

NYISO Evaluation of Demand Response Event Performance

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Topics

- ◆ Event Performance Data
- ◆ SCR Performance
 - *Comparison of APMD (2010) and ACL (2011) to CBL*
 - *Performance Analysis*
- ◆ EDRP Event Performance

Event Performance Data

- ◆ 2010
 - *Final processed event data used in performance factor calculations (SCR) and energy payments*
- ◆ 2011
 - *Verification processes not complete on reported data for 2011 events*

Comparison of APMD (2010) and ACL (2011) to CBL using Reported Event Performance

APMD and CBL are two alternative ways to measure the baseline load of a demand response resource, before any reductions in load are made.

Comparison of APMD and CBL 2010 Events

<i>Comparison of APMD to CBL for SCRs reporting CBL Data</i>	APMD MW	Average CBL MW	Average CBL as Percentage of APMD	Max CBL Hour (MWh)	Max CBL Hour as Percentage of APMD	Min CBL Hour (MWh)	Min CBL Hour as Percentage of APMD
July 6, 2010 - Zone J	834.72	690.22	83%	716.83	86%	614.53	74%
July 7, 2010 - Zone J	808.20	654.34	81%	701.37	87%	570.26	71%

Comparison of ACL and CBL

July 22, 2011

<i>July 22, 2011 Event: Comparison of ACL to CBL for SCRs reporting CBL data</i>	ACL MW	Average CBL MW	Average CBL as Percentage of ACL	Max CBL Hour (MWh)	Max CBL Hour as Percentage of ACL	Min CBL Hour (MWh)	Min CBL Hour as Percentage of ACL
ALL Zones	1079.88	1006.54	93%	1055.15	98%	938.39	93%
Zone A	298.40	282.60	95%	291.10	98%	269.95	96%
Zone B	98.24	88.02	90%	95.15	97%	77.43	88%
Zone C	160.88	148.24	92%	161.87	101%	133.27	90%
Zone E	44.13	35.38	80%	39.42	89%	29.36	83%
Zone F	115.85	117.27	101%	123.45	107%	108.05	92%
Zone G	66.57	60.33	91%	63.09	95%	56.33	93%
Zone H	5.96	5.59	94%	5.83	98%	5.06	91%
Zone I	37.91	39.56	104%	40.14	106%	38.47	97%
Zone J	209.34	193.52	92%	199.83	95%	179.14	93%
Zone K	42.61	37.13	87%	39.03	92%	34.33	92%

SCR Event Performance Summaries

Resources Counted for SCR Events

- ◆ Includes demand resource capacity sold in ICAP market auction for month and year of the event – referred to as “Obligated”
- ◆ Obligated resources are grouped into one of two categories:
 - *SCRs with CBL data*
 - *SCRs without CBL data*
- ◆ Hourly CBL as APMD: **CBL_h**
 - *Replaces APMD or ACL with Hourly CBL in performance calculation*
 - *$APMD - MeteredLoad_h$ becomes $CBL_h - MeteredLoad_h$*

Terms For Event Performance Summary Tables

Term	Definition
# Obligated Resources	The number of resources in the zone that sold capacity in the auction month of the event
Obligated APMD/ACL MW	The Average Peak Monthly Demand (APMD 2010) or Average Coincident Load (ACL 2011) MW of the category
Obligated CMD MW	The Committed Maximum Demand (CMD) MW level of the category
Obligated Declared Value MW	The MW total of obligated capacity reduction for the category
DV Capacity Performance MW Best 4 Hours	The average MW of the best 4 coincident hours of performance for resources in the category
DV Capacity Performance % Best 4 Hours	The average performance percentage of the best 4 coincident hours of performance for resources in the category
CBL as APMD % Best 4 Hours	Replaces APMD or ACL with Hourly CBL in performance calculation as described on “CBL Analysis Approach” slide

SCR – July 6, 2010 – Zone J Event Performance Summary

Zone J July 6, 2010	# Obligated Resources	Obligated APMD MW	Obligated CMD MW	Obligated Declared Value MW	DV Capacity Performance MW Best 4 hours	DV Capacity Performance % Best 4 hours	CBL as APMD: Hourly CBL Performance Best 4 hours MW	CBL as APMD: Hourly CBL Performance % Best 4 hours
SCR with CBL Data	486	834.72	582.02	252.70	282.54	112%	133.05	54%
SCR without CBL Data	1273	982.50	750.72	231.78	206.41	89%		
Total	1759	1817.22	1332.74	484.48	488.95	101%		

SCR – July 7, 2010 – Zone J Event Performance Summary

Zone J July 7, 2010	# Obligated Resources	Obligated APMD MW	Obligated CMD MW	Obligated Declared Value MW	DV Capacity Performance MW Best 4 hours	DV Capacity Performance % Best 4 hours	CBL as APMD: Hourly CBL Performance Best 4 hours MW	CBL as APMD: Hourly CBL Performance % Best 4 hours
SCR with CBL Data	450	808.20	559.91	248.29	289.79	117%	142.91	58%
SCR without CBL Data	1309	1009.02	772.83	236.19	210.75	89%		
Total	1759	1817.22	1332.74	484.48	500.53	103%		

EDRP Event Performance Summaries

Resources Counted for EDRP Events

- ◆ Includes resources enrolled in EDRP
- ◆ Includes any SCR resources with unsold UCAP during the applicable month

Terms For EDRP Event Tables

Term	Definition
Enrolled Resources	The number of resources in the zone
Available MW	The enrolled MW available to respond to the event
Reporting Resources	The number of resources that reported event data
Enrolled MW of Reporting Resources	The enrolled MW for the resources that reported event data
Hourly Response MW	The total reported response for each hour
Average Hourly Response MW	The simple average of hourly performance over all hours of the event
Performance	$\text{Average Hourly Response MW} / \text{Available MW}$
Event Performance	$\text{Average of Average Hourly Response MW for each event} / \text{Available MW}$

EDRP Event Performance

2010 Event Performance: Zone J

Event Date	Available MW	Hourly Response MW						Average Hourly Response MW	Performance
		HB 13	HB 14	HB 15	HB 16	HB 17	HB 18		
7/6/2010	11.3	1.9	2.3	2.6	2.6	2.7	2.5	2.4	21.4%
7/7/2010	11.3	1.9	1.8	1.9	2.0	2.1	2.5	2.0	18.0%
Avg. 2010 Events	11.3	1.9	2.1	2.2	2.3	2.4	2.5	2.2	19.7%

2011 Event Performance: July 21, 2011

Event Date:	7/21/2011	Hourly Response MW					Average Hourly Response MW	Performance
	Available MW	HB 13	HB 14	HB 15	HB 16	HB 17		
Total: Zone G	17.3	2.9	6.8	7.0	6.1	5.6	5.7	32.8%
Total: Zone H	1.8	0.8	0.0	0.1	0.1	0.1	0.2	12.2%
Total: Zone I	3.9	0.4	0.3	0.2	0.2	0.1	0.2	6.2%
Total: Zone J	67.2	12.9	13.5	14.0	14.3	13.0	13.5	20.1%
Total: Zone K	1.9	1.1	1.5	1.2	1.2	0.6	1.1	61.2%
Total: All Zones	92.1	18.1	22.1	22.5	21.8	19.4	20.8	22.6%

EDRP Event Performance

2011 Event Performance: July 22, 2011

<i>Event Date:</i>	<i>7/22/2011</i>	Hourly Response MW							
	Available MW	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly Response MW	Performance
Total: Zone A	52.8		2.1	1.9	2.0	2.2	2.0	2.0	3.9%
Total: Zone B	1.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total: Zone C	15.1		5.9	7.4	7.4	7.0	6.8	6.9	45.8%
Total: Zone E	26.1		4.3	6.1	4.9	3.6	2.2	4.2	16.1%
Total: Zone F	5.5		0.5	0.9	0.9	0.7	0.5	0.7	12.6%
Total: Zone G	17.3		4.6	5.9	5.6	5.3	4.9	5.3	30.4%
Total: Zone H	1.8		0.0	0.2	0.1	0.1	0.1	0.1	5.5%
Total: Zone I	3.9		0.6	0.7	0.7	0.7	0.6	0.7	16.9%
Total: Zone J	67.2	18.2	18.4	19.1	19.5	20.1	18.4	19.0	28.2%
Total: Zone K	1.9		0.9	1.1	1.0	1.0	1.2	1.0	55.9%
Total: All Zones	149.1	18.2	37.4	43.2	42.1	40.7	36.7	36.4	24.4%

Summary: EDRP Performance

- ◆ Overall Performance in 2010 events: 19.7%
- ◆ Overall Performance in 2011 events: 23.5%



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 the state's bulk electricity system.

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