

THIS FILING LETTER <u>DOES NOT</u> CONTAIN ANY PRIVILEGED OR CONFIDENTIAL INFORMATION. THE BODY OF REPORT ALONG WITH THE REDACTED VERSIONS OF TABLES 2 THROUGH 5 (MARKED PUBLIC) <u>DO NOT</u> CONTAIN ANY PRIVILEGED OR CONFIDENTIAL INFORMATION. ATTACHMENT I TO THE REPORT INCLUDES THE UNREDACTED TABLES WHICH CONTAIN PRIVILEGED AND CONFIDENTIAL INFORMATION, AND ARE SUBMITTED SEPARATELY.

February 22, 2013

Kimberly D. Bose, Secretary Federal Energy Regulatory Commission 888 First Street, N.E. Washington, D.C. 20426

Re: Errata to Annual Report in Docket No. ER01-3001-000 and

Request for Privileged Treatment of Attachment I

Dear Ms. Bose:

Enclosed for filing in the above-referenced docket is an errata to the New York Independent System Operator's ("NYISO") annual report to the Federal Energy Regulatory Commission ("Commission") on the NYISO's Demand Side Management programs. Consistent with the Commission's Order, dated February 19, 2010, the NYISO filed its annual report with the Commission on January 15, 2013 ("2013 Annual Report"). Subsequently, the NYISO identified a database error that truncated a significant number of Special Case Resource event response data points from the analysis included in the 2013 Annual Report. For example, one event response data set used in the analysis was missing some response data associated with approximately 200 Special Case Resources. As a result, the NYISO under reported performance for the Special Case Resource program in the January 15 filing. With this errata filing, the NYISO has corrected the analysis for all the Special Case Resource events using the complete data sets in the NYISO's Demand Response Information System and submits the corrected information in the revised report.

#### I. List of Documents Submitted

With this transmittal letter, the NYISO submits:

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<sup>&</sup>lt;sup>1</sup> New York Independent System Operator, Inc., Order, Docket Nos. ER01-3001 and ER03-647 (Feb. 19, 2010).

<sup>&</sup>lt;sup>2</sup> There were over 5,000 Special Case Resources enrolled in the NYISO Installed Capacity Special Case Resource program during 2012.

- 1. Attachment I, which contains the unredacted versions of Tables 2 through 5. Attachment I also contains confidential information regarding the ongoing enrollment status of resources seeking to participate in the NYISO's Demand Side Ancillary Service Program.
- 2. Attachment II, which contains the clean Revised NYISO Report on Demand Response Programs, including redactions in Tables 2 through 5 of confidential, commercially sensitive information.
- 3. Attachment III, which contains a redlined version of the Revised NYISO Report on Demand Response Programs. This redlined version also includes redactions in Tables 2 through 5 of confidential, commercially sensitive information.

#### II. Request for Confidential Treatment of Attachment I

In accordance with Sections 388.107 and 388.112 of the Commission's Regulations,<sup>3</sup> Article 6 of the NYISO's Market Administration and Control Area Services Tariff, Sections 1.0(4) and 4.0 of the NYISO's Code of Conduct, the NYISO requests Privileged and Confidential treatment of the contents of Attachment I. The NYISO also requests that Confidential Attachments be exempted from public disclosure under the Freedom of Information Act ("FOIA"), 5 U.S.C. §522.<sup>4</sup>

The confidential Attachment I contains privileged, commercially sensitive, trade secret information that is not made public by the NYISO. Disclosure of such information could cause competitive harm to the affected Market Participants, <sup>5</sup> and could adversely affect competition in the markets administered by the NYISO. This information includes the number of demand response resources in a load zone that, when aggregated, are not greater than five (5). With such a small number of resources in the load zone, the NYISO's aggregation of the data reported for that load zone may not sufficiently mask confidential and commercially sensitive Market Participant information.

Attachment I also includes a brief discussion of the status of enrollment and registration for two resources seeking to participate in the NYISO's Demand Side Ancillary Services Program. This confidential, commercially sensitive information is exempt from disclosure under 5 U.S.C. §522(b)(4) for this reason, the NYISO requests that the contents of Attachment I receive Privileged and Confidential treatment and be exempt from FOIA disclosure. Attachment

<sup>&</sup>lt;sup>3</sup> 18 C.F.R. §§ 388.107 and 388.112 (2011).

<sup>&</sup>lt;sup>4</sup> The information provided by the NYISO for which the NYISO claims an exemption from FOIA disclosure is labeled "Contains Privileged Information – Do Not Release."

<sup>&</sup>lt;sup>5</sup> Terms with initial capitalization not defined herein have the meaning set forth in the NYISO's Market Administration and Control Area Services Tariff.

Kimberley D. Bose, Secretary February 22, 2013 Page 3

I is identified and marked in accordance with the Commission's regulations and rules published by the Secretary's Office for submitting Privileged information.

#### **III.** Correspondence

Copies of correspondence concerning this filing should be addressed to:

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Respectfully submitted,

/s/ David Allen

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<sup>\*</sup> persons designated to receive service.

#### **CERTIFICATE OF SERVICE**

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding in accordance with the requirements of Rule 2010 of the Rules of Practice and Procedure, 18 C.F.R. §385.2010.

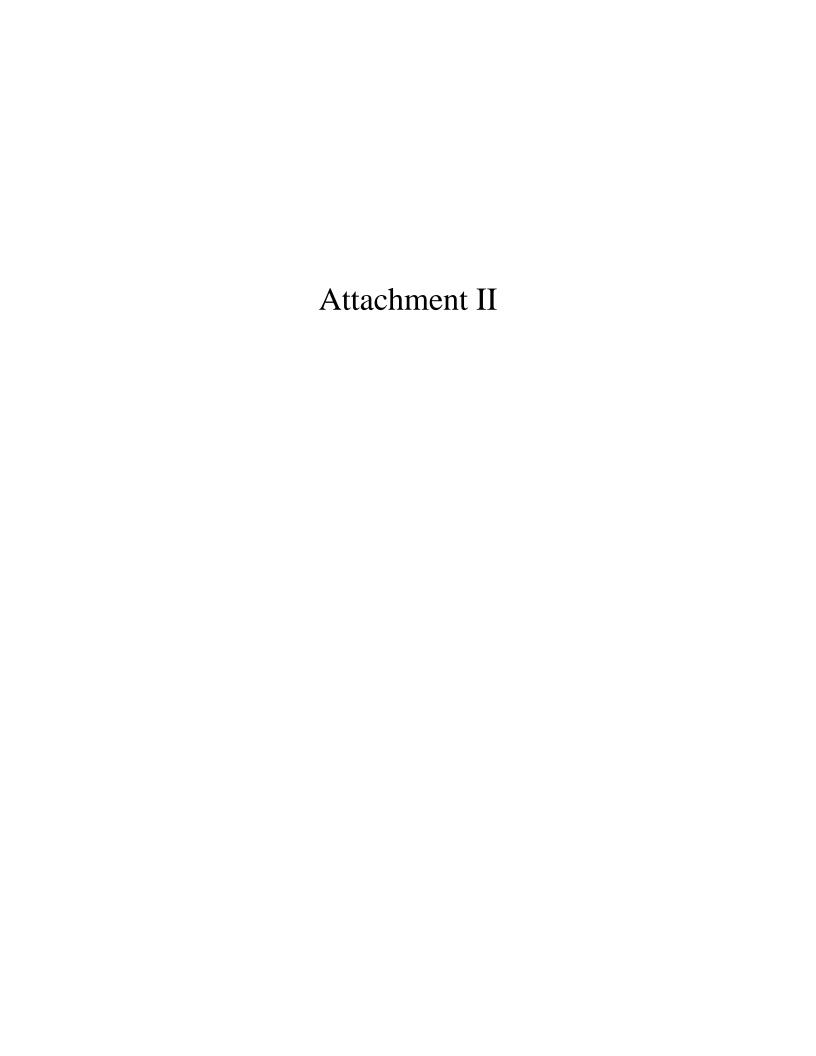
Dated at Rensselaer, NY this 22<sup>nd</sup> day of February, 2013.

/s/ Joy A. Zimberlin

Joy A. Zimberlin New York Independent System Operator, Inc. 10 Krey Blvd. Rensselaer, NY 12144 (518) 356-6207

# Attachment I

CONTAINS PRIVILEGED AND CONFIDENTIAL INFORMATION "DO NOT RELEASE."



## **NYISO 2012 Annual Report on Demand Response Programs**

### **Program Descriptions**

The New York Independent System Operator, Inc. ("NYISO") offers two demand response programs that support reliability: the Emergency Demand Response Program ("EDRP") and the Installed Capacity-Special Case Resource Program ("ICAP/SCR"). In addition, demand response resources may participate in the NYISO's energy market through the Day-Ahead Demand Response Program ("DADRP"), or the Ancillary Services market through the Demand-Side Ancillary Services Program ("DSASP").

EDRP provides demand resources an opportunity to earn the greater of \$500/MWh or the prevailing locational-based marginal price ("LBMP") for energy consumption curtailments provided when the NYISO calls on the program's resources to reduce load. Resources must be enrolled through Curtailment Service Providers ("CSPs"), which serve as the interface between the NYISO and resources, in order to participate in EDRP. There are no obligations for enrolled EDRP resources to curtail their load during an EDRP event.

The ICAP/SCR program allows demand resources that meet certification requirements to offer Unforced Capacity ("UCAP") to Load Serving Entities ("LSEs"). The load reduction capability of Special Case Resources ("SCRs") may be sold in the Installed Capacity ("ICAP") market; however, SCRs participate through Responsible Interface Parties (RIPs), which serve as the interface between the NYISO and the resources. RIPs also act as aggregators of SCRs. SCRs that have sold ICAP are obligated to reduce their system load when called upon by the NYISO with two or more hours notice, provided the NYISO notifies the Responsible Interface Party a day ahead of the possibility of such a call. In addition, enrolled SCRs are subject to testing each Capability Period to verify the capability to achieve the amount of enrolled load reduction. Failure of an SCR to reduce load during an event or test could result in penalties assessed to the applicable RIP in accordance with the ICAP/SCR program rules and procedures. Curtailments are called by the NYISO when reserve shortages are anticipated. Resources may register for either EDRP or ICAP/SCR, but not both. In addition to capacity payment, RIPs are

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<sup>&</sup>lt;sup>1</sup> Terms in upper case not defined herein have the meaning ascribed to them in the NYISO's Market Administration and Control Area Services Tariff.

eligible for an energy payment during an event, using the same performance calculation as used to pay EDRP resources.

The Targeted Demand Response Program ("TDRP"), introduced in July 2007, is a NYISO reliability program that deploys existing EDRP and SCR resources on a voluntary basis, at the request of a Transmission Owner, in targeted subzones to solve local reliability problems. The TDRP program is currently available in Zone J, New York City.

The DADRP program provides demand resources with an opportunity to offer their load curtailment capability into the Day-Ahead Market ("DAM") as an energy resource. Resources submit offers by 5:00 a.m. specifying the hours and amount of load curtailment they are offering for the next day, and the price at which they are willing to curtail. Prior to November 1, 2004, the minimum offer price was \$50/MWh. The offer floor price currently is \$75/MWh. Offers are structured like those of generation resources: DADRP program resources may specify minimum and maximum run times and the hours that they are available. They are eligible for Bid Production Cost guarantee payments to make up for any difference between the market price received and their block offer price across the day. Load scheduled in the DAM is obligated to curtail the next day. Failure to curtail results in the imposition of a penalty for each such hour equal to the product of the MW curtailment shortfall and the greater of the corresponding DAM or Real-Time Market price of energy.

The DSASP program, introduced in June 2008, provides demand resources that meet telemetry and other qualification requirements an opportunity to offer their load curtailment capability into the DAM and/or Real-Time Market to provide Operating Reserves and Regulation Service. DSASP resources must qualify to provide Operating Reserves or Regulation Service through standard resource testing requirements. Offers are submitted through the same process as generation resources. Resources submit offers by 5:00 a.m. specifying the Ancillary Service they are offering (Spinning or Non-Synchronous Reserves, and/or Regulation, if qualified) along with the hours and amount of load curtailment for the next day, and the price at which they are willing to curtail. Real-time offers may be made up to 75 minutes before the hour of the offer. Although DSASP resources are not scheduled for energy in the DAM, they are required to submit energy offers, which are used in the co-optimization algorithm for dispatching operating reserve resources. Similar to the DADRP, the energy offer floor price is currently

\$75/MWh. DSASP resources are not paid for energy. They are eligible for a Day-Ahead Margin Assurance Payment to make up for any balancing difference between their Day-Ahead Reserve or Regulation schedule and Real-Time dispatch, subject to their performance for the scheduled service. Performance indices are calculated on an interval basis for both Reserves and Regulation. Payment is adjusted by the performance index for the service provided.

#### **Summary of Significant Findings**

#### Emergency Demand Response Program / ICAP Special Case Resources

As of July 31, 2012<sup>2</sup>, a total of 31 CSPs and RIPs have resources enrolled in the NYISO's EDRP and/or ICAP/SCR programs<sup>3</sup>. This level of participation represents a reduction of two Load Serving Entities (that are not Transmission Owners, "Competitive LSE"), eleven aggregators, four transmission owners, and five resources representing themselves (referred to herein as a "direct resource") since 2011 figures. Participating CSPs and RIPs include:

- 5 Transmission Owners
- 5 Load Competitive LSEs
- 14 aggregators that are not Load Serving Entities or Transmission Owners
- 7 EDRP or ICAP/SCR direct resources

Resource representatives that are not Transmission Owners or affiliates thereof, including Load Serving Entities not affiliated with Transmission Owners and aggregators, currently sponsor 55.4% of the total EDRP and ICAP/SCR enrolled MW, down from the 59.5% enrolled in 2011. In 2012, three non-Transmission Owners had resources enrolled in the EDRP program; all other EDRP resources were enrolled through Transmission Owners. Direct resources

<sup>&</sup>lt;sup>2</sup> For several years, August 31 has been the date customarily used for reporting NYISO's demand response program participation statistics. In 2011, the NYISO made a change from reporting demand response enrollment as of August 31 each year to July 31 of each year to better align with several other reporting requirements for reliability and planning. Reporting as of July 31 also provides transparency with other reporting requirements for demand response. The NYISO evaluated the difference in enrollment between July and August enrollments and found it to be minimal (2% - 3%).

<sup>&</sup>lt;sup>3</sup> The report on reliability programs is based on a snapshot of the programs as of July 31, 2012.

represent 7.8% of the enrolled MW in the ICAP/SCR program or 7.2% of the combined reliability program MW.

EDRP and ICAP/SCR had a total of 5,032 end-use locations enrolled capable of providing a total of 1,888.2 MW of demand response capability, a 13.1% decrease over the 2011 MW enrollment level. The demand response resources in NYISO reliability programs represent 5.8% of the 2012 Summer Capability Period peak demand of 32,439 MW. There were 259 end-use locations in EDRP (198 EDRP resources and 61 ICAP/SCR Unsold resources) and 4,773 end-use locations in ICAP/SCR. ICAP/SCR represents 94.9% of the total resources enrolled in the NYISO's reliability programs and 92.2% of the reliability programs' total enrolled MW. The TDRP, which deploys EDRP and ICAP/SCR resources in subzones of Zone J (New York City) for local reliability, included 39% of total NYCA EDRP end-use locations and encompassed 40.9% of total NYCA EDRP MW. The TDRP also included 49.2% of total NYCA ICAP/SCR end-use locations, representing 24.1% of the total NYCA enrolled ICAP/SCR MW, an increase of 3.2% in total MW and an increase of 1.1% in total resources since 2011.

Since participation in EDRP and ICAP/SCR became mutually exclusive in 2003, EDRP enduse locations and MW have continued to decrease. Aggregations by Responsible Interface Parties now account for 99% of ICAP/SCR resources and 81.8% of enrolled MW in the program, a decrease from 2011 in enrolled MW of 4.1%.

During the summer of 2012, the NYISO deployed its reliability demand response programs on six separate days; in addition, the TDRP was deployed on two of those days. The NYISO deployments of the ICAP/SCR and EDRP programs occurred once in May, three days in June and two days in July. Details on the 2012 demand response events are provided in the section titled "2012 Event Performance for Emergency Demand Response Program and ICAP Special Case Resources."

#### Day-Ahead Demand Response Program

During the analysis period of September 2011 through August 2012, there were no offers or schedules of DADRP resources. Given no activity in DADRP during the analysis period, there is nothing to report for this period.

#### Demand-Side Ancillary Service Program

There are demand-side resources that have initiated and are progressing through the registration process for DSASP while implementing the infrastructure for direct communications with the NYISO. There was no market activity from DSASP during the summer of 2012.

#### Participation in Reliability-Supporting Demand Response Programs

#### Aggregation of ICAP/SCR Resources

Enrollments for ICAP/SCR resources are tracked by both (a) end-use location and (b) Program ID. Program IDs, used to identify demand resources<sup>4</sup> in NYISO's systems, may represent individually enrolled end-use locations or aggregations of end-use locations enrolled as a single resource. Table 1 indicates that there are a total of 90 aggregations represented by Responsible Interface Parties, collectively containing a total of 4,725 end-use locations with 1424.5 MW of the total 1741.1 MW of enrolled ICAP/SCR. Forty-eight (48) individually enrolled resources account for 316.6 MW.

Table 1: Detail of 2012 ICAP/SCR Program Participation Level by Resource Type

		ICAP			ICAP Unsold <sup>†</sup>	
Resource Type	# Program IDs	# End-use Locations	Sold MW	# Program IDs	# End-use Locations	Enrolled MW
Individual Resources	48	48	316.6	5	5	1.4
Aggregated Resources	90	4725	1424.5	8	56	1.8
Total	138	4773	1741.1	13	61	3.2

MW represent the ICAP equivalent MW sold in the ICAP market in July 2012.

+ ICAP Unsold includes both offered and unoffered MW

The right-hand section of Table 1 provides information for ICAP/SCR resources that did not sell MW in the July 2012 capacity market auctions. In cases where an ICAP/SCR resource offers load reduction in a NYISO auction and it is not sold, or when the resource's derated MW value is zero, that resource is automatically included in the EDRP program at its enrolled MW

<sup>&</sup>lt;sup>4</sup> A resource is defined as a single end-use location enrolled in a program individually or an aggregation of end-use locations enrolled as a unit; resources are identified by a Program ID.

value until the next auction or until the resource confirms a bilateral transaction with an LSE.

The EDRP program enrollment totals and event response reported include the offered, but unsold MW of enrolled ICAP/SCR resources.

#### EDRP and ICAP/SCR Program Enrollment

At the end of July 2012, the NYISO's reliability programs had a total of 5,032 end-use locations enrolled, with a total of 1,888.2 MW of demand response capability, a 13.1% reduction over the 2011 MW enrollment level. There were 259 end-use locations in EDRP (198 EDRP resources and 61 ICAP/SCR Unsold resources) and 4773 end-use locations in ICAP/SCR. ICAP/SCR represents 94.9% of the total reliability program resources and 92.2% of the total reliability program MW, an increase of less than 2% in the distribution of enrolled MW between the ICAP/SCR program and the EDRP since 2011.

Table 2: 2012 Program Enrollment Summary by Curtailment Service Provider Type

			EDRP (1)	)	ı	CAP Unsol	<b>d</b> <sup>(2)</sup>		ICAP (3)	`		DADRP (4	1)
CSP Type #	Agent Type	# CSP	# End-use Locations	Enrolled MW	# RIP	# End-use Locations	Enrolled MW	# RIP	# End-use Locations	ICAP MW	# DRP	# End-use Locations	MW
14	Aggregator	*	5	2.6	*	*	3.1	14	4061	918.4	*	*	9.0
0	Curtailment Program End-Use Customer	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0
7	Direct Customer	0	0	0.0	0	0	0.0	6	91	136.2	0	0	0.0
5	LSE	*	50	42.0	*	*	0.1	*	128	80.7	*	*	15.0
5	Transmission Owner	*	143	99.4	0	0	0.0	*	493	605.8	*	*	13.0
31	Total	7	198	143.9	7	61	3.2	27	4773	1741.1	4	4	37.0

<sup>\*</sup> Number of entries in this category has been masked for confidentiality in the public version of the table. The unredacted values are presented in the confidential appendix submitted as Attachment 1.

Table 2 shows the total number of CSPs enrolled for 2012 in the first column and the number of CSPs, by type, with the number of end-use locations and enrolled MW for each of the program categories. This table provides the enrollment detail by program and CSP type.

Enrollments in EDRP in 2012 were predominantly through Transmission Owners. ICAP/SCR enrollments by aggregators provide 85% of participating end-use locations and 52.7% of the enrolled MW.

Note 1: The sum of EDRP and SCR Unsold Enrolled MW = Total EDRP.

Note 2: Resources in the ICAP/SCR program with Unsold capacity are considered EDRP resources in the month(s) that capacity is unsold. MW represent Enrolled MW in the ICAP program, but not sold.

Note 3: MW represent the ICAP equivalent MW sold in the ICAP market in July 2012.

Note 4: Total NYISO enrollment is not necessarily the sum of all programs due to the rules that state that end-use locations are allowed to participate in a reliability program (EDRP or ICAP) and economic (DADRP or DSASP).

Table 3 shows program enrollment detail by Load Zone. Although statistics on resource class are not collected, resources in Zones A through E are typically industrial and retail resources, while those in Zones J and K include commercial office, retail, and multi-family residential resources.

**Table 3: 2012 Program Enrollment by Zone** 

	EDI	RP <sup>(1)</sup>	ICAP Offere	ed/Unsold (2)	ICA	P <sup>(3)</sup>	DAD	RP <sup>(4)</sup>
Zone	#	Enrolled MW	#	Enrolled MW	#	ICAP MW	#	MW
Α	14	11.6	*	0.0	433	372.7	0	0.0
В	15	9.4	*	1.1	215	76.7	0	0.0
С	34	3.1	*	0.0	315	99.1	0	0.0
D	8	0.0	*	0.1	15	460.3	0	0.0
Е	25	18.9	0	0.0	145	27.6	0	0.0
F	27	29.1	*	0.2	195	95.9	*	28.0
G	*	1.6	0	0.0	154	50.2	*	9.0
Н	*	0.0	0	0.0	21	4.9	0	0.0
	*	0.2	*	0.2	124	34.7	0	0.0
J	54	58.8	47	1.4	2347	419.2	0	0.0
K	15	11.3	*	0.2	809	99.7	0	0.0
Total	198	143.9	61	3.2	4773	1741.1	4	37.0

<sup>\*</sup> Number of entries in this category has been masked for confidentiality in the public version of the table. The unredacted values are presented in the confidential appendix submitted as Attachment 1.

#### Targeted Demand Response Program Enrollment

Load Zone J currently is the only Load Zone with resources assigned to the TDRP. This Zone has been divided into subzones designated by Consolidated Edison Company of New York, Inc. ("Con Edison") Resources enrolled in EDRP and ICAP/SCR are assigned to one of the various subzones based on their location. Unassigned resources remain in the general Zone J

Note 1: The sum of EDRP and SCR Unsold Enrolled MW = Total EDRP.

Note 2: Resources in the ICAP/SCR program with Unsold capacity are considered EDRP resources in the month(s) that capacity is unsold. MW represent Enrolled MW in the ICAP program, but not sold.

Note 3: MW represent the ICAP equivalent MW sold in the ICAP market in July 2012.

Note 4: Total NYISO enrollment is not necessarily the sum of all programs due to the rules that state that end-use locations are allowed to participate in a reliability program (EDRP or ICAP) and economic (DADRP or DSASP).

category (J9: Shared Subzone). The sub-load pockets correspond to the following Con Edison network area substation groupings:

• J1: Sherman Creek/Parkchester/E 179<sup>th</sup>

• J2: Astoria West/Queensbridge

• J3: Vernon/Greenwood

• J4: Staten Island

• J5: Astoria East/Corona/Jamaica

• J6: W 49<sup>th</sup>

• J7: E13th/East River

• J8: Farragut/Rainey

• J9: Shared Subzone

Table 4: EDRP End-use Locations enrolled in TDRP – Zone J

	J	J1	J2	J3	J4	J5	J6	J7	J8	J9	Total
MW	0.0	0.1	1.5	2.9	0.7	7.6	0.0	0.6	1.6	1.0	15.8
End-use Locations	0	*	4	12	*	17	0	5	10	*	54

<sup>\*</sup> Number of entries in this category has been masked for confidentiality in the public version of the table. The unredacted values are presented in the confidential appendix submitted as Attachment 1.

Table 5: ICAP/SCR End-use Locations enrolled in TDRP - Zone J

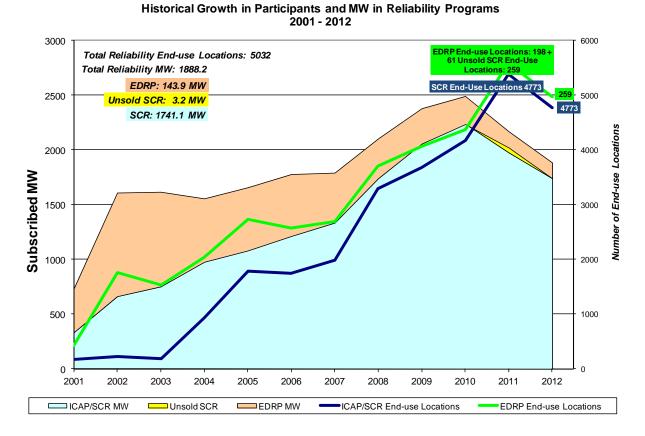
	J	J1	J2	J3	J4	J5	J6	J7	J8	J9	Total
MW	8.0	30.6	30.4	57.7	29.2	34.6	64.3	63.0	86.7	14.6	419.2
End-use Locations	*	159	192	496	78	240	245	389	520	*	2347

<sup>\*</sup> Number of entries in this category has been masked for confidentiality in the public version of the table. The unredacted values are presented in the confidential appendix submitted as Attachment 1.

#### <u>Historical Enrollment in Reliability Programs</u>

Figure 1 plots the growth in the NYISO's reliability-based programs from inception through July 2012. The stacked area plots enrolled MW by program and year. The lines plot the number of end-use locations by program and year. From May 2001 through July 2012, combined enrollment in EDRP and ICAP/SCR has grown from approximately 200 MW to 1,888.2 MW; and the total number of end-use locations has increased from approximately 200 in March 2002 to 5,032. Since participation in EDRP and ICAP/SCR became mutually exclusive, EDRP resources and MW have continued to decrease.

Figure 1: Historical Growth in Resources and MW in NYISO Reliability Programs



#### **Changes in Program Enrollment**

Table 6 shows the program enrollment changes by number of Program IDs enrolled. Program IDs, which are used to represent resources in NYISO's market systems, may represent individual end-use locations or aggregations of end-use locations. Table 7 shows the program enrollment changes by number of end-use locations.

Table 6: Program Enrollment by Program ID - Changes 2011 to 2012

	20	111	20	12			nange From to 2012		cribed MV Program II	
	Count	MW	Count	MW	MW Change	Program Subscribed ID Count MW		2011	2012	Percent Change
EDRP	200	148.1	198	143.9	-4.2	-1%	-3%	0.74	0.73	-2%
ICAP/SCR										
Unsold	32	48.6	13	3.2	-45.4	-59% -93%		1.52	0.25	-84%
ICAP/SCR	174	1976.2	138	1741.1	-235.1	-21% -12%		11.36	12.62	11%
DADRP	4	37.0	4	37.0	0.0	0% 0%		9.25	9.25	0%

Table 7: Program Enrollments by End-use Location - Changes 2011 to 2012

	20	11	20	12			hange From to 2012		scribed MV d-use loca	•
	Count	MW	Count	MW	MW Change	End-use Location Subscribed Count MW		2011	2012	Percent Change
EDRP	200	148.1	198	143.9	-4.2	-1%	-3%	0.74	0.73	-2%
ICAP/SCR										
Unsold	217	48.6	61	3.2	-45.4	-72%	-93%	0.22	0.05	-77%
ICAP/SCR	5390	1976.2	4773	1741.1	-235.1	-11% -12%		0.37	0.36	-1%
DADRP	4	37.0	4	37.0	0.0	0% 0%		9.25	9.25	0%

Table 7, which shows changes in enrollment by end-use location, shows reductions in all reliability programs since the year-end report for Summer 2011. Changes in the number of enrolled resources in the ICAP/SCR Unsold category for July 2012 can be attributed to one or more of the following: poor performance factors, which results in some resources having little or no capacity to offer; or fewer ICAP/SCR resources with offered capacity that was not sold in any ICAP auction.

Enrollment in DADRP has been static for several years and the enrolled resources have shown no offer activity in the market since 2010.

Figures 2 through 4 track enrollment and MW in EDRP, ICAP/SCR and DADRP, respectively, over the period 2001 through 2012. The primary difference between Figures 2 and 3 is the representation of ICAP/SCR resources: Figure 2 shows the number of Program IDs, including individually enrolled resources and aggregated resources. Figure 3 provides information on the total number of end-use locations. ICAP/SCR enrollment of end-use locations was initiated in 2004; prior to that period, the enrolled resources shown in Figures 2 and 3 for ICAP/SCR were based on Program IDs, also referred to as Aggregation IDs. In addition, during 2001 and 2002, program enrollment was non-exclusive, *i.e.*, an end-use location could register for both EDRP and ICAP/SCR. Beginning in 2003, participation in the EDRP and ICAP/SCR programs became mutually exclusive.<sup>5</sup>

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<sup>&</sup>lt;sup>5</sup> Pursuant to the tariff, SCRs may participate in both the EDRP and the ICAP/SCR programs concurrently if the resource has metering to distinguish the MWs of Demand Reduction in the Special Case Resource program from the MW in the EDRP. The metering requirement supports the program rule that MW cannot be committed both as Unforced Capacity and to the EDRP.

Figure 2: Demand Response Program Enrollment History by Program ID, 2001 – 2012

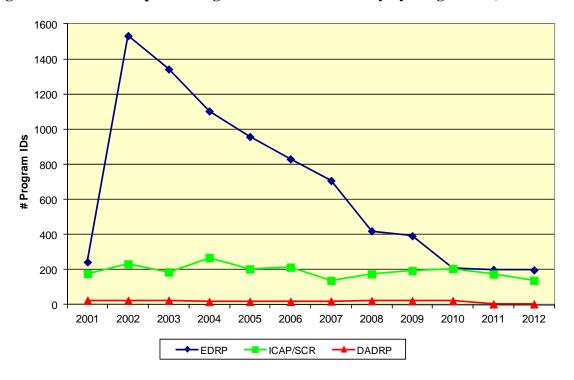


Figure 3: Demand Response Program Enrollment History by Number of End-use locations, 2001-2012

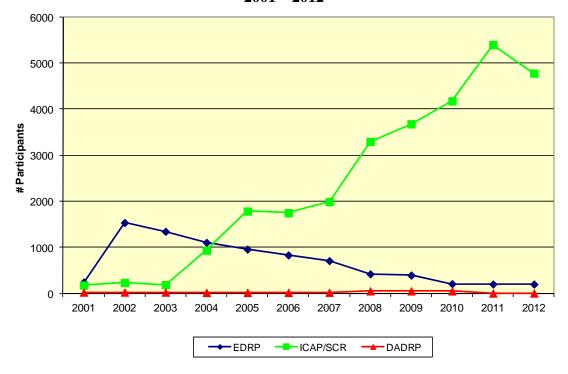


Figure 4 shows that since making EDRP and ICAP/SCR mutually exclusive, the general trend has been for number of resources and the level of MW enrolled in EDRP to decrease. At the same time, given the monthly capacity payment associated with it, the ICAP/SCR program enrollment has seen increases in the number of resources and MW levels. The recent reductions in the number of end-use locations and enrolled MW in recent years are in part due to changes to market rules designed to better estimate the demand response capability available to the NYISO under peak load conditions.

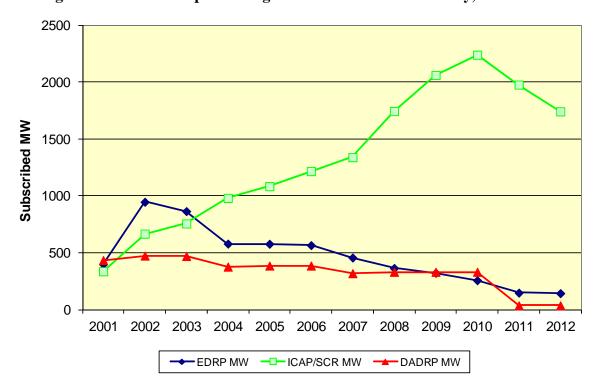


Figure 4: Demand Response Program MW Enrollment History, 2001 - 2012

#### Analysis of ICAP/SCR Strike Prices

Beginning in 2003, resources in the ICAP/SCR program were required to indicate, at the time of enrollment, a curtailment strike price, between \$0-\$500/MWh, which would be used by the NYISO to determine which resources to call for curtailments when all resources in a given Zone or Zones are not needed to restore system security to its equilibrium state.

To characterize how resources responded to this requirement, strike price curves were analyzed for all resources enrolled in July 2012. The curves in the figures below map the percentage of enrolled ICAP MW at a given strike price. Figure 5 illustrates the strike price curves for 2003 to 2012, covering the period of time since the program provision has been in place. The steeper slope for the strike price curve overall indicates that strike prices are clustered close to the offer ceiling of \$500/MWh. It is evident that over time the number of resources with higher strike prices has increased; in 2012, less than 2% of enrolled ICAP MW have a strike price below \$500/MWh. Figure 6 is a detailed view of the strike price curves for the past five years, 2008 through 2012, and displays a limited range where the price curve levels off to the offer ceiling of \$500/MWh; the strike price curves for 2010 and 2011 have the same shape. Figure 6 shows the 2012 percentages in black and, for comparison, the 2011 percentages in orange.

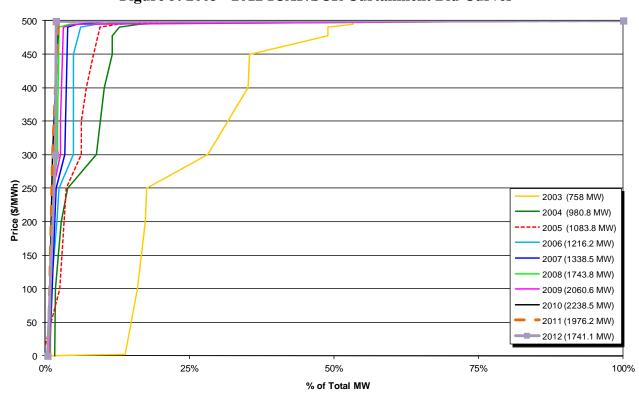


Figure 5: 2003 - 2012 ICAP/SCR Curtailment Bid Curves

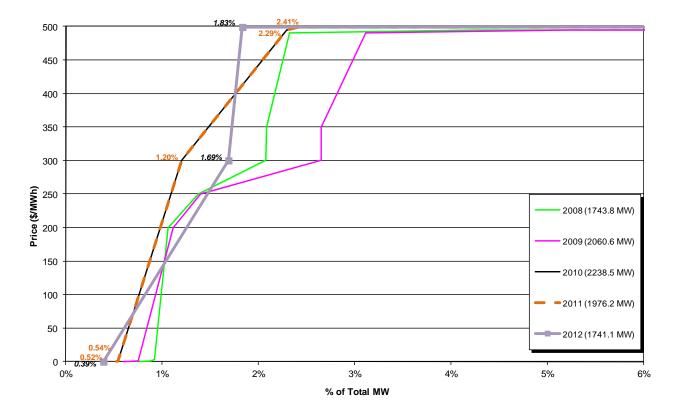


Figure 6: 2008 - 2012 ICAP/SCR Curtailment Bid Curve Detail

# **2012** Event Performance for Emergency Demand Response Program and ICAP/Special Case Resources

During the summer of 2012, the NYISO deployed its reliability demand response programs on six separate days; in addition, the TDRP was deployed twice. The NYISO deployments of the ICAP/SCR and EDRP programs occurred once in May, three times in June<sup>6</sup> and twice in July.<sup>7</sup> The 2012 deployments were as follows:

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<sup>&</sup>lt;sup>6</sup> Details of demand response deployments in June were presented to NYISO's Management Committee on July 25, 2012:

 $<sup>&</sup>lt; http://www.nyiso.com/public/webdocs/markets\_operations/committees/mc/meeting\_materials/2012-07-25/Heat\_Wave\_Operations\_June\_20\_22\_2012\_MC\_Pres.pdf>$ 

<sup>&</sup>lt;sup>7</sup> Details of demand response deployments in July were presented to NYISO's Management Committee on August 29, 2012:

 $<sup>&</sup>lt; http://www.nyiso.com/public/webdocs/markets\_operations/committees/mc/meeting\_materials/2012-08-29/Agenda\_02\_Heat\_Wave\_July17\_18\_2012\_for\_MC.pdf>$ 

#### May 29:

SCR and EDRP resources were deployed in all zones statewide from 1 p.m. to 6 p.m. (HB 13 through HB 17) for statewide capacity needs due to actual load exceeding forecasted load, with import limitations on external interfaces. Both programs were deployed for immediate response at 12:16 p.m. (SCR) and 12:17 p.m. (EDRP) on May 29 with an event start time of 1 p.m. Response from resources that were able to respond immediately upon notification are reported under HB 12 in the event response tables of this report. Response from SCRs in the deployed zones was voluntary because the NYISO was not able to provide the required 2 hour advance notice.

The following intervals, based on end timestamps, were subject to EDRP/SCR Scarcity Pricing Rule A (impacting NYCA): 13:05-13:15, 13:50-14:00, and 14:25-14:35. <sup>8</sup>

The following intervals, based on end timestamps, were subject to EDRP/SCR Scarcity Pricing Rule B (impacting the East): 15:05 - 15:10, 15:24 - 15:30, 15:40 - 17:00 and 17:45 - 17:50.

#### **June 20:**

SCR and EDRP resources were deployed in Zones C, G, H, I, and J from 2 p.m. to 6 p.m. (HB 14 through HB 17) for SENY transmission security operations, the requirement to restore system power flows to within normal operating limits within 30 minutes; demand response was deployed in Zone C for voltage conditions. Response from SCRs in the deployed zones was mandatory.

The following intervals, based on end timestamps, were subject to EDRP/SCR Scarcity Pricing Rule B (impacting the East): 14:05.

#### **June 21:**

SCR and EDRP resources were deployed in all zones statewide: Zone J was deployed from 12 p.m. to 6 p.m. (HB 12 through HB 17), and all other zones were deployed from 1 p.m. to

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<sup>&</sup>lt;sup>8</sup> Scarcity Pricing information for the May and June demand response events was presented to NYISO's Market Issues Working Group on July 19, 2012:

 $<sup>&</sup>lt; http://www.nyiso.com/public/webdocs/markets\_operations/committees/bic\_miwg/meeting\_materials/20\ 12-07-19/2\_Scarcity\_Pricing\_Outcomes.pdf>$ 

6 p.m. (HB 13 through HB 17). Demand response resources in Zones G, H, I, J, and K were deployed for SENY transmission security operations, the requirement to restore system power flows to within normal operating limits within 30 minutes. SCR and EDRP resources in Zones A, B, C, D, E, and F were deployed for various location-specific reasons: transformer loadings (Zone B), voltage conditions (Zone C), and statewide capacity requirements due to the loss of over 800 MW of upstate generating capacity (Zones A, D, E, and F). Zone J was deployed at 12 p.m. at Con Edison's request. Response from SCRs in all deployed zones was mandatory. Scarcity pricing was not applied in any interval because a reserve shortage was not identified in the scarcity pricing logic.

#### **June 22:**

SCR and EDRP resources were deployed in Zones G, H, I, J, and K from 1 p.m. to 6 p.m. (HB 13 through HB 17) for forecasted reserve shortages needed to maintain transmission security operations. Response from SCRs in the deployed zones was mandatory. Scarcity pricing was not applied in any interval because a reserve shortage was not identified in the scarcity pricing logic.

#### **July 17:**

SCR and EDRP resources were deployed in Zone B from 2 p.m. to 6 p.m. (HB 14 through HB 17) for forecasted reserve shortages to maintain Rochester 345/115kV transformer loadings. Response from SCRs in the deployed zones was voluntary. Scarcity pricing was not applied in any interval because a reserve shortage was not identified in the scarcity pricing logic.

SCR and EDRP resources in sub-load pocket J3 (in Zone J) were deployed from 6 p.m. to 11 p.m. (HB18 through HB 22) under the TDRP at the request of Con Edison. Response to TDRP deployments is voluntary for SCRs and scarcity pricing does not apply to TDRP events.

#### **July 18:**

SCR and EDRP resources were deployed in Zone J from 1 p.m. to 6 p.m. (HB 13 through HB 17) and in Zones G, H, I, and K from 2:10 p.m. to 6 p.m. (HB 14:10 through HB 17). SCR and EDRP resources in Zone J were deployed based on forecasted reserve shortages needed to maintain SENY transmission security operations. Zones G, H, I, and K were deployed

to maintain sufficient reserves for SENY transmission security operations. Response from SCRs deployed in Zone J was mandatory. Response from SCRs in Zones G, H, I, and K was voluntary.

The following intervals, based on end timestamps, were subject to EDRP/SCR Scarcity Pricing Rule B (impacting the East): 13:05 - 13:40.

SCR and EDRP resources in sub-load pocket J3 were deployed from 6 p.m. to 10 p.m. (HB18 through HB 21) under the TDRP at the request of Con Edison. Response to TDRP deployments is voluntary for SCRs and scarcity pricing does not apply to TDRP events.

#### Response during NYISO Demand Response Program Events

This section provides a summary of event response and payments for the Summer 2012 demand response events. Event response is compared to the Obligated MW (SCR) or Available MW (EDRP) for the zones deployed during an event. Obligated MW are the ICAP equivalent of the UCAP sold by resources in a zone during the calendar month in which the event occurred. When Obligated MW differ from enrolled MW, it indicates that some of the enrolled UCAP of SCRs in the zone was not sold for the month of the event; SCRs enrolled during a capability month that did not sell UCAP are treated as EDRP resources for that month. Available MW for EDRP is the amount of demand response reduction nominated by the EDRP resources in a zone.

Appendix A of this report provides detailed hourly response and payment information by zone for each demand response event during the Summer of 2012.

Table 8 provides a summary of average hourly response by SCR and EDRP resources during NYISO's demand response events during the Summer of 2012.

Table 8. Summary of Summer 2012 Demand Response Program Event Response

NYISO Event Date	Zones	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW	Event Energy yments (based on CBL)	Average \$/MWh
May 29, 2012	A, B, C, D, E, F, G, H, I, J, K	502.9	1681.2	29.9%	\$ 1,152,964.96	\$ 511.31
June 20, 2012	C, G, H, I, J	479.3	664.0	72.2%	\$ 626,290.42	\$ 499.99
June 21, 2012	A, B, C, D, E, F, G, H, I, J, K	1195.8	1762.3	67.9%	\$ 2,487,459.29	\$ 504.72
June 22, 2012	G, H, I, J, K	597.7	672.9	88.8%	\$ 858,049.38	\$ 499.99
July 17, 2012	В	32.1	85.9	37.4%	\$ 41,186.35	\$ 500.00
July 18, 2012	G, H, I, J, K	425.9	674.8	63.1%	\$ 799,723.49	\$ 578.30
					\$ 5,965,673.88	\$ 513.83

#### ICAP/SCR Capacity Response

Event response based on the ICAP/SCR reporting rules is contained in the NYISO's Installed Capacity Manual. ICAP/SCR response is determined by comparing the actual hourly interval metered energy with the Average Coincident Load (ACL):

$$RED_MW_{gn} = ACL_{gm} - METER_MW_{gn}$$

where:

- RED\_MW<sub>gn</sub> is the Installed Capacity Equivalent response that Resource *g* supplies during hour *n* of an SCR event;
- ACL<sub>gm</sub> is the Average Coincident Load for Resource *g* applicable to month *m*, using data submitted in its Special Case Resource Certification; and
- METER\_MW<sub>gn</sub> is the metered hourly-integrated energy for Resource g in hour n of an SCR event.

Response using this measure compares actual reduction with the Installed Capacity Equivalent (ICAP) of the resource's reduction capability sold. Individual resource performance factors are based on the four highest contiguous hours of demand response during each event as well as response during mandatory tests, as shown in Table 9. Beginning with the Summer of 2012, aggregation performance factors are used to determine the kW that can be sold in the next like Capability Period (*i.e.*, Summer or Winter). Reporting of meter data is required for all hours of a mandatory event in which the SCR was expected to respond.

Table 9: Summary of SCR MW Response Based on ICAP Measures for Summer 2012

Demand Response Events

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

<sup>\*</sup> On May 29, 2012, HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m.

#### NYISO Event Energy Response and Payments

In addition to compensation for committing to reduce capacity, RIPs with resources enrolled in the ICAP/SCR are eligible for payment related to energy reduction during a demand response event when they submit the associated performance data. To compute energy payments, response is determined using a Customer Baseline Load (CBL) computed using recent historical data to determine what the resource's energy consumption would have been during event hours if the Special Case Resource had not reduced its load in response to a NYISO deployment request. This computation method is the same method used in the EDRP program to measure demand response reductions eligible for energy payment. For settlement of the energy payment, the amount of demand response reduction is equal to the difference between the hourly CBL and corresponding hourly interval meter readings during event hours.

Table 10 presents a summary of energy response data for ICAP/SCR resources that reported CBL data for the NYISO's ICAP/SCR events; reporting of CBL data is voluntary for SCRs. Since the ICAP/SCR ACL values are based on the prior like Capability Period and the CBL is determined from load data that ranges from two weeks to 30 days prior to the event, differences in response can be expected. Contributing to the difference between the capacity response reported above and the energy response reported (in Table 10) is the fact that not all Responsible Interface Parties submitted CBL energy performance data. The NYISO has observed that some RIPs report CBL data for their larger resources, particularly in Zone J where energy prices are typically higher than the rest of the NYCA. Details on the energy payments made to SCRs for the Summer 2012 demand response events are included in Appendix A of this report.

<sup>&</sup>lt;sup>9</sup> EDRP Manual, section 5.2:

<sup>&</sup>lt;a href="http://www.nyiso.com/public/webdocs/products/demand\_response/emergency\_demand\_response/edrp\_mnl.pdf">http://www.nyiso.com/public/webdocs/products/demand\_response/emergency\_demand\_response/edrp\_mnl.pdf</a>

Table 10: SCR Energy Response based on CBL for Summer 2012 Demand Response

Events

SCR CBL Response	Zones	HB 12*	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated ICAP MW of SCRs Reporting CBL Data	Response as % of Obligated MW
May 29, 2012	A, B, C, D, E, F, G, H, I, J, K	114.7	484.2	355.4	349.7	317.0	533.2	359.0	1028.7	34.9%
June 20, 2012	C, G, H, I, J			324.1	331.1	307.7	285.3	312.0	517.4	60.3%
June 21, 2012	A, B, C, D, E, F, G, H, I, J, K	154.62	1121.8	1215.9	1093.2	694.3	643.3	944.0	1537.1	61.4%
June 22, 2012	G, H, I, J, K		298.9	325.6	346.4	356.8	325.2	330.6	542.8	60.9%
July 17, 2012	В			14.0	26.1	25.6	16.7	20.6	61.6	33.4%
July 18, 2012	G, H, I, J, K		221.0	281.5	317.1	348.4	332.8	311.5	511.2	60.9%

<sup>\*</sup> On May 29, 2012, HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m.

Table 11 reports the energy reductions of EDRP resources during the Summer 2012 NYISO demand response events, computed using the CBL method. Response of EDRP resources varied greatly by zone and event. It is important to note that the enrolled MW values shown below that are used to compute performance include unsold SCRs as reported in Table 3.

Table 11: Energy Response of EDRP Resources for Summer 2012 Demand Response

Events

EDRP CBL Response	Zones	HB 12**	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Available EDRP MW	Response as % of Available MW
May 29, 2012	A, B, C, D, E, F, G, H, I, J, K	13.6	17.3	22.7	19.0	15.4	12.8	16.8	63.0	26.7%
June 20, 2012	C, G, H, I, J			1.1	1.1	1.2	1.1	1.1	63.5	1.8%
June 21, 2012	A, B, C, D, E, F, G, H, I, J, K	9.2	23.8	24.0	19.0	15.5	14.6	19.5	142.7	13.6%
June 22, 2012	G, H, I, J, K		11.4	12.4	13.2	13.3	13.0	12.7	72.9	17.4%
July 17, 2012	В			0.000	0.000	0.001	0.000	0.0003	9.4	0.003%
July 18, 2012	G, H, I, J, K		10.5	11.7	12.8	14.3	14.0	12.9	72.2	17.9%

<sup>\*\*</sup> On May 29, 2012, HB 12 was a partial hour of response; immediate deployment for EDRP was initated at 12:17 p.m.

Table 12 provides a summary of energy payments by event and program during NYISO demand response program events in the Summer 2012. Tables with the hourly detail of the energy payments by program and event are reported in Appendix A.

**Table 12: Summary of Energy Payments for 2012 Events** 

NYISO Event Date	Zones	SCR	EDRP	Total	verage /MWh
May 29, 2012	A, B, C, D, E, F, G, H, I, J, K	\$ 1,100,573.60	\$ 52,391.35	\$ 1,152,964.96	\$ 511.31
June 20, 2012	C, G, H, I, J	\$ 624,023.57	\$ 2,266.85	\$ 626,290.42	\$ 499.99
June 21, 2012	A, B, C, D, E, F, G, H, I, J, K	\$ 2,431,887.52	\$ 55,571.77	\$ 2,487,459.29	\$ 504.72
June 22, 2012	G, H, I, J, K	\$ 826,422.33	\$ 31,627.05	\$ 858,049.38	\$ 499.99
July 17, 2012	В	\$ 41,185.85	\$ 0.50	\$ 41,186.35	\$ 500.00
July 18, 2012	G, H, I, J, K	\$ 758,129.26	\$ 41,594.23	\$ 799,723.49	\$ 578.30
	Totals	\$ 5,782,222.14	\$ 183,451.75	\$ 5,965,673.88	\$ 513.83

#### **Combined Hourly Event Performance**

Tables 13 - 18 summarize hourly event response from SCR and EDRP for each NYISO event date. TDRP event responses are reported in Appendix A.

Table 13: Hourly Event Response Detail

NYISO Demand Response Event – May 29, 2012

Combined Hourly Response for May 29, 2012	Zones	HB 12^	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW
SCR (ICAP)	A, B, C, D, E, F, G, H, I, J, K	193.3	576.7	461.3	476.5	475.8	733.2	486.1	1618.3	30.0%
EDRP (CBL)	A, B, C, D, E, F, G, H, I, J, K	13.6	17.3	22.7	19.0	15.4	12.8	16.8	63.0	26.7%
Totals		206.8	594.0	484.0	495.5	491.1	746.1	502.9	1681.2	29.9%

<sup>^</sup> HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m and EDRP at 12:17 p.m.

Table 14: Hourly Event Response Detail

NYISO Demand Response Event – June 20, 2012

Combined Hourly Respnse for June 20, 2012	Zones	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW
SCR (ICAP)	C, G, H, I, J	453.0	471.4	480.6	507.7	478.2	600.6	79.6%
EDRP (CBL)	C, G, H, I, J	1.1	1.1	1.2	1.1	1.1	63.5	1.8%
Totals		454.1	472.5	481.8	508.8	479.3	664.0	72.2%

Table 15: Hourly Event Response Detail

NYISO Demand Response Event – June 21, 2012

Combined									Obligated SCR	Response as %
Hourly	Zonos	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	Average	MW and	of Obligated
Response for	Zones	ND 12			110 13	UD 10	пв 17	Hourly MW	Available EDRP	or Available
June 21, 2012									MW	MW
SCR (ICAP)	A, B, C, D, E, F, G, H, I, J, K	244.9	1271.3	1387.2	1314.7	989.3	1021.8	1176.3	1620.7	72.6%
EDRP (CBL)	A, B, C, D, E, F, G, H, I, J, K	9.2	23.8	24.0	19.0	15.5	14.6	19.5	141.6	13.8%
Totals		254.1	1295.1	1411.2	1333.7	1004.8	1036.5	1195.8	1762.3	67.9%

Table 16: Hourly Event Response Detail

NYISO Demand Response Event – June 22, 2012

Combined Hourly Response for June 22, 2012	Zones	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW
SCR (ICAP)	G, H, I, J, K	482.7	546.9	602.8	633.8	658.9	585.0	600.0	97.5%
EDRP (CBL)	G, H, I, J, K	11.4	12.4	13.2	13.3	13.0	12.7	72.9	17.4%
Totals	-	494.1	559.3	616.0	647.1	671.9	597.7	672.9	88.8%

Table 17: Hourly Event Response Detail

NYISO Demand Response Event – July 17, 2012

Combined Hourly Response for July 17, 2012	Zones	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW
SCR (ICAP)	В	19.9	34.1	38.5	35.8	32.1	76.5	42.0%
EDRP (CBL)	В	0.000	0.000	0.001	0.000	0.0003	9.4	0.003%
Totals		19.9	34.1	38.5	35.8	32.1	85.9	37.4%

Table 18: Hourly Event Response Detail NYISO Demand Response Event – July 18, 2012

Combined Hourly Response for July 18, 2012	Zones	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW
SCR (ICAP)	G, H, I, J, K	271.5	349.8	400.3	462.8	514.7	413.0	602.6	68.5%
EDRP (CBL)	G, H, I, J, K	10.5	11.7	12.8	14.3	14.0	12.9	72.2	17.9%
Totals		282.0	361.5	413.1	477.1	528.8	425.9	674.8	63.1%

## **Day-Ahead Demand Response Program**

The DADRP program provides demand-side resources with an opportunity to offer their load curtailment capability into the Day-Ahead energy market as energy supply resources. Resources submit offers by 5:00 a.m., specifying the hours and amount of load curtailment they are offering for the next day, and the price at which they are willing to curtail. Prior to

November 1, 2004, the offer price had to be \$50/MWh or higher. As of November 1, 2004, the offer floor price for DADRP has been set at \$75/MWh. Offers are structured like those of generation resources, thus, DADRP program resources may specify minimum and maximum run times and effectively submit a block of hours on an all-or-nothing basis. This structure makes resources eligible for Bid Production Cost Guarantee payments that make up for any difference between the market price during that block of hours and their block offer price. Load scheduled in the DAM is obligated to curtail the next day. Failure to curtail results in the imposition of a penalty equal to the product of the MW curtailment shortfall and the greater of the corresponding Day-Ahead or Real-Time market price.

During the analysis period of September 2011 through August 2012, there were no offers or schedules of DADRP resources. Because there was no activity in DADRP during the analysis period, there is nothing to report for this period.

### **Demand Side Ancillary Services Program**

The DSASP program provides demand-side resources that meet telemetry and other qualification requirements an opportunity to offer their load curtailment capability into the DAM and/or Real-Time Market to provide Operating Reserves and Regulation Service. DSASP resources must qualify to provide Operating Reserves or Regulation Service through standard resource testing requirements. Offers are submitted through the same process as generation resources. Resources submit offers by 5:00 a.m. specifying the ancillary service they are offering (Spinning or Non-Synchronous Reserves, and/or Regulation, if qualified) along with the hours and amount of load curtailment for the next day, and the price at which they are willing to curtail. Real-time offers may be made up to 75 minutes before the hour of the offer. Although DSASP resources are not scheduled for energy in the DAM, they are required to submit energy offers, which are used in the co-optimization algorithm for dispatching operating reserve resources. Similar to the DADRP, the energy offer floor price is currently \$75/MWh. DSASP resources are not paid for energy, however, they are eligible for a Day-Ahead Margin Assurance Payment to make up for any balancing difference between their Day-Ahead Reserve or Regulation schedule and Real-Time dispatch, subject to their performance for the scheduled service. Performance indices are calculated on an interval basis for both Reserves and Regulation. Payment is adjusted by the performance index for the service provided.

There are demand-side resources that have initiated and are progressing through the registration process for DSASP concurrent with implementing the infrastructure for direct communications with the NYISO. FERC's recent approval of NYISO's compliance filing <sup>10</sup> allowing aggregations of small demand-side resources to provide ancillary services through DSASP has increased interest in the Demand Side Ancillary Service Program. The NYISO is making the software changes necessary to allow market participation by the effective date of April 1, 2013. Additional confidential information on the DSASP is provided in Attachment I.

### **Update on 2012 Demand Response Initiatives**

This section provides an update on the status of the following initiatives that the NYISO has been working on with its stakeholders to improve the administration of its demand response programs and to address regulatory directives to facilitate market participation:

- Market Rules for Aggregations of Small Demand-side Resources in the Ancillary Services Markets
- Order 745 Compliance Filing on the Feasibility of a Dynamic Net Benefit Test
- Program Design for Demand Response Participation in the Real-Time Energy Market
- Continued Development of the Demand Response Information System (DRIS)

# Market Rules for Aggregations of Small Demand-side Resources in the Ancillary Services Market

As described above, FERC accepted the NYISO's proposed market rules and procedures, presented in the NYISO's stakeholder process, for integrating aggregations of small demand-side resources into its Ancillary Services market through the Demand Side Ancillary Services Program (DSASP). Changes to the NYISO's Ancillary Services Manual documenting the procedures were approved through the stakeholder process.

<sup>&</sup>lt;sup>10</sup> Docket No.: ER12-2622-000, issued on 11/1/12).

# Order 745 Compliance Filing on the Feasibility of a Dynamic Net Benefit Tests

As directed in Order 745, the NYISO made a compliance filing in September 2012 to report on the results of a study to determine the feasibility of integrating a dynamic version of the Net Benefits Test on a real-time basis. The study was developed as a collaborative project with other US-based ISOs and RTOs of the ISO/RTO Council. Prior to filing, the NYISO presented a summary of the study and its compliance filing to stakeholders.<sup>11</sup>

### Demand Response in the Real-Time Energy Market

The NYISO made presentations on the concepts for demand response participation in the real-time energy market at Market Issues Working Group meetings on October 4, 2012 and November 30, 2012. The Business Issues and Operating Committees indicated support of the concepts through advisory approvals on December 5, 2012 and December 6, 2012, respectively.

# Continued Development of the Demand Response Information System (DRIS)

The NYISO had one deployment in 2012 for DRIS to integrate demand response event creation with communication services from a third-party provider to improve event notification. This deployment was used by NYISO Operators for five of the six demand response events in the summer of 2012 to deploy demand response resources and allowed a way for market participants to provide an estimate of their anticipated capability directly into DRIS.

### **Demand Response Initiatives for 2013**

This section provides an overview of the projects that the NYISO has planned for its demand response programs for 2013.

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<sup>&</sup>lt;sup>11</sup> Market Issues Working Group presentation by D. Pratt and S. Harvey (FTI Consulting): <a href="http://www.nyiso.com/public/webdocs/markets\_operations/committees/bic\_miwg/meeting\_materials/20">http://www.nyiso.com/public/webdocs/markets\_operations/committees/bic\_miwg/meeting\_materials/20</a> 12-09-06/Order 745 Compliance Filing The Dynamic Net Benefits Test Final.pdf >

<sup>&</sup>lt;sup>12</sup> Presentation by D. Pratt to joint meeting of Price Responsive Load Working Group and Market Issues Working Group:

 $<sup>&</sup>lt; http://www.nyiso.com/public/webdocs/markets\_operations/committees/bic\_miwg/meeting\_materials/20\\12-11-30/Demand\_Response\_in\_the\_Real-Time\_Energy\_Market-for\_11-30\_MIWG.pdf>$ 

# Compliance Filing Regarding Technical Bulletin 217 (Docket EL12-56-000)

The NYISO presented its draft compliance filing which includes proposed changes to its tariff and ICAP Manual at the January 14, 2013 ICAP Working Group. <sup>13</sup> Changes to the ICAP Manual will be taken through the stakeholder process, which requires approval by the Business Issues Committee.

### Demand Response in the Real-Time Energy Market

The NYISO has a 2013 project to develop market rules and functional requirements to allow demand response to participate in the real-time energy market. Market rules and functional requirements will incorporate the concepts approved by stakeholders in December 2012.

### Revisions to the SCR Program

Through the stakeholder process, the NYISO is working on a number of revisions to SCR program rules related to procedures associated with the implementation of the Provisional ACL, including:

- Addressing the use of Provisional ACL for SCRs that change RIPs;
- Reviewing limitation on Provisional ACL for three consecutive Capability Periods:
- Reviewing SCR Load Zone Peak Hours for Winter ACL; and
- Addressing increased baseline with reporting process to increase ACL values within Capability Period

The NYISO will also be discussing changes to the required duration of performance for SCRs based on a 2012 study on the capacity value of resources with limited response capabilities. The changes under discussion are expected to affect tariff, manual, and software; a Q4 2013 software deployment is planned.

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<sup>&</sup>lt;sup>13</sup> K. Whitaker presentation to joint meeting of ICAP Working Group and Price Responsive Load Working Group: <a href="http://www.nyiso.com/public/webdocs/markets\_operations/committees/bic\_icapwg/meeting\_materials/2013-01-14/Technical%20Bulletin%20217%20Compliance%20Filing%20\_%20ICAP-PRL%20WG%20Posting.pdf">http://www.nyiso.com/public/webdocs/markets\_operations/committees/bic\_icapwg/meeting\_materials/2013-01-14/Technical%20Bulletin%20217%20Compliance%20Filing%20\_%20ICAP-PRL%20WG%20Posting.pdf</a>.

# Continued Development of the Demand Response Information System (DRIS)

The NYISO currently has two software deployments planned for DRIS in 2013. A Q1 2013 deployment will incorporate the procedures to permit aggregations of demand side resources to participate in the NYISO's ancillary services market as DSASP Resources. In Q4 2013, a deployment is planned to incorporate the market rule and procedural changes associated with revisions to the SCR program being discussed in the stakeholder process, provided that market rules and procedures are approved by stakeholders to allow sufficient time for development and testing.

# Implementation of NYISO's Order 745 Compliance Filing for a Monthly Net Benefits Test

The NYISO is anticipating an order on its Order 745 compliance filing and has identified the changes to systems and procedures that will be required to comply with its filing. When the NYISO receives its order, the NYISO will assess whether changes to the current implementation plan are required.

# Appendix A: Detailed Event Response for Summer 2012 Demand Response Events

For each of the six NYISO's demand response events, the following tables are reported in this Appendix:

- Event Summary reports average hourly response compared to Obligated or
   Available MW by program, event energy payments by program and average \$/MWh.
- SCR MW Response Based on ICAP Measures reports hourly response detail, based on ICAP measures, by zone and average hourly response compared to Obligated MW for the zone.
- SCR Energy Response Based on CBL reports hourly response detail, based on CBL
  measures, by zone and average hourly response compared to Obligated MW of SCRs
  that reported CBL data in the zone.
- SCR Energy Payments reports hourly energy payments, daily BPCG payments, and average \$/MWh by zone to SCRs that reported CBL data.
- Energy Response of EDRP Resources and SCRs treated as EDRP reports detailed hourly response by zone, average hourly response, and comparison of average hourly response to enrolled (also referred to as Available) MW.
- Energy Payments to EDRP Resources and SCRs treated as EDRP reports hourly and total event energy payments by zone and average \$/MWh.

In addition, for the two TDRP events, the following tables are provided:

- Event Response of SCR and EDRP Resources reports hourly energy response detail, based on CBL measures, by zone and average hourly response compared to Enrolled MW for the sub-load pocket.
- Energy Payments to SCR and EDRP Resources reports hourly and total TDRP event energy payments by sub-load pocket and average \$/MWh.

Table A-1: Event Summary - May 29, 2012

Combined Hourly Response for May 29, 2012	Zones	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW	Event Energy Payments (based on CBL)	Average \$/MWh
SCR (ICAP)	A, B, C, D, E, F, G, H, I, J, K	486.1	1618.3	30.0%	\$ 1,100,573.60	\$ 510.92
EDRP (CBL)	A, B, C, D, E, F, G, H, I, J, K	16.8	63.0	26.7%	\$ 52,391.35	\$ 519.68
Totals		502.9	1681.2	29.9%	\$ 1,152,964.96	\$ 511.31

Table A-2: SCR MW Response Based on ICAP Measures – May 29, 2012

			Hourly Re	sponse bas	sed on ICA	P/UCAP M	leası	ures		
29-May	MWh									
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
Α	51.3	135.5	135.8	138.1	139.1	142.1		123.7	270.9	45.7%
В	18.9	28.3	28.9	32.4	29.7	29.1		27.9	77.3	36.1%
С	29.3	41.9	47.3	49.7	49.1	49.5		44.5	99.1	44.9%
D	0.0	204.0	67.4	65.0	57.6	286.4		113.4	459.8	24.7%
E	3.7	3.0	4.0	8.1	9.2	9.8		6.3	27.4	22.9%
F	27.9	36.1	39.0	39.0	39.2	42.7		37.3	96.7	38.6%
G	5.6	13.1	14.7	14.7	16.5	19.1		13.9	50.9	27.4%
Н	0.0	0.1	0.1	0.1	0.1	0.1		0.1	6.1	1.8%
I	1.2	1.8	1.9	2.1	2.3	2.5		2.0	33.3	5.9%
J	51.6	105.5	113.6	118.2	123.7	142.3		109.1	401.0	27.2%
K	3.8	7.5	8.5	9.1	9.3	9.7		8.0	95.9	8.3%
Total	193.3	576.7	461.3	476.5	475.8	733.2		486.1	1618.3	30.0%

<sup>\*</sup> HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m.

Table A-3: SCR Energy Response Based on CBL - May 29, 2012

		Нс	ourly CBL R	esponse fo	or SCRs Re	porting En	ergy	Response	)	
29-May	MWh	MWh								
Zone	HB 12*	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW of SCRs reporting CBL data	CBL Response as % of ICAP MW
Α	37.1	121.2	120.5	116.8	116.4	116.6		104.8	189.1	55.4%
В	10.7	18.0	18.3	20.7	15.1	10.5		15.6	49.2	31.6%
С	19.2	35.2	34.8	34.0	23.6	19.6		27.7	61.5	45.1%
D	0.4	221.0	81.0	78.0	69.9	297.4		124.6	457.2	27.3%
E	5.2	5.5	5.9	8.0	5.9	4.7		5.9	12.1	48.5%
F	19.6	28.7	30.7	28.6	26.6	29.8		27.3	63.7	42.9%
G	3.8	8.9	10.3	8.8	8.8	7.9		8.1	18.3	44.0%
Н	0.0	0.5	1.8	0.5	0.5	1.0		0.7	1.6	43.6%
ı	0.3	0.7	0.8	0.9	0.8	0.9		0.7	3.4	21.8%
J	16.6	40.8	46.4	47.6	43.6	39.5		39.1	156.0	25.1%
К	1.6	3.7	5.0	5.8	5.8	5.3		4.5	16.6	27.3%
Total	114.7	484.2	355.4	349.7	317.0	533.2		359.0	1028.7	34.9%

<sup>\*</sup> HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m.

Table A-4: SCR Energy Payments – May 29, 2012

29-May										
Zone	HB 12*	HB 13	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Sum of BPCG Payments	Total Payments to SCRs reporting CBL data	Average \$/MWh
Α	\$9,560.43	\$28,947.76	\$15,869.38	\$2,565.64	\$2,926.95	\$2,806.40	\$62,676.55	\$245,723.95	\$308,400.50	\$490.68
В	\$2,935.98	\$4,568.59	\$2,543.25	\$474.52	\$395.33	\$265.36	\$11,183.02	\$35,364.88	\$46,547.91	\$498.63
С	\$5,308.45	\$8,980.19	\$4,892.18	\$788.89	\$625.85	\$494.78	\$21,090.34	\$62,114.46	\$83,204.80	\$500.00
D	\$109.47	\$52,515.39	\$10,832.85	\$1,717.89	\$1,742.87	\$7,037.30	\$73,955.78	\$299,876.12	\$373,831.90	\$500.00
E	\$1,454.77	\$1,416.90	\$885.56	\$375.05	\$362.67	\$296.62	\$4,791.58	\$12,573.55	\$17,365.12	\$493.55
F	\$5,396.84	\$7,405.34	\$4,436.51	\$10,435.54	\$13,283.52	\$4,427.34	\$45,385.09	\$36,633.41	\$82,018.50	\$500.00
G	\$1,073.96	\$2,383.04	\$3,021.79	\$4,571.39	\$6,723.73	\$6,686.57	\$24,460.47	\$1,121.64	\$25,582.12	\$528.08
Н	\$2.95	\$131.36	\$574.76	\$316.31	\$416.60	\$959.23	\$2,401.21	\$0.00	\$2,401.21	\$558.95
I	\$94.90	\$199.73	\$253.89	\$501.09	\$737.22	\$896.76	\$2,683.58	\$19.85	\$2,703.43	\$606.42
J	\$4,764.45	\$11,009.21	\$15,416.33	\$27,860.92	\$38,814.93	\$38,919.15	\$136,784.99	\$2,139.58	\$138,924.57	\$592.29
K	\$588.62	\$1,709.73	\$3,478.62	\$3,400.02	\$5,185.72	\$5,230.69	\$19,593.40	\$0.16	\$19,593.56	\$720.31
Total	\$31,290.81	\$119,267.24	\$62,205.12	\$53,007.26	\$71,215.39	\$68,020.19	\$405,006.01	\$695,567.59	\$1,100,573.60	\$510.92

<sup>\*</sup> HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m.

Table A-5: Energy Response of EDRP Resources and SCRs treated as EDRP – May 29, 2012

29-May	MWh								
Zone	HB 12**	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Enrolled (MW)	% Response of Enrolled (MW)
Α	0.8	1.6	2.1	2.6	2.1	1.9	1.8	9.6	19.1%
В	0.3	1.4	1.5	1.1	0.3	0.1	0.8	3.5	22.2%
С	1.2	1.8	2.6	2.5	3.3	2.7	2.3	2.6	90.0%
D	0.1	0.7	0.7	0.3	0.8	8.0	0.6	0.0	0.0%
E	7.1	6.5	7.2	5.4	4.6	3.9	5.8	13.2	43.5%
F	3.6	3.6	6.7	5.4	2.6	1.7	4.0	28.4	13.9%
G	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0%
Н	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
I	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.3	24.6%
J	0.0	0.1	0.1	0.1	0.1	0.1	0.1	1.0	10.0%
K	0.4	1.7	1.7	1.6	1.5	1.4	1.4	3.8	36.7%
Total	13.6	17.3	22.7	19.0	15.4	12.8	16.8	63.0	26.7%

<sup>\*\*</sup> HB 12 was a partial hour of response; immediate deployment for EDRP was initated at 12:17 p.m.

Table A-6: Energy Payments to EDRP Resources and SCRs treated as EDRP – May 29, 2012

29-May								
Zone	HB 12**	HB 13	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Average \$/MWh
Α	\$386.55	\$789.80	\$1,056.80	\$1,278.75	\$1,047.00	\$954.10	\$5,513.00	\$500.00
В	\$168.35	\$683.05	\$730.15	\$551.90	\$154.95	\$33.90	\$2,322.30	\$500.00
С	\$593.80	\$907.45	\$1,300.70	\$1,243.35	\$1,629.60	\$1,326.70	\$7,001.60	\$500.00
D	\$56.05	\$327.40	\$360.25	\$130.15	\$385.05	\$413.15	\$1,672.05	\$500.00
E	\$3,527.55	\$3,241.90	\$3,587.60	\$2,677.05	\$2,294.40	\$1,968.90	\$17,297.40	\$500.00
F	\$1,801.70	\$1,791.50	\$3,372.10	\$2,714.75	\$1,322.65	\$873.65	\$11,876.35	\$500.00
G	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Н	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
- 1	\$0.00	\$12.40	\$30.45	\$41.17	\$61.96	\$199.60	\$345.58	\$806.29
J	\$24.00	\$54.00	\$73.00	\$85.43	\$83.92	\$55.13	\$375.48	\$627.69
K	\$218.70	\$834.75	\$1,206.31	\$957.96	\$1,358.18	\$1,411.70	\$5,987.59	\$710.87
Total	\$6,776.70	\$8,642.25	\$11,717.36	\$9,680.51	\$8,337.72	\$7,236.82	\$52,391.35	\$519.68

<sup>\*\*</sup> HB 12 was a partial hour of response; immediate deployment for EDRP was initated at 12:17 p.m.

Table A-7: Event Summary – June 20, 2012

Combined Hourly Respnse for June 20, 2012	Zones	Average Hourly MW	· ·	Response as % of Obligated or Available MW	Event Energy Payments (based on CBL)	Average \$/MWh
SCR (ICAP)	C, G, H, I, J	478.2	600.6	79.6%	\$ 624,023.57	\$ 499.99
EDRP (CBL)	C, G, H, I, J	1.1	63.5	1.8%	\$ 2,266.85	\$ 500.00
Totals		479.3	664.0	72.2%	\$ 626,290.42	\$ 499.99

Table A-8: SCR MW Response Based on ICAP Measures – June 20, 2012

		Hourly	Response	based on	ICAF	P/UCAP Mea	asures	
20-Jun								
Zone	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW	% Respnse of ICAP MW All Event Hours
С	75.0	82.0	85.6	87.9		82.6	97.9	84.4%
G	32.7	35.8	37.8	39.5		36.5	49.4	73.7%
Н	4.6	4.6	4.8	4.8		4.7	5.2	90.6%
I	18.7	19.5	20.0	20.3		19.6	32.1	61.2%
J	322.0	329.6	332.3	355.1		334.8	415.9	80.5%
Total	453.0	471.4	480.6	507.7		478.2	600.6	79.6%

Table A-9: SCR Energy Response Based on CBL – June 20, 2012

		Hourly CBI	Response	for SCRs I	Rep	orting Energ	y Response	
20-Jun								
Zone	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW of SCRs Reporting CBL Data	CBL Respnse as % of ICAP
С	73.0	79.2	66.5	60.3		69.8	96.1	72.6%
G	24.4	25.0	22.9	21.9		23.5	46.2	51.0%
Н	3.4	3.3	3.3	2.8		3.2	4.3	74.6%
ı	18.8	19.0	19.6	17.8		18.8	29.5	63.7%
J	204.4	204.6	195.4	182.5		196.7	341.3	57.6%
Total	324.1	331.1	307.7	285.3		312.0	517.4	60.3%

Table A-10: SCR Energy Payments – June 20, 2012

20-Jun								
Zone	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Sum of BPCG Payments	Total Payments to SCRs Reporting CBL Data	Average \$/MWh
С	\$5,957.07	\$11,185.61	\$6,159.66	\$4,153.70	\$ 27,456.04	\$112,079.31	\$139,535.35	\$500.00
G	\$2,925.14	\$3,782.31	\$2,275.88	\$1,609.69	\$ 10,593.03	\$36,494.32	\$47,087.35	\$500.00
Н	\$412.84	\$495.83	\$331.32	\$206.58	\$ 1,446.58	\$4,999.62	\$6,446.20	\$500.00
ı	\$2,249.07	\$2,849.25	\$1,929.66	\$1,298.92	\$ 8,326.90	\$29,234.00	\$37,560.90	\$500.00
J	\$24,422.43	\$30,734.66	\$19,276.61	\$13,323.81	\$ 87,757.50	\$305,636.27	\$393,393.77	\$499.99
Total	\$35,966.55	\$49,047.66	\$29,973.13	\$20,592.71	\$ 135,580.05	\$ 488,443.52	\$ 624,023.57	\$499.99

**Table A-11: Energy Response of EDRP Resources – June 20, 2012** 

20-Jun							
Zone	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Enrolled (MW)	% Performance of Enrolled (MW)
С	0.4	0.4	0.5	0.5	0.4	3.1	14.0%
G	0.5	0.5	0.5	0.4	0.5	1.6	28.7%
Н	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
I	0.0	0.1	0.0	0.0	0.0	0.2	17.9%
J	0.2	0.2	0.2	0.2	0.2	58.6	0.3%
Total	1.1	1.1	1.2	1.1	1.1	63.5	1.8%

**Table A-12: Energy Payments to EDRP Resources – June 20, 2012** 

20-Jun						
Zone	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Average \$/MWh
С	\$175.05	\$199.85	\$242.65	\$250.30	\$867.85	\$500.00
G	\$244.65	\$245.05	\$242.10	\$206.20	\$938.00	\$500.00
Н	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
I	\$19.40	\$25.85	\$19.10	\$5.65	\$70.00	\$500.00
J	\$92.00	\$87.00	\$113.00	\$99.00	\$391.00	\$500.00
Total	\$531.10	\$557.75	\$616.85	\$561.15	\$2,266.85	\$500.00

Table A-13: Event Summary – June 21, 2012

Combined Hourly Response for June 21, 2012	Zones	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW	Event Energy Payments (based on CBL)	Average \$/MWh
SCR (ICAP)	A, B, C, D, E, F, G, H, I, J, K	1176.3	1620.7	72.6%	\$ 2,431,887.52	\$ 504.44
EDRP (CBL)	A, B, C, D, E, F, G, H, I, J, K	19.5	141.6	13.8%	\$55,571.77	\$ 556.68
Totals		1195.8	1762.3	67.9%	\$ 2,487,459.29	\$ 504.72

Table A-14: SCR MW Response Based on ICAP Measures – June 21, 2012

			Hourly Re	sponse ba	sed on ICA	P/UCAP N	1eas	ures		
21-Jun	MWh									
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
Α		194.3	226.5	234.2	239.7	243.9		227.7	263.1	86.6%
В		49.3	55.2	57.9	60.9	59.7		56.6	77.2	73.3%
С		64.8	76.6	82.2	86.7	89.5		80.0	97.9	81.7%
D		456.3	458.5	353.9	0.0	0.0		253.8	459.8	55.2%
E		10.2	13.4	16.4	20.0	22.4		16.5	27.5	60.1%
F		64.0	78.9	82.1	83.2	84.4		78.5	95.2	82.5%
G		29.6	33.3	34.0	36.5	38.4		34.4	49.4	69.5%
Н		4.3	4.7	4.9	5.0	4.9		4.7	5.2	90.9%
ı		12.6	17.8	18.4	18.4	18.8		17.2	32.1	53.6%
J	244.9	336.0	364.9	370.2	374.8	394.5		347.5	415.9	83.6%
K		49.8	57.3	60.4	64.0	65.4		59.4	97.4	61.0%
Total	244.9	1271.3	1387.2	1314.7	989.3	1021.8		1176.3	1620.7	72.6%

Table A-15: SCR Energy Response Based on CBL – June 21, 2012

		Но	urly CBL R	esponse fo	r SCRs Re	orting Ene	ergy	Response		
21-Jun	MWh	MWh								
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW of SCRs Reporting CBL Data	CBL Response as % of ICAP
Α		188.8	214.6	204.2	201.1	193.6		200.4	260.3	77.0%
В		38.8	44.9	41.3	36.9	29.8		38.3	66.3	57.8%
С		63.4	71.7	75.3	64.7	58.6		66.7	96.5	69.1%
D		473.3	474.1	368.7	2.9	2.2		264.2	459.8	57.5%
E		13.9	15.4	14.3	11.7	10.0		13.1	25.6	50.9%
F		62.8	76.3	76.0	74.3	71.4		72.1	93.6	77.1%
G		24.8	28.5	26.8	25.3	23.7		25.8	48.4	53.3%
Н		3.5	3.8	3.8	3.8	3.0		3.6	4.6	77.8%
I		15.9	20.2	20.2	20.6	19.3		19.3	28.9	66.6%
J	154.62	202.2	226.1	223.3	215.8	197.7		203.3	369.1	55.1%
K		34.4	40.2	39.5	37.3	33.9		37.1	83.8	44.2%
Total	154.62	1121.8	1215.9	1093.2	694.3	643.3		944.0	1537.1	61.4%

Table A-16: SCR Energy Payments – June 21, 2012

21-Jun										
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Sum of BPCG Payments	Total Payments to SCRs Reporting CBL Data	Average \$/MWh
Α		\$8,303.72	\$11,779.20	\$17,282.02	\$66,884.14	\$14,678.44	\$118,927.51	\$365,915.90	\$484,843.41	\$483.76
В		\$1,848.89	\$2,668.59	\$15,119.46	\$23,228.00	\$4,199.68	\$47,064.61	\$48,524.02	\$95,588.64	\$498.56
С		\$3,031.28	\$4,279.96	\$25,270.98	\$38,872.11	\$7,975.16	\$79,429.48	\$87,409.47	\$166,838.95	\$500.00
D		\$21,562.73	\$26,662.25	\$115,307.39	\$1,655.33	\$280.44	\$165,468.13	\$495,135.07	\$660,603.20	\$500.00
E		\$690.52	\$952.44	\$4,943.45	\$7,272.43	\$1,414.82	\$15,273.66	\$17,372.14	\$32,645.80	\$500.00
F		\$3,182.06	\$4,833.11	\$27,074.44	\$47,711.21	\$10,381.09	\$93,181.92	\$73,975.56	\$167,157.48	\$463.45
G		\$1,285.85	\$1,852.27	\$9,738.87	\$16,645.67	\$3,667.51	\$33,190.17	\$31,362.21	\$64,552.37	\$500.01
Н		\$180.70	\$244.87	\$1,365.35	\$2,482.32	\$474.31	\$4,747.55	\$4,161.00	\$8,908.55	\$500.00
I		\$821.48	\$1,305.49	\$7,335.28	\$13,570.47	\$3,011.36	\$26,044.08	\$22,134.57	\$48,178.65	\$500.00
J	\$11,609.00	\$10,459.12	\$14,117.84	\$80,941.36	\$142,110.27	\$30,815.12	\$290,052.70	\$319,790.17	\$609,842.87	\$500.00
K		\$1,824.06	\$2,743.19	\$14,600.51	\$28,716.71	\$6,367.96	\$54,252.44	\$38,475.16	\$92,727.60	\$500.34
Total	\$11,609.00	\$53,190.40	\$71,439.22	\$ 318,979.11	\$ 389,148.64	\$ 83,265.89	\$ 927,632.26	\$ 1,504,255.26	\$ 2,431,887.52	\$504.44

Table A-17: Energy Response of EDRP Resources – June 21, 2012

21-Jun	MWh								
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Enrolled (MW)	% Response of Enrolled (MW)
Α		0.1	0.1	0.1	0.1	0.1	0.1	9.6	0.7%
В		2.2	2.0	0.5	0.1	0.0	1.0	9.4	10.3%
С		0.1	0.1	0.1	0.4	0.3	0.2	3.1	7.0%
D		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
E		3.9	3.8	2.9	2.5	2.7	3.2	18.9	16.8%
F		6.7	7.1	5.2	1.8	1.3	4.4	29.1	15.2%
G		0.5	0.5	0.5	0.5	0.5	0.5	1.6	29.6%
Н		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
- 1		0.2	0.2	0.2	0.2	0.3	0.2	0.4	52.2%
J	9.2	9.2	9.2	8.3	8.8	8.5	8.9	58.7	15.1%
K		1.0	1.1	1.2	1.2	0.9	1.1	11.9	9.1%
Total	9.2	23.8	24.0	19.0	15.5	14.6	19.5	142.7	13.6%

**Table A-18: Energy Payments to EDRP Resources – June 21, 2012** 

21-Jun								
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Average \$/MWh
Α		\$32.35	\$32.40	\$27.55	\$33.45	\$34.25	\$160.00	\$500.00
В		\$1,113.70	\$1,016.60	\$238.65	\$31.53	\$18.60	\$2,419.08	\$501.34
С		\$32.50	\$71.05	\$63.45	\$260.51	\$160.65	\$588.16	\$540.29
D		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
E		\$1,955.10	\$1,881.95	\$1,457.85	\$1,575.70	\$1,343.65	\$8,214.25	\$519.48
F		\$3,338.80	\$3,539.70	\$2,598.50	\$1,178.26	\$632.60	\$11,287.86	\$511.83
G		\$244.20	\$245.35	\$245.05	\$317.79	\$234.90	\$1,287.29	\$531.54
Н		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1		\$115.50	\$97.60	\$92.65	\$120.14	\$150.70	\$576.59	\$526.28
J	\$4,607.80	\$4,586.70	\$4,605.45	\$4,166.80	\$5,765.18	\$4,274.05	\$28,005.98	\$526.08
K		\$486.70	\$531.65	\$610.75	\$929.55	\$473.90	\$3,032.55	\$560.23
Total	\$4,607.80	\$11,905.55	\$12,021.75	\$9,501.25	\$10,212.12	\$7,323.30	\$55,571.77	\$556.68

Table A-19: Event Summary – June 22, 2012

Combined Hourly Response for June 22, 2012	Zones	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW	Event Energy Payments (based on CBL)	Ś	verage /MWh
SCR (ICAP)	G, H, I, J, K	585.0	600.0	97.5%	\$ 826,422.33	\$	499.99
EDRP (CBL)	G, H, I, J, K	12.7	71.6	17.7%	\$ 31,627.05	\$	500.00
Totals		597.7	671.6	89.0%	\$ 858,049.38	\$	499.99

Table A-20: SCR MW Response Based on ICAP Measures – June 22, 2012

			Hourly Resp	onse base	d on ICAP/U	CAP Measures		
22-Jun								
Zone	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated ICAP MW	% Response of ICAP MW All Event Hours
G	32.4	36.7	37.6	42.9	46.4	39.2	49.4	79.3%
Н	5.0	5.0	5.4	5.7	6.1	5.4	5.2	104.2%
ı	16.0	17.6	19.3	19.7	21.4	18.8	32.1	58.6%
J	374.7	421.8	461.9	480.7	500.6	447.9	415.9	107.7%
K	54.7	65.8	78.7	84.9	84.4	73.7	97.4	75.7%
Total	482.7	546.9	602.8	633.8	658.9	585.0	600.0	97.5%

Table A-21: SCR Energy Response Based on CBL – June 22, 2012

		Hour	ly CBL Resp	onse for SC	Rs Reportir	ng En	nergy Respons	e	
22-Jun	MWh								
Zone	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW of SCRs Reporting CBL Data	CBL Response as % of ICAP
G	25.1	29.8	27.7	27.8	27.9		27.7	48.9	56.6%
Н	4.0	4.0	3.9	4.1	3.8		4.0	4.6	86.7%
ı	16.2	12.0	12.1	12.6	12.4		13.1	29.5	44.3%
J	213.1	231.6	248.6	248.6	226.1		233.6	376.0	62.1%
K	40.4	48.2	54.1	63.7	55.0		52.3	83.8	62.4%
Total	298.9	325.6	346.4	356.8	325.2		330.6	542.8	60.9%

Table A-22: SCR Energy Payments – June 22, 2012

22-Jun										
Zone	HB 13	HB 14	HB 15	HB 16	HB 17		Sum of LBMP	Sum of BPCG	Total	Average
Zone	пр 13	ПВ 14	пр 15	пр 10	ND 17		Payments	Payments	Payments	\$/MWh
G	\$7,785.06	\$1,219.98	\$909.20	\$985.13	\$1,197.29		\$12,096.66	\$57,068.19	\$69,164.85	\$500.00
Н	\$1,417.26	\$165.91	\$128.18	\$147.46	\$164.98		\$2,023.80	\$7,905.20	\$9,929.00	\$500.00
1	\$5,756.79	\$498.12	\$395.49	\$445.23	\$543.68		\$7,639.31	\$25,006.14	\$32,645.45	\$500.00
J	\$69,659.55	\$9,152.81	\$8,095.17	\$8,811.08	\$9,921.07		\$105,639.68	\$478,334.95	\$583,974.63	\$499.99
K	\$14,397.53	\$2,206.42	\$1,935.43	\$2,318.58	\$2,473.83		\$23,331.78	\$107,376.62	\$130,708.40	\$500.00
Total	\$99,016.19	\$13,243.24	\$11,463.48	\$12,707.47	\$14,300.86		\$150,731.23	\$675,691.10	\$826,422.33	\$499.99

Table A-23: Energy Response of EDRP Resources – June 22, 2012

22-Jun	MWh							
Zone	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Enrolled (MW)	% Response of Enrolled (MW)
G	0.5	0.5	0.5	0.5	0.5	0.5	1.6	29.6%
Н	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
ı	0.2	0.3	0.3	0.3	0.3	0.3	0.4	68.3%
J	10.0	10.8	11.5	11.6	11.2	11.0	58.9	18.7%
K	0.7	0.8	0.9	0.9	1.0	0.9	12.0	7.1%
Total	11.4	12.4	13.2	13.3	13.0	12.7	72.9	17.4%

**Table A-24: Energy Payments to EDRP Resources – June 22, 2012** 

22-Jun							
Zone	HB 13	HB 14	HB 15	HB 16	HB 17	Sum of Payments	Average \$/MWh
G	\$244.90	\$244.65	\$245.05	\$242.10	\$234.20	\$1,210.90	\$500.00
Н	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
I	\$106.25	\$129.80	\$169.50	\$164.30	\$147.20	\$717.05	\$500.00
J	\$4,981.40	\$5,412.35	\$5,761.85	\$5,822.50	\$5,582.40	\$27,560.50	\$500.00
K	\$347.10	\$410.10	\$428.10	\$431.05	\$522.25	\$2,138.60	\$500.00
Total	\$5,679.65	\$6,196.90	\$6,604.50	\$6,659.95	\$6,486.05	\$31,627.05	\$500.00

Table A-25: Event Summary – July 17, 2012

Combined Hourly Response for July 17, 2012	Zones	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW	Event Energy Payments (based on CBL)	Average \$/MWh
SCR (ICAP)	В	32.1	76.5	42.0%	\$ 41,185.85	\$ 500.00
EDRP (CBL)	В	0.0003	9.4	0.003%	\$ 0.50	\$ 500.00
Totals		32.1	85.9	37.4%	\$ 41,186.35	\$ 500.00

Table A-26: SCR MW Response Based on ICAP Measures – July 17, 2012

	Hourly Response based on ICAP/UCAP Measures											
17-Jul												
Zone	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated ICAP MW	% Response of ICAP MW All Event Hours					
В	19.9	34.1	38.5	35.8	32.1	76.5	42.0%					
Total	19.9	34.1	38.5	35.8	32.1	76.5	42.0%					

Table A-27: SCR Energy Response Based on CBL – July 17, 2012

	Hourly CBL Response for SCRs Reporting Energy Response											
17-Jul												
Zone	HB 14	HB 15	НВ 16	HB 17	Average Hourly MW	Obligated ICAP MW of SCRs Reporting CBL Data	CBL Response as % of ICAP					
В	14.0	26.1	25.6	16.7	20.6	61.6	33.4%					
Total	14.0	26.1	25.6	16.7	20.6	61.6	33.4%					

Table A-28: SCR Energy Payments – July 17, 2012

17-Jul								
Zone	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Sum of BPCG Payments	Total Payments	Average \$/MWh
В	\$2,423.80	\$2,977.67	\$3,361.11	\$1,487.31	\$10,249.89	\$30,935.96	\$41,185.85	\$500.00
Total	\$2,423.80	\$2,977.67	\$3,361.11	\$1,487.31	\$10,249.89	\$30,935.96	\$41,185.85	\$500.00

Table A-29: Energy Response of EDRP Resources – July 17, 2012

17-Jul	MWh						
Zone	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Enrolled (MW)	% Response of Enrolled (MW)
В	0.000	0.000	0.001	0.000	0.0003	9.4	0.003%
Total	0.000	0.000	0.001	0.000	0.0003	9.4	0.003%

Table A-30: Energy Payments to EDRP Resources – July 17, 2012

17-Jul						
Zone	HB 14	HB 14 HB 15		HB 17	Sum of LBMP Payments	Average \$/MWh
В	\$0.00	\$0.00	\$0.50	\$0.00	\$0.50	\$500.00
Total	\$0.00	\$0.00	\$0.50	\$0.00	\$0.50	\$500.00

July 17, 2012: TDRP Event – J3 – all response was voluntary

Table A-31: Energy Response of SCR and EDRP Resources – July 17, 2012 (TDRP)

17-Jul	MWh							
Zone	HB 18	HB 19	HB 20	HB 21	HB 22	Average Hourly MW	Enrolled (MW)	% Response of Enrolled (MW)
J3 - SCR	1.8	1.8	1.3	1.0	1.0	1.4	57.7	2.4%
J3 - EDRP	1.1	1.1	1.0	1.0	1.0	1.0	2.9	35.8%
Total	3.0	2.9	2.4	2.0	2.0	2.4	60.6	4.0%

Table A-32: Energy Payments to SCR and EDRP Resources – July 17, 2012 (TDRP)

17-Jul	MWh											
Zone	HB 18	HB 19	HB 20		HB 21		HB 22		Sum of LBMP Payments		Average \$/MWh	
J3 - SCR	\$ 188.42	\$ 170.36	\$ 108.80	\$	71.74	\$	45.71		\$	585.03	\$	84.03
J3 - EDRP	\$ 564.15	\$ 533.20	\$ \$ 509.55		499.45	\$	486.45		\$	2,592.80	\$	500.00
Total	\$ 752.57	\$ 703.56	\$ 618.35	\$	571.19	\$	532.16		\$	3,177.83	\$	261.60

Table A-33: Event Summary – July 18, 2012

Combined Hourly Response for July 18, 2012	Zones	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW	E	vent Energy Payments ased on CBL)	Average \$/MWh
SCR (ICAP)	G, H, I, J, K	413.0	602.6	68.5%	\$	758,129.26	\$ 505.77
EDRP (CBL)	G, H, I, J, K	12.9	72.2	17.9%	\$	41,594.23	\$ 656.87
Totals		425.9	674.8	63.1%	\$	799,723.49	\$ 578.30

Table A-34: SCR MW Response Based on ICAP Measures – July 18, 2012

		Hou	rly CBL Res	oonse for So	CRs Reporti	ng Energy R	esponse		
18-Jul	MWh								
Zone	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW	% Response of ICAP MW All Event Hours
G		13.0	16.5	19.4	22.4		17.9	48.2	37.0%
Н		3.0	4.7	4.7	4.4		4.2	4.8	86.9%
1		5.3	8.8	9.5	11.1		8.7	34.6	25.1%
J	271.5	305.3	339.6	390.7	429.3		347.3	416.1	83.5%
K		23.2	30.7	38.3	47.5		34.9	98.8	35.3%
Total	271.5	349.8	400.3	462.8	514.7		413.0	602.6	68.5%

Table A-35: SCR Energy Response Based on CBL – July 18, 2012

		Hou	rly CBL Res	onse for So	CRs Reporti	ng Energy R	esponse		
18-Jul	MWh								
Zone	HB 13	HB 14	B 14 HB 15 HB		HB 17		Average Hourly MW	Obligated ICAP MW of SCRs Reporting CBL Data	CBL Response as % of ICAP
G		16.9	17.6	17.7	16.5		17.2	35.5	48.3%
Н		2.8	4.3	4.1	3.1		3.6	4.3	82.6%
I		9.0	15.7	15.6	14.5		13.7	25.5	53.9%
J	221.0	238.3	257.6	285.7	271.5		254.8	387.0	65.8%
K	17.0	14.5	21.9	25.3	27.2		22.2	58.9	37.7%
Total	221.0	281.5	317.1	348.4	332.8		311.5	511.2	60.9%

Table A-36: SCR Energy Payments – July 18, 2012

18-Jul									
Zone	HB 13	HB 14	HB 15	HB 16	HB 17	Sum of LBMP	Sum of BPCG	Total	Average
Zone	пр 13	ПВ 14	пр 15	UD 10	ПВ 17	Payments	Payments	Payments	\$/MWh
G		\$16,011.32	\$1,367.22	\$1,171.68	\$852.79	\$19,403.02	\$15,719.67	\$35,122.69	\$511.42
Н		\$3,053.60	\$362.74	\$284.87	\$163.48	\$3,864.69	\$3,272.26	\$7,136.95	\$500.00
- 1		\$9,828.40	\$1,342.57	\$1,095.61	\$771.78	\$13,038.36	\$14,466.14	\$27,504.51	\$501.11
J	\$175,880.33	\$258,265.87	\$22,119.58	\$20,042.61	\$14,569.21	\$490,877.59	\$152,559.22	\$643,436.81	\$505.04
K		\$15,780.95	\$6,474.87	\$2,224.22	\$1,452.12	\$25,932.16	\$18,996.15	\$44,928.30	\$505.77
Total	\$175,880.33	\$302,940.14	\$31,666.98	\$24,818.99	\$17,809.39	\$553,115.83	\$205,013.43	\$758,129.26	\$574.32

Table A-37: Energy Response of EDRP Resources – July 18, 2012

17-Jul	MWh								
Zone	HB 13	HB 14	HB 15	HB 16			Average Hourly MW	Enrolled (MW)	% Response of Enrolled (MW)
G		0.0	0.0	0.0	0.0		0.0	1.6	0.4%
Н		0.0	0.0	0.0	0.0		0.0	0.0	0.0%
I		0.0	0.0	0.0	0.1		0.0	0.2	17.2%
J	10.5	11.3	11.4	12.8	12.4		11.7	59.1	19.8%
К		0.3	1.4	1.4	1.6		1.2	11.3	10.5%
Total	10.5	11.7	12.8	14.3	14.0		12.9	72.2	17.9%

**Table A-38: Energy Payments to EDRP Resources – July 18, 2012** 

17-Jul							
Zone	HB 13	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Average \$/MWh
G		\$ 6.34	\$ 2.95	\$ 2.60	\$ 3.75	\$15.64	\$618.12
Н		\$ -	\$ -	\$ -	\$ -	\$0.00	\$0.00
1		\$ -	\$ 17.40	\$ 19.60	\$ 26.60	\$63.60	\$500.00
J	\$ 8,360.34	\$12,292.60	\$ 5,704.85	\$ 6,397.35	\$ 6,183.30	\$38,938.45	\$666.59
К		\$ 367.54	\$ 688.15	\$ 718.35	\$ 802.50	\$2,576.54	\$541.88
Total	\$ 8,360.34	\$12,666.48	\$ 6,413.35	\$ 7,137.90	\$ 7,016.15	\$41,594.23	\$656.87

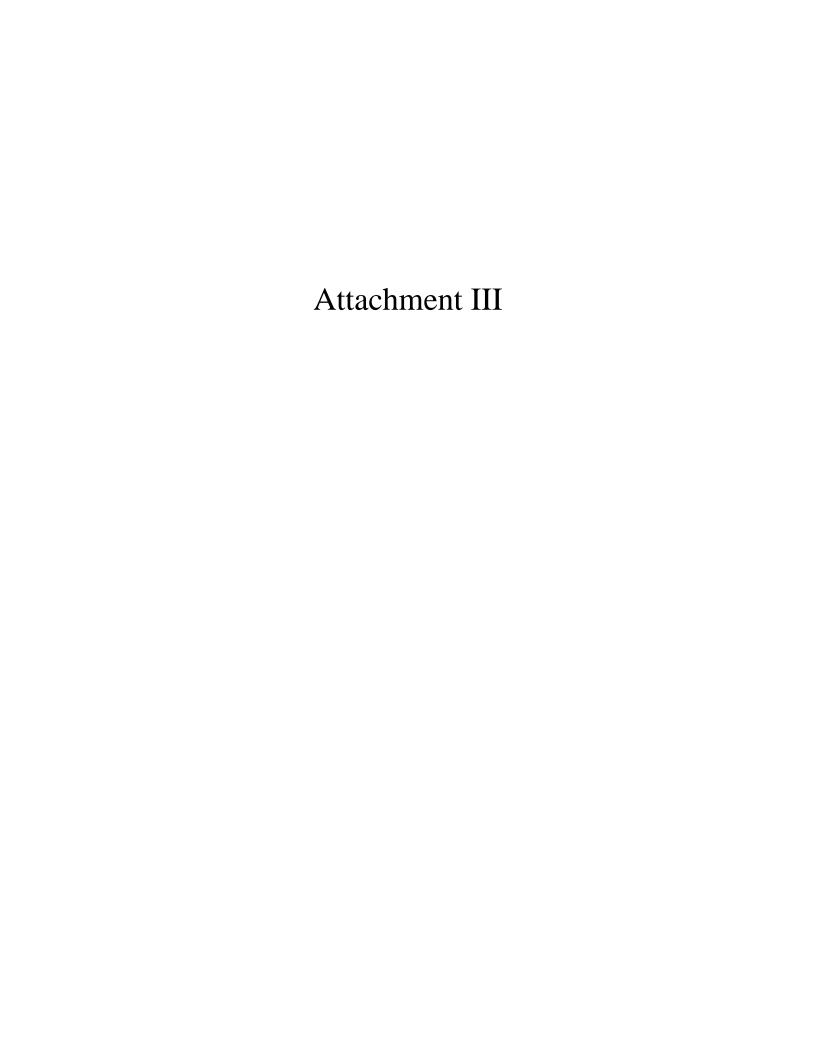
# July 18, 2012: TDRP Event – J3 – all response was voluntary

Table A-39: Energy Response of SCR and EDRP Resources – July 18, 2012 (TDRP)

18-Jul	MWh						
Zone	HB 18	HB 19	HB 20	HB 21	Average Hourly MW	Enrolled (MW)	% Response of Enrolled (MW)
J3 - SCR	5.8	4.2	3.4	2.7	4.0	57.7	7.0%
J3 - EDRP	1.0	1.0	1.0	0.9	1.0	2.9	33.9%
Total	6.8	5.2	4.4	3.7	5.0	60.6	8.3%

Table A-40: Energy Payments to SCR and EDRP Resources – July 18, 2012 (TDRP)

18-Jul	MWh						
Zone	HB 18	HB 19	HB 20	HB 21		m of LBMP Payments	Average \$/MWh
J3 - SCR	\$ 818.15	\$ 180.47	\$ 108.42	\$ 96.60	\$	1,203.64	\$ 74.49
J3 - EDRP	\$ 487.20	\$ 522.75	\$ 489.60	\$ 466.10	\$	1,965.65	\$ 500.00
Total	\$ 1,305.35	\$ 703.22	\$ 598.02	\$ 562.70	\$	3,169.29	\$ 157.75



# **NYISO 2012 Annual Report on Demand Response Programs**

# **Program Descriptions**

The New York Independent System Operator, Inc. ("NYISO") offers two demand response programs that support reliability: the Emergency Demand Response Program ("EDRP") and the Installed Capacity-Special Case Resource Program ("ICAP/SCR"). In addition, demand response resources may participate in the NYISO's energy market through the Day-Ahead Demand Response Program ("DADRP"), or the Ancillary Services market through the Demand-Side Ancillary Services Program ("DSASP").

EDRP provides demand resources an opportunity to earn the greater of \$500/MWh or the prevailing locational-based marginal price ("LBMP") for energy consumption curtailments provided when the NYISO calls on the program's resources to reduce load. Resources must be enrolled through Curtailment Service Providers ("CSPs"), which serve as the interface between the NYISO and resources, in order to participate in EDRP. There are no obligations for enrolled EDRP resources to curtail their load during an EDRP event.

The ICAP/SCR program allows demand resources that meet certification requirements to offer Unforced Capacity ("UCAP") to Load Serving Entities ("LSEs"). The load reduction capability of Special Case Resources ("SCRs") may be sold in the Installed Capacity ("ICAP") market; however, SCRs participate through Responsible Interface Parties (RIPs), which serve as the interface between the NYISO and the resources. RIPs also act as aggregators of SCRs. SCRs that have sold ICAP are obligated to reduce their system load when called upon by the NYISO with two or more hours notice, provided the NYISO notifies the Responsible Interface Party a day ahead of the possibility of such a call. In addition, enrolled SCRs are subject to testing each Capability Period to verify the capability to achieve the amount of enrolled load reduction. Failure of an SCR to reduce load during an event or test could result in penalties assessed to the applicable RIP in accordance with the ICAP/SCR program rules and procedures. Curtailments are called by the NYISO when reserve shortages are anticipated. Resources may register for either EDRP or ICAP/SCR, but not both. In addition to capacity payment, RIPs are

<sup>&</sup>lt;sup>1</sup> Terms in upper case not defined herein have the meaning ascribed to them in the NYISO's Market Administration and Control Area Services Tariff.

eligible for an energy payment during an event, using the same performance calculation as used to pay EDRP resources.

The Targeted Demand Response Program ("TDRP"), introduced in July 2007, is a NYISO reliability program that deploys existing EDRP and SCR resources on a voluntary basis, at the request of a Transmission Owner, in targeted subzones to solve local reliability problems. The TDRP program is currently available in Zone J, New York City.

The DADRP program provides demand resources with an opportunity to offer their load curtailment capability into the Day-Ahead Market ("DAM") as an energy resource. Resources submit offers by 5:00 a.m. specifying the hours and amount of load curtailment they are offering for the next day, and the price at which they are willing to curtail. Prior to November 1, 2004, the minimum offer price was \$50/MWh. The offer floor price currently is \$75/MWh. Offers are structured like those of generation resources: DADRP program resources may specify minimum and maximum run times and the hours that they are available. They are eligible for Bid Production Cost guarantee payments to make up for any difference between the market price received and their block offer price across the day. Load scheduled in the DAM is obligated to curtail the next day. Failure to curtail results in the imposition of a penalty for each such hour equal to the product of the MW curtailment shortfall and the greater of the corresponding DAM or Real-Time Market price of energy.

The DSASP program, introduced in June 2008, provides demand resources that meet telemetry and other qualification requirements an opportunity to offer their load curtailment capability into the DAM and/or Real-Time Market to provide Operating Reserves and Regulation Service. DSASP resources must qualify to provide Operating Reserves or Regulation Service through standard resource testing requirements. Offers are submitted through the same process as generation resources. Resources submit offers by 5:00 a.m. specifying the Ancillary Service they are offering (Spinning or Non-Synchronous Reserves, and/or Regulation, if qualified) along with the hours and amount of load curtailment for the next day, and the price at which they are willing to curtail. Real-time offers may be made up to 75 minutes before the hour of the offer. Although DSASP resources are not scheduled for energy in the DAM, they are required to submit energy offers, which are used in the co-optimization algorithm for dispatching operating reserve resources. Similar to the DADRP, the energy offer floor price is currently

\$75/MWh. DSASP resources are not paid for energy. They are eligible for a Day-Ahead Margin Assurance Payment to make up for any balancing difference between their Day-Ahead Reserve or Regulation schedule and Real-Time dispatch, subject to their performance for the scheduled service. Performance indices are calculated on an interval basis for both Reserves and Regulation. Payment is adjusted by the performance index for the service provided.

# **Summary of Significant Findings**

# Emergency Demand Response Program / ICAP Special Case Resources

As of July 31, 2012<sup>2</sup>, a total of 31 CSPs and RIPs have resources enrolled in the NYISO's EDRP and/or ICAP/SCR programs<sup>3</sup>. This level of participation represents a reduction of two Load Serving Entities (that are not Transmission Owners, "Competitive LSE"), eleven aggregators, four transmission owners, and five resources representing themselves (referred to herein as a "direct resource") since 2011 figures. Participating CSPs and RIPs include:

- 5 Transmission Owners
- 5 Load Competitive LSEs
- 14 aggregators that are not Load Serving Entities or Transmission Owners
- 7 EDRP or ICAP/SCR direct resources

Resource representatives that are not Transmission Owners or affiliates thereof, including Load Serving Entities not affiliated with Transmission Owners and aggregators, currently sponsor 55.4% of the total EDRP and ICAP/SCR enrolled MW, down from the 59.5% enrolled in 2011. In 2012, three non-Transmission Owners had resources enrolled in the EDRP program; all other EDRP resources were enrolled through Transmission Owners. Direct resources

<sup>&</sup>lt;sup>2</sup> For several years, August 31 has been the date customarily used for reporting NYISO's demand response program participation statistics. In 2011, the NYISO made a change from reporting demand response enrollment as of August 31 each year to July 31 of each year to better align with several other reporting requirements for reliability and planning. Reporting as of July 31 also provides transparency with other reporting requirements for demand response. The NYISO evaluated the difference in enrollment between July and August enrollments and found it to be minimal (2% - 3%).

<sup>&</sup>lt;sup>3</sup> The report on reliability programs is based on a snapshot of the programs as of July 31, 2012.

represent 7.8% of the enrolled MW in the ICAP/SCR program or 7.2% of the combined reliability program MW.

EDRP and ICAP/SCR had a total of 5,032 end-use locations enrolled capable of providing a total of 1,888.2 MW of demand response capability, a 13.1% decrease over the 2011 MW enrollment level. The demand response resources in NYISO reliability programs represent 5.8% of the 2012 Summer Capability Period peak demand of 32,439 MW. There were 259 end-use locations in EDRP (198 EDRP resources and 61 ICAP/SCR Unsold resources) and 4,773 end-use locations in ICAP/SCR. ICAP/SCR represents 94.9% of the total resources enrolled in the NYISO's reliability programs and 92.2% of the reliability programs' total enrolled MW. The TDRP, which deploys EDRP and ICAP/SCR resources in subzones of Zone J (New York City) for local reliability, included 39% of total NYCA EDRP end-use locations and encompassed 40.9% of total NYCA EDRP MW. The TDRP also included 49.2% of total NYCA ICAP/SCR end-use locations, representing 24.1% of the total NYCA enrolled ICAP/SCR MW, an increase of 3.2% in total MW and an increase of 1.1% in total resources since 2011.

Since participation in EDRP and ICAP/SCR became mutually exclusive in 2003, EDRP enduse locations and MW have continued to decrease. Aggregations by Responsible Interface Parties now account for 99% of ICAP/SCR resources and 81.8% of enrolled MW in the program, a decrease from 2011 in enrolled MW of 4.1%.

During the summer of 2012, the NYISO deployed its reliability demand response programs on six separate days; in addition, the TDRP was deployed on two of those days. The NYISO deployments of the ICAP/SCR and EDRP programs occurred once in May, three days in June and two days in July. Details on the 2012 demand response events are provided in the section titled "2012 Event Performance for Emergency Demand Response Program and ICAP Special Case Resources."

#### Day-Ahead Demand Response Program

During the analysis period of September 2011 through August 2012, there were no offers or schedules of DADRP resources. Given no activity in DADRP during the analysis period, there is nothing to report for this period.

## Demand-Side Ancillary Service Program

There are demand-side resources that have initiated and are progressing through the registration process for DSASP while implementing the infrastructure for direct communications with the NYISO. There was no market activity from DSASP during the summer of 2012.

# Participation in Reliability-Supporting Demand Response Programs

# Aggregation of ICAP/SCR Resources

Enrollments for ICAP/SCR resources are tracked by both (a) end-use location and (b) Program ID. Program IDs, used to identify demand resources<sup>4</sup> in NYISO's systems, may represent individually enrolled end-use locations or aggregations of end-use locations enrolled as a single resource. Table 1 indicates that there are a total of 90 aggregations represented by Responsible Interface Parties, collectively containing a total of 4,725 end-use locations with 1424.5 MW of the total 1741.1 MW of enrolled ICAP/SCR. Forty-eight (48) individually enrolled resources account for 316.6 MW.

Table 1: Detail of 2012 ICAP/SCR Program Participation Level by Resource Type

		ICAP			ICAP Unsold <sup>†</sup>	
Resource Type	# Program IDs	# End-use Locations	Sold MW	# Program IDs	# End-use Locations	Enrolled MW
Individual Resources	48	48	316.6	5	5	1.4
Aggregated Resources	90	4725	1424.5	8	56	1.8
Total	138	4773	1741.1	13	61	3.2

MW represent the ICAP equivalent MW sold in the ICAP market in July 2012.

+ ICAP Unsold includes both offered and unoffered MW

The right-hand section of Table 1 provides information for ICAP/SCR resources that did not sell MW in the July 2012 capacity market auctions. In cases where an ICAP/SCR resource offers load reduction in a NYISO auction and it is not sold, or when the resource's derated MW value is zero, that resource is automatically included in the EDRP program at its enrolled MW

<sup>&</sup>lt;sup>4</sup> A resource is defined as a single end-use location enrolled in a program individually or an aggregation of end-use locations enrolled as a unit; resources are identified by a Program ID.

value until the next auction or until the resource confirms a bilateral transaction with an LSE.

The EDRP program enrollment totals and event response reported include the offered, but unsold MW of enrolled ICAP/SCR resources.

#### EDRP and ICAP/SCR Program Enrollment

At the end of July 2012, the NYISO's reliability programs had a total of 5,032 end-use locations enrolled, with a total of 1,888.2 MW of demand response capability, a 13.1% reduction over the 2011 MW enrollment level. There were 259 end-use locations in EDRP (198 EDRP resources and 61 ICAP/SCR Unsold resources) and 4773 end-use locations in ICAP/SCR. ICAP/SCR represents 94.9% of the total reliability program resources and 92.2% of the total reliability program MW, an increase of less than 2% in the distribution of enrolled MW between the ICAP/SCR program and the EDRP since 2011.

Table 2: 2012 Program Enrollment Summary by Curtailment Service Provider Type

			EDRP (1)	)	ı	CAP Unsol	<b>d</b> <sup>(2)</sup>		ICAP (3)		DADRP (4)			
CSP Type #	Agent Type	# CSP	# End-use Locations	Enrolled MW	# RIP	# End-use Locations	Enrolled MW	# RIP	# End-use Locations	ICAP MW	# DRP	# End-use Locations	MW	
14	Aggregator	*	5	2.6	*	*	3.1	14	4061	918.4	*	*	9.0	
0	Curtailment Program End-Use Customer	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	
7	Direct Customer	0	0	0.0	0	0	0.0	6	91	136.2	0	0	0.0	
5	LSE	*	50	42.0	*	*	0.1	*	128	80.7	*	*	15.0	
5	Transmission Owner	*	143	99.4	0	0	0.0	*	493	605.8	*	*	13.0	
31	Total	7	198	143.9	7	61	3.2	27	4773	1741.1	4	4	37.0	

<sup>\*</sup> Number of entries in this category has been masked for confidentiality in the public version of the table. The unredacted values are presented in the confidential appendix submitted as Attachment 1.

Table 2 shows the total number of CSPs enrolled for 2012 in the first column and the number of CSPs, by type, with the number of end-use locations and enrolled MW for each of the program categories. This table provides the enrollment detail by program and CSP type.

Enrollments in EDRP in 2012 were predominantly through Transmission Owners. ICAP/SCR enrollments by aggregators provide 85% of participating end-use locations and 52.7% of the enrolled MW.

Note 1: The sum of EDRP and SCR Unsold Enrolled MW = Total EDRP.

Note 2: Resources in the ICAP/SCR program with Unsold capacity are considered EDRP resources in the month(s) that capacity is unsold. MW represent Enrolled MW in the ICAP program, but not sold.

Note 3: MW represent the ICAP equivalent MW sold in the ICAP market in July 2012.

Note 4: Total NYISO enrollment is not necessarily the sum of all programs due to the rules that state that end-use locations are allowed to participate in a reliability program (EDRP or ICAP) and economic (DADRP or DSASP).

Table 3 shows program enrollment detail by Load Zone. Although statistics on resource class are not collected, resources in Zones A through E are typically industrial and retail resources, while those in Zones J and K include commercial office, retail, and multi-family residential resources.

**Table 3: 2012 Program Enrollment by Zone** 

	EDF	RP <sup>(1)</sup>	ICAP Offere	ed/Unsold (2)	ICA	P <sup>(3)</sup>	DAD	RP <sup>(4)</sup>
Zone	#	Enrolled MW	#	Enrolled MW	#	ICAP MW	#	MW
Α	14	11.6	*	0.0	433	372.7	0	0.0
В	15	9.4	*	1.1	215	76.7	0	0.0
С	34	3.1	*	0.0	315	99.1	0	0.0
D	8	0.0	*	0.1	15	460.3	0	0.0
Е	25	18.9	0	0.0	145	27.6	0	0.0
F	27	29.1	*	0.2	195	95.9	*	28.0
G	*	1.6	0	0.0	154	50.2	*	9.0
Н	*	0.0	0	0.0	21	4.9	0	0.0
I	*	0.2	*	0.2	124	34.7	0	0.0
J	54	58.8	47	1.4	2347	419.2	0	0.0
K	15	11.3	*	0.2	809	99.7	0	0.0
Total	198	143.9	61	3.2	4773	1741.1	4	37.0

<sup>\*</sup> Number of entries in this category has been masked for confidentiality in the public version of the table. The unredacted values are presented in the confidential appendix submitted as Attachment 1.

# <u>Targeted Demand Response Program Enrollment</u>

Load Zone J currently is the only Load Zone with resources assigned to the TDRP. This Zone has been divided into subzones designated by Consolidated Edison Company of New York, Inc. ("Con Edison") Resources enrolled in EDRP and ICAP/SCR are assigned to one of the various subzones based on their location. Unassigned resources remain in the general Zone J

Note 1: The sum of EDRP and SCR Unsold Enrolled MW = Total EDRP.

Note 2: Resources in the ICAP/SCR program with Unsold capacity are considered EDRP resources in the month(s) that capacity is unsold. MW represent Enrolled MW in the ICAP program, but not sold.

Note 3: MW represent the ICAP equivalent MW sold in the ICAP market in July 2012.

Note 4: Total NYISO enrollment is not necessarily the sum of all programs due to the rules that state that end-use locations are allowed to participate in a reliability program (EDRP or ICAP) and economic (DADRP or DSASP).

category (J9: Shared Subzone). The sub-load pockets correspond to the following Con Edison network area substation groupings:

• J1: Sherman Creek/Parkchester/E
179<sup>th</sup>

• J2: Astoria West/Queensbridge

• J3: Vernon/Greenwood

• J4: Staten Island

• J5: Astoria East/Corona/Jamaica

• J6: W 49<sup>th</sup>

• J7: E13th/East River

• J8: Farragut/Rainey

• J9: Shared Subzone

Table 4: EDRP End-use Locations enrolled in TDRP – Zone J

	J	J1	J2	J3	J4	J5	J6	J7	J8	J9	Total
MW	0.0	0.1	1.5	2.9	0.7	7.6	0.0	0.6	1.6	1.0	15.8
End-use Locations	0	*	4	12	*	17	0	5	10	*	54

<sup>\*</sup> Number of entries in this category has been masked for confidentiality in the public version of the table. The unredacted values are presented in the confidential appendix submitted as Attachment 1.

Table 5: ICAP/SCR End-use Locations enrolled in TDRP - Zone J

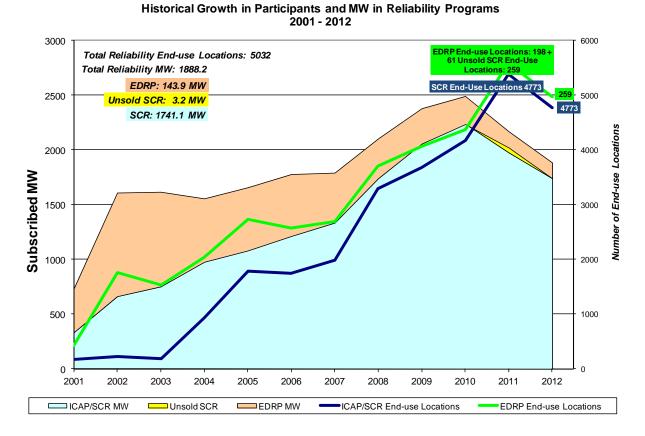
	J	J1	J2	J3	J4	J5	J6	J7	J8	J9	Total
MW	8.0	30.6	30.4	57.7	29.2	34.6	64.3	63.0	86.7	14.6	419.2
End-use Locations	*	159	192	496	78	240	245	389	520	*	2347

<sup>\*</sup> Number of entries in this category has been masked for confidentiality in the public version of the table. The unredacted values are presented in the confidential appendix submitted as Attachment 1.

#### Historical Enrollment in Reliability Programs

Figure 1 plots the growth in the NYISO's reliability-based programs from inception through July 2012. The stacked area plots enrolled MW by program and year. The lines plot the number of end-use locations by program and year. From May 2001 through July 2012, combined enrollment in EDRP and ICAP/SCR has grown from approximately 200 MW to 1,888.2 MW; and the total number of end-use locations has increased from approximately 200 in March 2002 to 5,032. Since participation in EDRP and ICAP/SCR became mutually exclusive, EDRP resources and MW have continued to decrease.

Figure 1: Historical Growth in Resources and MW in NYISO Reliability Programs



# **Changes in Program Enrollment**

Table 6 shows the program enrollment changes by number of Program IDs enrolled. Program IDs, which are used to represent resources in NYISO's market systems, may represent individual end-use locations or aggregations of end-use locations. Table 7 shows the program enrollment changes by number of end-use locations.

Table 6: Program Enrollment by Program ID - Changes 2011 to 2012

	20	111	20	12			nange From to 2012	Subscribed MW per Program ID			
	Count	MW	Count	MW	MW Change	Program ID Count	· .		2012	Percent Change	
EDRP	200	148.1	198	143.9	-4.2	-1%	-3%	0.74	0.73	-2%	
ICAP/SCR											
Unsold	32	48.6	13	3.2	-45.4	-59%	-93%	1.52	0.25	-84%	
ICAP/SCR	174	1976.2	138	1741.1	-235.1	-21% -12%		11.36	12.62	11%	
DADRP	4	37.0	4	37.0	0.0	0% 0%		9.25	9.25	0%	

Table 7: Program Enrollments by End-use Location - Changes 2011 to 2012

	20	11	20	12			hange From to 2012	Subscribed MW per End-use location				
	Count	MW	Count	MW	MW Change	End-use Location Count MW		2011	2012	Percent Change		
EDRP	200	148.1	198	143.9	-4.2	-1%	-3%	0.74	0.73	-2%		
ICAP/SCR												
Unsold	217	48.6	61	3.2	-45.4	-72%	-93%	0.22	0.05	-77%		
ICAP/SCR	5390	1976.2	4773	1741.1	-235.1	-11% -12%		0.37	0.36	-1%		
DADRP	4	37.0	4	37.0	0.0	0% 0%		9.25	9.25	0%		

Table 7, which shows changes in enrollment by end-use location, shows reductions in all reliability programs since the year-end report for Summer 2011. Changes in the number of enrolled resources in the ICAP/SCR Unsold category for July 2012 can be attributed to one or more of the following: poor performance factors, which results in some resources having little or no capacity to offer; or fewer ICAP/SCR resources with offered capacity that was not sold in any ICAP auction.

Enrollment in DADRP has been static for several years and the enrolled resources have shown no offer activity in the market since 2010.

Figures 2 through 4 track enrollment and MW in EDRP, ICAP/SCR and DADRP, respectively, over the period 2001 through 2012. The primary difference between Figures 2 and 3 is the representation of ICAP/SCR resources: Figure 2 shows the number of Program IDs, including individually enrolled resources and aggregated resources. Figure 3 provides information on the total number of end-use locations. ICAP/SCR enrollment of end-use locations was initiated in 2004; prior to that period, the enrolled resources shown in Figures 2 and 3 for ICAP/SCR were based on Program IDs, also referred to as Aggregation IDs. In addition, during 2001 and 2002, program enrollment was non-exclusive, *i.e.*, an end-use location could register for both EDRP and ICAP/SCR. Beginning in 2003, participation in the EDRP and ICAP/SCR programs became mutually exclusive.<sup>5</sup>

<sup>&</sup>lt;sup>5</sup> Pursuant to the tariff, SCRs may participate in both the EDRP and the ICAP/SCR programs concurrently if the resource has metering to distinguish the MWs of Demand Reduction in the Special Case Resource program from the MW in the EDRP. The metering requirement supports the program rule that MW cannot be committed both as Unforced Capacity and to the EDRP.

Figure 2: Demand Response Program Enrollment History by Program ID, 2001 – 2012

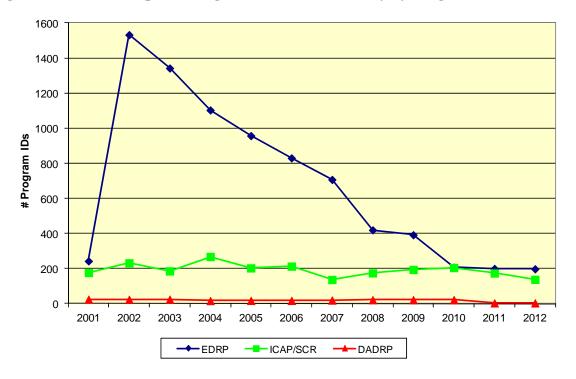


Figure 3: Demand Response Program Enrollment History by Number of End-use locations, 2001-2012

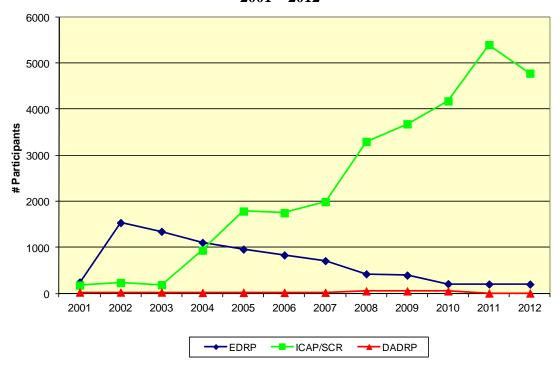


Figure 4 shows that since making EDRP and ICAP/SCR mutually exclusive, the general trend has been for number of resources and the level of MW enrolled in EDRP to decrease. At the same time, given the monthly capacity payment associated with it, the ICAP/SCR program enrollment has seen increases in the number of resources and MW levels. The recent reductions in the number of end-use locations and enrolled MW in recent years are in part due to changes to market rules designed to better estimate the demand response capability available to the NYISO under peak load conditions.

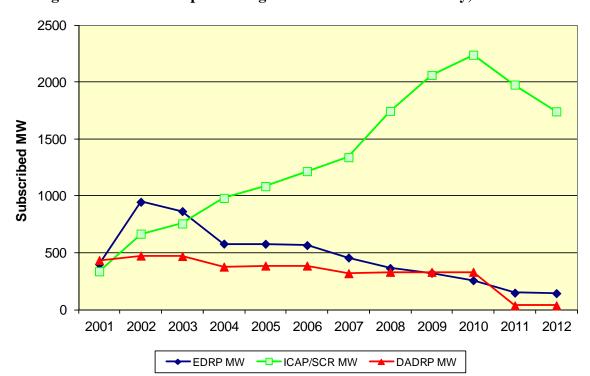


Figure 4: Demand Response Program MW Enrollment History, 2001 - 2012

#### Analysis of ICAP/SCR Strike Prices

Beginning in 2003, resources in the ICAP/SCR program were required to indicate, at the time of enrollment, a curtailment strike price, between \$0-\$500/MWh, which would be used by the NYISO to determine which resources to call for curtailments when all resources in a given Zone or Zones are not needed to restore system security to its equilibrium state.

To characterize how resources responded to this requirement, strike price curves were analyzed for all resources enrolled in July 2012. The curves in the figures below map the percentage of enrolled ICAP MW at a given strike price. Figure 5 illustrates the strike price curves for 2003 to 2012, covering the period of time since the program provision has been in place. The steeper slope for the strike price curve overall indicates that strike prices are clustered close to the offer ceiling of \$500/MWh. It is evident that over time the number of resources with higher strike prices has increased; in 2012, less than 2% of enrolled ICAP MW have a strike price below \$500/MWh. Figure 6 is a detailed view of the strike price curves for the past five years, 2008 through 2012, and displays a limited range where the price curve levels off to the offer ceiling of \$500/MWh; the strike price curves for 2010 and 2011 have the same shape. Figure 6 shows the 2012 percentages in black and, for comparison, the 2011 percentages in orange.

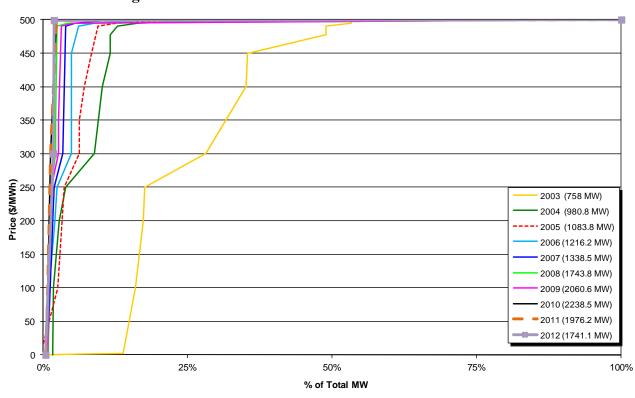


Figure 5: 2003 - 2012 ICAP/SCR Curtailment Bid Curves

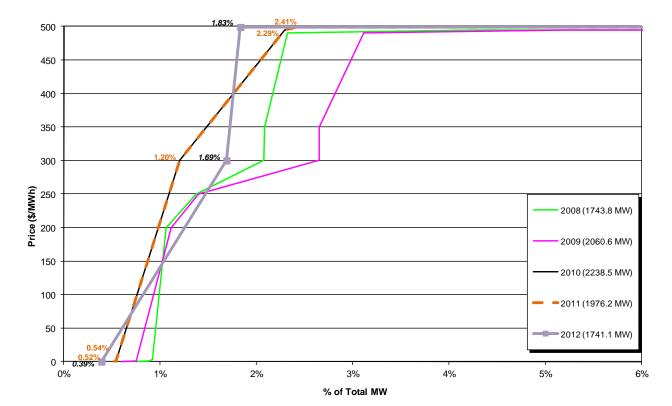


Figure 6: 2008 - 2012 ICAP/SCR Curtailment Bid Curve Detail

# **2012** Event Performance for Emergency Demand Response Program and ICAP/Special Case Resources

During the summer of 2012, the NYISO deployed its reliability demand response programs on six separate days; in addition, the TDRP was deployed twice. The NYISO deployments of the ICAP/SCR and EDRP programs occurred once in May, three times in June<sup>6</sup> and twice in July.<sup>7</sup> The 2012 deployments were as follows:

<sup>&</sup>lt;sup>6</sup> Details of demand response deployments in June were presented to NYISO's Management Committee on July 25, 2012:

 $<sup>&</sup>lt; http://www.nyiso.com/public/webdocs/markets\_operations/committees/mc/meeting\_materials/2012-07-25/Heat\_Wave\_Operations\_June\_20\_22\_2012\_MC\_Pres.pdf>$ 

<sup>&</sup>lt;sup>7</sup> Details of demand response deployments in July were presented to NYISO's Management Committee on August 29, 2012:

 $<sup>&</sup>lt; http://www.nyiso.com/public/webdocs/markets\_operations/committees/mc/meeting\_materials/2012-08-29/Agenda\_02\_Heat\_Wave\_July17\_18\_2012\_for\_MC.pdf>$ 

#### May 29:

SCR and EDRP resources were deployed in all zones statewide from 1 p.m. to 6 p.m. (HB 13 through HB 17) for statewide capacity needs due to actual load exceeding forecasted load, with import limitations on external interfaces. Both programs were deployed for immediate response at 12:16 p.m. (SCR) and 12:17 p.m. (EDRP) on May 29 with an event start time of 1 p.m. Response from resources that were able to respond immediately upon notification are reported under HB 12 in the event response tables of this report. Response from SCRs in the deployed zones was voluntary because the NYISO was not able to provide the required 2 hour advance notice.

The following intervals, based on end timestamps, were subject to EDRP/SCR Scarcity Pricing Rule A (impacting NYCA): 13:05 – 13:15, 13:50 – 14:00, and 14:25 – 14:35. <sup>8</sup>

The following intervals, based on end timestamps, were subject to EDRP/SCR Scarcity Pricing Rule B (impacting the East): 15:05 – 15:10, 15:24 – 15:30, 15:40 – 17:00 and 17:45 – 17:50.

#### **June 20:**

SCR and EDRP resources were deployed in Zones C, G, H, I, and J from 2 p.m. to 6 p.m. (HB 14 through HB 17) for SENY transmission security operations, the requirement to restore system power flows to within normal operating limits within 30 minutes; demand response was deployed in Zone C for voltage conditions. Response from SCRs in the deployed zones was mandatory.

The following intervals, based on end timestamps, were subject to EDRP/SCR Scarcity Pricing Rule B (impacting the East): 14:05.

#### **June 21:**

SCR and EDRP resources were deployed in all zones statewide: Zone J was deployed from 12 p.m. to 6 p.m. (HB 12 through HB 17), and all other zones were deployed from 1 p.m. to

<sup>&</sup>lt;sup>8</sup> Scarcity Pricing information for the May and June demand response events was presented to NYISO's Market Issues Working Group on July 19, 2012:

<sup>&</sup>lt;a href="http://www.nyiso.com/public/webdocs/markets\_operations/committees/bic\_miwg/meeting\_materials/20">http://www.nyiso.com/public/webdocs/markets\_operations/committees/bic\_miwg/meeting\_materials/20</a> 12-07-19/2\_Scarcity\_Pricing\_Outcomes.pdf>

6 p.m. (HB 13 through HB 17). Demand response resources in Zones G, H, I, J, and K were deployed for SENY transmission security operations, the requirement to restore system power flows to within normal operating limits within 30 minutes. SCR and EDRP resources in Zones A, B, C, D, E, and F were deployed for various location-specific reasons: transformer loadings (Zone B), voltage conditions (Zone C), and statewide capacity requirements due to the loss of over 800 MW of upstate generating capacity (Zones A, D, E, and F). Zone J was deployed at 12 p.m. at Con Edison's request. Response from SCRs in all deployed zones was mandatory. Scarcity pricing was not applied in any interval because a reserve shortage was not identified in the scarcity pricing logic.

#### **June 22:**

SCR and EDRP resources were deployed in Zones G, H, I, J, and K from 1 p.m. to 6 p.m. (HB 13 through HB 17) for forecasted reserve shortages needed to maintain transmission security operations. Response from SCRs in the deployed zones was mandatory. Scarcity pricing was not applied in any interval because a reserve shortage was not identified in the scarcity pricing logic.

#### **July 17:**

SCR and EDRP resources were deployed in Zone B from 2 p.m. to 6 p.m. (HB 14 through HB 17) for forecasted reserve shortages to maintain Rochester 345/115kV transformer loadings. Response from SCRs in the deployed zones was voluntary. Scarcity pricing was not applied in any interval because a reserve shortage was not identified in the scarcity pricing logic.

SCR and EDRP resources in sub-load pocket J3 (in Zone J) were deployed from 6 p.m. to 11 p.m. (HB18 through HB 22) under the TDRP at the request of Con Edison. Response to TDRP deployments is voluntary for SCRs and scarcity pricing does not apply to TDRP events.

#### **July 18:**

SCR and EDRP resources were deployed in Zone J from 1 p.m. to 6 p.m. (HB 13 through HB 17) and in Zones G, H, I, and K from 2:10 p.m. to 6 p.m. (HB 14:10 through HB 17). SCR and EDRP resources in Zone J were deployed based on forecasted reserve shortages needed to maintain SENY transmission security operations. Zones G, H, I, and K were deployed

to maintain sufficient reserves for SENY transmission security operations. Response from SCRs deployed in Zone J was mandatory. Response from SCRs in Zones G, H, I, and K was voluntary.

The following intervals, based on end timestamps, were subject to EDRP/SCR Scarcity Pricing Rule B (impacting the East): 13:05 - 13:40.

SCR and EDRP resources in sub-load pocket J3 were deployed from 6 p.m. to 10 p.m. (HB18 through HB 21) under the TDRP at the request of Con Edison. Response to TDRP deployments is voluntary for SCRs and scarcity pricing does not apply to TDRP events.

# Response during NYISO Demand Response Program Events

This section provides a summary of event response and payments for the Summer 2012 demand response events. Event response is compared to the Obligated MW (SCR) or Available MW (EDRP) for the zones deployed during an event. Obligated MW are the ICAP equivalent of the UCAP sold by resources in a zone during the calendar month in which the event occurred. When Obligated MW differ from enrolled MW, it indicates that some of the enrolled UCAP of SCRs in the zone was not sold for the month of the event; SCRs enrolled during a capability month that did not sell UCAP are treated as EDRP resources for that month. Available MW for EDRP is the amount of demand response reduction nominated by the EDRP resources in a zone.

Appendix A of this report provides detailed hourly response and payment information by zone for each demand response event during the Summer of 2012.

Table 8 provides a summary of average hourly response by SCR and EDRP resources during NYISO's demand response events during the Summer of 2012.

**Table 8. Summary of Summer 2012 Demand Response Program Event Response** 

NYISO Event Date	Zones	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW	Event Energy yments (based on CBL)	Average \$/MWh
May 29, 2012	A, B, C, D, E, F, G, H, I, J, K	502.9	1681.2	29.9%	\$ 1,152,964.96	\$ 511.31
June 20, 2012	C, G, H, I, J	479.3	664.0	72.2%	\$ 626,290.42	\$ 499.99
June 21, 2012	A, B, C, D, E, F, G, H, I, J, K	1195.8	1762.3	67.9%	\$ 2,487,459.29	\$ 504.72
June 22, 2012	G, H, I, J, K	597.7	672.9	88.8%	\$ 858,049.38	\$ 499.99
July 17, 2012	В	32.1	85.9	37.4%	\$ 41,186.35	\$ 500.00
July 18, 2012	G, H, I, J, K	425.9	674.8	63.1%	\$ 799,723.49	\$ 578.30
					\$ 5,965,673.88	\$ 513.83

NYISO Event Date	zones Ret	Average Hourly MW	Obligated SCR MW and Available	Response as % of Obligated or Available MW	Event Energy Payments (based on CBL)	Average \$/MWh
May 29, 2012	A, B, C, D, E, F, G, H, I, J,	509.6	1680.1	30.3%	\$ 1,152,964.96	\$ 511.31
June 20, 2012	C, G, H, I, J	449.3	664.0	67.7%	\$ 626,290.42	\$ 499.99
June 21, 2012	A, B, C, D, E, F, C_H, I, K	1026.3	1762.3	58.2%	\$ 2,487,459.29	\$ 504.72
June 22, 2012	G, H, I, J, (	495.7	7: 6	73.8%	\$ 858,049.38	\$ 499.99
July 17, 2012	В	32.1	85.9	37.4%	\$ 41,186.35	\$ 500.00
July 18, 2012	G, H, I, J, K	387.0	663.1	58.4%	\$ 799,723.49	\$ 578.30
					\$ 5,965,673.88	\$ 513.83

# ICAP/SCR Capacity Response

Event response based on the ICAP/SCR reporting rules is contained in the NYISO's Installed Capacity Manual. ICAP/SCR response is determined by comparing the actual hourly interval metered energy with the Average Coincident Load (ACL):

$$RED\_MW_{gn} = ACL_{gm} - METER\_MW_{gn}$$

#### where:

- RED\_MW<sub>gn</sub> is the Installed Capacity Equivalent response that Resource *g* supplies during hour *n* of an SCR event;
- ACL<sub>gm</sub> is the Average Coincident Load for Resource *g* applicable to month *m*, using data submitted in its Special Case Resource Certification; and
- METER\_MW<sub>gn</sub> is the metered hourly-integrated energy for Resource *g* in hour *n* of an SCR event.

Response using this measure compares actual reduction with the Installed Capacity Equivalent (ICAP) of the resource's reduction capability sold. Individual resource performance factors are based on the four highest contiguous hours of demand response during each event as well as response during mandatory tests, as shown in Table 9. Beginning with the Summer of 2012, aggregation performance factors are used to determine the kW that can be sold in the next like Capability Period (*i.e.*, Summer or Winter). Reporting of meter data is required for all hours of a mandatory event in which the SCR was expected to respond.

Table 9: Summary of SCR MW Response Based on ICAP Measures for Summer 2012

Demand Response Events

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

<sup>\*</sup> On May 29, 2012, HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m.

SCR ICAP Response	Zones	HB 1 *	HR 13	11a	ČĖ.	Н 16	HB.17	verage Hourly MW	Obligated SCR MW	Response as % of Obligated MW
May 29, 2012	A, B, C, D, E, F, G, H, I, J, K	185.4	563.4	445.6	458.9	455.1	705.3	468.9	1618.3	29.0%
June 20, 2012	C, G, H, I, J			425.8	442.1	450.4	474.4	448.2	600.6	74.6%
June 21, 2012	A, B, C, D, E, F, G, H, I, J, K	218.3	120 5	310.0	1234 2	904.4	933.7	967.7	1620.7	59.7%
June 22, 2012	G, H, I, J, K		2 C 7	4 4	2 5.	52 9	1 12.4	483.0	600.0	80.5%
July 17, 2012	В		uU	1.	G U	28.5	328	32.1	76.5	42.0%
July 18, 2012	G, H, I, J, K		247.5	306.7	350.7	400.5	438.4	374.1	591.2	63.3%

<sup>\*</sup> On May 29, 2012, HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m.

# NYISO Event Energy Response and Payments

In addition to compensation for committing to reduce capacity, RIPs with resources enrolled in the ICAP/SCR are eligible for payment related to energy reduction during a demand response event when they submit the associated performance data. To compute energy payments, response is determined using a Customer Baseline Load (CBL) computed using recent historical data to determine what the resource's energy consumption would have been during event hours if the Special Case Resource had not reduced its load in response to a NYISO deployment request. This computation method is the same method used in the EDRP program to measure demand response reductions eligible for energy payment. For settlement of the energy payment, the amount of demand response reduction is equal to the difference between the hourly CBL and corresponding hourly interval meter readings during event hours.

<sup>&</sup>lt;sup>9</sup> EDRP Manual, section 5.2:

<sup>&</sup>lt;a href="http://www.nyiso.com/public/webdocs/products/demand\_response/emergency\_demand\_response/edrp\_mnl.pdf">http://www.nyiso.com/public/webdocs/products/demand\_response/emergency\_demand\_response/edrp\_mnl.pdf</a>

Table 10 presents a summary of energy response data for ICAP/SCR resources that reported CBL data for the NYISO's ICAP/SCR events; reporting of CBL data is voluntary for SCRs. Since the ICAP/SCR ACL values are based on the prior like Capability Period and the CBL is determined from load data that ranges from two weeks to 30 days prior to the event, differences in response can be expected. Contributing to the difference between the capacity response reported above and the energy response reported (in Table 10) is the fact that not all Responsible Interface Parties submitted CBL energy performance data. The NYISO has observed that some RIPs report CBL data for their larger resources, particularly in Zone J where energy prices are typically higher than the rest of the NYCA. Details on the energy payments made to SCRs for the Summer 2012 demand response events are included in Appendix A of this report.

Table 10: SCR Energy Response based on CBL for Summer 2012 Demand Response

Events

SCR CBL Response	Zones	HB 12*	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated ICAP MW of SCRs Reporting CBL Data	Response as % of Obligated MW
May 29, 2012	A, B, C, D, E, F, G, H, I, J, K	114.7	484.2	355.4	349.7	317.0	533.2	359.0	1028.7	34.9%
June 20, 2012	C, G, H, I, J			324.1	331.1	307.7	285.3	312.0	517.4	60.3%
June 21, 2012	A, B, C, D, E, F, G, H, I, J, K	154.62	1121.8	1215.9	1093.2	694.3	643.3	944.0	1537.1	61.4%
June 22, 2012	G, H, I, J, K		298.9	325.6	346.4	356.8	325.2	330.6	542.8	60.9%
July 17, 2012	В			14.0	26.1	25.6	16.7	20.6	61.6	33.4%
July 18, 2012	G, H, I, J, K		221.0	281.5	317.1	348.4	332.8	311.5	511.2	60.9%

<sup>\*</sup> On May 29, 2012, HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m.

SCR CBL Response	Zones	HB 12*	HB 13	нв 14 <b>ЭС</b>	HB 15	HB 16	HB 17	H	verage Hourly MW	Obligated ICAP MW of SCRs Reporting CBL Data	Response as % of Obligated MW
May 29, 2012	A, B, C, D, E, F, G, H, I, J, K	_14.7	4 42	33.47	30.7	317.0	533.2	3	359.0	969.6	37.0%
June 20, 2012	C, G, H, I, J		4	324.1	331.1	307.7	285.3	3	312.0	426.4	73.2%
June 21, 2012	A, B, C, D, E, F, G, H, I, J, K	154.62	121.	1215.9	<b>4</b> 093.2	694.3	643.3	9	944.0	1361.6	69.3%
June 22, 2012	G, H, I, J, K	to	2.8.9	225.6	40	376.3	325.2	3	330.6	412.8	80.1%
July 17, 2012	В			14.0	26 A	2 6	16.7		20.6	59.1	34.9%
July 18, 2012	G, H, I, J, K		221.0	281.5	317.1	348.4	332.8	3	311.5	380.1	82.0%

<sup>\*</sup> On May 29, 2012, HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m.

Table 11 reports the energy reductions of EDRP resources during the Summer 2012 NYISO demand response events, computed using the CBL method. Response of EDRP

resources varied greatly by zone and event. It is important to note that the enrolled MW values shown below that are used to compute performance include unsold SCRs as reported in Table 3.

Table 11: Energy Response of EDRP Resources for Summer 2012 Demand Response

Events

EDRP CBL Response	Zones	HB 12**	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Available EDRP MW	Response as % of Available MW
May 29, 2012	A, B, C, D, E, F, G, H, I, J, K	13.6	17.3	22.7	19.0	15.4	12.8	16.8	63.0	26.7%
June 20, 2012	C, G, H, I, J			1.1	1.1	1.2	1.1	1.1	63.5	1.8%
June 21, 2012	A, B, C, D, E, F, G, H, I, J, K	9.2	23.8	24.0	19.0	15.5	14.6	19.5	142.7	13.6%
June 22, 2012	G, H, I, J, K		11.4	12.4	13.2	13.3	13.0	12.7	72.9	17.4%
July 17, 2012	В			0.000	0.000	0.001	0.000	0.0003	9.4	0.003%
July 18, 2012	G, H, I, J, K		10.5	11.7	12.8	14.3	14.0	12.9	72.2	17.9%

<sup>\*\*</sup> On May 29, 2012, HB 12 was a partial hour of response; immediate deployment for EDRP was initated at 12:17 p.m.

EDRP CBL Response	Zones	R*	HB 13	HB 14	HB 15	HE 1.6	HB 17	Average Hourly MW	Available EDRP MW	Response as % of Available MW
May 29, 2012	A, B, C, D, E, F, G, H, I, J, K	13.6	7.73	22.7	13.0	15.4	12.8	16.8	63.0	26.7%
June 20, 2012	C, G, H, I, J		4	1.1	1.1	1.2	1.1	1.1	63.5	1.8%
June 21, 2012	A, B, C, D, E, F, G, H, I, J, K	9.2	23.8	24.0	19.0	15.5	14.6	19.5	141.6	13.8%
June 22, 2012	G, H, I, J, K	<u>to</u>	41.4	12.4	2.0	13.7	13.0	12.7	71.6	17.7%
July 17, 2012	В			Ū.000	0.0	0. 71	Ů.000	0.0003	9.4	0.003%
July 18, 2012	G, H, I, J, K		20.5	11.7	12.8	14.3	14.0	12.9	71.9	17.9%

<sup>\*\*</sup> On May 29, 2012, HB 12 was a partial hour of response; immediate deployment for EDRP was initated at 12:17 p.m.

Table 12 provides a summary of energy payments by event and program during NYISO demand response program events in the Summer 2012. Tables with the hourly detail of the energy payments by program and event are reported in Appendix A.

**Table 12: Summary of Energy Payments for 2012 Events** 

NYISO Event Date	Zones SCR		SCR	EDRP			Total	Average \$/MWh		
May 29, 2012	A, B, C, D, E, F, G, H, I, J, K	\$	1,100,573.60	\$	52,391.35	\$	1,152,964.96	\$	511.31	
June 20, 2012	C, G, H, I, J	\$	624,023.57	\$	2,266.85	\$	626,290.42	\$	499.99	
June 21, 2012	A, B, C, D, E, F, G, H, I, J, K	\$	2,431,887.52	\$	55,571.77	\$	2,487,459.29	\$	504.72	
June 22, 2012	G, H, I, J, K	\$	826,422.33	\$	31,627.05	\$	858,049.38	\$	499.99	
July 17, 2012	В	\$	41,185.85	\$	0.50	\$	41,186.35	\$	500.00	
July 18, 2012	G, H, I, J, K	\$	758,129.26	\$	41,594.23	\$	799,723.49	\$	578.30	
	Totals	\$	5,782,222.14	\$	183,451.75	\$	5,965,673.88	\$	513.83	

**Combined Hourly Event Performance** 

Tables 13 - 18 summarize hourly event response from SCR and EDRP for each NYISO event date. TDRP event responses are reported in Appendix A.

Table 13: Hourly Event Response Detail

NYISO Demand Response Event – May 29, 2012

Combined Hourly Response for May 29, 2012	Zones	HB 12^	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW
SCR (ICAP)	A, B, C, D, E, F, G, H, I, J, K	193.3	576.7	461.3	476.5	475.8	733.2	486.1	1618.3	30.0%
FDRP (CRL)	ARCDEEGHILK	13.6	17 3	22.7	19.0	15.4	12.8	16.8	63.0	26.7%

29.9%

^ HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m and EDRP at 12:17 p.m.

206.8

Combined Hourly Response for May 29, 2012	Zones	HB 12^	Rej	ola	cec	1110	43 17	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW
SCR (ICAP)	A, B, C, D, E, F, G, H, I, J, K	185.4	563.4	445.6	458.9	455.1	705.3	468.9	1618.3	29.0%
EDRP (CBL)	A, B, C, D, E, F, G, H, I, J, K	13.6	17.3	22.7	19.0	15.4_	12.8	16.8	63.0	26.7%
Totals		198.9	58 11	4 18.3	70	7 4/6	718.1	485.7	1681.2	28.9%

^ HB 12 was a partial hour of response; in the set depoint of the set of the

Table 14: Hourly Event Response Detail

NYISO Demand Response Event – June 20, 2012

Combined Hourly Respnse for June 20, 2012	Zones	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW
SCR (ICAP)	C, G, H, I, J	453.0	471.4	480.6	507.7	478.2	600.6	79.6%
EDRP (CBL)	C, G, H, I, J	1.1	1.1	1.2	1.1	1.1	63.5	1.8%
Totals		454.1	472.5	481.8	508.8	479.3	664.0	72.2%

Combined Hourly Respnse for June 20, 2012	Zones	R	epla	ace	<b>G</b> <sub>17</sub> <b>b</b>		Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW
SCR (ICAP)	C, G, H, I, J	425/3	142.	450.4	474.4	0	448.2	600.6	74.6%
EDRP (CBL)	C, G, H, I, J	1.	1117		1		1.1	63.5	1.8%
Totals		426.3	423.2	453.7	<b>-75.6</b>	V	449.3	664.0	67.7%

Table 15: Hourly Event Response Detail

NYISO Demand Response Event – June 21, 2012

Combined Hourly Response for June 21, 2012	Zones	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as 9 of Obligated or Available MW
SCR (ICAP)	A, B, C, D, E, F, G, H, I, J, K	244.9	1271.3	1387.2	1314.7	989.3	1021.8	1176.3	1620.7	72.6%
EDRP (CBL)	A, B, C, D, E, F, G, H, I, J, K	9.2	23.8	24.0	19.0	15.5	14.6	19.5	141.6	13.8%
Totals		254.1	1295.1	1411.2	1333.7	1004.8	1036.5	1195.8	1762.3	67.9%
Combined Hourly Response for June 21, 2012	Zones	HB 12	Re	pla	(HB(5)	d <sub>IB</sub> b	<b>J</b> 43 17	Averag Hourly N		Response as of Obligated or Available MW
SCR (ICAP)	A, B, C, D, E, F, G, H, I, J, K	218.3	1205.5	1 10.0	1234 🖫	904.4_	933.7	967.7	1620.7	59.7%
EDRP (CBL)	A, B, C, D, E, F, G, H, I, J, K	9.2	29,8				14.6	19.5	141.6	13.8%
Totals		227.6	1229.3	1334.1	1253.2	919.9	948.4	987.2	1762.3	56.0%

Table 16: Hourly Event Response Detail NYISO Demand Response Event – June 22, 2012

Combined Hourly Response for June 22, 2012	Zones	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW
SCR (ICAP)	G, H, I, J, K	482.7	546.9	602.8	633.8	658.9	585.0	600.0	97.5%
EDRP (CBL)	G, H, I, J, K	11.4	12.4	13.2	13.3	13.0	12.7	72.9	17.4%
Totals		494.1	559.3	616.0	647.1	671.9	597.7	672.9	88.8%

Combined Hourly Response for June 22, 2012	Zones	HR.		ac	ed	by	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW
SCR (ICAP)	G, H, I, J, K	4004	54.6	496.7	520.9	542.4	483.0	600.0	80.5%
EDRP (CBL)	G, H, I, J, K	11.4	12	13.2		/110	12.7	71.6	17.7%
Totals		412.1	466.9	509.9	534.2	555.3	495.7	671.6	73.8%

Table 17: Hourly Event Response Detail

NYISO Demand Response Event – July 17, 2012

Combined Hourly Response for July 17, 2012	Zones	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW
SCR (ICAP)	В	19.9	34.1	38.5	35.8	32.1	76.5	42.0%
EDRP (CBL)	В	0.000	0.000	0.001	0.000	0.0003	9.4	0.003%
Totals		19.9	34.1	38.5	35.8	32.1	85.9	37.4%

Combined Hourly Response for July 17, 2012	Zones	HB 14	Rep	lac	ed	b	Average Hyurly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW
SCR (ICAP)	В	19.9	34.1	38.5	35.8		32.1	76.5	42.0%
EDRP (CBL)	В	0.0	@0	0,0			ე.0003	9.4	0.0%
Totals		19.9	34.1	38.5	35.8	-	32.1	85.9	37.4%

Table 18: Hourly Event Response Detail

NYISO Demand Response Event – July 18, 2012

Combined Hourly Response for July 18, 2012	Zones	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW
SCR (ICAP)	G, H, I, J, K	271.5	349.8	400.3	462.8	514.7	413.0	602.6	68.5%
EDRP (CBL)	G, H, I, J, K	10.5	11.7	12.8	14.3	14.0	12.9	72.2	17.9%
Totals		282.0	361.5	413.1	477.1	528.8	425.9	674.8	63.1%

Combined		T		1	1	1		Obligated	Response as %
Hourly	Zones	HB 1	<b>A11</b>	120	AG	H.V.	Average	SCR MW and	of Obligated
Response for	Zones	пр	U	ICIC	UU	<b>10</b> 4	Hourly MW	Available	or Available
July 18, 2012								EDRP MW	MW
SCR (ICAP)	G, H, I, J, K	247.5	3(6.7	350.7	1 400.5	438.4	374.1	591.2	63.3%
EDRP (CBL)	G, H, I, J, K	10.5	213	2.8	an	71.00	12.9	71.9	17.9%
Totals		258.0	9381	263.5	4.1	45. 5/	387.0	663.1	58.4%

#### **Day-Ahead Demand Response Program**

The DADRP program provides demand-side resources with an opportunity to offer their load curtailment capability into the Day-Ahead energy market as energy supply resources. Resources submit offers by 5:00 a.m., specifying the hours and amount of load curtailment they are offering for the next day, and the price at which they are willing to curtail. Prior to November 1, 2004, the offer price had to be \$50/MWh or higher. As of November 1, 2004, the offer floor price for DADRP has been set at \$75/MWh. Offers are structured like those of generation resources, thus, DADRP program resources may specify minimum and maximum run

times and effectively submit a block of hours on an all-or-nothing basis. This structure makes resources eligible for Bid Production Cost Guarantee payments that make up for any difference between the market price during that block of hours and their block offer price. Load scheduled in the DAM is obligated to curtail the next day. Failure to curtail results in the imposition of a penalty equal to the product of the MW curtailment shortfall and the greater of the corresponding Day-Ahead or Real-Time market price.

During the analysis period of September 2011 through August 2012, there were no offers or schedules of DADRP resources. Because there was no activity in DADRP during the analysis period, there is nothing to report for this period.

#### **Demand Side Ancillary Services Program**

The DSASP program provides demand-side resources that meet telemetry and other qualification requirements an opportunity to offer their load curtailment capability into the DAM and/or Real-Time Market to provide Operating Reserves and Regulation Service. DSASP resources must qualify to provide Operating Reserves or Regulation Service through standard resource testing requirements. Offers are submitted through the same process as generation resources. Resources submit offers by 5:00 a.m. specifying the ancillary service they are offering (Spinning or Non-Synchronous Reserves, and/or Regulation, if qualified) along with the hours and amount of load curtailment for the next day, and the price at which they are willing to curtail. Real-time offers may be made up to 75 minutes before the hour of the offer. Although DSASP resources are not scheduled for energy in the DAM, they are required to submit energy offers, which are used in the co-optimization algorithm for dispatching operating reserve resources. Similar to the DADRP, the energy offer floor price is currently \$75/MWh. DSASP resources are not paid for energy, however, they are eligible for a Day-Ahead Margin Assurance Payment to make up for any balancing difference between their Day-Ahead Reserve or Regulation schedule and Real-Time dispatch, subject to their performance for the scheduled service. Performance indices are calculated on an interval basis for both Reserves and Regulation. Payment is adjusted by the performance index for the service provided.

There are demand-side resources that have initiated and are progressing through the registration process for DSASP concurrent with implementing the infrastructure for direct

communications with the NYISO. FERC's recent approval of NYISO's compliance filing<sup>10</sup> allowing aggregations of small demand-side resources to provide ancillary services through DSASP has increased interest in the Demand Side Ancillary Service Program. The NYISO is making the software changes necessary to allow market participation by the effective date of April 1, 2013. Additional confidential information on the DSASP is provided in Attachment 41.

#### **Update on 2012 Demand Response Initiatives**

This section provides an update on the status of the following initiatives that the NYISO has been working on with its stakeholders to improve the administration of its demand response programs and to address regulatory directives to facilitate market participation:

- Market Rules for Aggregations of Small Demand-side Resources in the Ancillary Services Markets
- Order 745 Compliance Filing on the Feasibility of a Dynamic Net Benefit Test
- Program Design for Demand Response Participation in the Real-Time Energy Market
- Continued Development of the Demand Response Information System (DRIS)

# Market Rules for Aggregations of Small Demand-side Resources in the Ancillary Services Market

As described above, FERC accepted the NYISO's proposed market rules and procedures, presented in the NYISO's stakeholder process, for integrating aggregations of small demand-side resources into its Ancillary Services market through the Demand Side Ancillary Services Program (DSASP). Changes to the NYISO's Ancillary Services Manual documenting the procedures were approved through the stakeholder process.

### Order 745 Compliance Filing on the Feasibility of a Dynamic Net Benefit Tests

As directed in Order 745, the NYISO made a compliance filing in September 2012 to report on the results of a study to determine the feasibility of integrating a dynamic version of the

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<sup>&</sup>lt;sup>10</sup> Docket No.: ER12-2622-000, issued on 11/1/12).

Net Benefits Test on a real-time basis. The study was developed as a collaborative project with other US-based ISOs and RTOs of the ISO/RTO Council. Prior to filing, the NYISO presented a summary of the study and its compliance filing to stakeholders.<sup>11</sup>

#### Demand Response in the Real-Time Energy Market

The NYISO made presentations on the concepts for demand response participation in the real-time energy market at Market Issues Working Group meetings on October 4, 2012 and November 30, 2012. The Business Issues and Operating Committees indicated support of the concepts through advisory approvals on December 5, 2012 and December 6, 2012, respectively.

# Continued Development of the Demand Response Information System (DRIS)

The NYISO had one deployment in 2012 for DRIS to integrate demand response event creation with communication services from a third-party provider to improve event notification. This deployment was used by NYISO Operators for five of the six demand response events in the summer of 2012 to deploy demand response resources and allowed a way for market participants to provide an estimate of their anticipated capability directly into DRIS.

#### **Demand Response Initiatives for 2013**

This section provides an overview of the projects that the NYISO has planned for its demand response programs for 2013.

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<sup>&</sup>lt;sup>11</sup> Market Issues Working Group presentation by D. Pratt and S. Harvey (FTI Consulting): <a href="http://www.nyiso.com/public/webdocs/markets\_operations/committees/bic\_miwg/meeting\_materials/20">http://www.nyiso.com/public/webdocs/markets\_operations/committees/bic\_miwg/meeting\_materials/20</a> 12-09-06/Order 745 Compliance Filing The Dynamic Net Benefits Test Final.pdf >

<sup>&</sup>lt;sup>12</sup> Presentation by D. Pratt to joint meeting of Price Responsive Load Working Group and Market Issues Working Group:

<sup>&</sup>lt;a href="http://www.nyiso.com/public/webdocs/markets\_operations/committees/bic\_miwg/meeting\_materials/20">http://www.nyiso.com/public/webdocs/markets\_operations/committees/bic\_miwg/meeting\_materials/20</a> 12-11-30/Demand\_Response\_in\_the\_Real-Time\_Energy\_Market-for\_11-30\_MIWG.pdf >

## Compliance Filing Regarding Technical Bulletin 217 (Docket EL12-56-000)

The NYISO presented its draft compliance filing which includes proposed changes to its tariff and ICAP Manual at the January 14, 2013 ICAP Working Group. <sup>13</sup> Changes to the ICAP Manual will be taken through the stakeholder process, which requires approval by the Business Issues Committee.

#### Demand Response in the Real-Time Energy Market

The NYISO has a 2013 project to develop market rules and functional requirements to allow demand response to participate in the real-time energy market. Market rules and functional requirements will incorporate the concepts approved by stakeholders in December 2012.

#### Revisions to the SCR Program

Through the stakeholder process, the NYISO is working on a number of revisions to SCR program rules related to procedures associated with the implementation of the Provisional ACL, including:

- Addressing the use of Provisional ACL for SCRs that change RIPs;
- Reviewing limitation on Provisional ACL for three consecutive Capability Periods;
- Reviewing SCR Load Zone Peak Hours for Winter ACL; and
- Addressing increased baseline with reporting process to increase ACL values within Capability Period

The NYISO will also be discussing changes to the required duration of performance for SCRs based on a 2012 study on the capacity value of resources with limited response capabilities. The changes under discussion are expected to affect tariff, manual, and software; a Q4 2013 software deployment is planned.

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<sup>&</sup>lt;sup>13</sup> K. Whitaker presentation to joint meeting of ICAP Working Group and Price Responsive Load Working Group: <a href="http://www.nyiso.com/public/webdocs/markets\_operations/committees/bic\_icapwg/meeting\_materials/2013-01-14/Technical%20Bulletin%20217%20Compliance%20Filing%20\_%20ICAP-PRL%20WG%20Posting.pdf">http://www.nyiso.com/public/webdocs/markets\_operations/committees/bic\_icapwg/meeting\_materials/2013-01-14/Technical%20Bulletin%20217%20Compliance%20Filing%20\_%20ICAP-PRL%20WG%20Posting.pdf</a>.

# Continued Development of the Demand Response Information System (DRIS)

The NYISO currently has two software deployments planned for DRIS in 2013. A Q1 2013 deployment will incorporate the procedures to permit aggregations of demand side resources to participate in the NYISO's ancillary services market as DSASP Resources. In Q4 2013, a deployment is planned to incorporate the market rule and procedural changes associated with revisions to the SCR program being discussed in the stakeholder process, provided that market rules and procedures are approved by stakeholders to allow sufficient time for development and testing.

## Implementation of NYISO's Order 745 Compliance Filing for a Monthly Net Benefits Test

The NYISO is anticipating an order on its Order 745 compliance filing and has identified the changes to systems and procedures that will be required to comply with its filing. When the NYISO receives its order, the NYISO will assess whether changes to the current implementation plan are required.

### Appendix A: Detailed Event Response for Summer 2012 Demand Response Events

For each of the six NYISO's demand response events, the following tables are reported in this Appendix:

- Event Summary reports average hourly response compared to Obligated or
   Available MW by program, event energy payments by program and average \$/MWh.
- SCR MW Response Based on ICAP Measures reports hourly response detail, based on ICAP measures, by zone and average hourly response compared to Obligated MW for the zone.
- SCR Energy Response Based on CBL reports hourly response detail, based on CBL
  measures, by zone and average hourly response compared to Obligated MW of SCRs
  that reported CBL data in the zone.
- SCR Energy Payments reports hourly energy payments, daily BPCG payments, and average \$/MWh by zone to SCRs that reported CBL data.
- Energy Response of EDRP Resources and SCRs treated as EDRP reports detailed hourly response by zone, average hourly response, and comparison of average hourly response to enrolled (also referred to as Available) MW.
- Energy Payments to EDRP Resources and SCRs treated as EDRP reports hourly and total event energy payments by zone and average \$/MWh.

In addition, for the two TDRP events, the following tables are provided:

- Event Response of SCR and EDRP Resources reports hourly energy response detail, based on CBL measures, by zone and average hourly response compared to Enrolled MW for the sub-load pocket.
- Energy Payments to SCR and EDRP Resources reports hourly and total TDRP event energy payments by sub-load pocket and average \$/MWh.

### May 29, 2012: SCR Response was voluntary for all deployed zones

Table A-1: Event Summary - May 29, 2012

Combined Hourly Response for May 29, 2012	Zones	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW	Event Energy Payments (based on CBL)	Average \$/MWh
SCR (ICAP)	A, B, C, D, E, F, G, H, I, J, K	486.1	1618.3	30.0%	\$ 1,100,573.60	\$ 510.92
EDRP (CBL)	A, B, C, D, E, F, G, H, I, J, K	16.8	63.0	26.7%	\$ 52,391.35	\$ 519.68
Totals		502.9	1681.2	29.9%	\$ 1,152,964.96	\$ 511.31

Combined Hourly Response for May 29, 2012	Zones R	Ce policia	Obligated SCR Viv and Evaluable EDRP MW	R sponse as % of bligated or A silable MW	Event Energy Payments (based on CBL)	Average \$/MWh
SCR (ICAP)	A, B, C, D, E, F, G, H, I, J,	468.9	C183 T	29.0%	\$ 1,100,573.60	\$ 510.92
EDRP (CBL)	A, B, C, D, E, F, G, H, I, J,	7 5 3 7	6 JULY	26.7%	\$ 52,391.35	\$ 519.68
Totals		485.7	1681.2	28.9%	\$ 1,152,964.96	\$ 511.31

Table A-2: SCR MW Response Based on ICAP Measures – May 29, 2012

	Hourly Response based on ICAP/UCAP Measures													
29-May	MWh													
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				
Α	51.3	135.5	135.8	138.1	139.1	142.1		123.7	270.9	45.7%				
В	18.9	28.3	28.9	32.4	29.7	29.1		27.9	77.3	36.1%				
С	29.3	41.9	47.3	49.7	49.1	49.5		44.5	99.1	44.9%				
D	0.0	204.0	67.4	65.0	57.6	286.4		113.4	459.8	24.7%				
E	3.7	3.0	4.0	8.1	9.2	9.8		6.3	27.4	22.9%				
F	27.9	36.1	39.0	39.0	39.2	42.7		37.3	96.7	38.6%				
G	5.6	13.1	14.7	14.7	16.5	19.1		13.9	50.9	27.4%				
Н	0.0	0.1	0.1	0.1	0.1	0.1		0.1	6.1	1.8%				
I	1.2	1.8	1.9	2.1	2.3	2.5		2.0	33.3	5.9%				
J	51.6	105.5	113.6	118.2	123.7	142.3		109.1	401.0	27.2%				
K	3.8	7.5	8.5	9.1	9.3	9.7		8.0	95.9	8.3%				
Total	193.3	576.7	461.3	476.5	475.8	733.2		486.1	1618.3	30.0%				

<sup>\*</sup> HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m.

			Hourly I	Response b	ased on ICA	NP/UCAP M	eas	ures		
29-May	MWh									
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
Α	51.3	135.5	F 8		13 .	142		3 7/	270.9	45.7%
В	18.9	28.2	3.8	3 3	12.6	24.5		27.8	77.3	36.0%
С	29.6	42.2	47.7	4 .6	48.4	47.8		44-7,	99.1	44.6%
D	0.0	204.0	67.4	65.0	57.6	286.4		113.4	459.8	24.7%
E	3.7	3.0	4.0	8.1	9.2	9.8		6.3	27.4	22.9%
F	27.9	36.1	39 0	307	9.2	270		37.	96.7	38.6%
G	4.9	12.5	14 2	14.	15.7	18.)		3.2,	50.9	26.0%
Н	0.0	0.1	0.1	9.1	0.1	0.1		0.1	6.1	1.8%
I	1.2	1.8	1.9	2.1	2.3	2.5		2.0	33.3	5.9%
J	46.9	97.6	103.6	107.1	110.3	123.7		98.2	401.0	24.5%
K	1.0	2.3	3.0	3.4	3.6	3.3		2.8	95.9	2.9%
Total	185.4	563.4	445.6	458.9	455.1	705.3		468.9	1618.3	29.0%

<sup>\*</sup> HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m.

Table A-3: SCR Energy Response Based on CBL – May 29, 2012

	Hourly CBL Response for SCRs Reporting Energy Response													
29-May	MWh	MWh												
Zone	HB 12*	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW of SCRs reporting CBL data	CBL Response as % of ICAP MW				
Α	37.1	121.2	120.5	116.8	116.4	116.6		104.8	189.1	55.4%				
В	10.7	18.0	18.3	20.7	15.1	10.5		15.6	49.2	31.6%				
С	19.2	35.2	34.8	34.0	23.6	19.6		27.7	61.5	45.1%				
D	0.4	221.0	81.0	78.0	69.9	297.4		124.6	457.2	27.3%				
E	5.2	5.5	5.9	8.0	5.9	4.7		5.9	12.1	48.5%				
F	19.6	28.7	30.7	28.6	26.6	29.8		27.3	63.7	42.9%				
G	3.8	8.9	10.3	8.8	8.8	7.9		8.1	18.3	44.0%				
Н	0.0	0.5	1.8	0.5	0.5	1.0		0.7	1.6	43.6%				
ı	0.3	0.7	0.8	0.9	0.8	0.9		0.7	3.4	21.8%				
J	16.6	40.8	46.4	47.6	43.6	39.5		39.1	156.0	25.1%				
К	1.6	3.7	5.0	5.8	5.8	5.3		4.5	16.6	27.3%				
Total	114.7	484.2	355.4	349.7	317.0	533.2		359.0	1028.7	34.9%				

<sup>\*</sup> HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m.

		Hou	rly CBL Re	sponse for	SCRs Repo	orting Ener	gy R	Response		
29-May	MWh	MWh								
Zone	HB 12*	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW of SCRs reporting	CBL Response as % of ICAP MW
Α	37.1	121.2	12 5	1 6 3	16,4	<b>16</b> 6		1 )/1.8	186.2	56.3%
В	10.7	18.0	18.5	20.,	13.1	10.5	)	15.6	49.0	31.7%
С	19.2	35.2	34.8	34.0	23.6	19.6		27.7	58.5	47.4%
D	0.4	221.0	81.0	<b>73.</b> 0	69.9 🚤	297.4		124.6	457.1	27.3%
E	5.2	5.5	5.9	.0	5.0	4.7	gr= <b>V</b> a	5.9	11.8	49.6%
F	19.6	28.7	30	2 . —	26.	19.8		27.3	59.0	46.3%
G	3.8	8.9	UUU	8		79	W	8.1	18.1	44.7%
Н	0.0	0.5	1.8	0.5	0.5	1.0		0.7	0.1	917.9%
I	0.3	0.7	0.8	0.9	0.8	0.9		0.7	3.4	21.8%
J	16.6	40.8	46.4	47.6	43.6	39.5		39.1	137.2	28.5%
K	1.6	3.7	5.0	5.8	5.8	5.3		4.5	11.9	38.1%
Total	114.7	484.2	355.4	349.7	317.0	533.2		359.0	992.3	36.2%

<sup>\*</sup> HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m.

Table A-4: SCR Energy Payments - May 29, 2012

29-May										
Zone	HB 12*	HB 13	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Sum of BPCG Payments	Total Payments to SCRs reporting CBL data	Average \$/MWh
Α	\$9,560.43	\$28,947.76	\$15,869.38	\$2,565.64	\$2,926.95	\$2,806.40	\$62,676.55	\$245,723.95	\$308,400.50	\$490.68
В	\$2,935.98	\$4,568.59	\$2,543.25	\$474.52	\$395.33	\$265.36	\$11,183.02	\$35,364.88	\$46,547.91	\$498.63
С	\$5,308.45	\$8,980.19	\$4,892.18	\$788.89	\$625.85	\$494.78	\$21,090.34	\$62,114.46	\$83,204.80	\$500.00
D	\$109.47	\$52,515.39	\$10,832.85	\$1,717.89	\$1,742.87	\$7,037.30	\$73,955.78	\$299,876.12	\$373,831.90	\$500.00
E	\$1,454.77	\$1,416.90	\$885.56	\$375.05	\$362.67	\$296.62	\$4,791.58	\$12,573.55	\$17,365.12	\$493.55
F	\$5,396.84	\$7,405.34	\$4,436.51	\$10,435.54	\$13,283.52	\$4,427.34	\$45,385.09	\$36,633.41	\$82,018.50	\$500.00
G	\$1,073.96	\$2,383.04	\$3,021.79	\$4,571.39	\$6,723.73	\$6,686.57	\$24,460.47	\$1,121.64	\$25,582.12	\$528.08
Н	\$2.95	\$131.36	\$574.76	\$316.31	\$416.60	\$959.23	\$2,401.21	\$0.00	\$2,401.21	\$558.95
I	\$94.90	\$199.73	\$253.89	\$501.09	\$737.22	\$896.76	\$2,683.58	\$19.85	\$2,703.43	\$606.42
J	\$4,764.45	\$11,009.21	\$15,416.33	\$27,860.92	\$38,814.93	\$38,919.15	\$136,784.99	\$2,139.58	\$138,924.57	\$592.29
K	\$588.62	\$1,709.73	\$3,478.62	\$3,400.02	\$5,185.72	\$5,230.69	\$19,593.40	\$0.16	\$19,593.56	\$720.31
Total	\$31,290.81	\$119,267.24	\$62,205.12	\$53,007.26	\$71,215.39	\$68,020.19	\$405,006.01	\$695,567.59	\$1,100,573.60	\$510.92

<sup>\*</sup> HB 12 was a partial hour of response; immediate deployment for SCR was initated at 12:16 p.m.

Table A-5: Energy Response of EDRP Resources and SCRs treated as EDRP – May 29, 2012

29-May	MWh								
Zone	HB 12**	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Enrolled (MW)	% Response of Enrolled (MW)
Α	0.8	1.6	2.1	2.6	2.1	1.9	1.8	9.6	19.1%
В	0.3	1.4	1.5	1.1	0.3	0.1	0.8	3.5	22.2%
С	1.2	1.8	2.6	2.5	3.3	2.7	2.3	2.6	90.0%
D	0.1	0.7	0.7	0.3	0.8	0.8	0.6	0.0	0.0%
E	7.1	6.5	7.2	5.4	4.6	3.9	5.8	13.2	43.5%
F	3.6	3.6	6.7	5.4	2.6	1.7	4.0	28.4	13.9%
G	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0%
Н	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
ı	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.3	24.6%
J	0.0	0.1	0.1	0.1	0.1	0.1	0.1	1.0	10.0%
К	0.4	1.7	1.7	1.6	1.5	1.4	1.4	3.8	36.7%
Total	13.6	17.3	22.7	19.0	15.4	12.8	16.8	63.0	26.7%

<sup>\*\*</sup> HB 12 was a partial hour of response; immediate deployment for EDRP was initated at 12:17 p.m.

Table A-6: Energy Payments to EDRP Resources and SCRs treated as EDRP – May 29, \$2012\$

29-May								
Zone	HB 12**	HB 13	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Average \$/MWh
Α	\$386.55	\$789.80	\$1,056.80	\$1,278.75	\$1,047.00	\$954.10	\$5,513.00	\$500.00
В	\$168.35	\$683.05	\$730.15	\$551.90	\$154.95	\$33.90	\$2,322.30	\$500.00
С	\$593.80	\$907.45	\$1,300.70	\$1,243.35	\$1,629.60	\$1,326.70	\$7,001.60	\$500.00
D	\$56.05	\$327.40	\$360.25	\$130.15	\$385.05	\$413.15	\$1,672.05	\$500.00
E	\$3,527.55	\$3,241.90	\$3,587.60	\$2,677.05	\$2,294.40	\$1,968.90	\$17,297.40	\$500.00
F	\$1,801.70	\$1,791.50	\$3,372.10	\$2,714.75	\$1,322.65	\$873.65	\$11,876.35	\$500.00
G	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Н	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1	\$0.00	\$12.40	\$30.45	\$41.17	\$61.96	\$199.60	\$345.58	\$806.29
J	\$24.00	\$54.00	\$73.00	\$85.43	\$83.92	\$55.13	\$375.48	\$627.69
K	\$218.70	\$834.75	\$1,206.31	\$957.96	\$1,358.18	\$1,411.70	\$5,987.59	\$710.87
Total	\$6,776.70	\$8,642.25	\$11,717.36	\$9,680.51	\$8,337.72	\$7,236.82	\$52,391.35	\$519.68

<sup>\*\*</sup> HB 12 was a partial hour of response; immediate deployment for EDRP was initated at 12:17 p.m.

Table A-7: Event Summary – June 20, 2012

Combined Hourly Respnse for June 20, 2012	Zones	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW	Event Energy Payments (based on CBL)	Average \$/MWh
SCR (ICAP)	C, G, H, I, J	478.2	600.6	79.6%	\$ 624,023.57	\$ 499.99
EDRP (CBL)	C, G, H, I, J	1.1	63.5	1.8%	\$ 2,266.85	\$ 500.00
Totals		479.3	664.0	72.2%	\$ 626,290.42	\$ 499.99

Combined Hourly Respnse for June 20, 2012	Zones	Repla	Obligated SCF NV. CORP EDRP MW	Response as % o Oslivated or Available MW	Event Energy Payments (based on CBL)	Average \$/MWh
SCR (ICAP)	C, G, H, I, J	4 8.2	600.6	74.6%	\$ 624,023.57	\$ 499.99
EDRP (CBL)	C, G, H, I, J	11 (		/1 5%	\$ 2,266.85	\$ 500.00
Totals		445.3	064.0	67.7%	\$ 626,290.42	\$ 499.99

Table A-8: SCR MW Response Based on ICAP Measures – June 20, 2012

		Hourly	Response	based on	ICAF	P/UCAP Mea	asures	
20-Jun								
Zone	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW	% Respnse of ICAP MW All Event Hours
С	75.0	82.0	85.6	87.9		82.6	97.9	84.4%
G	32.7	35.8	37.8	39.5		36.5	49.4	73.7%
Н	4.6	4.6	4.8	4.8		4.7	5.2	90.6%
I	18.7	19.5	20.0	20.3		19.6	32.1	61.2%
J	322.0	329.6	332.3	355.1		334.8	415.9	80.5%
Total	453.0	471.4	480.6	507.7		478.2	600.6	79.6%

	Hourly Response based on ICAP/UCAP Measures											
20-Jun												
Zone	HB 14	R	epil	<b>161</b> C		A er g Hot dv MV	Obligated ICAP MW	% Respnse of ICAP MW All Event Hours				
С	73.4	80.3	83,5	85.9		80.8	97.9	82.5%				
G	31.1	341	35.	37.2		_34.6	49.4	69.9%				
Н	4.6	4.	<b>1</b> 4 .8 <b>1</b>	o a		7.6	5.2	90.6%				
1	18.7	19.5	20.0	20.5		19.6	32.1	61.2%				
J	297.9	303.7	306.2	326.2		308.5	415.9	74.2%				
Total	425.8	442.1	450.4	474.4		448.2	600.6	74.6%				

Table A-9: SCR Energy Response Based on CBL – June 20, 2012

		Hourly CBI	Response	for SCRs I	Rep	orting Energ	y Response	
20-Jun								
Zone	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW of SCRs Reporting CBL Data	CBL Respnse as % of ICAP
С	73.0	79.2	66.5	60.3		69.8	96.1	72.6%
G	24.4	25.0	22.9	21.9		23.5	46.2	51.0%
Н	3.4	3.3	3.3	2.8		3.2	4.3	74.6%
i	18.8	19.0	19.6	17.8		18.8	29.5	63.7%
J	204.4	204.6	195.4	182.5		196.7	341.3	57.6%
Total	324.1	331.1	307.7	285.3		312.0	517.4	60.3%

	H	lourly CBL F	Response fo	or SCRs Rep	orti	ng Energy Re	sponse	
20-Jun								
Zone	HB 14	R	epl	ace		Avel ge Fourly M V	Obligated ICAP MW of SCRs Reporting CBL Data	CBL Respnse as % of ICAP
С	73.0	79.2	66.5	60.3		69.8	86.0	81.2%
G	24.4	25.0	22.9	21.9		23.5	40.0	58.8%
Н	3.4	3.3	33 (	2.		3 2//	4.2	76.0%
1	18.8	19.	19.6	173	J	183	19.9	94.4%
J	204.4	204.6	195.4	182.5		196.7	276.3	71.2%
Total	324.1	331.1	307.7	285.3		312.0	426.4	73.2%

Table A-10: SCR Energy Payments – June 20, 2012

20-Jun								
Zone	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Sum of BPCG Payments	Total Payments to SCRs Reporting CBL Data	Average \$/MWh
С	\$5,957.07	\$11,185.61	\$6,159.66	\$4,153.70	\$ 27,456.04	\$112,079.31	\$139,535.35	\$500.00
G	\$2,925.14	\$3,782.31	\$2,275.88	\$1,609.69	\$ 10,593.03	\$36,494.32	\$47,087.35	\$500.00
Н	\$412.84	\$495.83	\$331.32	\$206.58	\$ 1,446.58	\$4,999.62	\$6,446.20	\$500.00
I	\$2,249.07	\$2,849.25	\$1,929.66	\$1,298.92	\$ 8,326.90	\$29,234.00	\$37,560.90	\$500.00
J	\$24,422.43	\$30,734.66	\$19,276.61	\$13,323.81	\$ 87,757.50	\$305,636.27	\$393,393.77	\$499.99
Total	\$35,966.55	\$49,047.66	\$29,973.13	\$20,592.71	\$ 135,580.05	\$ 488,443.52	\$ 624,023.57	\$499.99

Table A-11: Energy Response of EDRP Resources – June 20, 2012

20-Jun							
Zone	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Enrolled (MW)	% Performance of Enrolled (MW)
С	0.4	0.4	0.5	0.5	0.4	3.1	14.0%
G	0.5	0.5	0.5	0.4	0.5	1.6	28.7%
Н	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
I	0.0	0.1	0.0	0.0	0.0	0.2	17.9%
J	0.2	0.2	0.2	0.2	0.2	58.6	0.3%
Total	1.1	1.1	1.2	1.1	1.1	63.5	1.8%

Table A-12: Energy Payments to EDRP Resources – June 20, 2012

20-Jun						
Zone	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Average \$/MWh
С	\$175.05	\$199.85	\$242.65	\$250.30	\$867.85	\$500.00
G	\$244.65	\$245.05	\$242.10	\$206.20	\$938.00	\$500.00
Н	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
I	\$19.40	\$25.85	\$19.10	\$5.65	\$70.00	\$500.00
J	\$92.00	\$87.00	\$113.00	\$99.00	\$391.00	\$500.00
Total	\$531.10	\$557.75	\$616.85	\$561.15	\$2,266.85	\$500.00

### June 21, 2012: SCR Response was mandatory for all deployed zones

Table A-13: Event Summary – June 21, 2012

Combined Hourly Response for June 21, 2012	Zones	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW	Event Energy Payments (based on CBL)	Average \$/MWh
SCR (ICAP)	A, B, C, D, E, F, G, H, I, J, K	1176.3	1620.7	72.6%	\$ 2,431,887.52	\$ 504.44
EDRP (CBL)	A, B, C, D, E, F, G, H, I, J, K	19.5	141.6	13.8%	\$55,571.77	\$ 556.68
Totals		1195.8	1762.3	67.9%	\$ 2,487,459.29	\$ 504.72

Combined Hourly Response for June 21, 2012	Zones R	Cana	Obligated CR Clauses A Silas EDRP MW	Response as % of bligated of A. ailable MW	Event Energy Payments (based on CBL)	Average \$/MWh
SCR (ICAP)	A, B, C, D, E, F, G, H, I, J, K	967.7	1620.7	59.7%	\$ 2,431,887.52	\$ 504.44
EDRP (CBL)	A, B, C, D, E, F, G, H, I, J,	39 0	0.4501	7 3.8%	\$55,571.77	\$ 556.68
Totals		9 17 2	1/62	56.0%	\$ 2,487,459.29	\$ 504.72

Table A-14: SCR MW Response Based on ICAP Measures – June 21, 2012

			Hourly Re	sponse ba	sed on ICA	AP/UCAP M	leas	ures		
21-Jun	MWh									
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
Α		194.3	226.5	234.2	239.7	243.9		227.7	263.1	86.6%
В		49.3	55.2	57.9	60.9	59.7		56.6	77.2	73.3%
С		64.8	76.6	82.2	86.7	89.5		80.0	97.9	81.7%
D		456.3	458.5	353.9	0.0	0.0		253.8	459.8	55.2%
E		10.2	13.4	16.4	20.0	22.4		16.5	27.5	60.1%
F		64.0	78.9	82.1	83.2	84.4		78.5	95.2	82.5%
G		29.6	33.3	34.0	36.5	38.4		34.4	49.4	69.5%
Н		4.3	4.7	4.9	5.0	4.9		4.7	5.2	90.9%
ı		12.6	17.8	18.4	18.4	18.8		17.2	32.1	53.6%
J	244.9	336.0	364.9	370.2	374.8	394.5		347.5	415.9	83.6%
K		49.8	57.3	60.4	64.0	65.4		59.4	97.4	61.0%
Total	244.9	1271.3	1387.2	1314.7	989.3	1021.8		1176.3	1620.7	72.6%

			Haurby I	Dosmonso h	acad on IC/	ND/LICAD NA	000			
	<u> </u>		Hourly	response b	ased on ICA	AP/OCAP IVI	eas	ures		
21-Jun	MWh									
										% Response
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17		Average	Obligated	of ICAP MW
Lone	110 12	115 13	110 14	110 13	110 10	110 17		Hourly MW	ICAP MW	All Event
					1		1	1		Hours
Α		194.3	22 .5	C34.2	236.7	2/39			263.1	86.6%
В		49.3	5! 2	57.	60.2	9.6		56 5	77.2	73.3%
С		64.6	7, 3		187	8.		75.7	97.9	80.3%
D		456.3	458.5	353	0.0	0.0		253.8	459.8	55.2%
E		10.2	13.4	16.4	20.0	22.4		16.5	27.5	60.1%
F		64.5	76.0	7 .8	79.9	8 .9		76.0	95.2	79.9%
G		27.8	31.5	3 0	34 6	3 2		32.	49.4	65.6%
Н		4.3	4.7	4.9	5.0	4 9		4.1	5.2	90.9%
1		12.6	17.8	18.4	18.4	18.5	)	17.2	32.1	53.6%
J	218.3	302.2	328.1	332.2	334.9	352.6		311.4	415.9	74.9%
K		19.4	22.9	24.7	26.0	26.7		23.9	97.4	24.6%
Total	218.3	1205.5	1310.0	1234.2	904.4	933.7		1099.0	1620.7	67.8%

Table A-15: SCR Energy Response Based on CBL – June 21, 2012

		Но	urly CBL R	esponse fo	r SCRs Re	orting Ene	ergy	Response		
21-Jun	MWh	MWh	-							
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW of SCRs Reporting CBL Data	CBL Response as % of ICAP
Α		188.8	214.6	204.2	201.1	193.6		200.4	260.3	77.0%
В		38.8	44.9	41.3	36.9	29.8		38.3	66.3	57.8%
С		63.4	71.7	75.3	64.7	58.6		66.7	96.5	69.1%
D		473.3	474.1	368.7	2.9	2.2		264.2	459.8	57.5%
E		13.9	15.4	14.3	11.7	10.0		13.1	25.6	50.9%
F		62.8	76.3	76.0	74.3	71.4		72.1	93.6	77.1%
G		24.8	28.5	26.8	25.3	23.7		25.8	48.4	53.3%
Н		3.5	3.8	3.8	3.8	3.0		3.6	4.6	77.8%
ı		15.9	20.2	20.2	20.6	19.3		19.3	28.9	66.6%
J	154.62	202.2	226.1	223.3	215.8	197.7		203.3	369.1	55.1%
K		34.4	40.2	39.5	37.3	33.9		37.1	83.8	44.2%
Total	154.62	1121.8	1215.9	1093.2	694.3	643.3		944.0	1537.1	61.4%

		ŀ	lourly CBL F	Response fo	or SCRs Rep	orting Ener	gy F	Response		
21-Jun	MWh	MWh								
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	1	Average Hourly MW	Obligated ICAP MW of SCRs Reporting	CBL Response as % of ICAP
Α		188.8	14.6	20. 2	C .1	3.6		2 0,4	250.2	80.1%
В		38.8	4 .9	41.3	36 9/	/2 8	Ц	38/3	64.1	59.8%
С		63.4	71.7	75.3	64.7	58.6		66.7	87.3	76.4%
D		473.3	474.1	368.7	2.9	2.2		264.2	456.1	57.9%
E		13.9	15.4	14	11.7	10.0		13.1	23.8	54.9%
F		62.8	176	76.	74.5	71.		7.03.1	86.2	83.7%
G		24.8	28.5	6.3	25.3	37		25,8	41.4	62.3%
Н		3.5	<b>Litt</b>	<b>J</b> 3.1	3.	3.0		6	4.5	79.4%
ı		15.9	20.2	20.2	20.6	19.3		19.3	19.4	99.3%
J	154.62	202.2	226.1	223.3	215.8	197.7		203.3	300.9	67.5%
K		34.4	40.2	39.5	37.3	33.9		37.1	27.7	133.6%
Total	154.62	1121.8	1215.9	1093.2	694.3	643.3		944.0	1361.6	69.3%

Table A-16: SCR Energy Payments – June 21, 2012

21-Jun										
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Sum of BPCG Payments	Total Payments to SCRs Reporting CBL Data	Average \$/MWh
Α		\$8,303.72	\$11,779.20	\$17,282.02	\$66,884.14	\$14,678.44	\$118,927.51	\$365,915.90	\$484,843.41	\$483.76
В		\$1,848.89	\$2,668.59	\$15,119.46	\$23,228.00	\$4,199.68	\$47,064.61	\$48,524.02	\$95,588.64	\$498.56
С		\$3,031.28	\$4,279.96	\$25,270.98	\$38,872.11	\$7,975.16	\$79,429.48	\$87,409.47	\$166,838.95	\$500.00
D		\$21,562.73	\$26,662.25	\$115,307.39	\$1,655.33	\$280.44	\$165,468.13	\$495,135.07	\$660,603.20	\$500.00
E		\$690.52	\$952.44	\$4,943.45	\$7,272.43	\$1,414.82	\$15,273.66	\$17,372.14	\$32,645.80	\$500.00
F		\$3,182.06	\$4,833.11	\$27,074.44	\$47,711.21	\$10,381.09	\$93,181.92	\$73,975.56	\$167,157.48	\$463.45
G		\$1,285.85	\$1,852.27	\$9,738.87	\$16,645.67	\$3,667.51	\$33,190.17	\$31,362.21	\$64,552.37	\$500.01
Н		\$180.70	\$244.87	\$1,365.35	\$2,482.32	\$474.31	\$4,747.55	\$4,161.00	\$8,908.55	\$500.00
1		\$821.48	\$1,305.49	\$7,335.28	\$13,570.47	\$3,011.36	\$26,044.08	\$22,134.57	\$48,178.65	\$500.00
J	\$11,609.00	\$10,459.12	\$14,117.84	\$80,941.36	\$142,110.27	\$30,815.12	\$290,052.70	\$319,790.17	\$609,842.87	\$500.00
K		\$1,824.06	\$2,743.19	\$14,600.51	\$28,716.71	\$6,367.96	\$54,252.44	\$38,475.16	\$92,727.60	\$500.34
Total	\$11,609.00	\$53,190.40	\$71,439.22	\$ 318,979.11	\$ 389,148.64	\$ 83,265.89	\$ 927,632.26	\$ 1,504,255.26	\$ 2,431,887.52	\$504.44

**Table A-17: Energy Response of EDRP Resources – June 21, 2012** 

21-Jun	MWh								
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Enrolled (MW)	% Response of Enrolled (MW)
Α		0.1	0.1	0.1	0.1	0.1	0.1	9.6	0.7%
В		2.2	2.0	0.5	0.1	0.0	1.0	9.4	10.3%
С		0.1	0.1	0.1	0.4	0.3	0.2	3.1	7.0%
D		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
E		3.9	3.8	2.9	2.5	2.7	3.2	18.9	16.8%
F		6.7	7.1	5.2	1.8	1.3	4.4	29.1	15.2%
G		0.5	0.5	0.5	0.5	0.5	0.5	1.6	29.6%
Н		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
ı		0.2	0.2	0.2	0.2	0.3	0.2	0.4	52.2%
J	9.2	9.2	9.2	8.3	8.8	8.5	8.9	58.7	15.1%
К		1.0	1.1	1.2	1.2	0.9	1.1	11.9	9.1%
Total	9.2	23.8	24.0	19.0	15.5	14.6	19.5	142.7	13.6%

Table A-18: Energy Payments to EDRP Resources – June 21, 2012

21-Jun								
Zone	HB 12	HB 13	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Average \$/MWh
Α		\$32.35	\$32.40	\$27.55	\$33.45	\$34.25	\$160.00	\$500.00
В		\$1,113.70	\$1,016.60	\$238.65	\$31.53	\$18.60	\$2,419.08	\$501.34
С		\$32.50	\$71.05	\$63.45	\$260.51	\$160.65	\$588.16	\$540.29
D		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
E		\$1,955.10	\$1,881.95	\$1,457.85	\$1,575.70	\$1,343.65	\$8,214.25	\$519.48
F		\$3,338.80	\$3,539.70	\$2,598.50	\$1,178.26	\$632.60	\$11,287.86	\$511.83
G		\$244.20	\$245.35	\$245.05	\$317.79	\$234.90	\$1,287.29	\$531.54
Н		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
I		\$115.50	\$97.60	\$92.65	\$120.14	\$150.70	\$576.59	\$526.28
J	\$4,607.80	\$4,586.70	\$4,605.45	\$4,166.80	\$5,765.18	\$4,274.05	\$28,005.98	\$526.08
К		\$486.70	\$531.65	\$610.75	\$929.55	\$473.90	\$3,032.55	\$560.23
Total	\$4,607.80	\$11,905.55	\$12,021.75	\$9,501.25	\$10,212.12	\$7,323.30	\$55,571.77	\$556.68

### June 22, 2012: SCR Response was mandatory for all deployed zones

Table A-19: Event Summary – June 22, 2012

Combined Hourly Response for June 22, 2012	Zones	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW	Event Energy Payments (based on CBL)	verage /MWh
SCR (ICAP)	G, H, I, J, K	585.0	600.0	97.5%	\$ 826,422.33	\$ 499.99
EDRP (CBL)	G, H, I, J, K	12.7	71.6	17.7%	\$ 31,627.05	\$ 500.00
Totals		597.7	671.6	89.0%	\$ 858,049.38	\$ 499.99

Combined Hourly Response for June 22, 2012	Zones	Repla	Obligated CR Life in Available EDRP MW	Onligated or	Event Energy Payments (based on CBL)	Average \$/MWh
SCR (ICAP)	G, H, I, J, K	40 483 00	0 3.62 1	7 (20.5%	\$ 826,422.33	\$ 499.99
EDRP (CBL)	G, H, I, J, K	lable	CL TIA J	17.7%	\$ 31,627.05	\$ 500.00
Totals		495.7	671.6	73.8%	\$ 858,049.38	\$ 499.99

Table A-20: SCR MW Response Based on ICAP Measures – June 22, 2012

		l	Hourly Resp	onse based	d on ICAP/U	CAP	Measures		
22-Jun									
Zone	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW	% Response of ICAP MW All Event Hours
G	32.4	36.7	37.6	42.9	46.4		39.2	49.4	79.3%
Н	5.0	5.0	5.4	5.7	6.1		5.4	5.2	104.2%
ı	16.0	17.6	19.3	19.7	21.4		18.8	32.1	58.6%
J	374.7	421.8	461.9	480.7	500.6		447.9	415.9	107.7%
K	54.7	65.8	78.7	84.9	84.4		73.7	97.4	75.7%
Total	482.7	546.9	602.8	633.8	658.9		585.0	600.0	97.5%

	Hourly Response based on ICAP/UCAP Measures											
22-Jun												
Zone	HB 13	HB 14	HBR	ep18	HB 17		Average	Obligated ICAP MW	% Response of ICAP MW All Event Hours			
G	30.1	34.3	34.7	<b>4</b> 9.8	42.7		<b>9</b> 6.3	49.4	73.5%			
Н	5.0	5.0	5.4	5.7	6.1		5.4	5.2	104.2%			
- 1	16.0	17.6	19.3	19 A	91.00		7.28	32.1	58.6%			
J	327.5	370.4	404.	4204	Cht.	J	92.1	415.9	94.3%			
К	22.2	27.2	32.9	35.3	34.7		30.4	97.4	31.3%			
Total	400.7	454.6	496.7	520.9	542.4		483.0	600.0	80.5%			

Table A-21: SCR Energy Response Based on CBL – June 22, 2012

		Hour	ly CBL Resp	onse for SC	Rs Reportir	ng En	nergy Respons	e	
22-Jun	MWh								
Zone	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW of SCRs Reporting CBL Data	CBL Response as % of ICAP
G	25.1	29.8	27.7	27.8	27.9		27.7	48.9	56.6%
Н	4.0	4.0	3.9	4.1	3.8		4.0	4.6	86.7%
ı	16.2	12.0	12.1	12.6	12.4		13.1	29.5	44.3%
J	213.1	231.6	248.6	248.6	226.1		233.6	376.0	62.1%
K	40.4	48.2	54.1	63.7	55.0		52.3	83.8	62.4%
Total	298.9	325.6	346.4	356.8	325.2		330.6	542.8	60.9%

	Hourly CBL Response for SCRs Reporting Energy Response											
22-Jun	MWh											
Zone	HB 13	HB 14	Re	нв 6	HB 17 1	1	Average Hourly MW	Obligated ICAP MW of SCRs Reporting	CBL Response as % of ICAP			
G	25.1	29.8	27.7	27.8	27.9		<b>2</b> 7.7	44.5	62.2%			
Н	4.0	4.0	3.9	4.1	<b>3</b> .8		4.0	4.5	87.5%			
- 1	16.2	12.0	1111	12.6	0120	14	13.1	19.7	66.1%			
J	213.1	231.6	24	2 8 6/	C 2 6 A U	W	233.6	312.0	74.9%			
K	40.4	48.2	54.1	63.7	55.0	V	52.3	32.0	163.3%			
Total	298.9	325.6	346.4	356.8	325.2		330.6	412.8	80.1%			

Table A-22: SCR Energy Payments – June 22, 2012

22-Jun									
Zone	HB 13	HB 14	HB 15	HB 16	HB 17	Sum of LBMP	Sum of BPCG	Total	Average
Zone	пр 13	ПВ 14	пр 15	пр 10	ПВ 17	Payments	Payments	Payments	\$/MWh
G	\$7,785.06	\$1,219.98	\$909.20	\$985.13	\$1,197.29	\$12,096.66	\$57,068.19	\$69,164.85	\$500.00
Н	\$1,417.26	\$165.91	\$128.18	\$147.46	\$164.98	\$2,023.80	\$7,905.20	\$9,929.00	\$500.00
- 1	\$5,756.79	\$498.12	\$395.49	\$445.23	\$543.68	\$7,639.31	\$25,006.14	\$32,645.45	\$500.00
J	\$69,659.55	\$9,152.81	\$8,095.17	\$8,811.08	\$9,921.07	\$105,639.68	\$478,334.95	\$583,974.63	\$499.99
K	\$14,397.53	\$2,206.42	\$1,935.43	\$2,318.58	\$2,473.83	\$23,331.78	\$107,376.62	\$130,708.40	\$500.00
Total	\$99,016.19	\$13,243.24	\$11,463.48	\$12,707.47	\$14,300.86	\$150,731.23	\$675,691.10	\$826,422.33	\$499.99

**Table A-23: Energy Response of EDRP Resources – June 22, 2012** 

22-Jun	MWh							
Zone	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Enrolled (MW)	% Response of Enrolled (MW)
G	0.5	0.5	0.5	0.5	0.5	0.5	1.6	29.6%
Н	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
ı	0.2	0.3	0.3	0.3	0.3	0.3	0.4	68.3%
J	10.0	10.8	11.5	11.6	11.2	11.0	58.9	18.7%
K	0.7	0.8	0.9	0.9	1.0	0.9	12.0	7.1%
Total	11.4	12.4	13.2	13.3	13.0	12.7	72.9	17.4%

Table A-24: Energy Payments to EDRP Resources – June 22, 2012

22-Jun							
Zone	HB 13	HB 14	HB 15	HB 16	HB 17	Sum of Payments	Average \$/MWh
G	\$244.90	\$244.65	\$245.05	\$242.10	\$234.20	\$1,210.90	\$500.00
Н	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
I	\$106.25	\$129.80	\$169.50	\$164.30	\$147.20	\$717.05	\$500.00
J	\$4,981.40	\$5,412.35	\$5,761.85	\$5,822.50	\$5,582.40	\$27,560.50	\$500.00
K	\$347.10	\$410.10	\$428.10	\$431.05	\$522.25	\$2,138.60	\$500.00
Total	\$5,679.65	\$6,196.90	\$6,604.50	\$6,659.95	\$6,486.05	\$31,627.05	\$500.00

Table A-25: Event Summary – July 17, 2012

Combined Hourly Response for July 17, 2012	Zones	Average Hourly MW	Obligated SCR MW and Available EDRP MW	or Available	Event Energy Payments (based on CBL)	Average \$/MWh
SCR (ICAP)	В	32.1	76.5	42.0%	\$ 41,185.85	\$ 500.00
EDRP (CBL)	В	0.0003	9.4	0.003%	\$ 0.50	\$ 500.00
Totals		32.1	85.9	37.4%	\$ 41,186.35	\$ 500.00

Combined Hourly Response for July 17, 2012	Zones	Average Houri N	Obligated SCR MW ard Lyaliat e EDRP MW	Response as % of Obligated or A pilable	Event Energy Payments (based on CBL)	Average \$/MWh
SCR (ICAP)	В	4034	715	- A2.0%	\$ 41,185.85	\$ 500.00
EDRP (CBL)	В		(34)()	0.0%	\$ 0.50	\$ 500.00
Totals		32.1	85.9	37.4%	\$ 41,186.35	\$ 500.00

Table A-26: SCR MW Response Based on ICAP Measures – July 17, 2012

	Hourly Response based on ICAP/UCAP Measures										
17-Jul											
Zone	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Obligated ICAP MW	% Response of ICAP MW All Event Hours				
В	19.9	34.1	38.5	35.8	32.1	76.5	42.0%				
Total	19.9	34.1	38.5	35.8	32.1	76.5	42.0%				

	Hourly Response based on ICAP/UCAP Measures									
17-Jul		212	0.000	ATI	,					
Zone	HB 14	HB 15 H	IB 16 HB 17	- 1	Average ourly MW	Obligated ICAP MW	% Response of ICAP MW All Event Hours			
В	19.9	34.2	36.5		32.1	76.5	42.0%			
Total	19.9	34.1	33.8		32.1	76.5	42.0%			

Table A-27: SCR Energy Response Based on CBL – July 17, 2012

	Hourly CBL Response for SCRs Reporting Energy Response										
17-Jul											
Zone	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW of SCRs Reporting CBL Data	CBL Response as % of ICAP			
В	14.0	26.1	25.6	16.7		20.6	61.6	33.4%			
Total	14.0	26.1	25.6	16.7		20.6	61.6	33.4%			

	Hourly CBL Response for SCRs Reporting Energy Response											
17-Jul			4									
Zone	HB 14	нв 15	epla 1.1		OAW rage Hourly MW	Obligated ICAP MW of SCRs Reporting CBL Data	CBL Response as % of ICAP					
В	14.0	26.1	12.4	2 1 5. Y	20.6	59.1	34.9%					
Total	14.0	26.1	23.6		0.6	59.1	34.9%					

Table A-28: SCR Energy Payments – July 17, 2012

17-Jul								
Zone	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Sum of BPCG Payments	Total Payments	Average \$/MWh
В	\$2,423.80	\$2,977.67	\$3,361.11	\$1,487.31	\$10,249.89	\$30,935.96	\$41,185.85	\$500.00
Total	\$2,423.80	\$2,977.67	\$3,361.11	\$1,487.31	\$10,249.89	\$30,935.96	\$41,185.85	\$500.00

Table A-29: Energy Response of EDRP Resources – July 17, 2012

17-Jul	MWh						
Zone	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Enrolled (MW)	% Response of Enrolled (MW)
В	0.000	0.000	0.001	0.000	0.0003	9.4	0.003%
Total	0.000	0.000	0.001	0.000	0.0003	9.4	0.003%

Table A-30: Energy Payments to EDRP Resources – July 17, 2012

17-Jul						
Zone	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Average \$/MWh
В	\$0.00	\$0.00	\$0.50	\$0.00	\$0.50	\$500.00
Total	\$0.00	\$0.00	\$0.50	\$0.00	\$0.50	\$500.00

July 17, 2012: TDRP Event – J3 – all response was voluntary

Table A-31: Energy Response of SCR and EDRP Resources – July 17, 2012 (TDRP)

17-Jul	MWh							
Zone	HB 18	HB 19	HB 20	HB 21	HB 22	Average Hourly MW	Enrolled (MW)	% Response of Enrolled (MW)
J3 - SCR	1.8	1.8	1.3	1.0	1.0	1.4	57.7	2.4%
J3 - EDRP	1.1	1.1	1.0	1.0	1.0	1.0	2.9	35.8%
Total	3.0	2.9	2.4	2.0	2.0	2.4	60.6	4.0%

Table A-32: Energy Payments to SCR and EDRP Resources – July 17, 2012 (TDRP)

17-Jul	MWh							
Zone	HB 18	HB 19	HB 20	HB 21	HB 22		Sum of LBMP ayments	verage /MWh
J3 - SCR	\$ 188.42	\$ 170.36	\$ 108.80	\$ 71.74	\$ 45.71	\$	585.03	\$ 84.03
J3 - EDRP	\$ 564.15	\$ 533.20	\$ 509.55	\$ 499.45	\$ 486.45	\$	2,592.80	\$ 500.00
Total	\$ 752.57	\$ 703.56	\$ 618.35	\$ 571.19	\$ 532.16	\$	3,177.83	\$ 261.60

July 18, 2012: SCR Response was mandatory for Zone J and voluntary for all other deployed zones

Table A-33: Event Summary – July 18, 2012

Combined Hourly Response for July 18, 2012	Zones	Average Hourly MW	Obligated SCR MW and Available EDRP MW	Response as % of Obligated or Available MW	Event Energy Payments (based on CBL)	Average \$/MWh
SCR (ICAP)	G, H, I, J, K	413.0	602.6	68.5%	\$ 758,129.26	\$ 505.77
EDRP (CBL)	G, H, I, J, K	12.9	72.2	17.9%	\$ 41,594.23	\$ 656.87
Totals		425.9	674.8	63.1%	\$ 799,723.49	\$ 578.30

Combined Hourly Response for July 18, 2012	Zones	epla	Obligated SCR	Response as % of bigated A ailable MW	Event Energy Payments (based on CBL)	Average \$/MWh
SCR (ICAP)	G, H, I, J, K	1374.	591.2	63.3%	\$ 758,129.26	\$ 505.77
EDRP (CBL)	G, H, I, J, K	294	2 00	<b>7/2</b> 3.9%	\$ 41,594.23	\$ 656.87
Totals		CLEST	CL613.1	58.4%	\$ 799,723.49	\$ 578.31

Table A-34: SCR MW Response Based on ICAP Measures – July 18, 2012

		Hou	ly CBL Res	onse for So	CRs Reporti	ng Energy Response		
18-Jul	MWh							
								% Response
7	110.43	110.44	110.45	110.46	UD 47	Average	Obligated	of ICAP MW
Zone	HB 13	HB 14	HB 15	HB 16	HB 17	Hourly MW	ICAP MW	All Event
								Hours
G		13.0	16.5	19.4	22.4	17.9	48.2	37.0%
Н		3.0	4.7	4.7	4.4	4.2	4.8	86.9%
I		5.3	8.8	9.5	11.1	8.7	34.6	25.1%
J	271.5	305.3	339.6	390.7	429.3	347.3	416.1	83.5%
К		23.2	30.7	38.3	47.5	34.9	98.8	35.3%
Total	271.5	349.8	400.3	462.8	514.7	413.0	602.6	68.5%

		Houi	ly CBL Resp	onse for SCR	s Reporting I	Ener	gy Response		
18-Jul	MWh								
									% Response
7000	HB 13	HB 14	HELD	10	01007		Average	Obligated	of ICAP MW
Zone	пр 13	ПВ 14	mark (		cen		Hotely MW	ICAP MW	All Event
				DIG			U) J		Hours
G		11.7	14.6	16.9	19.5		15.7	46.5	33.7%
Н		3.0	4.7	47	4		4.2	4.9	86.5%
1		5.3	8.8	10:10	11)(		<b>6.7</b>	34.1	25.5%
J	247.5	278.1	308.5	353.0	384.5	9	514.3	406.3	77.4%
K		8.5	14.2	16.4	18.9		14.5	99.4	14.6%
Total	247.5	306.7	350.7	400.5	438.4		357.4	591.2	60.5%

Table A-35: SCR Energy Response Based on CBL – July 18, 2012

		Hou	rly CBL Resp	onse for SC	CRs Reporti	ng Energy R	esponse		
18-Jul	MWh								
Zone	HB 13	HB 14	HB 15	HB 16	HB 17		Average Hourly MW	Obligated ICAP MW of SCRs Reporting CBL Data	CBL Response as % of ICAP
G		16.9	17.6	17.7	16.5		17.2	35.5	48.3%
Н		2.8	4.3	4.1	3.1		3.6	4.3	82.6%
1		9.0	15.7	15.6	14.5		13.7	25.5	53.9%
J	221.0	238.3	257.6	285.7	271.5		254.8	387.0	65.8%
K	17.0	14.5	21.9	25.3	27.2		22.2	58.9	37.7%
Total	221.0	281.5	317.1	348.4	332.8		311.5	511.2	60.9%

		Hou	ly CBL Resp	onse for SCR	s Reporting	Ener	gy Response		
18-Jul	MWh								
Zone	HB 13	HB 14	Rse	pla	ced	t	Average	Obligated ICAP MW of SCRs Reporting CBL Data	CBL Response as % of ICAP
G		16.9	17,6	17.7	16.5		17.2	27.5	62.5%
Н		2.8	4.3	1 A	200		3.6	4.3	82.6%
I		9.0	15		u U.U	7	13.7	16.5	83.4%
J	221.0	238.3	257.6	285.7	271.5		254.8	310.0	82.2%
K		14.5	21.9	25.3	27.2		22.2	21.8	101.7%
Total	221.0	281.5	317.1	348.4	332.8		311.5	380.1	82.0%

Table A-36: SCR Energy Payments – July 18, 2012

18-Jul									
Zono	HB 13	HB 14	HB 15	HB 16	HB 17	Sum of LBMP	Sum of BPCG	Total	Average
Zone	пр 13	по 14	UD 12	UD 10	пр 17	Payments	Payments	Payments	\$/MWh
G		\$16,011.32	\$1,367.22	\$1,171.68	\$852.79	\$19,403.02	\$15,719.67	\$35,122.69	\$511.42
Н		\$3,053.60	\$362.74	\$284.87	\$163.48	\$3,864.69	\$3,272.26	\$7,136.95	\$500.00
ı		\$9,828.40	\$1,342.57	\$1,095.61	\$771.78	\$13,038.36	\$14,466.14	\$27,504.51	\$501.11
J	\$175,880.33	\$258,265.87	\$22,119.58	\$20,042.61	\$14,569.21	\$490,877.59	\$152,559.22	\$643,436.81	\$505.04
K		\$15,780.95	\$6,474.87	\$2,224.22	\$1,452.12	\$25,932.16	\$18,996.15	\$44,928.30	\$505.77
Total	\$175,880.33	\$302,940.14	\$31,666.98	\$24,818.99	\$17,809.39	\$553,115.83	\$205,013.43	\$758,129.26	\$574.32

Table A-37: Energy Response of EDRP Resources – July 18, 2012

17-Jul	MWh							
Zone	HB 13	HB 14	HB 15	HB 16	HB 17	Average Hourly MW	Enrolled (MW)	% Response of Enrolled (MW)
G		0.0	0.0	0.0	0.0	0.0	1.6	0.4%
Н		0.0	0.0	0.0	0.0	0.0	0.0	0.0%
1		0.0	0.0	0.0	0.1	0.0	0.2	17.2%
J	10.5	11.3	11.4	12.8	12.4	11.7	59.1	19.8%
К		0.3	1.4	1.4	1.6	1.2	11.3	10.5%
Total	10.5	11.7	12.8	14.3	14.0	12.9	72.2	17.9%

Table A-38: Energy Payments to EDRP Resources – July 18, 2012

17-Jul							
Zone	HB 13	HB 14	HB 15	HB 16	HB 17	Sum of LBMP Payments	Average \$/MWh
G		\$ 6.34	\$ 2.95	\$ 2.60	\$ 3.75	\$15.64	\$618.12
Н		\$ -	\$ -	\$ -	\$ -	\$0.00	\$0.00
1		\$ -	\$ 17.40	\$ 19.60	\$ 26.60	\$63.60	\$500.00
J	\$ 8,360.34	\$12,292.60	\$ 5,704.85	\$ 6,397.35	\$ 6,183.30	\$38,938.45	\$666.59
К		\$ 367.54	\$ 688.15	\$ 718.35	\$ 802.50	\$2,576.54	\$541.88
Total	\$ 8,360.34	\$12,666.48	\$ 6,413.35	\$ 7,137.90	\$ 7,016.15	\$41,594.23	\$656.87

July 18, 2012: TDRP Event – J3 – all response was voluntary

Table A-39: Energy Response of SCR and EDRP Resources – July 18, 2012 (TDRP)

18-Jul	MWh						
Zone	HB 18	HB 19	HB 20	HB 21	Average Hourly MW	Enrolled (MW)	% Response of Enrolled (MW)
J3 - SCR	5.8	4.2	3.4	2.7	4.0	57.7	7.0%
J3 - EDRP	1.0	1.0	1.0	0.9	1.0	2.9	33.9%
Total	6.8	5.2	4.4	3.7	5.0	60.6	8.3%

Table A-40: Energy Payments to SCR and EDRP Resources – July 18, 2012 (TDRP)

18-Jul	MWh						
Zone	HB 18	HB 19 HB 20		HB 21	Sum of LBMP Payments	Average \$/MWh	
J3 - SCR	\$ 818.15	\$ 180.47	\$ 108.42	\$ 96.60	\$ 1,203.64	\$ 74.49	
J3 - EDRP	\$ 487.20	\$ 522.75	\$ 489.60	\$ 466.10	\$ 1,965.65	\$ 500.00	
Total	\$ 1,305.35	\$ 703.22	\$ 598.02	\$ 562.70	\$ 3,169.29	\$ 157.75	