

**THIS FILING LETTER DOES NOT CONTAIN ANY PRIVILEGED OR CONFIDENTIAL INFORMATION. ATTACHMENT I - THE BODY OF REPORT, ALONG WITH THE REDACTED VERSIONS OF TABLES 2 THROUGH 5 (MARKED PUBLIC) DOES NOT CONTAIN ANY PRIVILEGED OR CONFIDENTIAL INFORMATION. ATTACHMENT II - CONFIDENTIAL TABLES AND DEMAND SIDE ANCILLARY SERVICES PROGRAM DETAILS, INCLUDES THE UNREDACTED TABLES, WHICH CONTAIN PRIVILEGED AND CONFIDENTIAL INFORMATION, AND IS SUBMITTED SEPARATELY.**

January 12, 2016

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

**Re: Annual Report in Docket No. ER01-3001-000;  
Request for Privileged Treatment of Attachment II**

Dear Ms. Bose:

Enclosed for filing in the above-referenced docket is the New York Independent System Operator, Inc.'s ("NYISO") annual report to the Federal Energy Regulatory Commission ("Commission") on the NYISO's Demand Side Management programs. By Order dated February 19, 2010, the Commission directed the NYISO to file this report for informational purposes only.<sup>1</sup>

### **I. List of Documents Submitted**

The NYISO submits this filing letter, accompanied by: (i) Attachment I, the NYISO 2015 Annual Report on Demand Response Programs, which includes redactions in Tables 2 through 5 of confidential, commercially sensitive information, and (ii) Confidential Attachment II, which contains the unredacted versions of Tables 2 through 5. Confidential Attachment II also contains an update on the status of resources participating in the NYISO's Demand Side Ancillary Service Program.

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<sup>1</sup> *New York Independent System Operator, Inc.*, Letter Order, Docket Nos. ER01-3001-021, *et al.* (Feb. 19, 2010).

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

In accordance with Sections 388.107 and 388.112 of the Commission's Regulations,<sup>2</sup> Article 6 of the NYISO's Market Administration and Control Area Services Tariff, and Sections 12.1(4) and 12.4 of the NYISO's Code of Conduct in Attachment F of the NYISO Open Access Transmission Tariff, the NYISO requests Privileged and Confidential treatment of the contents of Attachment II to this filing letter. The NYISO also requests that the confidential Attachment II be exempted from public disclosure under the Freedom of Information Act ("FOIA"), 5 U.S.C. §552.<sup>3</sup>

Attachment II includes information regarding 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<sup>4</sup> information that the NYISO does not make public. Attachment II also includes a brief discussion of the status of enrollment and registration for the resources seeking to participate in the NYISO's Demand Side Ancillary Services Program. The number of resources described in this discussion similarly may not sufficiently mask confidential and commercially sensitive Market Participant information that the NYISO does not make public.

Attachment II, therefore, contains privileged, commercially sensitive, trade secret information that is exempt from disclosure under 5 U.S.C. §552(b)(4). Disclosure of such information could cause competitive harm to the affected Market Participants, and could adversely affect competition in the markets administered by the NYISO. For this reason, the NYISO requests that the contents of Attachment II receive Privileged and Confidential treatment and be exempt from FOIA disclosure. Attachment II is identified and marked in accordance with the Commission's regulations and rules published by the Secretary's Office for submitting Privileged information.

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<sup>2</sup> 18 C.F.R. §§ 388.107 and 388.112 (2015).

<sup>3</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>4</sup> Terms with initial capitalization not defined herein have the meaning set forth in the NYISO's Market Administration and Control Area Services Tariff and Open Access Transmission Tariff.

### III. Correspondence

Copies of correspondence concerning this filing should be addressed to:

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<sup>5</sup> The NYISO respectfully requests waiver of 18 C.F.R. § 385.203(b)(3) (2011) to permit service on counsel for the NYISO in both Washington, D.C. and Richmond, VA.

#### IV. CONCLUSION

WHEREFORE, the New York Independent System Operator, Inc. respectfully requests that the Commission accept this informational filing and treat the contents of Attachment II as Privileged and Confidential and exempt from FOIA disclosure.

Respectfully submitted,

/s/ Gregory J. Campbell

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## 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 12<sup>th</sup> day of January 2016.

By: /s/ John C. Cutting

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# Attachment I

# NYISO 2015 Annual Report on Demand Response Programs

## I. Program Descriptions

The New York Independent System Operator, Inc. (“NYISO”) administers four demand response programs for the dual purposes of system reliability and to reduce overall production costs. The Emergency Demand Response Program (“EDRP”)<sup>1</sup> and the Installed Capacity – Special Case Resource (“ICAP/SCR”) program support the reliability of the NYISO system. Both programs are designed to reduce power consumption by directing demand response resources to reduce load or use qualified Local Generators to remove load from the system during grid emergencies or when additional generation supply is limited. Loads supplied by the NYS Transmission and/or distribution system are eligible to take part in these programs, and aggregators enroll Demand Side Resources and coordinate with the NYISO to notify resources when the NYISO deploys demand response.

The NYISO also offers two economic demand response programs, the Day-Ahead Demand Response Program (“DADRP”) in its Energy market, and the Demand-Side Ancillary Services Program (“DSASP”) in the Ancillary Services market. The DADRP allows Loads supplied by the NYS Transmission and/or distribution system to offer their load reductions into the Day-Ahead Energy market as a supply resource. This program allows flexible loads to effectively increase the amount of supply in the market and moderate prices. The DSASP provides program participants with an opportunity to offer their load curtailment capability into the Day-Ahead Market (“DAM”) and/or Real-Time Market (“RTM”) to provide Operating Reserves and Regulation Service. Each of these four programs is described in greater detail below.

### Emergency Demand Response Program

The NYISO’s EDRP offers Demand Side Resources an opportunity to earn the greater of \$500/MWh or the prevailing Locational-Based Marginal Price (“LBMP”) for curtailing energy consumption when called upon to reduce Load by the NYISO. EDRP resources are enrolled by Curtailment Service Providers (“CSPs”), which serve as the interface between the NYISO and resource.<sup>2</sup> Load curtailment by EDRP resources during NYISO-called events is voluntary.

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<sup>1</sup> Capitalized terms not defined herein have the meaning ascribed to them in the NYISO’s Market Administration and Control Area Services Tariff (“Services Tariff”).

<sup>2</sup> An individual EDRP resource may, if it meets the applicable registration requirements, act as its own CSP.

## Installed Capacity – Special Case Resource Program

Special Case Resources (“SCRs”) are a type of demand side resource that meet certain eligibility requirements and may offer Unforced Capacity (“UCAP”) into the NYISO’s ICAP market as capacity supply resources. SCRs are enrolled by Responsible Interface Parties (“RIPs”) which may aggregate individual SCRs and serve as the interface between the NYISO and the resources.<sup>3</sup> Resources may be enrolled in either the EDRP or the ICAP/SCR program, but not both.

Demand response events are called by the NYISO during grid emergencies or when reserve shortages are anticipated or actually occur. 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 that the NYISO notified the RIP the day before any such call to reduce their load. In addition to receiving a capacity payment, RIPs are eligible to receive energy payments during an event or test, based on hourly market prices, plus a Bid Production Cost guarantee payment to make up for any difference between the market price received and their block offer price across the day. Energy payments are calculated using the same performance calculation used by the NYISO to pay for the performance of EDRP resources.

Enrolled SCRs must verify their capability to achieve the amount of enrolled load reduction in each Capability Period. Failure of an SCR to reduce load during an event or test may result in penalties being assessed to the applicable RIP in accordance with the NYISO’s Services Tariff and the ICAP/SCR program rules and procedures.

## Targeted Demand Response Program

The Targeted Demand Response Program (“TDRP”), introduced in July 2007, is a NYISO reliability program that deploys existing EDRP resources and SCRs on a voluntary basis in targeted subzones to solve local reliability problems at the request of a Transmission Owner . The TDRP program is currently available only in Load Zone J (New York City). RIPs are eligible to receive energy payments during an event or test based on hourly market prices plus a Bid Production Cost guarantee. Energy payments are calculated using the same performance calculation used by the NYISO to pay for the performance of EDRP resources.

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<sup>3</sup> An individual SCR may, if it meets the applicable registration requirements, act as its own RIP.



### Day-Ahead Demand Response Program

The NYISO's DADRP allows Demand Side Resources to offer load curtailment into the DAM as an energy supply resource. Resources participating in the DADRP submit offers by 5:00 a.m. specifying the hours and amount of load curtailment for the following day, and the price at which they are willing to curtail. The current offer floor price is \$75/MWh.

DADRP offers are structured like those of generation resources: they specify minimum and maximum run times and the hours in which they are available. Demand Side Resources with Load reductions scheduled in the DAM are obligated to curtail the next day. DADRP resources are also eligible for Bid Production Cost guarantee payments. Failure of a DADRP resource to curtail its Load may result in penalties being assessed to the applicable resource in accordance with the NYISO's Services Tariff and the DADRP program rules and procedures.

### Demand-Side Ancillary Services Program

The NYISO's DSASP provides Demand Side Resources (that meet telemetry and other qualification requirements) an opportunity to offer their load curtailment capability into the DAM and/or RTM to provide Operating Reserves and Regulation Service. Resources must qualify through standard resource testing requirements in order to provide these services. Offers are submitted through the same process as generation resources: resources participating in the DAM submit offers by 5:00 a.m. specifying the Ancillary Service they are offering (Operating Reserves, and/or Regulation Service) along with the hours and amount of load curtailment for the following day, and the price at which they are willing to curtail. DSASP resources may also submit RTM offers up to 75 minutes before the hour of the offer.

The dispatch of the DSASP resources' Operating Reserves to Energy is determined in the RTM by the Real-Time Dispatch ("RTD") program. When RTD instructs the DSASP resources to provide Energy, DSASP resources will be required to decrease the Load being consumed from the NYS Transmission System and/or distribution system. The dispatch of Regulation Service into Energy is determined in the RTM by the Automatic Generation Control ("AGC") program. Depending on the system needs, the AGC may instruct DSASP resources to either increase or decrease the Load being consumed from the NYS Transmission System and/or distribution system.

When DSASP resources are converted to energy in the real-time, DSASP resources are not paid for energy, but are eligible for a Day-Ahead Margin Assurance Payment to make up for any balancing differences between their Day-Ahead Operating Reserves or Regulation Service schedule and real-time dispatch, subject to their performance for the scheduled service.

Performance indices are calculated on an interval basis for both Operating Reserves and Regulation Service. Day-Ahead Margin Assurance Payments are adjusted by the performance index for the services provided.

## **II. 2015 Program Summary**

### EDRP and ICAP/SCR Program

As of July 31, 2015, a total of 30 CSPs and RIPs had eligible resources enrolled in the NYISO's EDRP and ICAP/SCR program.<sup>4</sup> Participating CSPs and RIPs include:

- 4 Transmission Owners ("TOs")
- 8 Competitive Load Serving Entities ("LSEs") (LSEs that are not TOs)
- 14 Aggregators (non-LSE or TO)
- 4 EDRP or ICAP/SCR direct participation resources (resources that represent themselves as the CSP/RIP)

These figures represent a decrease of a single CSP/RIP from 2014: a Competitive LSE. There was no change in the number of TOs, aggregators, or direct customers from 2014.

As of July 31, 2015, a total of 3,896 end-use locations were enrolled in the NYISO's EDRP and ICAP/SCR program. These locations were capable of providing a total of 1,325.4 MW of demand response. This corresponded to a 9.5% increase in the enrolled MW versus 2014, and represents 4.3% of the 2015 Summer Capability Period peak demand of 31,138 MW. Of the 3,896 end-use locations, 116 participated in the EDRP program, eleven were ICAP/SCR resources with unsold capacity,<sup>5</sup> and the remaining 3,769 end-use locations participated in the NYISO's ICAP/SCR program. The ICAP/SCR program represents 97.0% of the total resources enrolled in the NYISO's reliability-based demand response programs and 94.2% of the total enrolled MW in those programs.

Aggregators, competitive LSEs, and direct customers currently represent 82.7% of enrolled MW in EDRP and ICAP/SCR, down from 87.5% of enrolled MW in 2014. The

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<sup>4</sup> For several years, the date customarily used for reporting the NYISO's demand response program participation statistics was August 31. In 2011, the NYISO changed its reporting date from August 31 to July 31 to better align with several other reliability and planning reporting requirements. A July 31 reporting date also provides better transparency with other reporting requirements for the NYISO's demand response programs. The NYISO has evaluated the difference in enrollment between July and August and found it to be *de minimis* (2-3%). The data provided herein is based on a snapshot of the programs on July 31, 2015.

<sup>5</sup> ICAP/SCR Resources with unsold capacity are those resources that did not sell their full available capacity.

remaining 17.3% of MW are enrolled by TOs. In 2015, two non-TO market participants enrolled resources in the EDRP (out of six total EDRP participants), all other EDRP resources were enrolled through their TO. In the ICAP/SCR program, three participants enrolled through their TO, while all other ICAP/SCR resources were enrolled through other means. Direct customers represented 4.6% of total MW in the ICAP/SCR program.

The TDRP, which deploys EDRP and ICAP/SCR resources in the various subzones in Zone J for local reliability, includes 28.4% of the total New York Control Area (“NYCA”) EDRP end-use locations and 19.0% of total NYCA EDRP MW. The TDRP also includes 49.3% of total NYCA ICAP/SCR end-use locations, representing 30.8% of the total NYCA ICAP/SCR MW.

Since 2003, when participation in EDRP and ICAP/SCR became mutually exclusive, EDRP end-use locations and enrolled MWs have continued to decline. ICAP/SCR aggregations by RIPs now account for 98.2 % of ICAP/SCR resources and 76.9% of enrolled MW in the program.

During the 2015 Summer Capability Period, the NYISO did not deploy either of its reliability demand response programs. The NYISO also did not receive a request to deploy the TDRP program during this period.

#### Day-Ahead Demand Response Program

DADRP enrollment has been static for several years and enrolled resources have shown no activity in the energy market for more than four years. Given no activity during the analysis period, there is no market participation to report. DADRP enrollment remained unchanged since the January 2015 Report.

#### Demand-Side Ancillary Service Program

There are three demand side resources actively participating in the DSASP as providers of Operating Reserves. The resources represent 126.5 MW of capability and had an average performance of 144% during the analysis period of May 2015 through October 2015.

Additional detailed information on participation in the DSASP is found in confidential Attachment II.

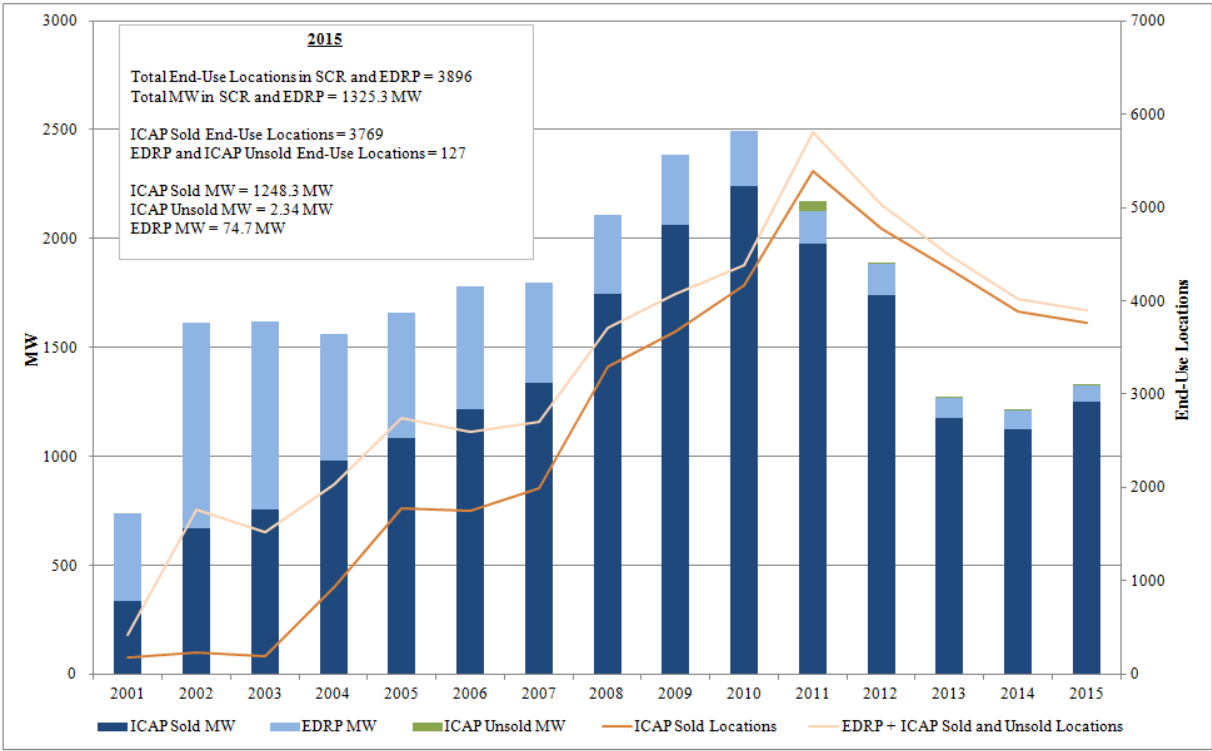
### III. Reliability Program Participation Detail

#### Historical Enrollment Data

Historical enrollment data for the NYISO’s reliability demand response programs is presented in Figure 1. The figure plots the enrollment in the NYISO’s reliability-based programs from inception through July 2015. The stacked bar charts plot enrolled MW by program and year, and the lines plot the number of end-use locations by program and year.

From May 2001 through July 2015, combined enrollment in EDRP and ICAP/SCR has grown from approximately 200 MW to 1325.4 MW. The total number of end-use locations has increased from approximately 200 in March 2001, to 3,896 in July 2015. Since participation in EDRP and ICAP/SCR program became mutually exclusive in 2003, the number of participating EDRP resources, and the MW they contribute, has decreased.

**Figure 1: Historical Enrollment of End-Use Locations and MW in NYISO Reliability Programs**



## Changes in Program Enrollment – 2014 – 2015

Enrollment data for the NYISO’s Reliability-based demand response programs in 2014 and 2015 is provided in Table 1. The number of end-use locations has declined in both the EDRP and ICAP/SCR program since the 2014 report; however, the enrolled MW in the ICAP/SCR program has increased.

**Table 1: Program Enrollment by End-Use Location – 2014 – 2015**

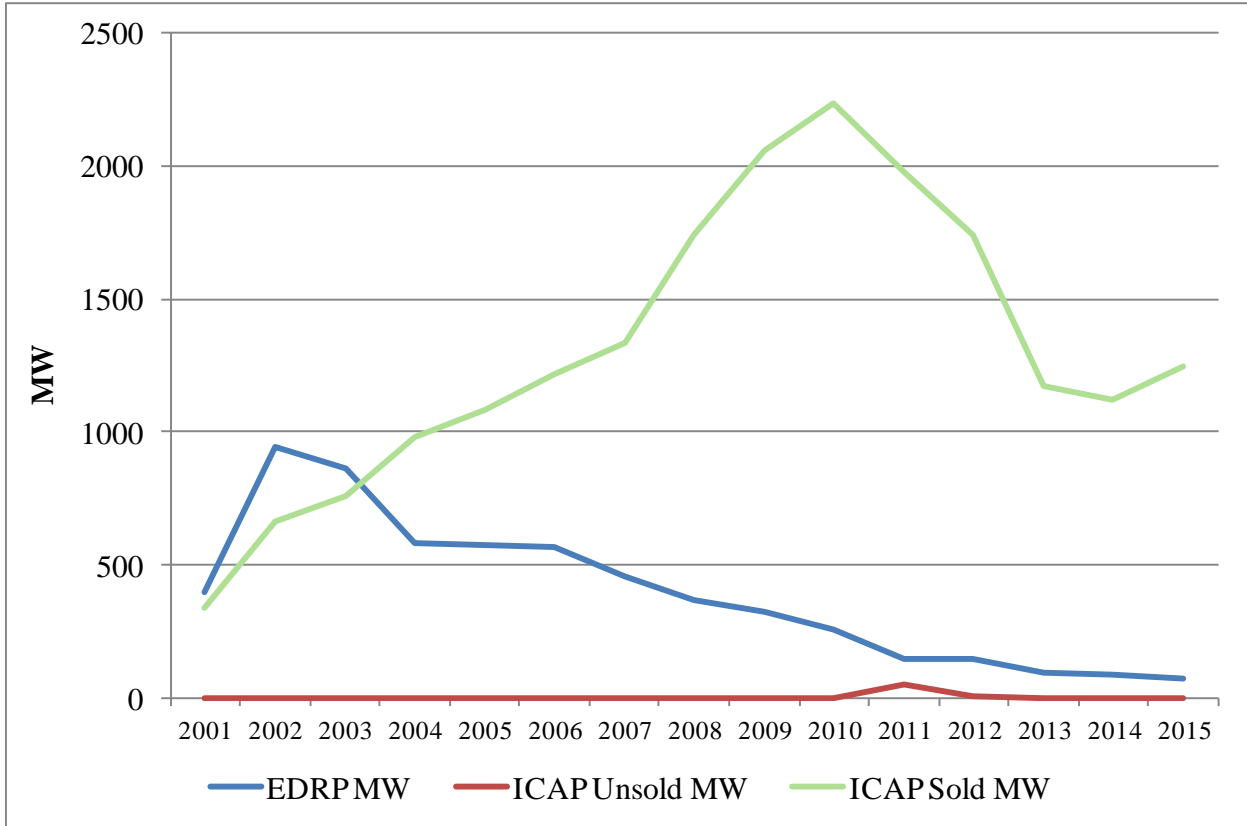
	2015		2014		MW Change	Percent Change From 2014 to 2015		MW per End-Use Location		
	Count	MW	Count	MW		End-Use Location Count	Enrolled MW	2015	2014	Percent Change
EDRP	116	74.7	134	85.6	-10.9	-13%	-13%	0.6	0.64	0.8%
ICAP Unsold	11	2.34	9	0.72	1.6	22%	225%	0.21	0.08	165.8%
ICAP Sold	3769	1248.3	3879	1124.4	123.9	-3%	11%	0.3	0.29	14.3%

Figures 2 and 3 present enrollment statistics in the EDRP and ICAP/SCR program from 2001 – 2015. Figure 2 presents the data by MW enrolled, while Figure 3 presents the data by number of end-use locations.<sup>6</sup> The reductions in enrolled MW and in end-use locations in recent years are due in part to changes in market rules designed to better estimate the demand response capability available to the NYISO under peak load conditions. Notable, however, the enrolled MW in the ICAP/SCR program increased between 2014 and 2015. Since making the EDRP and ICAP/SCR program mutually exclusive, there has been a general decline in the number of enrolled MW and resources in the EDRP.

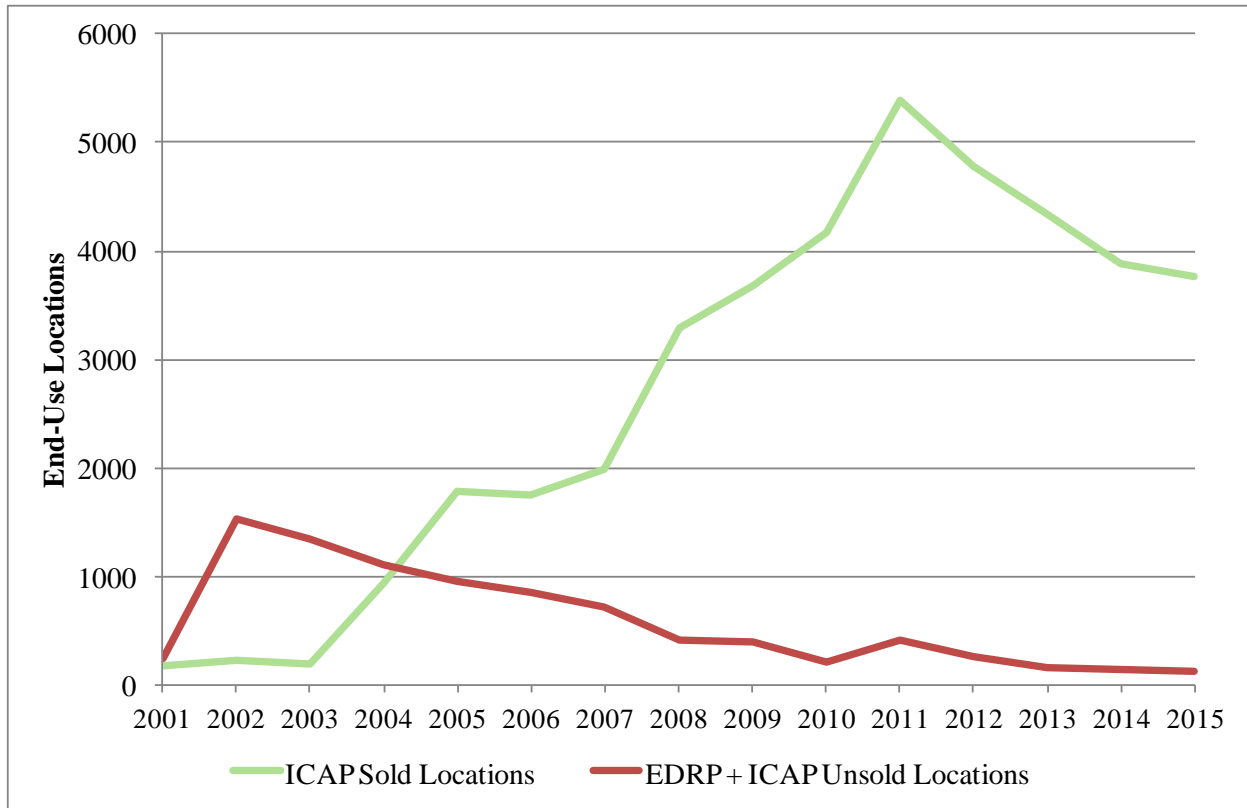
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<sup>6</sup> ICAP/SCR program enrollment of individual end-use locations began in 2004. In 2001 and 2002 end-use locations could enroll in both the EDRP and ICAP/SCR program, but beginning in 2003, resources were prohibited from simultaneously enrolling in both programs.

**Figure 2: Enrollment in the NYISO's EDRP and ICAP/SCR Program by MW, 2001 – 2015**



**Figure 3: Enrollment in the NYISO’s EDRP and ICAP/SCR Program by End-Use Location, 2001 – 2015**



2014 – 2015 EDRP and ICAP/SCR Program Enrollments

At the end of July 2015, 3,896 end-use locations, with a total of 1,325.4 MW of demand response capability, were enrolled in NYISO’s EDRP and ICAP/SCR program. This represents a 9.5% increase from the total enrolled demand response capability in 2014. Of the 3,896 end-use locations, 116 enrolled in the EDRP and 3,780 enrolled in the ICAP/SCR program. ICAP/SCR resources represent 97.0% of the total reliability program end-use locations and 94.2% of the total reliability program MW. The proportion of ICAP/SCR program enrolled capability to total reliability program capability has increased marginally since 2014. Table 2, below, provides summary data for the EDRP and ICAP/SCR program.

**Table 2: Program Enrollment Summary by CSP and RIP Type**

No. of Unique MPs	Agent Type	EDRP			ICAP Unsold			ICAP Sold		
		No. of CSPs	No. of End-Use Locations	MW	No. of RIPs	No. of End-Use Locations	MW	No. of RIPs	No. of End-Use Locations	MW
14	Aggregator	0	0	0.0	7	10	2.24	14	3607	937.6
4	Direct Customer	0	0	0.0	0	0	0.00	*	8	60.7
8	Competitive Load Serving Entity	*	11	2.5	0	0	0.00	8	119	93.1
4	Transmission Owner/LSE	*	105	72.2	*	*	0.10	*	35	156.9
30	Total	6	116	74.7	8	11	2.34	28	3769	1248.3

\*Entries in this category have been masked for confidentiality in the public version of this table. The unredacted values are presented in the confidential appendix submitted as Attachment II.

2015 EDRP enrollments were predominantly through TOs, contrasted with the ICAP/SCR program where non-TOs provided 96.4% of participating end-use locations and 82.7% of the enrolled MW.

Table 3 provides additional program enrollment detail by Load Zone. Although the NYISO does not collect specific resource class data, demand response resources in Load Zones A through E are typically industrial and retail resources, while those in Load Zones J and K include commercial office, retail, and multi-family residential resources.

**Table 3: 2015 Program Enrollment by Load Zone**

Zone	EDRP		ICAP Unsold		ICAP Sold	
	No. of End-Use Locations	MW	No. of End-Use Locations	MW	No. of End-Use Locations	MW
A	12	13.4	0	0.00	359	314.5
B	*	1.8	0	0.00	224	84.4
C	22	11.3	0	0.00	273	111.0
D	7	3.4	0	0.00	22	59.4
E	12	5.9	*	0.10	134	39.8
F	20	22.6	0	0.00	200	107.9
G	0	0.0	*	0.01	168	53.3
H	*	1.6	0	0.00	24	5.9
I	*	0.0	*	0.18	91	21.1
J	33	14.2	*	1.05	1858	384.0
K	*	0.5	*	1.00	416	67.0
Total	116	74.7	11	2.34	3769	1248.3

\*Entries in this category have been masked for confidentiality in the public version of this table. The unredacted values are presented in the confidential appendix submitted as Attachment II.



## ICAP/SCR Resource Aggregations

ICAP/SCR resource enrollments are identified by the NYISO by end-use location, and may represent either individually enrolled end-use locations or aggregations of end-use locations that are enrolled as a single demand response resource. Table 4, below, provides data on ICAP/SCR program participation. As of July 31, 2015, 3,780 end-use locations are enrolled in aggregations. These aggregations provide 962.0 MW of the 1,250.7 MW enrolled in the ICAP/SCR program. The remaining 288.6 MW of demand response capacity in the ICAP/SCR program comes from 72 individually enrolled resources.

**Table 4: Detail of 2015 ICAP/SCR Program Participation Level by Resource Type**

Resource Type	ICAP Sold		ICAP Unsold	
	No. of End-Use Locations	MW	No. of End-Use Locations	MW
Individual Resources	67	288.3	*	0.39
Aggregated Resources	3702	960.1	6	1.95
Total	3769	1248.3	11	2.34

\*Entries in this category have been masked for confidentiality in the public version of this table. The unredacted values are presented in the confidential appendix submitted as Attachment II.

Table 4 also provides information for ICAP/SCR resources that did not sell any capacity in the July 2015 capacity market auctions. This information is included because when an ICAP/SCR resource offers its load reduction in a NYISO auction, and that load reduction is not sold (or when a resource's derated MW value is zero), the resource's enrolled capacity is automatically included in the EDRP.<sup>7</sup>

## TDRP Enrollment

Load Zone J is currently the only Load Zone with resources participating in the TDRP. This Load Zone has been divided into subzones designated by Consolidated Edison Company of New York, Inc. ("Con Edison"). Resources enrolled in the EDRP and ICAP/SCR program are

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<sup>7</sup> The resource will remain in the EDRP until it clears in a subsequent auction, or the resource confirms a bilateral transaction with an LSE. The EDRP enrollment totals and event response data included in this report include the offered, but unsold, MW of enrolled ICAP/SCR resources.

assigned to one of the various subzones based on their location.<sup>8</sup> Resources that are not assigned to a particular subzone remain in the general Zone J category. Tables 5 and 6 provide EDRP and ICAP/SCR end-use locations and MW enrolled in the TDRP by subzone.

**Table 5: EDRP End-Use Locations Enrolled in TDRP**

Zone/Subzone	J	J1	J2	J3	J4	J5	J6	J7	J8	J9	Total
MW	0.1	0.4	0.6	0.3	0.2	0.2	0.3	0.0	0.3	12.0	14.2
No. of End-Use Locations	*	6	*	7	*	7	*	0	*	*	33

\* Entries in this category have been masked for confidentiality in the public version of this table. The unredacted values are presented in the confidential appendix submitted as Attachment II.

**Table 6: ICAP/SCR End-Use Locations Enrolled in TDRP**

Zone/Subzone	J	J1	J2	J3	J4	J5	J6	J7	J8	J9	Total
MW	25.8	26.5	27.6	44.8	28.9	29.1	59.3	52.6	90.3	0.0	385.1
No. of End-Use Locations	183	129	155	329	68	172	201	241	385	0	1863

### Analysis of ICAP/SCR Strike Prices

Starting in 2003, resources participating in the ICAP/SCR program were required to provide a curtailment strike price – between \$0 and \$500/MWh – to the NYISO at the time of enrollment. Strike prices can be used by the NYISO to determine which resources it calls in a given event if all resources in a Load Zone or Zones are not needed to restore system security to its equilibrium state. Strike Prices are also used in the calculation of energy payments.

The NYISO has analyzed strike price curves for all resources enrolled in July 2015 and compared the most recent strike price curves to prior years. Figures 4 and 5 below map the percentage of enrolled ICAP/SCR MW at a given strike price. Figure 4 illustrates the strike price curves for the period 2003 to 2015, the entire period in which resources were required to provide strike prices. The steep slope of the strike price curves indicate that strike prices are clustered close to the offer ceiling of \$500/MWh. The data indicates that, as the program has evolved since 2003, the number of resources providing strike prices at or near \$500/MWh has increased, with more than 98% of enrolled ICAP/SCR MW submitting a strike price at the \$500/MWh limit.

<sup>8</sup> The Load Zone J Subzones are: 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 – East 13<sup>th</sup>/East River; J8 – Farragut/Rainey; and J9 – Shared Subzone.

**Figure 4: ICAP/SCR Curtailment Strike Price Bid Curves, 2003-2015**

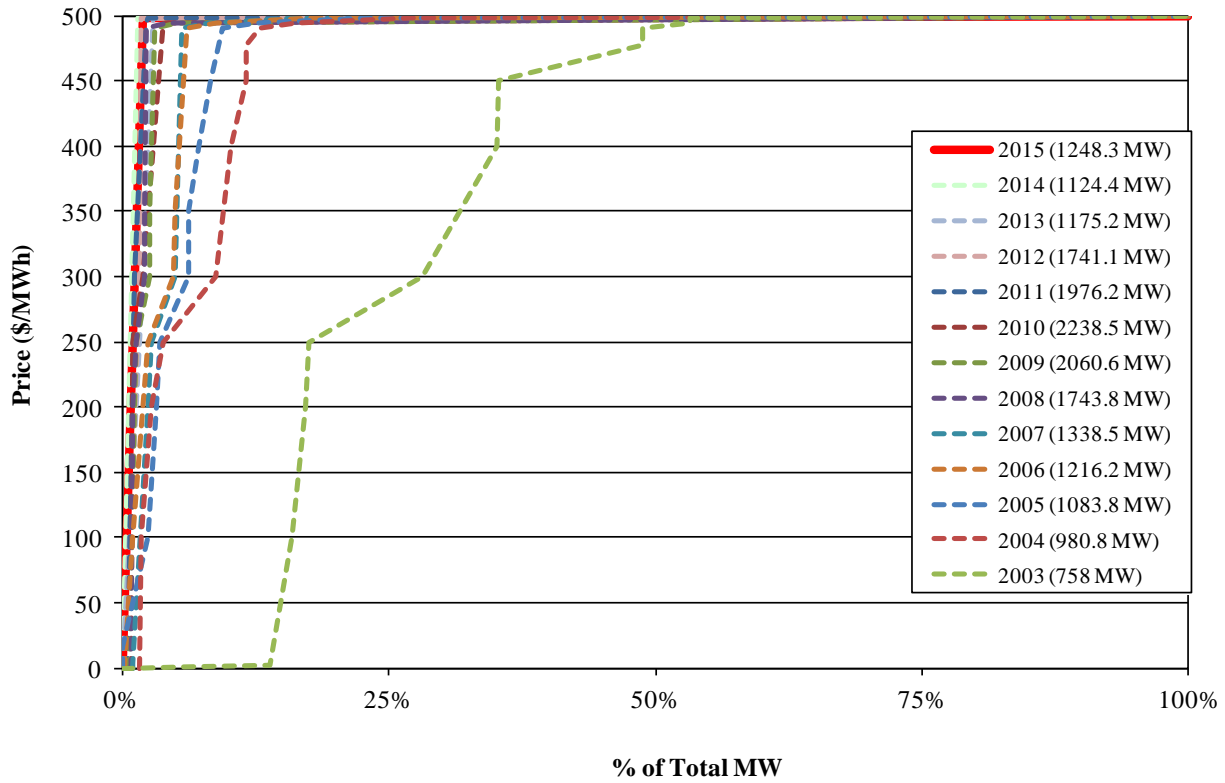
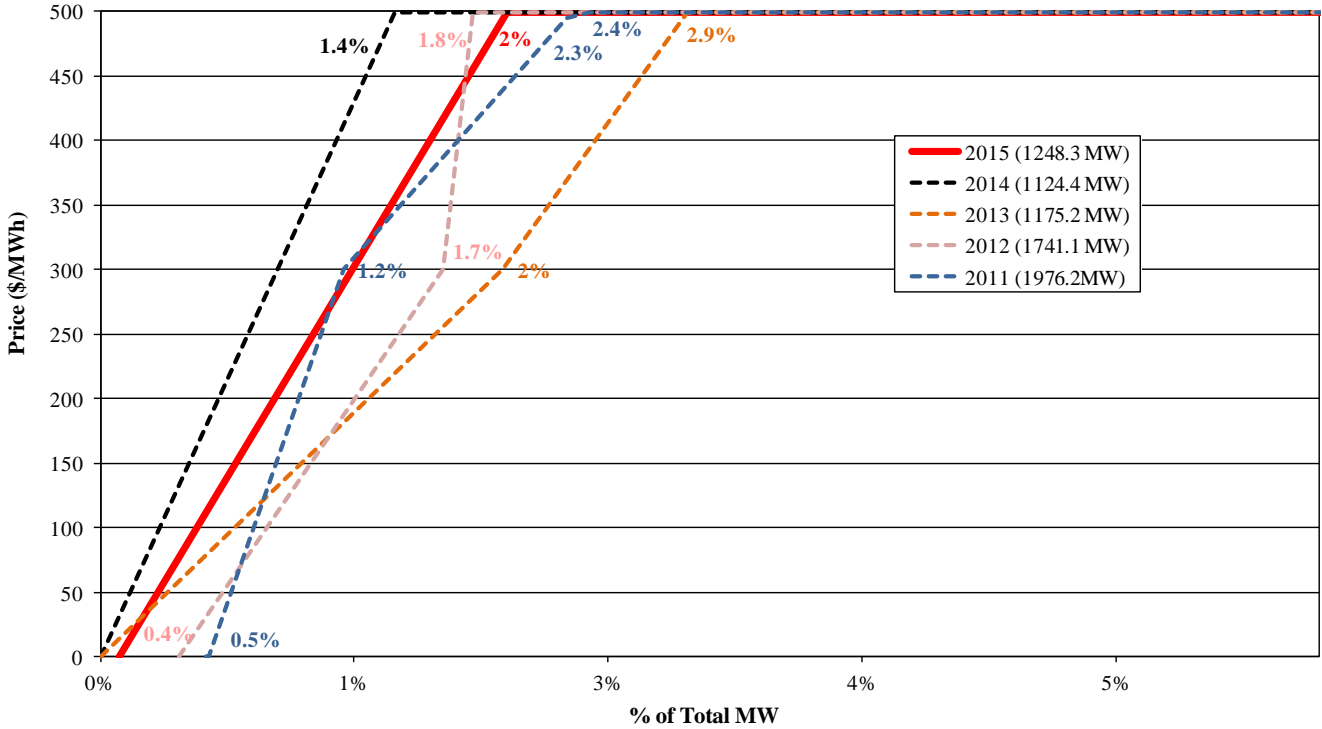


Figure 5 provides a detailed view of the strike price curves for 2011 through 2015. The Figure displays a limited range where the price curve levels off to the offer ceiling of \$500/MWh.

**Figure 5: ICAP/SCR Curtailment Strike Price Bid Curves, 2010-2014**



**IV. 2015 Event and Test Performance: EDRP and ICAP/SCR Program**

a) Event Performance

The NYISO did not deploy its EDRP or ICAP/SCR program in 2015. The NYISO also did not receive a request to deploy the TDRP during this period.

b) Test Performance

Each resource participating in the ICAP/SCR program is required to demonstrate its ability to meet its obligated MW once in each Capability Period. The NYISO therefore schedules a one-hour performance test in which all SCRs are called to demonstrate their ability (the “First Performance Test”). RIPs have the option to use a SCR’s performance in an event as a proxy for its test value in certain circumstances; otherwise, participation in the First Performance Test is mandatory. The NYISO also schedules a Second Performance Test for resources that meet appropriate operational characteristics. Table 7 provides details regarding the performance tests conducted in the Winter 2014-2015 and Summer 2015 Capability Periods:

**Table 7: ICAP/SCR SCR Performance Tests**

Capability Period	Deployment Type	Program	Event/Test Start Time	Event/Test End Time	Zones
Winter 2014-2015	First Performance Test	SCR	3/3/2015 16:00	3/3/2015 17:00	C, D, E, F, G, H, I
Winter 2014-2015	First Performance Test	SCR	3/3/2015 17:00	3/3/2015 18:00	J, K
Winter 2014-2015	First Performance Test	SCR	3/3/2015 18:00	3/3/2015 19:00	A, B
Winter 2014-2015	Second Performance Test	SCR	4/14/2015 18:00	4/14/2015 19:00	A, B, C, D, E, F, G, H, I, J, K
Summer 2015	First Performance Test	SCR	8/27/2015 13:00	8/27/2015 14:00	J
Summer 2015	First Performance Test	SCR	8/27/2015 14:00	8/27/2015 15:00	B, C, D, E
Summer 2015	First Performance Test	SCR	8/27/2015 15:00	8/27/2015 16:00	A
Summer 2015	First Performance Test	SCR	8/27/2015 16:00	8/27/2015 17:00	F, G, H, I, K
Summer 2015	Second Performance Test	SCR	10/8/2015 13:00	10/8/2015 14:00	B, I, J

Measurement of performance test response is based on the ICAP/SCR reporting rules contained in the NYISO’s ICAP Manual. ICAP/SCR response is determined by comparing the actual hourly interval metered load with the Average Coincident Load (“ACL”):

$$ICE\_RED\_MW_{gn} = (ACL_{gm} - METER\_MW_{gn}) * (1 + TLF_{gm})$$

where:

- $ICE\_RED\_MW_{gn}$  is the Installed Capacity Equivalent response that Resource  $g$  supplies during hour  $n$  of an SCR event or test;
- $ACL_{gm}$  is the ACL for Resource  $g$  applicable to month  $m$ , using data submitted in its Special Case Resource certification;
- $METER\_MW_{gn}$  is the metered hourly-integrated load for Resource  $g$  in hour  $n$  of an SCR event or test; and
- $TLF_{gm}$  is the Transmission Loss Factor for Resource  $g$  applicable to month  $m$ , using data submitted in its Special Case Resource certification

The resource’s Installed Capacity Equivalent response is then compared with the resource’s Installed Capacity Equivalent of the maximum registered megawatt value to determine the resource’s performance.

Table 8 provides a summary of ICAP/SCR program resources’ performance test response compared to the Obligated MW for the zones deployed during the tests. Obligated MW is defined as the Installed Capacity Equivalent of the maximum registered megawatt value that each SCR is required to demonstrate once in every Capability Period. Performance test MW response reported for each Capability Period includes MW response in both First and Second Performance Tests, if data is available. For resources that are required to demonstrate performance in both First and Second Performance Tests, the maximum MW response is

reported. If Verified ACL data is not available at the time of reporting for a resource enrolled with either a Provisional ACL or an Incremental ACL, the ACL with which the resource enrolled in the SCR program is used for reporting performance data.

**Table 8: Summary of ICAP/SCR Program Performance Test MW Response Based on ACL Baseline**

Program	Capability Period	Zones	ICAP Equivalent of Response MW	Obligated ICAP MW	% Response of Obligated ICAP MW
SCR (ICAP)	Winter (2014-2015)	A,B,C,D,E,F,G,H,I,J,K	942.6	982.5	95.9%
SCR (ICAP)	Summer (2015)	A,B,C,D,E,F,G,H,I,J,K	1643.8	1321.5	124.4%

Table 9 provides a summary of Installed Capacity Equivalent of SCR response by Load Zone based on ACL baseline for the Winter 2014 – 2015 and Summer 2015 Capability Period performance tests.

**Table 9: ICAP/SCR Program Performance Test MW Response Based on ACL Baseline**

Program	Capability Period	Zone	ICAP Equivalent of Response MW	Obligated ICAP MW	% Response of Obligated ICAP MW
SCR (ICAP)	Winter (2014-2015)	A	272.3	292.4	93.1%
		B	49.5	50.8	97.4%
		C	94.5	89.5	105.6%
		D	64.2	65.2	98.4%
		E	33.9	40.0	84.8%
		F	65.7	64.7	101.5%
		G	36.0	40.7	88.4%
		H	4.5	4.2	106.7%
		I	16.5	16.5	100.0%
		J	264.7	271.3	97.6%
		K	40.8	47.2	86.4%
		Total	942.6	982.5	95.9%

Program	Capability Period	Zone	ICAP Equivalent of Response MW	Obligated ICAP MW	% Response of Obligated ICAP MW
SCR (ICAP)	Summer (2015)	A	346.1	318.7	108.6%
		B	91.5	87.0	105.2%
		C	155.1	116.0	133.8%
		D	61.7	59.8	103.2%
		E	53.1	41.5	127.9%
		F	129.3	110.4	117.2%
		G	69.2	56.9	121.6%
		H	8.2	6.7	123.9%
		I	31.9	26.1	122.1%
		J	613.3	428.9	143.0%
		K	84.3	69.6	121.1%
		Total	1643.8	1321.5	124.4%

In addition to receiving a capacity payment for committing to reduce energy consumption, RIPs with resources enrolled in the ICAP/SCR program are eligible to receive energy payments for reductions made by those resources during a performance test provided that the RIPs submit the required performance data. The amount of load reduction eligible for an energy payment is computed using a Customer Baseline Load (“CBL”). Unlike the ACL baseline which uses Load data from a SCR’s prior-like Capability Period, the CBL uses data from the previous 30 days to establish a baseline which is likely to be a more accurate

representation of the resource's Load during a performance test or event but for the resource's response to the NYISO's deployment directive. The amount of an energy payment is the difference between the hourly CBL and the corresponding interval meter readings during performance test hours, multiplied by the applicable LBMP.

Table 10 presents a summary of voluntarily reported CBL data by zone and hour for ICAP/SCR resources for the Winter 2014 – 2015 and Summer 2015 Capability Period performance tests. Since the ICAP/SCR ACL values described above are based on the prior like Capability Period, and the CBL is determined from data that ranges from 14 to 30 days prior to the tests, the NYISO expects different response rate data. Contributing to the difference between the ICAP/SCR ACL response and the CBL response is the fact that not all RIPs submit CBL energy performance data. The NYISO has observed that some RIPs report CBL data only for their larger resources, and particularly in Load Zone J, where energy prices are typically higher than in the rest of the NYCA.



**Table 10: ICAP/SCR Program Performance Test MW Response Based on CBL Baseline**

Program	Capability Period	Zone	ICAP equivalent of Response MW	Obligated ICAP MW of SCRs Reporting CBL	% Response of Obligated ICAP MW
SCR (ICAP)	Winter (2014-2015)	A	265.1	286.2	92.6%
		B	39.4	48.8	80.7%
		C	89.0	83.7	106.3%
		D	61.6	59.4	103.6%
		E	26.6	39.7	67.0%
		F	65.3	59.6	109.6%
		G	29.6	40.6	72.8%
		H	4.0	3.9	102.5%
		I	10.5	12.4	84.4%
		J	168.3	207.1	81.3%
		K	25.5	33.3	76.7%
		Total		784.8	874.6

Program	Capability Period	Zone	ICAP equivalent of Response MW	Obligated ICAP MW of SCRs Reporting CBL	% Response of Obligated ICAP MW
SCR (ICAP)	Summer (2015)	A	323.6	315.9	102.4%
		B	76.9	83.8	91.7%
		C	116.6	104.7	111.4%
		D	67.4	59.8	112.7%
		E	42.2	41.0	102.9%
		F	110.3	107.7	102.4%
		G	53.5	56.0	95.5%
		H	5.9	6.1	97.8%
		I	18.6	23.2	80.4%
		J	353.9	398.7	88.8%
		K	34.8	50.4	69.0%
		Total		1203.6	1247.3

## **V. Economic Demand Response Programs**

### Day-Ahead Demand Response Program

During the analysis period of August 2014 through July 2015, there was no activity in the DADRP. There is, therefore, nothing to report for this period.

### Demand Side Ancillary Services Program

Detailed information on the DSASP is provided in Confidential Attachment II.

## **VI. Update on 2015 Demand Response Initiatives**

This section provides an update on the status of 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. In particular, the NYISO has focused on:

- Continued Development of the Demand Response Information System (“DRIS”)
- Metering Infrastructure Requirements for Demand Response
- Developing a potential alternative market design to recognize the value of demand response in the NYISO’s capacity market if demand response is determined to be non-FERC jurisdictional

### Continued Development of the Demand Response Information System

The NYISO successfully deployed software improvements to DRIS in 2015. A Q2 2015 deployment incorporated the revisions to the ICAP/SCR program to allow performance in a mandatory event to fulfill the mandatory test requirement. A Q4 2015 deployment included upgrades to DRIS that enhanced the user interface and assisted the NYISO in administering the demand response programs.

### Metering Infrastructure Requirements for Demand Response

The NYISO developed the functional requirements for the infrastructure to support communications and the collection and management of demand response meter data.

## Development of an Alternative Market Design to Recognize Demand Response in the NYISO's Capacity Market

Given the uncertain future of FERC-jurisdictional demand response programs as a result of the United States Court of Appeals for the D.C. Circuit decision in *EPSA v. FERC*,<sup>9</sup> and the United States Supreme Court Review of that decision, the NYISO engaged its stakeholders in the development of an alternative market design that would, if needed, recognize the value of demand response in the NYISO's capacity market if demand response programs are determined to be non-FERC jurisdictional. The NYISO developed the concepts and associated draft tariff language in Q1 and Q2 2015, and presented the results to stakeholders at joint Installed Capacity, Market Issues and Price-Responsive Load Working Group meetings from February through May 2015.

## Demand Response in the Real-Time Energy Market

As a result of the May 23, 2014 United States Court of Appeals for the DC Circuit decision in *EPSA v. FERC*,<sup>10</sup> and at the request of stakeholders, the NYISO has postponed further development of market rules that would allow demand response to participate in the real-time energy market until the *EPSA* matter has been resolved. The NYISO redirected its efforts to define the metering communications infrastructure that would be needed to support real-time communication for demand response and expanded after-the-fact meter data reporting.

## **VII. 2016 Demand Response Initiatives**

This section provides an overview of the projects that the NYISO has planned for its demand response programs for 2016.

### Continued Development of the Demand Response Information System

The NYISO is currently planning one software deployment for DRIS in 2016. A Q2 2016 deployment will enhance DRIS software to allow incorporation of new rules to support comprehensive scarcity pricing in the NYISO's markets.<sup>11</sup> This deployment will also include an upgrade to the software version used by the DRIS to place automated phone calls for DR event notifications.

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<sup>9</sup> *Elec. Power Supply Ass'n v. FERC*, 753 F.3d 216 (D.C. Cir. 2014).

<sup>10</sup> *Id.*

<sup>11</sup> New York Indep. Sys. Operator, Inc. November 30, 2015 Application, Docket No. ER16-425-000.