		39.0	48.9	51.9	56.2	58.6		50.9	91.1	55.9%
<b>Total</b>		<b>284.9</b>	<b>348.0</b>	<b>363.4</b>	<b>383.8</b>	<b>416.7</b>		<b>359.4</b>	<b>536.1</b>	<b>67.0%</b>

# EDRP Response: July 17, 2013

17-Jul									
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly Response MW	Enrolled (MW)	% Response of Enrolled (MW)
G		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
H		0.067	0.007	0.000	0.000	0.000	0.015	1.6	0.9%
I		0.110	0.134	0.146	0.114	0.032	0.107	0.4	29.8%
J		1.6	1.7	1.6	1.4	1.3	1.5	15.6	9.7%
K		0.09	0.06	0.03	0.09	0.03	0.06	2.6	2.3%
<b>Total</b>		<b>1.8</b>	<b>1.9</b>	<b>1.8</b>	<b>1.6</b>	<b>1.3</b>	<b>1.7</b>	<b>20.1</b>	<b>8.4%</b>

# SCR Mandatory Event Response based on ICAP: July 18, 2013

Hourly Response based on ICAP/UCAP Measures										
18-Jul										
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly Response MW	Obligated ICAP MW	% Response of ICAP MW All Event Hours
A		256.9	278.6	292.1	294.7	299.0		284.3	311.4	91.3%
B		38.1	54.5	56.8	58.2	60.2		53.6	64.4	83.2%
C		78.4	93.8	97.5	100.0	100.6		94.1	114.6	82.1%
D		6.4	7.0	7.4	7.4	6.6		7.0	9.2	76.0%
E		17.8	23.1	25.4	27.5	28.7		24.5	35.3	69.4%
F		79.9	86.5	96.6	101.3	103.4		93.5	104.2	89.7%
G	18.7	22.3	28.7	30.2	31.4	31.3		27.1	35.9	75.4%
H	3.4	4.5	4.6	4.6	4.6	4.6		4.4	4.7	93.6%
I	9.8	15.9	17.3	16.5	20.0	21.6		16.8	25.2	66.9%
J	169.3	190.7	231.2	246.3	261.9	285.8		230.9	379.2	60.9%
K	32.5	40.8	49.0	52.0	55.6	57.5		47.9	91.1	52.6%
<b>Total</b>	<b>233.6</b>	<b>751.6</b>	<b>874.4</b>	<b>925.5</b>	<b>962.6</b>	<b>999.2</b>		<b>884.0</b>	<b>1175.2</b>	<b>75.2%</b>

# EDRP Response: July 18, 2013

18-Jul										
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly Response MW	Enrolled (MW)	% Response of Enrolled (MW)
A		2.8	3.4	2.7	2.9	1.9		2.7	13.5	20.3%
B		0.0	0.0	0.0	0.0	0.0		0.0	1.3	0.0%
C		1.3	1.1	3.0	4.0	1.9		2.2	13.9	16.0%
D		0.61	0.61	0.04	0.62	0.61		0.50	3.7	13.5%
E		1.7	1.5	1.5	1.5	1.5		1.5	15.0	10.1%
F		4.5	7.2	6.9	6.4	5.4		6.1	26.8	22.6%
G	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0%
H	0.008	0.000	0.000	0.003	0.000	0.000		0.002	1.600	0.1%
I	0.1	0.1	0.1	0.1	0.1	0.1		0.1	0.4	25.8%
J	0.9	1.8	1.5	2.1	2.0	1.7		1.7	15.6	10.9%
K	0.0	0.0	0.0	0.0	0.0	0.0		0.0	2.6	0.3%
<b>Total</b>	<b>1.0</b>	<b>12.8</b>	<b>15.4</b>	<b>16.3</b>	<b>17.6</b>	<b>13.0</b>		<b>14.8</b>	<b>94.3</b>	<b>15.7%</b>

# SCR Mandatory Event Response based on ICAP: July 19, 2013

Hourly Response based on ICAP/UCAP Measures										
19-Jul										
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly Response MW	Obligated ICAP MW	% Response of ICAP MW All Event Hours
A		252.2	281.2	292.5	295.6	300.0		284.3	311.4	91.3%
B		36.5	53.0	55.8	58.4	60.8		52.9	64.4	82.2%
C		77.0	92.9	97.0	99.0	98.7		92.9	114.6	81.1%
D		3.5	3.5	3.5	3.6	3.5		3.5	9.2	38.5%
E		17.2	22.5	25.8	26.4	28.4		24.1	35.3	68.1%
F		83.2	97.9	97.7	98.8	97.6		95.0	104.2	91.2%
G	18.9	22.6	29.7	30.5	30.3	30.2		27.1	35.9	75.3%
H	4.5	4.5	4.6	4.5	4.4	4.4		4.5	4.7	96.1%
I	13.9	14.9	16.5	17.3	17.8	19.6		16.7	25.2	66.2%
J	172.7	199.8	245.3	267.6	287.0	316.0		248.1	379.2	65.4%
K	33.4	41.1	50.0	53.3	57.4	59.2		49.1	91.1	53.9%
<b>Total</b>	<b>243.5</b>	<b>752.5</b>	<b>897.3</b>	<b>945.7</b>	<b>978.7</b>	<b>1018.5</b>		<b>898.1</b>	<b>1175.2</b>	<b>76.4%</b>

# EDRP Response: July 19, 2013

19-Jul										
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly Response MW	Enrolled (MW)	% Response of Enrolled (MW)
A		1.5	1.9	1.8	2.6	1.5		1.9	13.5	13.9%
B		0.0	0.0	0.0	0.0	0.0		0.0	1.3	0.0%
C		1.4	1.1	0.9	1.2	1.2		1.2	13.9	8.4%
D		0.7	0.7	0.1	0.7	0.6		0.5	3.7	14.7%
E		2.5	2.0	2.0	1.9	1.8		2.0	15.0	13.5%
F		7.3	8.6	8.1	8.0	7.3		7.9	26.8	29.3%
G	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0%
H	0.01	0.04	0.02	0.03	0.01	0.00		0.02	1.60	1.2%
I	0.13	0.16	0.16	0.15	0.16	0.22		0.16	0.36	45.3%
J	3.1	3.4	3.1	3.8	3.7	3.4		3.4	15.6	21.8%
K	0.0	0.0	0.0	0.0	0.0	0.0		0.0	2.6	0.1%
<b>Total</b>	<b>3.2</b>	<b>17.0</b>	<b>17.5</b>	<b>16.9</b>	<b>18.2</b>	<b>16.0</b>		<b>17.0</b>	<b>94.3</b>	<b>18.1%</b>

# Summer 2012: SCR Event Response Summary – ICAP Basis

SCR ICAP Response	Zones	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly Response MW	Obligated SCR MW	Response as % of Obligated MW
May 29, 2012	A-K*	193.3	576.7	461.3	476.5	475.8	733.2	486.1	1618.3	30.0%
June 20, 2012	C,G-J			453.0	471.4	480.6	507.7	478.2	600.6	79.6%
June 21, 2012	A-K	244.9	1271.3	1387.2	1314.7	989.3	1021.8	1176.3	1620.7	72.6%
June 22, 2012	G-K		482.7	546.9	602.8	633.8	658.9	585.0	600.0	97.5%
July 17, 2012	B*			19.9	34.1	38.5	35.8	32.1	76.5	42.0%
July 18, 2012	G-K*		271.5	349.8	400.3	462.8	514.7	413.0	602.6	68.5%

\* Voluntary events