NEW YORK INDEPENDENT SYSTEM OPERATOR
10 Krey Boulevard • Rensselaer, NY 12144

January 25, 2011

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

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

Dear Ms. Bose:

Enclosed for filing in the above-referenced docket is a supplement and an errata to the New York Independent System Operator, Inc's ("NYISO's") 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.[1] On January 18, 2011, the NYISO filed its annual report ("2010 Demand Response Annual Report"). As stated in the transmittal letter and in the report, the NYISO's analysis of performance data for Emergency Demand Response Program and Installed Capacity Special Case Resources events in 2010 was continuing, and the NYISO would supplement its annual report with the results of that analysis. The NYISO submits for filing a supplement to its annual report on Demand Side Management programs, and also an amended report which incorporates the supplemental information.

Additionally, the NYISO submits an errata to the Annual Report. The errata is submitted in the form of a blackline to the 2010 Demand Response Annual Report. While performing the analysis of the event data, the NYISO identified certain data errors in the 2010 Demand Response Annual Report. Those errors generally were driven by using Unforced Capacity instead of Installed Capacity values. The NYISO therefore is submitting a revised annual report to correct the errors and incorporate the supplemental report.

## I. List of Documents Submitted

The NYISO submits:

1. This transmittal letter;
2. Supplement to the NYISO Report on Demand Response Programs (Attachment I);
3. Revised 2010 Annual Report on Demand Response Programs (Attachment II); and
4. Errata in the form of a blackline marking changes from the report submitted on January 18, 2011 (Attachment III)

[1] *New York Independent System Operator, Inc.*, Order, Docket Nos. ER01-3001 and ER03-647 (Feb. 19, 2010).

## II. Correspondence

Copies of correspondence concerning this filing should be addressed to:

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Respectfully submitted,

*/s/Gloria Kavanah*

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## CERTIFICATE OF SERVICE

I hereby certify that I have on this day served the foregoing document on the official service lists compiled by the Secretary in these proceedings. I have also electronically served the foregoing on all market participants, on each participant in its stakeholder committees, on the New York State Public Service Commission, and on the electric utility regulatory agency of New Jersey.

Dated at Albany, NY, this 25th day of January 2011.

*/s/ Joy A. Zimberlin*
Joy A. Zimberlin
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# Attachment I

# Emergency Demand Response Program/ICAP Special Case Resources 2010 Event Performance

In 2010, the NYISO activated EDRP and SCR resources on four occasions, of which there were two deployments of the TDRP in June 2010 and two deployments of the ICAP/SCR and EDRP programs during July 2010. The TDRP deployments, in response to the local Transmission Owner request in the NYC Load Zone (J), occurred on June 28, 2010 from 3:31 p.m. to 11:30 p.m. and on June 29, 2010 from 3:35 am to 11:00 am. The NYISO deployments of the ICAP/SCR and EDRP programs occurred from 1:00 p.m. to 7:00 p.m. on July 6, 2010 and July 7, 2010. The 2010 activations were as follows:

**June 28:**

EDRP and SCR resources were activated in Zone J, Subload Pocket J8, from approximately 3:30 p.m. to 11:30 p.m., in response to the Transmission Owner's request in the NYC Zone (J).

**June 29:**

EDRP and SCR resources were activated in Zone J, Subload Pocket J8, from approximately 3:30 am to 11:59 am, in response to the Transmission Owner's request in the NYC Zone (J).

**July 6:**

EDRP and SCR resources were activated in Zone J from 1 p.m. to 7 p.m..

**July 7:**

EDRP and SCR resources were activated in Zone J from 1 p.m. to 7 p.m..

## June 2010: Targeted Demand Response Program Events

The two TDRP events in June 2010 were called in the NYC Load Zone J Subload Pocket J8. At the time of the event there were 422 resources enrolled in the ICAP/SCR program and 4 resources enrolled in the EDRP (Table 8). Of the enrolled resources, 44 ICAP/SCR resources (10%), responded to both June events and no EDRP resources

responded to either June event. Because response to a TDRP event is voluntary for ICAP/SCR resources, the performance factor applied to such resources, and thus their performance in the next Capability Year, is not affected if they do not respond, nor are deficiency penalties assessed. SCR resources provided 100% of the total MWh reductions for the TDRP events. The total average hourly MW response of the ICAP/SCR resources that participated in the June 28 event was 1.75MW and to the June 29 event was 1.99MW (Table 9), which represents less than 1.7% of enrolled ICAP/SCR MW for Subload Pocket J8. Capacity reductions are not calculated for TDRP events (Table 9). Tables 10 and 11 provide the hourly energy response for the June 28 and June 29 TDRP events, respectively.

**Table 8: Number of Resources that responded to the June 2010 TDRP events**

| | | *June 28, 2010* | | *June 29, 2010* | |
|---|---|---|---|---|---|
| | **Enrolled Resources** | **Responding Resources** | **Enrolled Resources** | **Responding Resources** | **Enrolled Resources** |
| **SCR** | **422.00** | 44 | 10.4% | 44 | 10.4% |
| **EDRP** | **4.00** | 0 | 0.0% | 0 | 0.0% |

**Table 9: Average Hourly Energy Performance MW – TDRP Events**

| | | *June 28, 2010* | | *June 29, 2010* | |
|---|---|---|---|---|---|
| | **Enrolled MW** | **Avg MW** | **% Enrolled MW** | **Avg MW** | **% Enrolled MW** |
| **SCR** | **116.72** | 1.75 | 1.5% | 1.99 | 1.7% |
| **EDRP** | **0.50** | 0.00 | 0.0% | 0.00 | 0.0% |

**Table 10: Hourly Energy Performance Detail**

**Targeted Demand Response Event – June 28, 2010**

| | | MWh | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Zone** | **HB13** | **HB14** | **HB15** | **HB16** | **HB17** | **HB18** | **HB19** | **HB20** | **HB21** | **HB22** | **HB23** | **Total MWh** |
| **SCR** | **J** | **0.69** | **4.94** | **0.69** | **1.12** | **1.52** | **1.71** | **1.95** | **2.11** | **2.08** | **1.98** | **0.43** | **19.21** |
| **EDRP** | **J** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

**Table 11: Hourly Energy Performance Detail**

**Targeted Demand Response Event – June 29, 2010**

| | | MWh | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Zone** | **HB03** | **HB04** | **HB05** | **HB06** | **HB07** | **HB08** | **HB09** | **HB10** | **Total MWh** |
| **SCR** | **J** | **0.70** | **1.59** | **1.60** | **1.80** | **1.96** | **2.52** | **3.57** | **2.19** | **15.93** |
| **EDRP** | **J** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## NYISO Demand Response Program Events

During the month of July 2010, when the NYISO deployed the ICAP/SCR and EDRP resources for two events in Load Zone J, there were 1803 enrolled ICAP/SCR resources and 54 enrolled EDRP resources in the Load Zone. For the July 6 event, 1,486 ICAP/SCR resources (82%) provided a total average hourly MW reduction of 386.50MW, which was 90.6 % of total enrolled MW in Load Zone J (Table 12). The average number of ICAP/SCR resources responding to the event was 1,233, with the minimum of 1,083 resources responding during hour beginning 13 and the maximum of 1,308 resources responding during hour beginning 18. The total number of ICAP/SCR resources responding to the July 7 event was 1,424. The average number of ICAP/SCR resources responding to the event was 1,282, with the minimum of 1,173 resources responding during hour beginning 14 and the maximum of 1,353 resources responding during hour beginning 17. The total average hourly MW reduction to the July 7 event was 409.38MW, which was 96% of total enrolled MW and 79% of total enrolled resource in Load Zone J (Table12).

### ICAP/SCR Capacity Performance

Table 12 contains performance figures based on the ICAP/SCR reporting rules contained in the NYISO's Installed Capacity Manual. ICAP/SCR performance is determined by comparing the actual hourly interval metered energy with the Average Peak Monthly Demand (AP.M.D):

$$RED\_MW_{gn} = AP.M.D_{gm} - METER\_MW_{gn}$$

where:

- $RED\_MW_{gn}$ is the Installed Capacity Equivalent performance that Resource g supplies during hour n of an SCR event;
- $AP.M.D_{gm}$ is the Average of Peak Monthly Demands for Resource g applicable to month m, using data submitted in its Special Case Resource Certification, and
- $METER\_MW_{gn}$ is the metered hourly integrated energy for Resource g in hour n of an SCR event.

Performance using this measure compares actual reduction with the resource's reduction capability sold as UCAP.

**Table 12: SCR MW Performance Based on UCAP Measures (July 2010 Events)**

| | Zone | MWh HB13 | HB14 | HB15 | HB16 | HB17 | HB18 | Avg perf MW | % UCAP |
|---|---|---|---|---|---|---|---|---|---|
| 6-Jul | J | 291.35 | 315.47 | 396.82 | 413.68 | 417.73 | 483.96 | 386.50 | 90.6% |
| 7-Jul | J | 326.72 | 346.88 | 415.20 | 428.30 | 435.03 | 504.15 | 409.38 | 96.2% |

Individual resource performance factors used to determine the kW that can be sold in the next like Capability Period (*i.e.*, Summer or Winter) are based on the four highest contiguous hours of reduction during each event.

NYISO Event Energy Performance and Payments

In addition to being compensated for committing to reduce Capacity, SCR resources are also paid for their actual energy reduction during a called event. To compute Energy payments, performance is determined using a Customer Baseline Load (CBL) computed using recent historical data to determine what the resource's energy consumption would have been if the Special Case Resource had not reduced its load. This computation method based on the same method used in the EDRP program to measure performance. The CBL is computed as follows:

- Beginning with the weekday two days prior to the demand response event, look back ten weekdays and determine the five highest energy consumption days corresponding to the time period of the event. For example, if the event occurs between noon and 4 p.m., the baseline consumption is determined by the five previous days with the highest energy consumption between noon and 4 p.m.
- Use the average of the five readings for each hour to determine the baseline for that hour.

The difference between the hourly CBL and hourly interval meter readings constitutes the amount of load reduction.

Table 13 presents a summary of energy reduction data and energy payments for ICAP/SCR resources that performed in the TDRP events or the NYISO's ICAP/SCR events. Since the ICAP AP.M.D values are determined for the prior like Capability Period and the CBL is determined from load data two weeks prior to the event, differences in performance can be expected. Contributing to the difference between the capacity performance reported above in Table 12 and the energy performance reported (in Tables 10 and 11 for TDRP events, and Tables 16 and 17 for NYISO events) is the fact that not all Responsible Interface Parties submitted CBL energy performance data. The NYISO has observed that some RIPs only submit CBL data for larger resources, particularly in Zone J where capacity prices are higher than the rest of the NYCA.

**Table 13: Summary of SCR Energy Performance and Payments in Summer 2010 events**

| Event | Zone | Date | Total MWh | Total $ |
|---|---|---|---|---|
| TDRP | J8 | 28-Jun | 19.21 | $9,603.73 |
| TDRP | J8 | 29-Jun | 15.93 | $7,963.66 |
| ICAP/SCR | J | 6-Jul | 1050.15 | $525,329.68 |
| ICAP/SCR | J | 7-Jul | 1079.98 | $540,038.13 |

Table 14 reports the summary energy reduction and payments for EDRP participants computed using the CBL method.

**Table 14: Summary of Energy Payments to EDRP Resources for All 2010 Events**

| Event | Zone | Date | Total MWh | Total $ |
|---|---|---|---|---|
| TDRP | J8 | 28-Jun | 0.00 | $0.00 |
| TDRP | J8 | 29-Jun | 0.00 | $0.00 |
| EDRP | J | 6-Jul | 2.20 | $1,097.51 |
| EDRP | J | 7-Jul | 4.85 | $2,425.95 |

Table 15 provides a summary of energy reduction and payments for NYISO demand response program events during the 2010 Summer Capability Period.

**Table 15: Summary of Energy Payments for All 2010 Events**

| Event | Zone | Date | Total MWh | Total $ |
|---|---|---|---|---|
| TDRP | J8 | 28-Jun | 19.21 | $9,603.73 |
| TDRP | J8 | 29-Jun | 15.93 | $7,963.66 |
| ICAP/SCR & EDRP | J | 6-Jul | 1052.34 | $526,427.19 |
| ICAP/SCR & EDRP | J | 7-Jul | 1084.84 | $542,464.08 |
| | | **Total Payments:** | | **$1,086,458.65** |

NYISO Event Energy Performance Detail

SCR resources provided 99.79% of the total MWh reductions (1050.15 MWh) during the 6-hour event on July 6, 2010 (Table 16). EDRP resources provided 2.2 MWh of the total reduction. Average hourly energy performance for ICAP/SCR resources in Load Zone J provided 41.1% of the enrolled SCR MW in the NYC Load Zone J while EDRP resources provided 0.5% of the enrolled EDRP MW in the NYC Load Zone J.

**Table 16: Hourly Energy Performance Detail**

**NYISO Demand Response Event – July 6, 2010**

| | | MWh | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Zone | HB13 | HB14 | HB15 | HB16 | HB17 | HB18 | Total MWh | Avg Hourly MW | Enrolled MW | % Enrolled MW |
| SCR | J | 157.75 | 175.74 | 195.40 | 191.60 | 175.69 | 153.97 | 1050.15 | 175.02 | 426.03 | 41.1% |
| EDRP | J | 0.43 | 0.39 | 0.41 | 0.36 | 0.31 | 0.29 | 2.20 | 0.37 | 76.87 | 0.5% |
| *Total Energy Response:* | | *158.18* | *176.13* | *195.81* | *191.96* | *176.00* | *154.26* | *1052.34* | *175.39* | *502.90* | *34.9%* |

During the July 7, 2010 event, SCR resources provided 99.55% of the total MWh reductions (1079.98 MWh) for the 6-hour event (Table 17). EDRP resources provided 4.85 MWh or 1.1% of the total reduction. Average hourly energy performance for ICAP/SCR resources in the NYC Load Zone J provided 42.2% of the SCR enrolled MW in the NYC Load Zone J while EDRP resources provided 1.1% of the enrolled EDRP MW in the NYC Load Zone J.

## Table 17: Hourly Energy Performance Detail

## NYISO Demand Response Event – July 7, 2010

| | | MWh | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Zone | HB13 | HB14 | HB15 | HB16 | HB17 | HB18 | Total MWh | Avg Hourly MW | Enrolled MW | % Enrolled MW |
| SCR | J | 165.17 | 179.30 | 198.80 | 195.07 | 181.97 | 159.69 | 1079.98 | 180.00 | 426.03 | 42.2% |
| EDRP | J | 0.68 | 0.73 | 0.85 | 0.81 | 0.90 | 0.88 | 4.85 | 0.81 | 76.87 | 1.1% |
| *Total Energy Response:* | | *165.84* | *180.03* | *199.65* | *195.88* | *182.87* | *160.57* | *1084.84* | *180.81* | *502.90* | *36.0%* |

Overall NYISO Demand Response Program Event Performance

On an average hourly basis, resources in the ICAP/SCR and EDRP programs provided approximately 400 MW of reduction per NYISO event, with approximately 80% of enrolled MW responding over the two events (Table 18).

## Table 18: Overall NYISO Demand Response Program Event Performance for Summer 2010

| | | *July 6, 2010* | | | *July 7, 2010* | | |
|---|---|---|---|---|---|---|---|
| | Zone | Avg Hourly MW | Enrolled MW | % Enrolled MW | Avg Hourly MW | Enrolled MW | % Enrolled MW |
| SCR | J | 386.08 | 426.03 | 90.6% | 409.65 | 426.03 | 96.2% |
| EDRP | J | 0.37 | 76.87 | 0.5% | 0.81 | 76.87 | 1.1% |
| *Total Avg Hourly Event Response:* | | *386.45* | *502.90* | *76.8%* | *410.46* | *502.90* | *81.6%* |

# Attachment II

# NYISO Revised 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[1] ("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 with the 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 resource. There are no consequences for enrolled EDRP resources that fail to curtail. Resources participate in EDRP through Curtailment Service Providers ("CSPs"), which serve as the interface between the NYISO and resources.

The ICAP/SCR program allows demand resources that meet certification requirements to offer Unforced Capacity ("UCAP') to Load Serving Entities ("LSEs"). Special Case Resources can participate in the Installed Capacity ("ICAP") Market just like any other ICAP Resource; however, Special Case Resources participate through Responsible Interface Parties, which serve as the interface between the NYISO and resources. Resources are obligated to curtail when called upon to do so with two or more hours notice, provided the NYISO notifies the Responsible Interface Party day ahead of the possibility of such a call. In addition, ICAP/SCR resources are subject to testing each Capability Period to verify that they can fulfill their curtailment requirement. Failure to curtail could result in penalties administered under the ICAP program. Curtailments are called by the NYISO when reserve shortages are anticipated. Resources may register for either EDRP or ICAP/SCR but not both. Special Case Resources are eligible for an energy payment during an event, using the same performance calculation as EDRP resources.

[1] Terms in upper case not defined herein have the meaning ascribed to them in the NYISO's Market Administration and Control Area Services Tariff.

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. As of December 31, 2009, there are no resources qualified in the Demand Side Ancillary Services Program.

## Summary of Significant Findings

Emergency Demand Response Program / ICAP Special Case Resources

As of August 31, 2010 (the date customarily used for reporting NYISO's demand response program participation statistics) a total of 56 CSPs and Responsible Interface Parties were offering programs that deliver the NYISO's EDRP and/or ICAP/SCR programs to demand resources[2]. This level of participation represents an increase of two load serving entities, nine aggregators, and six resources representing themselves (referred to herein as a "direct resource") since 2010 figures. Participating CSPs and RIPs include:

- 7 Transmission Owners
- 6 Load Serving Entities not affiliated with a Transmission Owner ("Competitive LSE")
- 31 aggregators that were not Load Serving Entities or Transmission Owners
- 12 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 75.4% of the total EDRP and ICAP/SCR enrolled MW, up from the 71.7% enrolled in 2009. In 2010, one non-Transmission Owner had resources enrolled in the EDRP program; all other EDRP resources were enrolled through Transmission Owners. Direct resources represent 9.4% of the enrolled MW in the ICAP/SCR program or 8.4% of the combined reliability program MW.

EDRP and ICAP/SCR had a total of 4,386 end-use locations enrolled providing a total of 2,497.8 MW of demand response capability, a 4.5% increase over the 2009 MW enrollment

[2] The report on reliability programs is based on a snapshot of the programs as of August 31, 2009.

level. The demand response resources in NYISO reliability programs represent 7.5% of the 2010 Summer Capability Period peak demand of 33,452 MW, a nominal change from 2009. There were 215 end-use locations in EDRP and 4171 end-use locations in ICAP/SCR. ICAP/SCR represents 95% of the total reliability program enrollments and 90% of the total reliability program enrolled MW, increases of 5% and 4%, respectively, over 2009. The Targeted Demand Response Program, which deploys EDRP and ICAP/SCR resources in subzones of Zone J, New York City, for local reliability, included 25% of total EDRP end-use locations enrolled and encompassed 30% of total enrolled EDRP MW. The TDRP also included 44% of total ICAP/SCR end-use locations, representing 24% of the total enrolled ICAP/SCR MW, decreases of 5% and 2% respectively.

Since participation in EDRP and ICAP/SCR became mutually exclusive, EDRP end-use locations and MW have continued to decrease while ICAP/SCR end-use locations and MW have increased, as expected, given the monthly reservation payment associated with the ICAP/SCR program. Aggregations by Responsible Interface Parties now account for 97.9% of ICAP/SCR resources and 68.6% of enrolled MW in the program, a decrease from 2009 in enrolled MW of almost 9.3%.

There were two deployments of the TDRP in June 2010 and two deployments of the ICAP/SCR and EDRP programs during July 2010. The TDRP deployments, in response to the local Transmission Owner request in the NYC Zone (J), occurred on June 28, 2010 from 3:31 p.m. to 11:30 p.m. and on June 29, 2010 from 3:35 am to 11:00 am. The NYISO deployments of the ICAP/SCR and EDRP programs occurred from 1:00 p.m. to 7:00 p.m. on July 6, 2010 and July 7, 2010.

Day-Ahead Demand Response Program

For DADRP, three resources representing over 30 end-use locations from Zones F (Capital) and Zone K (Long Island) submitted load reduction offers. Offer activity decreased by 70% over the previous 12-month period and 87% fewer hours were scheduled (134) than in the previous period (1,067). In 2010, 13% of offers were scheduled compared to 12% of offers in 2009. The average DAM LBMP over all hours during the analysis period was $46.85 in Zone

F, and $57.51 in Zone K[3].Overall, the average hourly offer remained virtually the same as 2009, 2.28 MW (2.29 MW in 2009), while scheduled offers decreased by 44% to an average of 1.14 MW. Scheduled hours decreased by 87% over the same period to 134 hours. Scheduled MWh decreased by 93% to 153 MWh. With so few hours scheduled during this analysis period, a price reduction impact analysis was not performed.

## 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[4] 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 205 aggregations represented by Responsible Interface Parties, collectively containing a total of 4,171 end-use locations with 1,442.3 MW of the total 2,238.5 MW of enrolled ICAP/SCR. Eighty-seven (87) individually enrolled resources account for 682.1 MW.

**Table 1: Detail of 2010 ICAP/SCR Program Participation Level by Resource Type**

| | ICAP | | | ICAP Offered/Unsold | | |
|---|---|---|---|---|---|---|
| **Resource Type** | # Program IDs | # End-use Locations | Sold MW | # Program IDs | # End-use Locations | Subscribed MW |
| Individual Resources | 87 | 87 | 682.1 | 1 | 1 | 1.6 |
| Aggregated Resources | 118 | 4084 | 1556.4 | 3 | 7 | 0.3 |
| **Total** | **205** | **4171** | **2238.5** | **4** | **8** | **2.0** |

The right-hand section of Table 1 provides information for ICAP/SCR resources that offered but did not sell MW. In cases where an ICAP/SCR resource offers load reduction in a NYISO auction and it is not sold, that resource is automatically enrolled in the EDRP program until the next auction or until the resource confirms a bilateral transaction with an LSE. The

[3] Analysis was not performed on Zone G (Hudson Valley) because no performance information was submitted for resources in this Zone.

[4] 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.

EDRP program totals reported include the offered, but unsold MW of subscribed ICAP resources.

EDRP and ICAP/SCR Program Participation

At the end of August 2010, the NYISO's reliability programs had a total of 4,386 end-use locations enrolled, providing a total of 2,497.8 MW of demand response capability, a 4.5% increase over the 2009 MW enrollment level. There were 215 end-use locations in EDRP (207 + 8 ICAP Offered/Unsold) and 4,171 end-use locations in ICAP/SCR. ICAP/SCR represents 95% of the total reliability program enrollments and 90% of the total reliability program enrolled MW, an increase of 4% in the ICAP/SCR program.

**Table 2: 2010 Program Participation Summary by Curtailment Service Provider Type**

| | | EDRP [1] | | | ICAP Offered/Unsold [2] | | | ICAP [3] | | | DADRP [4] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CSP Type # | **Agent Type** | # CSP | # End-use Locations | MW | # RIP | # End-use Locations | MW | # RIP | # End-use Locations | MW | # DRP | # End-use Locations | MW |
| 31 | Aggregator | 0 | 0 | 0.0 | 2 | 4 | 1.7 | 29 | 3627 | 1317.59 | 2 | 30 | 12.0 |
| 0 | Curtailment Program End-Use Customer | 0 | 0 | 0.0 | 0 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0 | 0.0 |
| 12 | Direct Customer | 0 | 0 | 0.0 | 0 | 0 | 0.0 | 12 | 40 | 210.62 | 0 | 0 | 0.0 |
| 6 | LSE | 1 | 34 | 9.6 | 1 | 2 | 0.1 | 6 | 399 | 344.50 | 6 | 7 | 44.4 |
| 7 | Transmission Owner | 5 | 173 | 247.7 | 1 | 2 | 0.1 | 4 | 105 | 365.76 | 3 | 13 | 275.0 |
| **56** | **Total** | **6** | **207** | **257.3** | **4** | **8** | **2.0** | **51** | **4171** | **2238.5** | **11** | **50** | **331.4** |

Note 1: The sum of EDRP and ICAP Offered/Unsold = Total EDRP.
Note 2: Resources in the ICAP program with Offered/Unsold capacity are considered EDRP resources in the month(s) that capacity is unsold. MW represent reductions registered in the ICAP program, but not sold.
Note 3: MW represent reduction MW sold in the ICAP program.
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 2 shows the total number of CSPs enrolled for 2010 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 participation detail by program and CSP type.

Enrollments in EDRP in 2010 were predominantly through Transmission Owners. ICAP/SCR enrollments have been dominated by aggregators, which provide 86.8% of participating end-use locations and 58.8% of the enrolled MW.

Table 3 shows program participation 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: 2010 Program Participation by Zone**

| Zone | EDRP [1] | | ICAP Offered/Unsold [2] | | ICAP [3] | | DADRP [4] | |
|---|---|---|---|---|---|---|---|---|
| | # | MW | # | MW | # | MW | # | MW |
| A | 17 | 20.0 | | | 487 | 507.1 | 4 | 58.0 |
| B | 2 | 1.3 | | | 236 | 161.0 | 1 | 2.8 |
| C | 32 | 16.7 | | | 287 | 211.3 | 2 | 38.0 |
| D | 9 | 4.0 | 5 | 0.2 | 26 | 231.8 | 1 | 100.0 |
| E | 33 | 34.2 | | | 155 | 72.5 | 1 | 10.0 |
| F | 28 | 28.9 | | | 193 | 179.6 | 8 | 92.0 |
| G | 13 | 17.1 | 1 | 1.6 | 164 | 102.4 | 1 | 9.0 |
| H | 4 | 2.8 | | | 11 | 7.3 | 0 | 0.0 |
| I | 14 | 4.7 | 2 | 0.1 | 119 | 42.4 | 0 | 0.0 |
| J | 54 | 76.9 | | | 1832 | 546.8 | 2 | 6.6 |
| K | 1 | 50.7 | | | 661 | 176.3 | 30 | 15.0 |
| **Total** | **207** | **257.3** | **8** | **2.0** | **4171** | **2238.5** | **50** | **331.4** |

Note 1: The sum of EDRP and ICAP Offered/Unsold = Total EDRP.

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

Note 3: MW represent reduction MW sold in the ICAP program.

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).

Targeted Demand Response Program Enrollment

Load Zone J currently is the only Load Zone with resources assigned to the Targeted Demand Response Program. 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 category (J9: Shared Subzone). The sub-load pockets correspond to the following Con Edison network area substation groupings:

- J1: Sherman Creek/Parkchester/E 179th
- J2: Astoria West/Queensbridge
- J3: Vernon/Greenwood
- J4: Staten Island
- J5: Astoria East/Corona/Jamaica
- J6: W 49th
- J7: E13th/East River
- J8: Farragut/Rainey
- J9: Shared Subzone

**Table 4: EDRP End-use Locations enrolled in the Targeted Demand Response Program – Zone J**

| | J1 | J2 | J3 | J4 | J5 | J6 | J7 | J8 | J9 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| MW | 0.5 | 2.5 | 6.3 | 2.3 | 6.0 | 2.3 | 0.7 | 1.2 | 55.0 | 76.9 |
| End-use Locations | 3.0 | 4.0 | 13.0 | 4.0 | 10.0 | 8.0 | 5.0 | 6.0 | 1.0 | 54.0 |

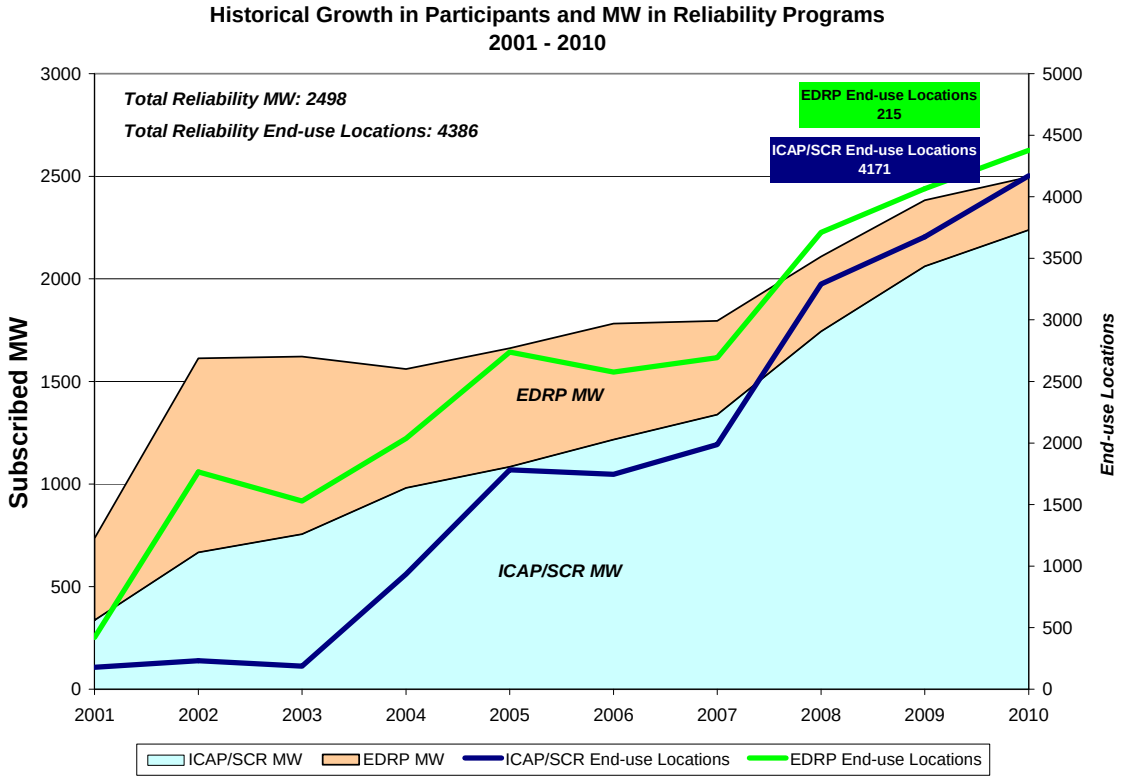
**Table 5: ICAP/SCR End-use Locations enrolled in the Targeted Demand Response Program – Zone J**

| | J1 | J2 | J3 | J4 | J5 | J6 | J7 | J8 | J9 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| MW | 62.6 | 39.3 | 55.5 | 31.3 | 57.6 | 73.4 | 76.4 | 128.2 | 22.5 | 546.8 |
| End-use Locations | 119 | 164 | 335 | 59 | 254 | 210 | 239 | 431 | 21 | 1832 |

Historical Program Growth in Reliability Programs

Figure 1 plots the growth in the NYISO's reliability-based programs from inception through August 2010. 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 August 2010, combined enrollment in EDRP and ICAP/SCR has grown from approximately 200 MW to 2,497.8 MW; and the total number of end-use locations has increased from approximately 200 in March 2002 to 4,386. Since participation in EDRP and ICAP/SCR became mutually exclusive, EDRP resources and MW have continued to decrease while ICAP/SCR resources and MW have increased.

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




Migration Summary

Table 6 shows the program enrollment changes by number of program IDs enrolled, not the total number of end-use locations. Program IDs, used to represent a resource 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. Enrollment in ICAP/SCR is increasing at a faster pace than enrollment reductions in EDRP indicating that new resources continue to enroll, in addition to the EDRP resources that are migrating to ICAP/SCR.

**Table 6: Program Enrollment by Program ID - Changes 2009 to 2010**

| | 2009 | | 2010 | | Percent Change From 2009 to 2010 | | Subscribed MW per End-use location | | |
|---|---|---|---|---|---|---|---|---|---|
| | Count | MW | Count | MW | End-use Location Count | Subscribed MW | 2009 | 2010 | Percent Change |
| **EDRP** | 392 | 323.0 | 207 | 257.3 | -47% | -20% | 0.82 | 1.24 | 51% |
| **ICAP/SCR Offered/Unsold** | 0 | 0.0 | 8 | 2.0 | N/A | N/A | 0.00 | 0.25 | N/A |
| **ICAP/SCR** | 194 | 2060.6 | 205 | 2238.5 | 6% | 9% | 10.62 | 10.92 | 3% |
| **DADRP** | 22 | 331.4 | 22 | 331.4 | 0% | 0% | 15.06 | 15.06 | 0% |

**Table 7: Program Enrollments by End-use Location - Changes 2009 to 2010**

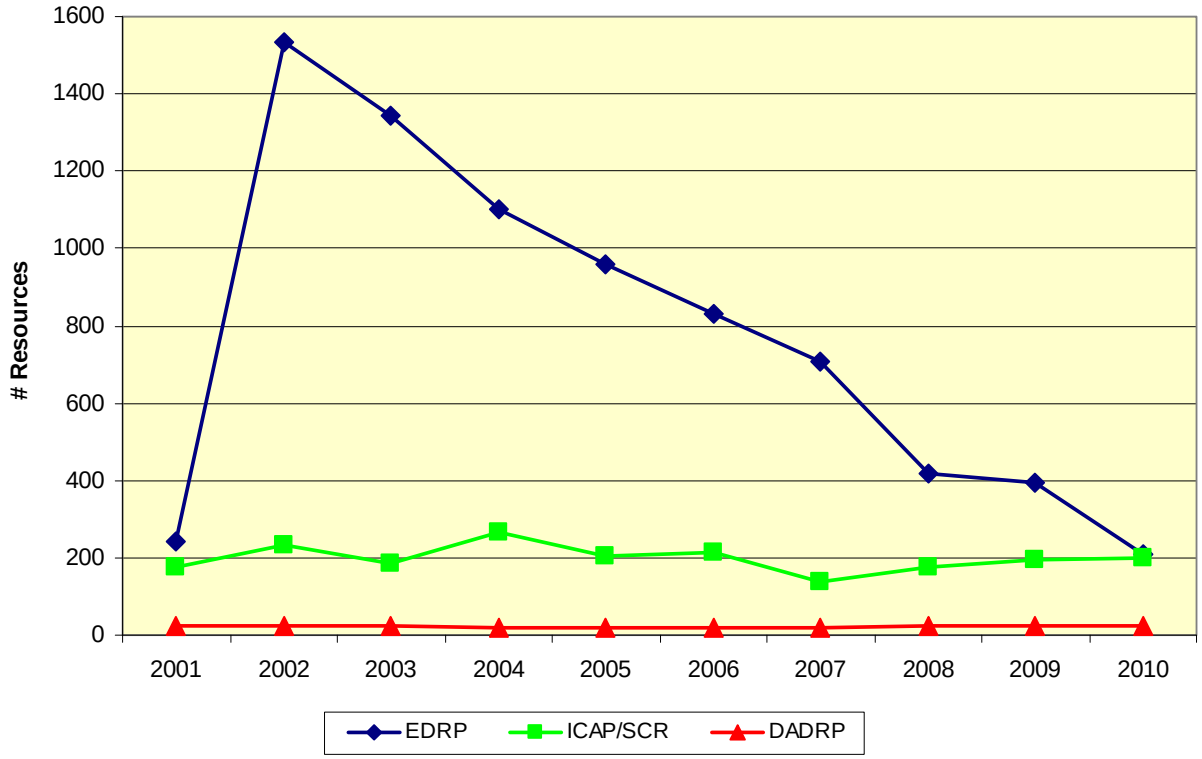
| | 2009 | | 2010 | | Percent Change From 2009 to 2010 | | Subscribed MW per End-use location | | |
|---|---|---|---|---|---|---|---|---|---|
| | Count | MW | Count | MW | End-use Location Count | Subscribed MW | 2009 | 2010 | Percent Change |
| **EDRP** | 392 | 323.0 | 207 | 257.3 | -47% | -20% | 0.82 | 1.24 | 51% |
| **ICAP/SCR Offered/Unsold** | 0 | 0.0 | 8 | 2.0 | N/A | N/A | 0.00 | 0.25 | N/A |
| **ICAP/SCR** | 3675 | 2060.6 | 4171 | 2238.5 | 13% | 9% | 0.56 | 0.54 | -4% |
| **DADRP** | 50 | 331.4 | 50 | 331.4 | 0% | 0% | 6.63 | 6.63 | 0% |

Figures 2 through 4 track enrollment and MW in EDRP, ICAP/SCR and DADRP, respectively, over the period 2001 through 2010. The primary difference between Figures 2 and 3 is the representation of ICAP resources: Figure 2 shows percent change and average subscribed MW by Program ID, while Figure 3 shows percent change and average subscribed MW by end-use location. 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. Eighty-seven (87) individually enrolled resources account for 682.1 MW. 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. In addition, for 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.[5]

[5] 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 from the MWs in the Emergency Demand Response Program. The metering requirement

Figure 4 shows that since making EDRP and ICAP/SCR mutually exclusive, the general trend has been for EDRP enrollment and MW to decrease and ICAP/SCR enrollment and MW to increase, as expected, given the monthly reservation payment associated with the ICAP/SCR program.

**Figure 2: Demand Response Program Enrollment History by Program ID, 2001 – 2010**




supports the program rule that MW cannot be committed both as Unforced Capacity and to the Emergency Demand Response Program.

**Figure 3: Demand Response Program Enrollment History by Number of End-use locations, 2001 – 2010**

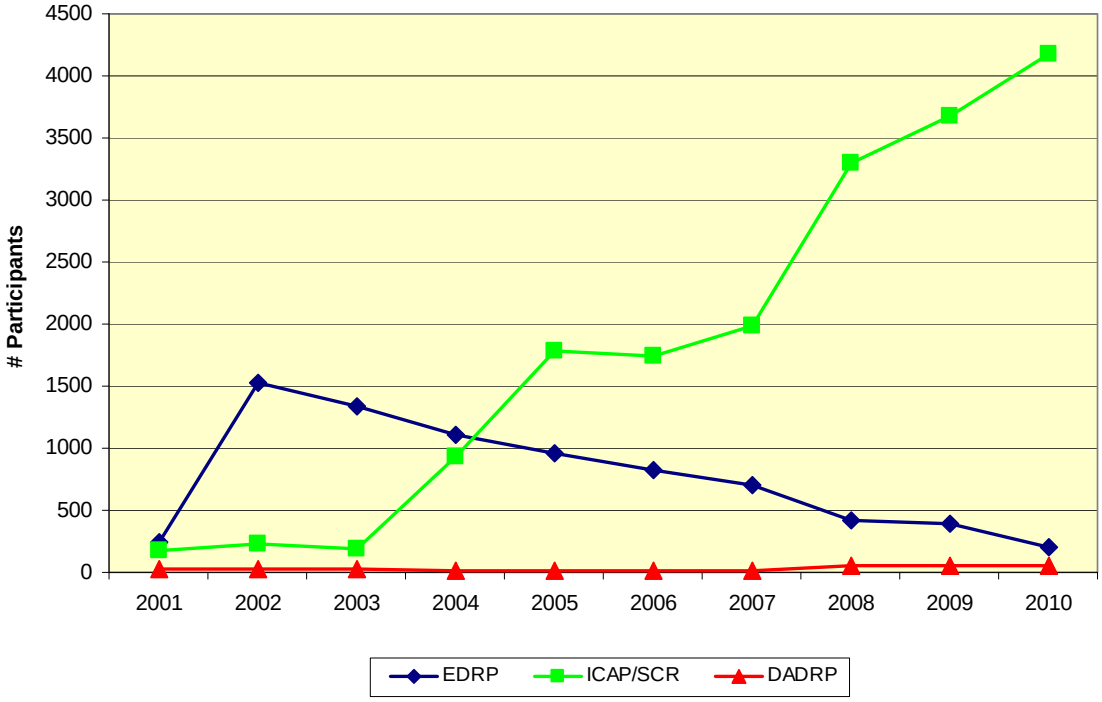
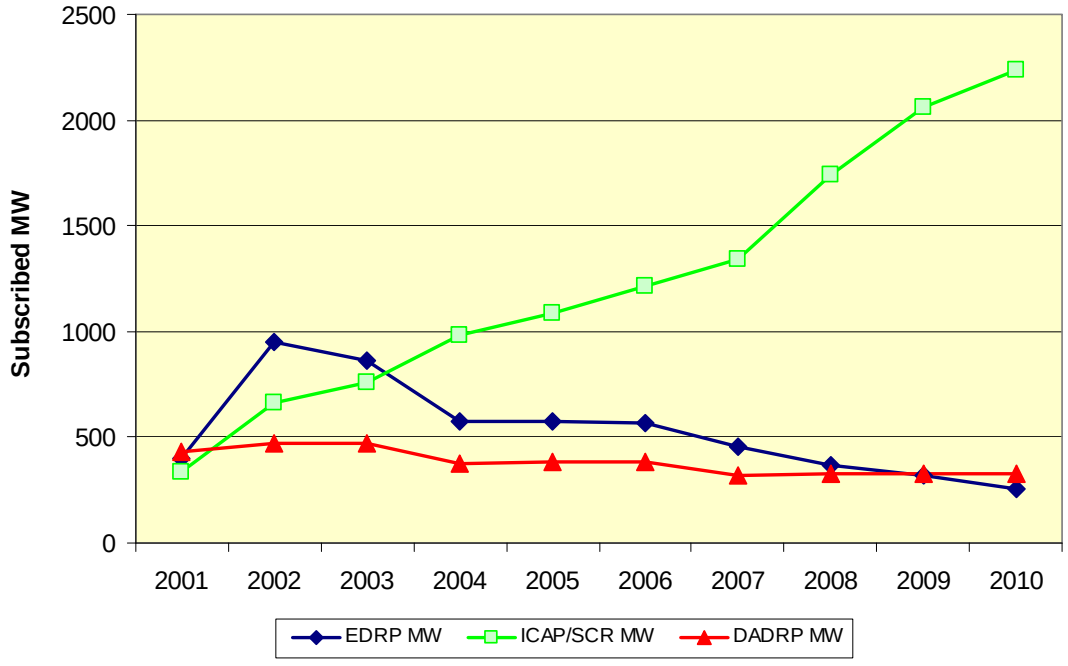



**Figure 4: Demand Response Program MW Enrollment History, 2001 - 2010**

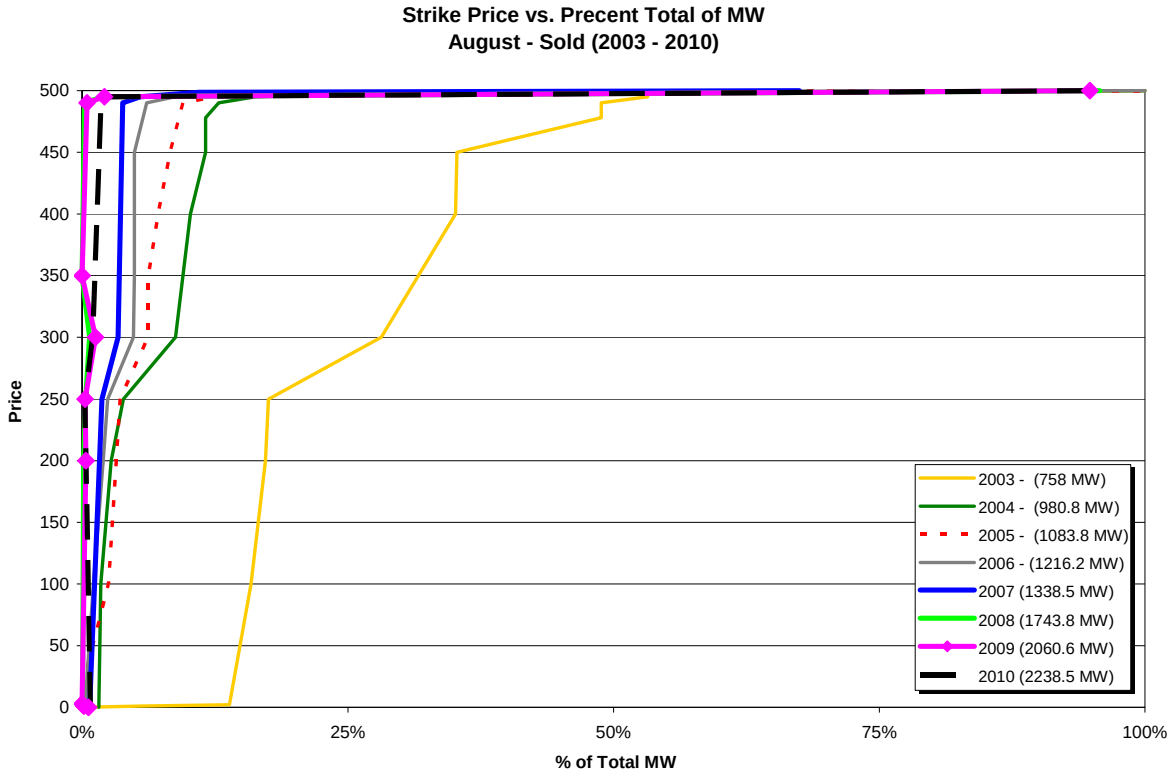


Analysis of ICAP/SCR Strike Prices

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 developed for all resources for 2010. The curves map out the percentage of enrolled MW at a given strike price. Figure 5 illustrates the strike price curves for 2003 to 2010, covering the period of time that 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 resources, over time, have increased the number of higher strike prices.

**Figure 5: 2003 - 2010 ICAP/SCR Curtailment Bid Curves**



## Emergency Demand Response Program/ICAP Special Case Resources 2010 Event Performance

In 2010, the NYISO activated EDRP and SCR resources on four occasions. There were two deployments of the TDRP in June 2010 and two deployments of the ICAP/SCR and EDRP programs during July 2010. The TDRP deployments, in response to the local Transmission Owner request in the NYC Zone (J), occurred on June 28, 2010 from 3:31 p.m. to 11:30 p.m. and on June 29, 2010 from 3:35 am to 11:00 am. The NYISO deployments of the ICAP/SCR and EDRP programs occurred from 1:00 p.m. to 7:00 p.m. on July 6, 2010 and July 7, 2010. The NYISO is continuing to analyze the performance data and is doing so in relation to alternative performance measures The 2010 activations were as follows:

**June 28:**
EDRP and SCR resources were activated in Zone J, Subload Pocket J8, from approximately 3:30 p.m. to 11:30 p.m., in response to the local Transmission Owner request in the NYC Zone (J).

**June 29:**
EDRP and SCR resources were activated in Zone J, Subload Pocket J8, from approximately 3:30 am to 11:59 am, in response to the local Transmission Owner request in the NYC Zone (J).

**July 6:**
EDRP and SCR resources were activated in Zone J from 1 p.m. to 7 p.m..

**July 7:**
EDRP and SCR resources were activated in Zone J from 1 p.m. to 7 p.m..

**June 2010: Targeted Demand Response Program Events**

The two TDRP events in June 2010 were called in the NYC Load Zone J Subload Pocket J8. At the time of the event there were 422 resources enrolled in the ICAP/SCR program and 4 resources enrolled in the EDRP (Table 8). Of the enrolled resources, 44 ICAP/SCR resources (10%), responded to both June events and no EDRP resources responded to either June event. Because response to a TDRP event is voluntary for ICAP/SCR resources, the performance factor applied to such resources, and thus their performance in the next Capability Year, is not affected if they do not respond, nor are deficiency penalties assessed. SCR resources provided 100% of the total MWh reductions for the TDRP events. The total average hourly MW response of the ICAP/SCR resources that participated in the June 28 event was 1.75MW and to the June 29 event was 1.99MW (Table 9), which represents less than 1.7% of enrolled ICAP/SCR MW for

Subload Pocket J8. Capacity reductions are not calculated for TDRP events (Table 9). Tables 10 and 11 provide the hourly energy response for the June 28 and June 29 TDRP events, respectively.

**Table 8: Number of Resources that responded to the June 2010 TDRP events**

| | | *June 28, 2010* | | *June 29, 2010* | |
|---|---|---|---|---|---|
| | **Enrolled Resources** | **Responding Resources** | **Enrolled Resources** | **Responding Resources** | **Enrolled Resources** |
| **SCR** | **422.00** | 44 | 10.4% | 44 | 10.4% |
| **EDRP** | **4.00** | 0 | 0.0% | 0 | 0.0% |

**Table 9: Average Hourly Energy Performance MW – TDRP Events**

| | | *June 28, 2010* | | *June 29, 2010* | |
|---|---|---|---|---|---|
| | **Enrolled MW** | **Avg MW** | **% Enrolled MW** | **Avg MW** | **% Enrolled MW** |
| **SCR** | **116.72** | 1.75 | 1.5% | 1.99 | 1.7% |
| **EDRP** | **0.50** | 0.00 | 0.0% | 0.00 | 0.0% |

**Table 10: Hourly Energy Performance Detail**

**Targeted Demand Response Event – June 28, 2010**

| | | MWh | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Zone** | **HB13** | **HB14** | **HB15** | **HB16** | **HB17** | **HB18** | **HB19** | **HB20** | **HB21** | **HB22** | **HB23** | **Total MWh** |
| **SCR** | **J** | **0.69** | **4.94** | **0.69** | **1.12** | **1.52** | **1.71** | **1.95** | **2.11** | **2.08** | **1.98** | **0.43** | **19.21** |
| **EDRP** | **J** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

**Table 11: Hourly Energy Performance Detail**

**Targeted Demand Response Event – June 29, 2010**

| | | MWh | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Zone** | **HB03** | **HB04** | **HB05** | **HB06** | **HB07** | **HB08** | **HB09** | **HB10** | **Total MWh** |
| **SCR** | **J** | **0.70** | **1.59** | **1.60** | **1.80** | **1.96** | **2.52** | **3.57** | **2.19** | **15.93** |
| **EDRP** | **J** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## NYISO Demand Response Program Events

During the month of July 2010, when the NYISO deployed the ICAP/SCR and EDRP resources for two events in Load Zone J, there were 1803 enrolled ICAP/SCR resources and 54 enrolled EDRP resources in the Load Zone. For the July 6 event, 1,486 ICAP/SCR resources (82%) provided a total average hourly MW reduction of 386.50MW, which was 90.6 % of total enrolled

MW in Load Zone J (Table 12). The average number of ICAP/SCR resources responding to the event was 1,233, with the minimum of 1,083 resources responding during hour beginning 13 and the maximum of 1,308 resources responding during hour beginning 18. The total number of ICAP/SCR resources responding to the July 7 event was 1,424. The average number of ICAP/SCR resources responding to the event was 1,282, with the minimum of 1,173 resources responding during hour beginning 14 and the maximum of 1,353 resources responding during hour beginning 17. The total average hourly MW reduction to the July 7 event was 409.38MW, which was 96% of total enrolled MW and 79% of total enrolled resource in Load Zone J (Table12).

ICAP/SCR Capacity Performance

Table 12 contains performance figures based on the ICAP/SCR reporting rules contained in the NYISO's Installed Capacity Manual. ICAP/SCR performance is determined by comparing the actual hourly interval metered energy with the Average Peak Monthly Demand (AP.M.D):

$$RED\_MW_{gn} = AP.M.D_{gm} - METER\_MW_{gn}$$

where:

- $RED\_MW_{gn}$ is the Installed Capacity Equivalent performance that Resource g supplies during hour n of an SCR event;
- $AP.M.D_{gm}$ is the Average of Peak Monthly Demands for Resource g applicable to month m, using data submitted in its Special Case Resource Certification, and
- $METER\_MW_{gn}$ is the metered hourly integrated energy for Resource g in hour n of an SCR event.

Performance using this measure compares actual reduction with the resource's reduction capability sold as UCAP.

**Table 12: SCR MW Performance Based on UCAP Measures (July 2010 Events)**

| | Zone | MWh HB13 | HB14 | HB15 | HB16 | HB17 | HB18 | Avg perf MW | % UCAP |
|---|---|---|---|---|---|---|---|---|---|
| **6-Jul** | **J** | **291.35** | **315.47** | **396.82** | **413.68** | **417.73** | **483.96** | **386.50** | **90.6%** |
| **7-Jul** | **J** | **326.72** | **346.88** | **415.20** | **428.30** | **435.03** | **504.15** | **409.38** | **96.2%** |

Individual resource performance factors used to determine the kW that can be sold in the next like Capability Period (*i.e.*, Summer or Winter) are based on the four highest contiguous hours of reduction during each event.

NYISO Event Energy Performance and Payments

In addition to being compensated for committing to reduce Capacity, SCR resources are also paid for their actual energy reduction during a called event. To compute Energy payments, performance is determined using a Customer Baseline Load (CBL) computed using recent historical data to determine what the resource's energy consumption would have been if the Special Case Resource had not reduced its load. This computation method based on the same method used in the EDRP program to measure performance. The CBL is computed as follows:

- Beginning with the weekday two days prior to the demand response event, look back ten weekdays and determine the five highest energy consumption days corresponding to the time period of the event. For example, if the event occurs between noon and 4 p.m., the baseline consumption is determined by the five previous days with the highest energy consumption between noon and 4 p.m.
- Use the average of the five readings for each hour to determine the baseline for that hour.

The difference between the hourly CBL and hourly interval meter readings constitutes the amount of load reduction.

Table 13 presents a summary of energy reduction data and energy payments for ICAP/SCR resources that performed in the TDRP events or the NYISO's ICAP/SCR events. Since the ICAP AP.M.D values are determined for the prior like Capability Period and the CBL is determined from load data two weeks prior to the event, differences in performance can be expected. Contributing to the difference between the capacity performance reported above in Table 12 and the energy performance reported (in Tables 10 and 11 for TDRP events, and Tables 16 and 17 for NYISO events) is the fact that not all Responsible Interface Parties submitted CBL energy performance data. The NYISO has observed that some RIPs only submit CBL data for

larger resources, particularly in Zone J where capacity prices are higher than the rest of the NYCA.

**Table 13: Summary of SCR Energy Performance and Payments in Summer 2010 events**

| Event | Zone | Date | Total MWh | Total $ |
|---|---|---|---|---|
| TDRP | J8 | 28-Jun | 19.21 | $9,603.73 |
| TDRP | J8 | 29-Jun | 15.93 | $7,963.66 |
| ICAP/SCR | J | 6-Jul | 1050.15 | $525,329.68 |
| ICAP/SCR | J | 7-Jul | 1079.98 | $540,038.13 |

Table 14 reports the summary energy reduction and payments for EDRP participants computed using the CBL method.

**Table 14: Summary of Energy Payments to EDRP Resources for All 2010 Events**

| Event | Zone | Date | Total MWh | Total $ |
|---|---|---|---|---|
| TDRP | J8 | 28-Jun | 0.00 | $0.00 |
| TDRP | J8 | 29-Jun | 0.00 | $0.00 |
| EDRP | J | 6-Jul | 2.20 | $1,097.51 |
| EDRP | J | 7-Jul | 4.85 | $2,425.95 |

Table 15 provides a summary of energy reduction and payments for NYISO demand response program events during the 2010 Summer Capability Period.

**Table 15: Summary of Energy Payments for All 2010 Events**

| Event | Zone | Date | Total MWh | Total $ |
|---|---|---|---|---|
| TDRP | J8 | 28-Jun | 19.21 | $9,603.73 |
| TDRP | J8 | 29-Jun | 15.93 | $7,963.66 |
| ICAP/SCR & EDRP | J | 6-Jul | 1052.34 | $526,427.19 |
| ICAP/SCR & EDRP | J | 7-Jul | 1084.84 | $542,464.08 |
| | | Total Payments: | | $1,086,458.65 |

NYISO Event Energy Performance Detail

SCR resources provided 99.79% of the total MWh reductions (1050.15 MWh) during the 6-hour event on July 6, 2010 (Table 16). EDRP resources provided 2.2 MWh of the total reduction. Average hourly energy performance for ICAP/SCR resources in Load Zone J provided 41.1% of

the enrolled SCR MW in the NYC Load Zone J while EDRP resources provided 0.5% of the enrolled EDRP MW in the NYC Load Zone J.

**Table 16: Hourly Energy Performance Detail**

**NYISO Demand Response Event – July 6, 2010**

| | | MWh | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Zone | HB13 | HB14 | HB15 | HB16 | HB17 | HB18 | Total MWh | Avg Hourly MW | Enrolled MW | % Enrolled MW |
| SCR | J | 157.75 | 175.74 | 195.40 | 191.60 | 175.69 | 153.97 | 1050.15 | 175.02 | 426.03 | 41.1% |
| EDRP | J | 0.43 | 0.39 | 0.41 | 0.36 | 0.31 | 0.29 | 2.20 | 0.37 | 76.87 | 0.5% |
| *Total Energy Response:* | | *158.18* | *176.13* | *195.81* | *191.96* | *176.00* | *154.26* | *1052.34* | *175.39* | *502.90* | *34.9%* |

During the July 7, 2010 event, SCR resources provided 99.55% of the total MWh reductions (1079.98 MWh) for the 6-hour event (Table 17). EDRP resources provided 4.85 MWh or 1.1% of the total reduction. Average hourly energy performance for ICAP/SCR resources in the NYC Load Zone J provided 42.2% of the SCR enrolled MW in the NYC Load Zone J while EDRP resources provided 1.1% of the enrolled EDRP MW in the NYC Load Zone J.

**Table 17: Hourly Energy Performance Detail**

**NYISO Demand Response Event – July 7, 2010**

| | | MWh | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Zone | HB13 | HB14 | HB15 | HB16 | HB17 | HB18 | Total MWh | Avg Hourly MW | Enrolled MW | % Enrolled MW |
| SCR | J | 165.17 | 179.30 | 198.80 | 195.07 | 181.97 | 159.69 | 1079.98 | 180.00 | 426.03 | 42.2% |
| EDRP | J | 0.68 | 0.73 | 0.85 | 0.81 | 0.90 | 0.88 | 4.85 | 0.81 | 76.87 | 1.1% |
| *Total Energy Response:* | | *165.84* | *180.03* | *199.65* | *195.88* | *182.87* | *160.57* | *1084.84* | *180.81* | *502.90* | *36.0%* |

Overall NYISO Demand Response Program Event Performance

On an average hourly basis, resources in the ICAP/SCR and EDRP programs provided approximately 400 MW of reduction per NYISO event, with approximately 80% of enrolled MW responding over the two events (Table 18).

**Table 18: Overall NYISO Demand Response Program Event Performance for Summer 2010**

| | | *July 6, 2010* | | | *July 7, 2010* | | |
|---|---|---|---|---|---|---|---|
| | Zone | Avg Hourly MW | Enrolled MW | % Enrolled MW | Avg Hourly MW | Enrolled MW | % Enrolled MW |
| **SCR** | **J** | **386.08** | **426.03** | **90.6%** | **409.65** | **426.03** | **96.2%** |
| **EDRP** | **J** | **0.37** | **76.87** | **0.5%** | **0.81** | **76.87** | **1.1%** |
| ***Total Avg Hourly Event Response:*** | | ***386.45*** | ***502.90*** | ***76.8%*** | ***410.46*** | ***502.90*** | ***81.6%*** |

## Day-Ahead Demand Response Program

The DADRP program provides demand 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, so 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 and Real-Time market price.

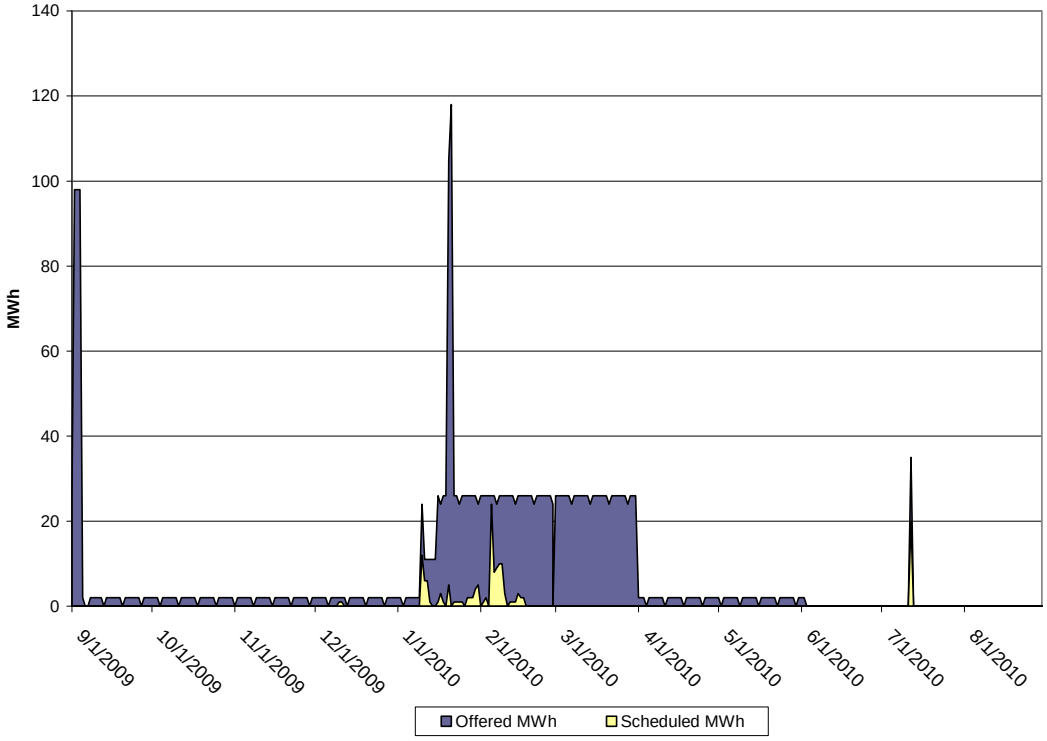
DADRP Participation and Offer Summary

Offered and Scheduled MWh

During the analysis period of September 2009 through August 2010, three resources representing over 30 end-use locations, submitted offers in Zone F (Capital), and Zone K (Long Island). Offer activity decreased by 70% over the previous 12-month period and 87% fewer hours were scheduled (134) than in the previous period (1,067). In 2010, 13% of offers were scheduled compared to 12% of offers in 2009. The average DAM LBMP over all hours during

the analysis period was $46.85 in Zone F, and $57.51 in Zone K[6]. Overall, the average hourly offer remained virtually the same as 2009, 2.28 MW (2.29 MW in 2009), while scheduled offers decreased by 44% to an average of 1.14 MW.

**Figure 6: DADRP MWh, Offer vs. Scheduled**




Prior to 2008, offers were very limited, with a noteworthy number of offers occurring around holidays. Beginning in 2008, load reduction offers occurred on a regular, almost daily, basis, exclusively at the offer floor price. As a result of lower LBMPs, load reduction offers during the period of analysis, September 2009 through August 2010, and associated schedules, decreased in volume and frequency.

The winter months of January through March had the greatest number of scheduled DADRP MWh and accounted for 87% of all scheduled MWh in the analysis period. Overall average hourly DAM LBMPs in Zone F was $79.74/MWh with the highest average hourly price scheduled for the analysis period topping out at $112.72/MWh . The single highest day-ahead price scheduled in Zone F was $112.72/MWh (January 2010) and the lowest was $39.93/MWh (February 2010). In the Long Island zone, the highest average hourly price scheduled reached

[6] Analysis was not performed on Zone G (Hudson Valley) because no performance information was submitted for resources in this Zone.

$95.38/MWh. The single highest day-ahead price scheduled in Zone K was $79.97/MWh (December 2009) and the lowest was $74.12/MWh (December 2009). With so few hours scheduled during the analysis period, the average price often represents the only scheduled hour.

There were 32 hours when DADRP resources were scheduled below the offer floor of $75/MWh. These scheduled hours occurred in the reliability stage of the Security Constrained Unit Commitment (SCUC) process that the NYISO uses to commit supply resources. As with generators who are scheduled below their offer price, DADRP resources are paid a Bid Production Cost Guarantee for load reductions.

Table 19 shows a comparison of DADRP offer activity for the analysis periods of 2008 and 2009. In total, 5% of offers were accepted, while 5.3% of total MWh offered were accepted.

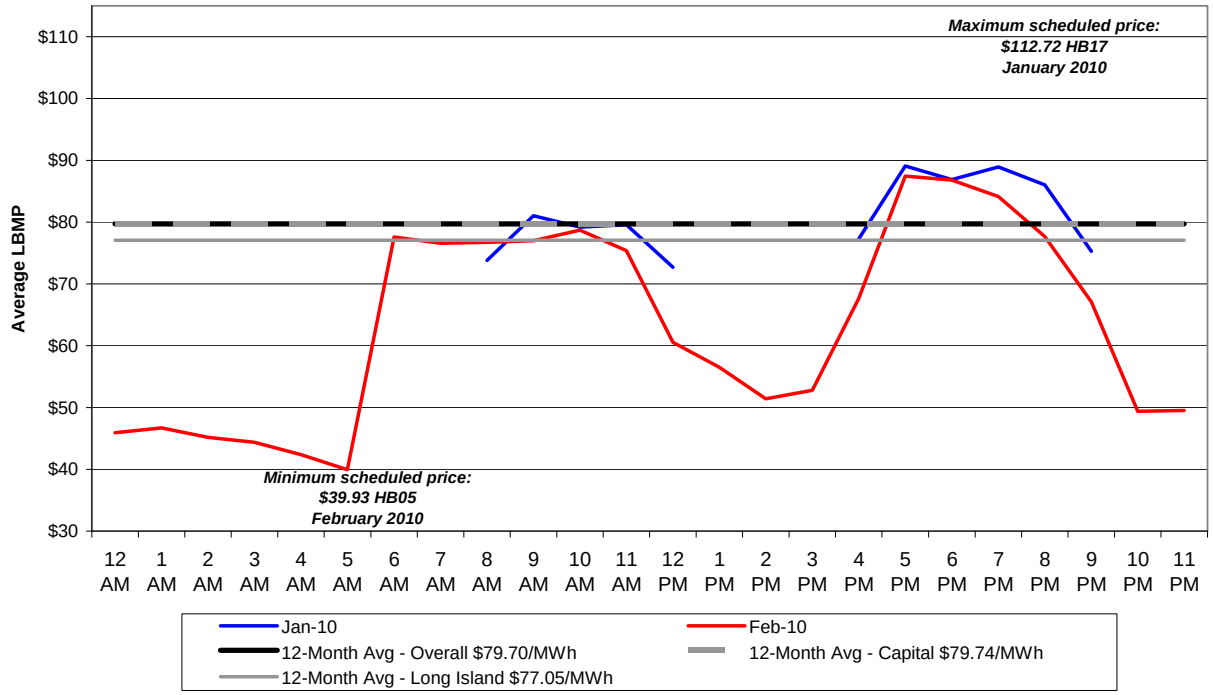
**Table 19: DADRP Offer Activity – Comparison of 2009 and 2010**

| | 2010 | 2009 | % change |
|---|---|---|---|
| **Total Offer Hours** | 2,681 | 9,024 | -70% |
| **Scheduled Hours*** | 134 | 1,067 | -87% |
| **Offered MWh** | 2,856 | 20,536 | -86% |
| **Scheduled MWh** | 153 | 2,192 | -93% |
| **Average Offer** | 1.07 | 2.28 | -53% |
| **Average Schedule** | 1.14 | 2.05 | -44% |

***Scheduled hours are cumulative for all resources, not unique.***

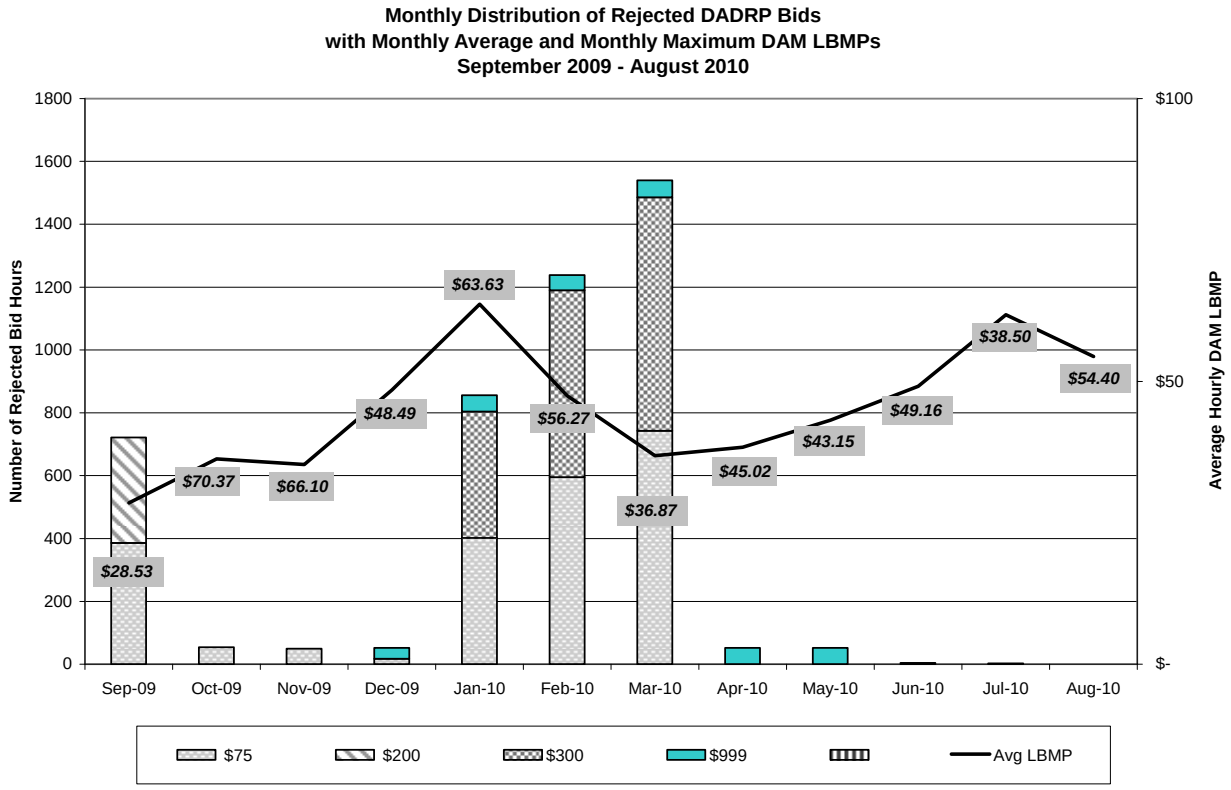
Figure 7 shows the average hourly DAM LBMP for scheduled DADRP offers in both Zone F and Zones K for the months of January and February, and the 12-month average of scheduled hours for both Zone F and Zones K. The 12-month average prices for Zone F ($46.85/MWh) and Zone K ($57.51) are solid and dashed gray lines, respectively. Broken or incomplete lines indicate months where no DADRP schedules occurred for those hours. Average hourly LBMPs represent only the hours when a DADRP resource was scheduled; in some instances, this is a single hour. For example, the red line representing February 2010 shows single values for the hours of midnight through 11 p.m. Early morning and late afternoon hours between for February 2010 are the average of multiple resource schedules.

**Figure 7: Average Hourly DAM LBMP by Month for Scheduled DADRP offers - selected months**




The number of rejected offers increased by over 7%, representing 95% of offered hours. Figure 8 shows the monthly distribution of the number of rejected hourly DADRP offers by price level with the monthly average DAM LBMP for the analysis period. Offers that occur at price levels above the offer floor price are additional points on the price/MW offer curves submitted by DADRP resources.

**Figure 8: Rejected Offers by Month**




Price Reduction Impact

With so few hours scheduled during this analysis period, a price reduction impact analysis was not performed.

Historical Analysis of DADRP

Table 20 provides a summary of the scheduled reductions, scheduled hours, average hourly scheduled MW, and program payments for each year since the DADRP program began. The results reported for 2001 reflect transactions in the months of July and August. For 2002, program payments include event months of April, July and August. All other totals for 2002 and all other years reflect DADRP transactions for the analysis period of September of the previous year through August of the current year. That is, the analysis period reported for 2010 includes all DADRP scheduled transactions from September 2009 through August 2010.

**Table 20: DADRP Program Summary 2001-2010**

| | Scheduled DADRP MWh | Total Scheduled Hours | Average Hourly Schedule (MWh) | Program Payments** |
|---|---|---|---|---|
| 2001 | 2,694 | 531 | 5.07 | $ 217,487 |
| 2002 | 6,176 | 1,529 | 4.04 | $ 110,216 |
| 2003 | 4,257 | 1,725 | 2.47 | $ 263,311 |
| 2004 | 3,535 | 1,275 | 2.77 | $ 209,624 |
| 2005 | 2,070 | 464 | 4.46 | $ 172,376 |
| 2006 | 3,479 | 1,343 | 2.59 | $ 332,941 |
| 2007 | 4,152 | 2,509 | 1.65 | $ 365,862 |
| 2008 | 7,727 | 5,128 | 1.51 | $ 801,108 |
| 2009 | 2,192 | 1,067 | 2.05 | $ 190,129 |
| 2010 | 153 | 134 | 1.14 | $ 7,791 |

** Total payments shown for 2001 are July and August. In 2002, payment totals include event months of April, July and August.

Figure 9[7] shows the history of scheduled MWh by season since the program's inception. The summer season months[8] 2008 had the greatest number of scheduled MWh of any season since the initial summer of the program and almost double the overall average for summer months. Winter[9] 2010 is the only season with any measurable scheduled MWh, the scheduled MWh for summer 2010 were the fewest number of scheduled MWh in the history of the DADRP program.

**Figure 9: Total MWh Scheduled in DADRP by Season and Year, 2001-2010**

[7] References to seasons in Figure 9 correspond to the calendar seasons and not to "Summer" and "Winter" Capability Period months.
[8] June, July, and August.
[9] December, January, and February.

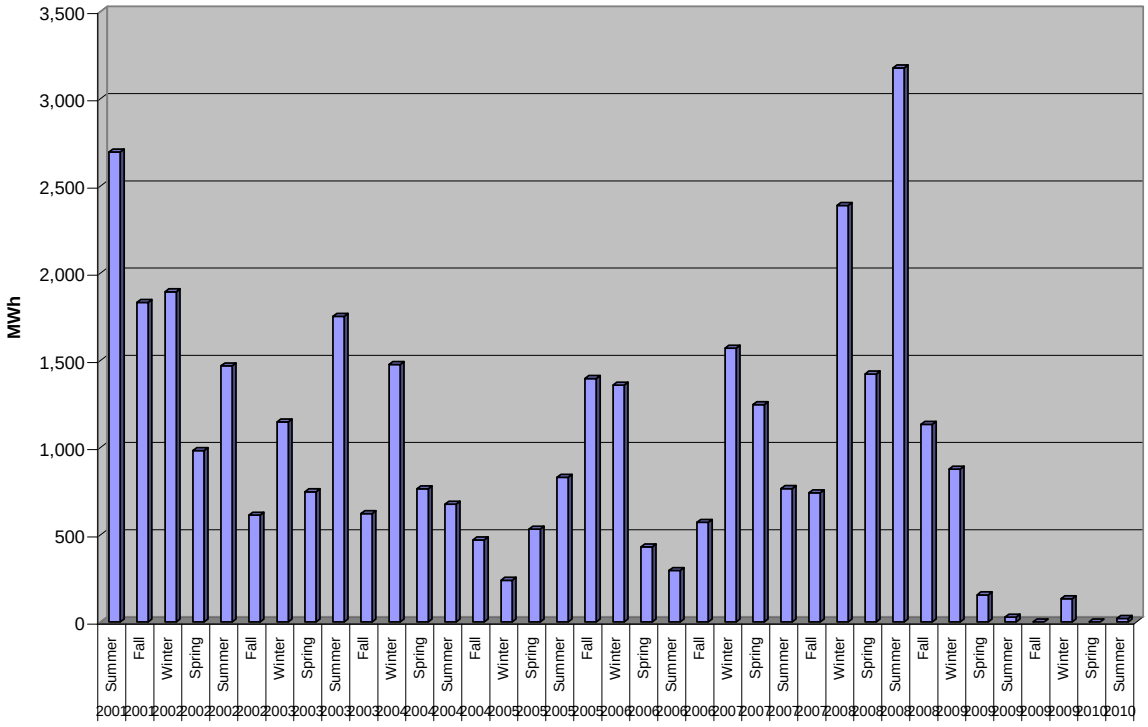



Figure 10 shows the history of the average scheduled DADRP offered by season since the program's inception. Average scheduled MWh for the entire 2009-2010 analysis period were below the seasonal averages to date.

**Figure 10: Average Scheduled DADRP Offer (MWh) by Season and Year, 2001-2010**

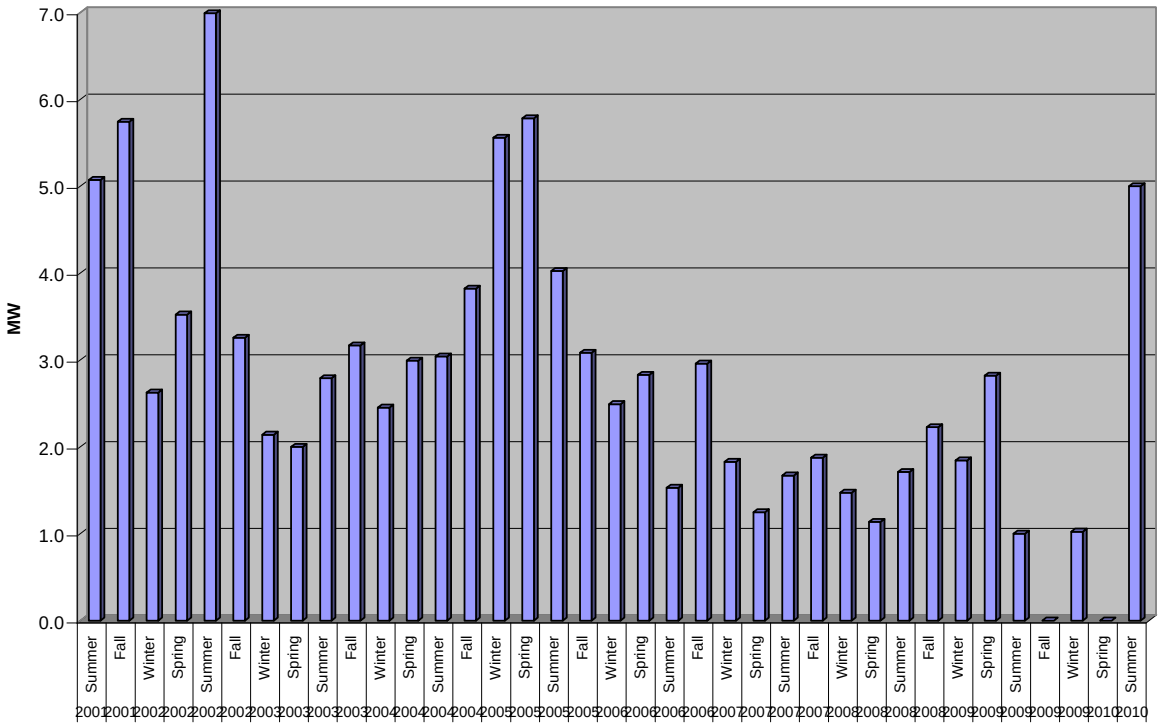
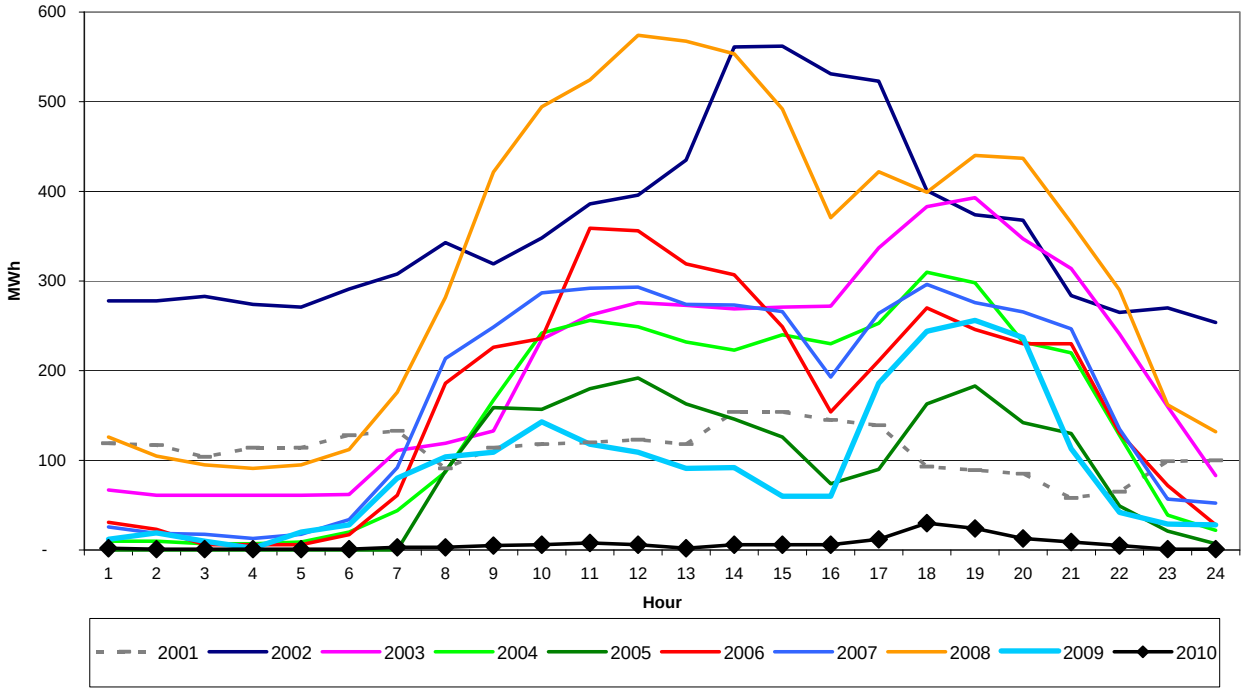



Figure 11 shows the distribution of scheduled DADRP offers by hour since the program's inception. The current analysis period is shown with hour markers on the line. In 2010, scheduled load reductions were the lowest since the DADRP began.

**Figure 11: Total Scheduled DADRP Offers (MWh) by Hour and Program Year (9/1 – 8/31) 2001*-2009 (*2001: July and August only)**




DADRP Estimated Market Benefits Summary – Summer

When DADRP curtailments displaced higher-priced generation resources, the corresponding DAM clearing price dropped, thereby reducing the cost of purchases. Reductions in the average DAM LBMP for the summer of 2010 are compared to those from 2001 through 2009 in Table 21.

The fewest number of scheduled hours (134) occurred in the Summer of 2010. As shown in the rejected offer chart (Figure 8), the average prices for the majority of the analysis period were significantly below the offer floor price of $75/MWh. As a result, the few hours scheduled during the summer month resulted in, on average, no impact on the day-ahead prices.

**Table 21: DADRP Average Price Reductions (Summer Season)**

| | Scheduled DADRP MWh | Program Payments | Average Price Reduction ($) | Average Hourly Schedule (MWh) |
|---|---|---|---|---|
| 2001 | 2,694 | $ 217,487 | $ 0.58 | 5.07 |
| 2002 | 1,468 | $ 110,216 | $ 0.30 | 6.99 |
| 2003 | 1,752 | $ 121,144 | $ 0.12 | 2.79 |
| 2004 | 675 | $ 40,651 | $ 0.07 | 3.04 |
| 2005 | 829 | $ 77,885 | $ 0.10 | 4.02 |
| 2006 | 295 | $ 29,821 | $ 0.05 | 1.53 |
| 2007 | 765 | $ 64,737 | $ 0.04 | 1.67 |
| 2008 | 3,177 | $ 348,509 | $ 2.05 | 1.71 |
| 2009 | 28 | $ 2,605 | $ - | 1.00 |
| 2010 | 20 | $ - | $ - | 5.00 |

DADRP Conclusions

The major factor contributing to the marked decrease in scheduled hours for DADRP during this analysis period was that offer prices primarily at the DADRP offer floor combined with very low day-ahead prices resulted in fewer opportunities for scheduling of DADRP resources. The NYISO will continue to evaluate resource participation and program parameters to ensure the programs are delivering the intended market outcomes.

## Demand Response Initiatives in 2010

Over the past several months, the NYISO has been working with its stakeholders on a number of initiatives intended to improve the administration of its demand response programs and to address regulatory directives to facilitate market participation. This section provides an update on the efforts to date on these initiatives:

- Deployment of the Demand Response Information System
- Telemetry Requirements for DSASP
- Market Rules for Aggregations of Small Demand Resources in the Ancillary Services Markets
- Plan of Action for Accommodating Demand Response Resource Participation in the Real-Time Energy Market

## *Deployment of the Demand Response Information System*

The Demand Response Information System (DRIS) continues to be developed by NYISO to automate much of the demand response program administration that it has been performing manually through spreadsheets. The Demand Response Information System will consist of the current core functionality of registration processing, event notification, and reporting. It also will automate ICAP/SCR processing and event performance, management, and settlement preparation calculations. Additionally, it will provide new functionality for managing event and meter data as well as a web interface to provide authorized market participants direct access to data on their enrolled demand response resources.

The NYISO has deployed three releases of DRIS since November 2009 and one is scheduled for early 2011:

- November 2009
    - The NYISO deployed the initial release of DRIS. This deployment was an internal release that provided the foundation for DRIS, imported demand response program enrollment information for EDRP and the ICAP/SCR program, and automated some monthly processing activities for the ICAP/SCR program.
- March 2010
    - The NYISO deployed a second internal deployment of DRIS, which included the screens to manage enrollments, resources, and contact information.
- June 2010
    - The June 2010 deployment was the first of the market-facing deployments of the DRIS. NYISO Customers interact with the DRIS to import their resource enrollments and manage their monthly SCR activities, including aggregation management. They also have the capability to view and export resource information. The June 2010 deployment of the DRIS included a “dashboard” that will provide an overview of the current status of the Customer’s enrollment requests and a calendar to identify the periods when specific enrollment activities are permitted. Market Trials were conducted before this

market-facing release to provide demand response providers with the ability to get familiar with the user interface and the functionality. Multiple training sessions on the DRIS were provided before the Market Trials began.

- January 2011
    - The next deployment of the DRIS will occur on January 19, 2010. This release expands functionality of the DRIS to include: a) the automation of the calculation of performance factors for Special Case Resources; b) ability to import event and test data; c) ability to enter Change of Status information into the DRIS; d) ability for Market Mitigation and Analysis to identify of resources subject to offer floor and provide visibility into the tracking of those resources; e) expansion of import capabilities to include import files in Excel format. As with other deployments of the DRIS, the NYISO provided its stakeholders with regular updates on project status and detailed deployment-related activities at meetings of the Price-Responsive Load and the Installed Capacity Working Groups. Provided no issues arise with the deployment, Market Participants will be able to access DRIS on January 20, 2011.

## *Telemetry Requirements for DSASP*

In its February 2010 Compliance Filing,[10] the NYISO described its plans for a workshop or technical conference to improve communications between Transmission Owners and demand response resources and to explore the develop.m.ent of standardized processes that could help to facilitate participation by demand response resources in the NYISO's Ancillary Services markets.

[10] February 2010 Compliance Filing at p. 9

On May 12, 2010, the NYISO conducted a DSASP Workshop[11] which included a presentation by the NYISO providing an overview of DSASP market rules, current communications/telemetry requirements for DSASP, the Direct Communications concept for DSASP, a proposed timeline for addressing Direct Communications for DSASP and its relationship to other demand response initiatives, and a request for market participant feedback. The topic of how Direct Communications for DSASP might affect aggregations providing ancillary services was intertwined throughout the presentation.

NYISO stakeholders have approved a project for 2011 to define the functional requirements for Direct Communication for DSASP.

## *Market Rules for Aggregations of Small Demand Resources in the Ancillary Services Markets*

As discussed above, the DSASP Workshop introduced concepts that may frame further discussions for aggregations of small demand resources in the NYISO's ancillary services markets. Direct Communication for DSASP is expected to provide a streamlined approach to implementation that will make it possible for aggregations of small demand resources to participate in NYISO's ancillary services markets.

On November 30, 2010, the NYISO presented its Market Design Concept to stakeholders at the Price-Responsive Load Working Group[12]. The presentation outlined the timeline to deploy the ability for aggregations of small customers to provide operating reserves by the end of the third quarter of 2011. The Market Design Concept presentation was also presented at the Market

[11] NYISO DSASP Workshop presentation available at: http://www.nyiso.com/public/webdocs/committees/bic_prlwg/meeting_materials/2010-05-12/Demand_Side_Ancillary_Services_Program_Workshop.pdf

[12] NYISO presentation available at: http://www.nyiso.com/public/webdocs/committees/bic_prlwg/meeting_materials/2010-11-30/DSASP_Aggregations_113010_PRLWG.pdf

Issues Working Group on December 6, 2010 and received approval from the Business Issues Committee on December 8, 2010.

## *Plan of Action for Accommodating Demand Response Resource Participation in the Real-Time Energy Market*

The NYISO has suspended its proposed plan of action for accommodating demand response resource participation in the real-time energy market outlined in its February 2010 Compliance Filing[13] until the Commission rules on the current regarding compensation of demand response resources in energy markets.[14] The NYISO expects to incorporate any decisions from the Commission regarding compensation of demand response in energy markets as it develops its preliminary market design, which has been reprioritized to the fourth quarter of 2011.

[13] February 2010 Compliance Filing at pp 11

[14] Docket No. EL-09-68-000, RM10-17-000, May 13, 2010

# Attachment III

# NYISO Revised Annual Report on Demand Response Programs: ERRATA

## Program Descriptions

The New York Independent System Operator, Inc. ("NYISO") offers two demand response programs that support reliability: the Emergency Demand Response Program[1] ("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 with the 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 resource. There are no consequences for enrolled EDRP resources that fail to curtail. Resources participate in EDRP through Curtailment Service Providers ("CSPs"), which serve as the interface between the NYISO and resources.

The ICAP/SCR program allows demand resources that meet certification requirements to offer Unforced Capacity ("UCAP') to Load Serving Entities ("LSEs"). Special Case Resources can participate in the Installed Capacity ("ICAP") Market just like any other ICAP Resource; however, Special Case Resources participate through Responsible Interface Parties, which serve as the interface between the NYISO and resources. Resources are obligated to curtail when called upon to do so with two or more hours notice, provided the NYISO notifies the Responsible Interface Party day ahead of the possibility of such a call. In addition, ICAP/SCR resources are subject to testing each Capability Period to verify that they can fulfill their curtailment requirement. Failure to curtail could result in penalties administered under the ICAP program. Curtailments are called by the NYISO when reserve shortages are anticipated. Resources may register for either EDRP or ICAP/SCR but not both. Special Case Resources are eligible for an energy payment during an event, using the same performance calculation as EDRP resources.

[1] Terms in upper case not defined herein have the meaning ascribed to them in the NYISO's Market Administration and Control Area Services Tariff.

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. As of December 31, 2009, there are no resources qualified in the Demand Side Ancillary Services Program.

## Summary of Significant Findings

Emergency Demand Response Program / ICAP Special Case Resources

As of August 31, 2010 (the date customarily used for reporting NYISO's demand response program participation statistics) a total of 56 CSPs and Responsible Interface Parties were offering programs that deliver the NYISO's EDRP and/or ICAP/SCR programs to demand resources[2]. This level of participation represents an increase of two load serving entities, nine aggregators, and six resources representing themselves (referred to herein as a "direct resource") since 2010 figures. Participating CSPs and RIPs include:

- 7 Transmission Owners
- 6 Load Serving Entities not affiliated with a Transmission Owner ("Competitive LSE")
- 31 aggregators that were not Load Serving Entities or Transmission Owners
- 12 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 ~~74~~75.4% of the total EDRP and ICAP/SCR enrolled MW, up from the 71.7% enrolled in 2009. In 2010, one non-Transmission Owner had resources enrolled in the EDRP program; all other EDRP resources were enrolled through Transmission Owners. Direct resources represent ~~31.4~~9.4% of the enrolled MW in the ICAP/SCR program or ~~27.9~~8.4% of the combined reliability program MW.

EDRP and ICAP/SCR had a total of 4,386 end-use locations enrolled providing a total of ~~2,362~~2,497.8 MW of demand response capability, a ~~0.8~~4.5% increase over the 2009 MW

[2] The report on reliability programs is based on a snapshot of the programs as of August 31, 2009.

enrollment level. The demand response resources in NYISO reliability programs represent ~~7.0~~7.5% of the 2010 Summer Capability Period peak demand of 33,452 MW, ~~an increase of 0,7%~~a nominal change from 2009. There were 215 end-use locations in EDRP and 4171 end-use locations in ICAP/SCR. ICAP/SCR represents 95% of the total reliability program enrollments and ~~89~~90% of the total reliability program enrolled MW, increases of 5% and ~~3~~4%, respectively, over 2009. The Targeted Demand Response Program, which deploys EDRP and ICAP/SCR resources in subzones of Zone J, New York City, for local reliability, included ~~26~~25% of total EDRP end-use locations enrolled and encompassed ~~29~~30% of total enrolled EDRP MW. The TDRP also included ~~43~~44% of total ICAP/SCR end-use locations, representing ~~23~~24% of the total enrolled ICAP/SCR MW, ~~a 5% decrease in both end-use locations and enrolled MW~~decreases of 5% and 2% respectively.

Since participation in EDRP and ICAP/SCR became mutually exclusive, EDRP end-use locations and MW have continued to decrease while ICAP/SCR end-use locations and MW have increased, as expected, given the monthly reservation payment associated with the ICAP/SCR program. Aggregations by Responsible Interface Parties now account for 97.9% of ICAP/SCR resources and 68.6% of enrolled MW in the program, a decrease from 2009 in enrolled MW of almost 9.3%.

There were two deployments of the TDRP in June 2010 and two deployments of the ICAP/SCR and EDRP programs during July 2010. The TDRP deployments, in response to the local Transmission Owner request in the NYC Zone (J), occurred on June 28, 2010 from 3:31 ~~pm~~p.m. to 11:30 ~~pm~~p.m. and on June 29, 2010 from 3:35 am to 11:00 am. The NYISO deployments of the ICAP/SCR and EDRP programs occurred from 1:00 ~~pm~~p.m. to 7:00 ~~pm~~p.m. on July 6, 2010 and July 7, 2010.

Day-Ahead Demand Response Program

For DADRP, three resources representing over 30 end-use locations from Zones F (Capital) and Zone K (Long Island) submitted load reduction offers. Offer activity decreased by 70% over the previous 12-month period and 87% fewer hours were scheduled (134) than in the previous period (1,067). In 2010, 13% of offers were scheduled compared to 12% of offers in 2009. The average DAM LBMP over all hours during the analysis period was $46.85 in Zone

F, and $57.51 in Zone K[3].Overall, the average hourly offer remained virtually the same as 2009, 2.28 MW (2.29 MW in 2009), while scheduled offers decreased by 44% to an average of 1.14 MW. Scheduled hours decreased by 87% over the same period to 134 hours. Scheduled MWh decreased by 93% to 153 MWh. With so few hours scheduled during this analysis period, a price reduction impact analysis was not performed.

## 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[4] in NYISO's systems, may represent individually enrolled end-use locations or aggregations of end-use locations enrolled as a single resource. ~~Table 1~~ Table 1 indicates that there are a total of ~~201~~ 205 aggregations represented by Responsible Interface Parties, collectively containing a total of 4,171 end-use locations with 1,442.3 MW of the total ~~2,103.0~~2,238.5 MW of enrolled ICAP/SCR. Eighty-~~six~~ seven (~~86~~87) individually enrolled resources account for ~~660.7~~682.1 MW.

**~~Table 1:~~Table 1: Detail of 2010 ICAP/SCR Program Participation Level by Resource Type**

[3] Analysis was not performed on Zone G (Hudson Valley) because no performance information was submitted for resources in this Zone.

[4] 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.

| Resource Type | ICAP | | | ICAP Offered/Unsold | | |
|---|---|---|---|---|---|---|
| | # Program IDs | # End-use Locations | Sold MW | # Program IDs | # End-use Locations | Subscribed MW |
| Individual Resources | 87 | 87 | 682.1 | 1 | 1 | 1.6 |
| Aggregated Resources | 118 | 4084 | 1556.4 | 3 | 7 | 0.3 |
| **Total** | **205** | **4171** | **2238.5** | **4** | **8** | **2.0** |


| Resource Type | ICAP | | | ICAP Offered/Unsold | | |
|---|---|---|---|---|---|---|
| | # Program IDs | # End-use Locations | Sold MW | # Program IDs | # End-use Locations | Subscribed MW |
| Individual Resources | 86 | 87 | 660.7 | 1 | 1 | 1.6 |
| Aggregated Resources | 115 | 4084 | 1442.3 | 3 | 7 | 0.2 |
| **Total** | **201** | **4171** | **2103.0** | **4** | **8** | **1.8** |


Replaced by table above

The right-hand section of ~~Table 1~~Table 1 provides information for ICAP/SCR resources that offered but did not sell MW. In cases where an ICAP/SCR resource offers load reduction in a NYISO auction and it is not sold, that resource is automatically enrolled in the EDRP program until the next auction or until the resource confirms a bilateral transaction with an LSE. The EDRP program totals reported include the offered, but unsold MW of subscribed ICAP resources.

EDRP and ICAP/SCR Program Participation

At the end of August 2010, the NYISO's reliability programs had a total of 4,386 end-use locations enrolled, providing a total of ~~2,362.1~~2,497.8 MW of demand response capability, a ~~less than 1% decrease~~4.5% increase over the 2009 MW enrollment level. There were 215 end-use locations in EDRP (207 + 8 ICAP Offered/Unsold) and 4,171 end-use locations in ICAP/SCR. ICAP/SCR represents 95% of the total reliability program enrollments and ~~89~~90% of the total reliability program enrolled MW, an increase of ~~5~~4% in the ICAP/SCR program.

**~~Table 2:~~Table 2: 2010 Program Participation Summary by Curtailment Service Provider Type**

| CSP Type # | Agent Type | EDRP [1] # CSP | EDRP [1] # End-use Locations | EDRP [1] MW | ICAP Offered/Unsold [2] # RIP | ICAP Offered/Unsold [2] # End-use Locations | ICAP Offered/Unsold [2] MW | ICAP [3] # RIP | ICAP [3] # End-use Locations | ICAP [3] MW | DADRP [4] # DRP | DADRP [4] # End-use Locations | DADRP [4] MW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | Aggregator | 0 | 0 | 0.0 | 2 | 4 | 1.7 | 29 | 3627 | 1317.59 | 2 | 30 | 12.0 |
| 0 | Curtailment Program End-Use Customer | 0 | 0 | 0.0 | 0 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0 | 0.0 |
| 12 | Direct Customer | 0 | 0 | 0.0 | 0 | 0 | 0.0 | 12 | 40 | 210.62 | 0 | 0 | 0.0 |
| 6 | LSE | 1 | 34 | 9.6 | 1 | 2 | 0.1 | 6 | 399 | 344.50 | 6 | 7 | 44.4 |
| 7 | Transmission Owner | 5 | 173 | 247.7 | 1 | 2 | 0.1 | 4 | 105 | 365.76 | 3 | 13 | 275.0 |
| **56** | **Total** | **6** | **207** | **257.3** | **4** | **8** | **2.0** | **51** | **4171** | **2238.5** | **11** | **50** | **331.4** |

Note 1: The sum of EDRP and ICAP Offered/Unsold = Total EDRP.
Note 2: Resources in the ICAP program with Offered/Unsold capacity are considered EDRP resources in the month(s) that capacity is unsold. MW represent reductions registered in the ICAP program, but not sold.
Note 3: MW represent reduction MW sold in the ICAP program.
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).

| CSP Type # | Agent Type | EDRP [1] # CSP | EDRP [1] # End-use Locations | EDRP [1] MW | ICAP Offered/Unsold [2] # RIP | ICAP Offered/Unsold [2] # End-use Locations | ICAP Offered/Unsold [2] MW | ICAP [3] # RIP | ICAP [3] # End-use Locations | ICAP [3] MW | DADRP [4] # DRP | DADRP [4] # End-use Locations | DADRP [4] MW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | Aggregator | 0 | 0 | 0.0 | 2 | 4 | 1.796 | 29 | 3627 | 1215.9 | 2 | 30 | 12.0 |
| 0 | Curtailment Program End-Use Customer | 0 | 0 | 0.0 | 0 | 0 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 12 | Direct Customer | 0 | 0 | 0.0 | 0 | 0 | 0.000 | 12 | 40 | 195.000 | 0 | 0 | 0.0 |
| 6 | LSE | 1 | 34 | 9.6 | 1 | 2 | 0.016 | 6 | 399 | 328.400 | 6 | 7 | 44.4 |
| 7 | Transmission Owner | 5 | 173 | 247.7 | 1 | 2 | 0.076 | 4 | 105 | 363.7 | 3 | 13 | 275.0 |
| **56** | **Total** | **6** | **207** | **257.3** | **4** | **8** | **1.798** | **51** | **4171** | **2103.0** | **11** | **50** | **331.4** |

Replaced by table above

Note 1: The sum of EDRP and ICAP Offered/Unsold = Total EDRP.
Note 2: Resources in the ICAP program with Offered/Unsold capacity are considered EDRP resources in the month(s) that capacity is unsold. MW represent reductions registered in the ICAP program, but not sold.
Note 3: MW represent reduction MW sold in the ICAP program.
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 2~~Table 2 ~~-~~shows the total number of CSPs enrolled for 2010 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 participation detail by program and CSP type.

Enrollments in EDRP in 2010 were ~~exclusively~~ predominantly through Transmission Owners. ICAP/SCR enrollments have been dominated by aggregators, which provide 86.8% of participating end-use locations and 58.8% of the enrolled MW.

~~Table 3~~ Table 3 shows program participation 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:~~Table 3: 2010 Program Participation by Zone**

| Zone | EDRP [1] | | ICAP Offered/Unsold [2] | | ICAP [3] | | DADRP [4] | |
|---|---|---|---|---|---|---|---|---|
| | # | MW | # | MW | # | MW | # | MW |
| A | 17 | 20.0 | | | 487 | 507.1 | 4 | 58.0 |
| B | 2 | 1.3 | | | 236 | 161.0 | 1 | 2.8 |
| C | 32 | 16.7 | | | 287 | 211.3 | 2 | 38.0 |
| D | 9 | 4.0 | 5 | 0.2 | 26 | 231.8 | 1 | 100.0 |
| E | 33 | 34.2 | | | 155 | 72.5 | 1 | 10.0 |
| F | 28 | 28.9 | | | 193 | 179.6 | 8 | 92.0 |
| G | 13 | 17.1 | 1 | 1.6 | 164 | 102.4 | 1 | 9.0 |
| H | 4 | 2.8 | | | 11 | 7.3 | 0 | 0.0 |
| I | 14 | 4.7 | 2 | 0.1 | 119 | 42.4 | 0 | 0.0 |
| J | 54 | 76.9 | | | 1832 | 546.8 | 2 | 6.6 |
| K | 1 | 50.7 | | | 661 | 176.3 | 30 | 15.0 |
| **Total** | **207** | **257.3** | **8** | **2.0** | **4171** | **2238.5** | **50** | **331.4** |

Note 1: The sum of EDRP and ICAP Offered/Unsold = Total EDRP.
Note 2: Resources in the ICAP program with Offered/Unsold capacity are considered EDRP resources in the month(s) that capacity is unsold. MW represent reductions registered in the ICAP program, but not sold.
Note 3: MW represent reduction MW sold in the ICAP program.
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).

| Zone | EDRP [1] | | ICAP Offered/Unsold [2] | | ICAP [3] | | DADRP [4] | |
|---|---|---|---|---|---|---|---|---|
| | # | MW | # | MW | # | MW | # | MW |
| A | 17 | 20.0 | | | 487 | 491.6 | 4 | 58.0 |
| B | 2 | 1.3 | | | 236 | 153.6 | 1 | 2.8 |
| C | 32 | 16.7 | | | 287 | 203.3 | 2 | 38.0 |
| D | 9 | 4.0 | 5 | 0.2 | 26 | 230.1 | 1 | 100.0 |
| E | 33 | 34.2 | | | 155 | 67.2 | 1 | 10.0 |
| F | 28 | 28.9 | | | 193 | 172.9 | 8 | 92.0 |
| G | 13 | 17.1 | 1 | 1.6 | 164 | 94.0 | 1 | 9.0 |
| H | 4 | 2.8 | | | 11 | 6.7 | 0 | 0.0 |
| I | 14 | 4.7 | 2 | 0.1 | 119 | 38.8 | 0 | 0.0 |
| J | 54 | 76.9 | | | 1832 | 488.5 | 2 | 6.6 |
| K | 1 | 50.7 | | | 661 | 156.3 | 30 | 15.0 |
| **Total** | **207** | **257.3** | **8** | **1.8** | **4171** | **2103.0** | **50** | **331.4** |



Note 1: The sum of EDRP and ICAP Offered/Unsold = Total EDRP.
Note 2: Resources in the ICAP program with Offered/Unsold capacity are considered EDRP resources in the month(s) that capacity is unsold. MW represent reductions registered in the ICAP program, but not sold.
Note 3: MW represent reduction MW sold in the ICAP program.
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).

## Targeted Demand Response Program Enrollment

Load Zone J currently is the only Load Zone with resources assigned to the Targeted Demand Response Program. 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 category (J9: Shared Subzone). The sub-load pockets correspond to the following Con Edison network area substation groupings:

- J1: Sherman Creek/Parkchester/E 179th
- J2: Astoria West/Queensbridge
- J3: Vernon/Greenwood
- J4: Staten Island
- J5: Astoria East/Corona/Jamaica
- J6: W 49th
- J7: E13th/East River
- J8: Farragut/Rainey
- J9: Shared Subzone

**~~Table 4:~~Table 4: EDRP End-use Locations enrolled in the Targeted Demand Response Program ~~–~~ Zone J**

| | J1 | J2 | J3 | J4 | J5 | J6 | J7 | J8 | J9 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| MW | 0.5 | 2.5 | 6.3 | 2.3 | 6.0 | 2.3 | 0.7 | 1.2 | 55.0 | 76.9 |
| End-use Locations | 3.0 | 4.0 | 13.0 | 4.0 | 10.0 | 8.0 | 5.0 | 6.0 | 1.0 | 54.0 |

**~~Table 5:~~Table 5: ICAP/SCR End-use Locations enrolled in the Targeted Demand Response Program – Zone J**

| | J1 | J2 | J3 | J4 | J5 | J6 | J7 | J8 | J9 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| MW | 62.6 | 39.3 | 55.5 | 31.3 | 57.6 | 73.4 | 76.4 | 128.2 | 22.5 | 546.8 |
| End-use Locations | 119 | 164 | 335 | 59 | 254 | 210 | 239 | 431 | 21 | 1832 |

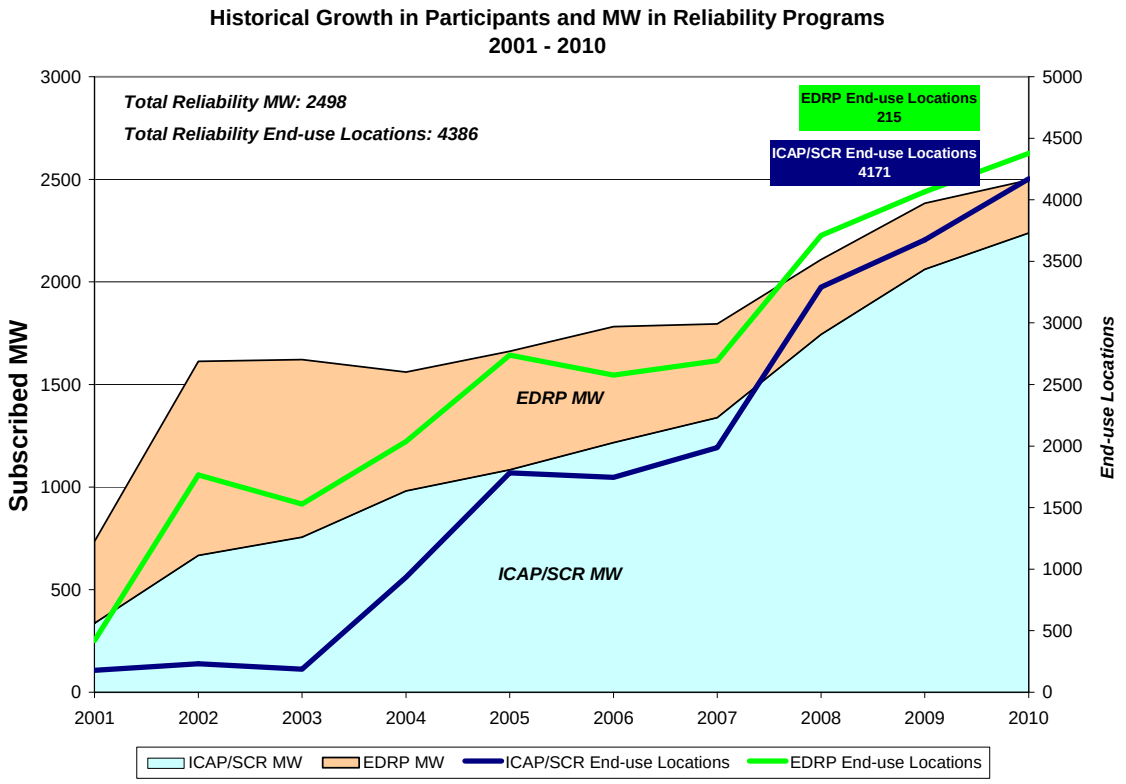
| | J1 | J2 | J3 | J4 | J5 | J6 | J7 | J8 | J9 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| MW | 262.1 | 19.2 | 1 | 0.1 | 2 | 0 | 0.1 | 0.8 | 205.1 | 488.5 |
| End-use Locations | 737 | 50 | 3 | 8 | 0 | 0 | 2 | 4 | 1028 | 1832 |

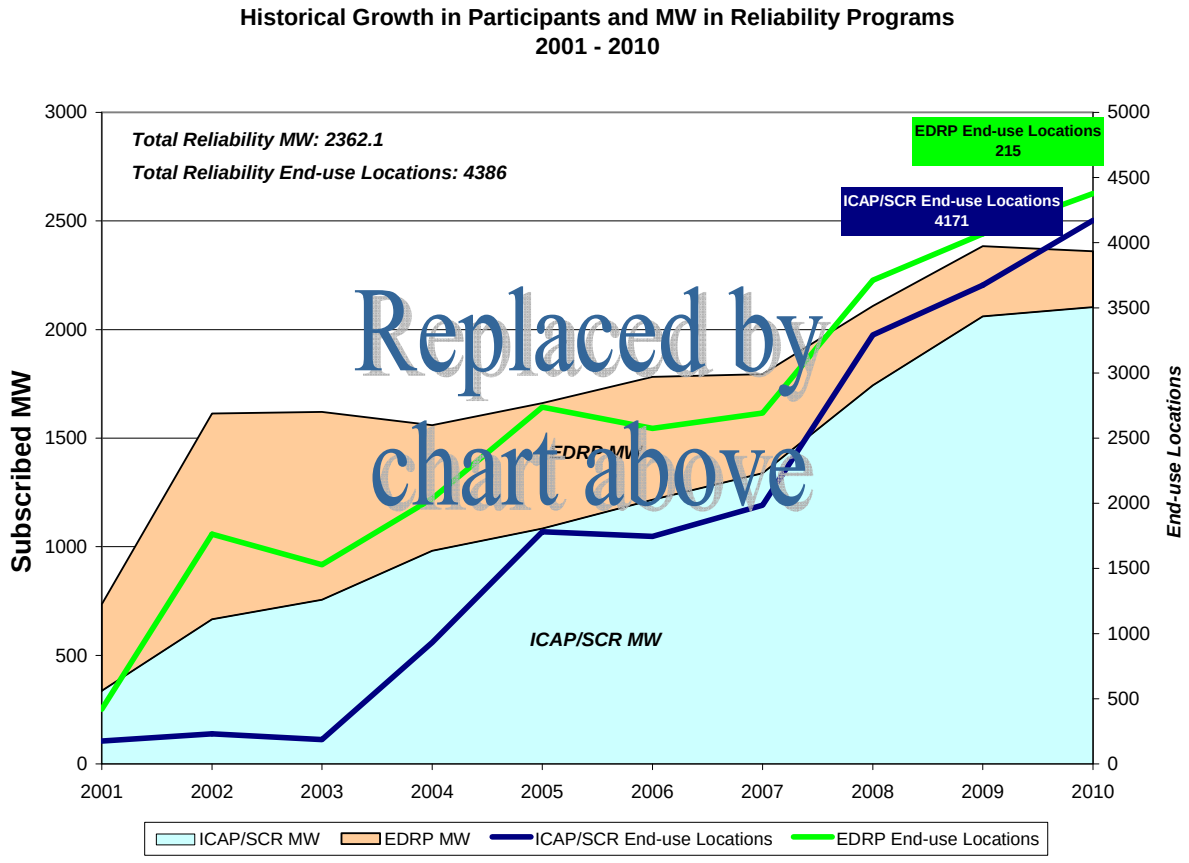
Replaced by table above

Historical Program Growth in Reliability Programs

~~Figure 1~~ Figure 1 plots the growth in the NYISO's reliability-based programs from inception through August 2010. 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 August 2010, combined enrollment in EDRP and ICAP/SCR has grown from approximately 200 MW to ~~2,362.1~~2,497.8 MW; and the total number of end-use locations has increased from approximately 200 in March 2002 to 4,386. Since participation in EDRP and ICAP/SCR became mutually exclusive, EDRP resources and MW have continued to decrease while ICAP/SCR resources and MW have increased.

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


Historical Growth in Participants and MW in Reliability Programs
2001 - 2010
Total Reliability MW: 2498
Total Reliability End-use Locations: 4386
EDRP End-use Locations 215
ICAP/SCR End-use Locations 4171
EDRP MW
ICAP/SCR MW
Subscribed MW
End-use Locations
3000
2500
2000
1500
1000
500
0
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
ICAP/SCR MW
EDRP MW
ICAP/SCR End-use Locations
EDRP End-use Locations


Historical Growth in Participants and MW in Reliability Programs
2001 - 2010
Total Reliability MW: 2362.1
Total Reliability End-use Locations: 4386
EDRP End-use Locations 215
ICAP/SCR End-use Locations 4171
Replaced by chart above
EDRP MW
ICAP/SCR MW
Subscribed MW
End-use Locations
3000
2500
2000
1500
1000
500
0
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
ICAP/SCR MW
EDRP MW
ICAP/SCR End-use Locations
EDRP End-use Locations

Migration Summary

~~Table 6~~ Table 6 shows the program enrollment changes by number of program IDs enrolled, not the total number of end-use locations. Program IDs, used to represent a resource in NYISO's market systems, may represent individual end-use locations or aggregations of end-use locations. ~~Table 7~~ Table 7 shows the program enrollment changes by number of end-use locations. Enrollment in ICAP/SCR is increasing at a faster pace than enrollment reductions in EDRP indicating that new resources continue to enroll, in addition to the EDRP resources that are migrating to ICAP/SCR.

**~~Table 6:~~Table 6: Program Enrollment by Program ID - Changes 2009 to 2010**

| | 2009 | | 2010 | | Percent Change From 2009 to 2010 | | Subscribed MW per End-use location | | |
|---|---|---|---|---|---|---|---|---|---|
| | Count | MW | Count | MW | End-use Location Count | Subscribed MW | 2009 | 2010 | Percent Change |
| EDRP | 392 | 323.0 | 207 | 257.3 | -47% | -20% | 0.82 | 1.24 | 51% |
| ICAP/SCR Offered/Unsold | 0 | 0.0 | 8 | 2.0 | N/A | N/A | 0.00 | 0.25 | N/A |
| ICAP/SCR | 194 | 2060.6 | 205 | 2238.5 | 6% | 9% | 10.62 | 10.92 | 3% |
| DADRP | 22 | 331.4 | 22 | 331.4 | 0% | 0% | 15.06 | 15.06 | 0% |



| | 2009 | | 2010 | | Percent Change From 2009 to 2010 | | Subscribed MW per End-use location | | |
|---|---|---|---|---|---|---|---|---|---|
| | Count | MW | Count | MW | End-use Location Count | Subscribed MW | 2008 | 2009 | Percent Change |
| EDRP | 392 | 323.0 | 207 | 257.3 | -47% | -20% | 0.82 | 1.24 | 51% |
| ICAP/SCR Offered/Unsold | 0 | 0.0 | 8 | 2.0 | N/A | N/A | 0.00 | 0.22 | 0% |
| ICAP/SCR | 194 | 2060.6 | 201 | 2103.0 | 4% | 2% | 10.62 | 10.46 | -1% |
| DADRP | 22 | 331.4 | 22 | 331.4 | 0% | 0% | 15.06 | 15.06 | 0% |

**~~Table 7:~~Table 7: Program Enrollments by End-use Location - Changes 2009 to 2010**

| | 2009 | | 2010 | | Percent Change From 2009 to 2010 | | Subscribed MW per End-use location | | |
|---|---|---|---|---|---|---|---|---|---|
| | Count | MW | Count | MW | End-use Location Count | Subscribed MW | 2009 | 2010 | Percent Change |
| EDRP | 392 | 323.0 | 207 | 257.3 | -47% | -20% | 0.82 | 1.24 | 51% |
| ICAP/SCR Offered/Unsold | 0 | 0.0 | 8 | 2.0 | N/A | N/A | 0.00 | 0.25 | N/A |
| ICAP/SCR | 3675 | 2060.6 | 4171 | 2238.5 | 13% | 9% | 0.56 | 0.54 | -4% |
| DADRP | 50 | 331.4 | 50 | 331.4 | 0% | 0% | 6.63 | 6.63 | 0% |


| | 2009 | | 2010 | | Percent Change From 2009 to 2010 | | Subscribed MW per End-use location | | |
|---|---|---|---|---|---|---|---|---|---|
| | Count | MW | Count | MW | End-use Location Count | Subscribed MW | 2008 | 2009 | Percent Change |
| EDRP | 392 | 323.0 | 207 | 257.3 | -47% | -20% | 0.82 | 1.24 | 51% |
| ICAP/SCR Offered/Unsold | 0 | 0.0 | 8 | 2.0 | N/A | N/A | 0.00 | 0.22 | 0% |
| ICAP/SCR | 3675 | 2060.6 | 4171 | 2238.5 | 13% | 9% | 0.56 | 0.50 | -10% |
| DADRP | 50 | 331.4 | 50 | 331.4 | 0% | 0% | 6.63 | 6.63 | 0% |


Replaced by table above

~~Figure 2, Figure 3, and Figure 4~~ Figures 2 through 4 track enrollment and MW in EDRP, ICAP/SCR and DADRP, respectively, over the period 2001 through 2010. The primary difference between

~~Figure 2 and Figure 3~~Figures 2 and 3 is the representation of ICAP resources: ~~Figure 2~~Figure 2 shows percent change and average subscribed MW by Program ID, while ~~Figure 3~~Figure 3 shows percent change and average subscribed MW by end-use location.

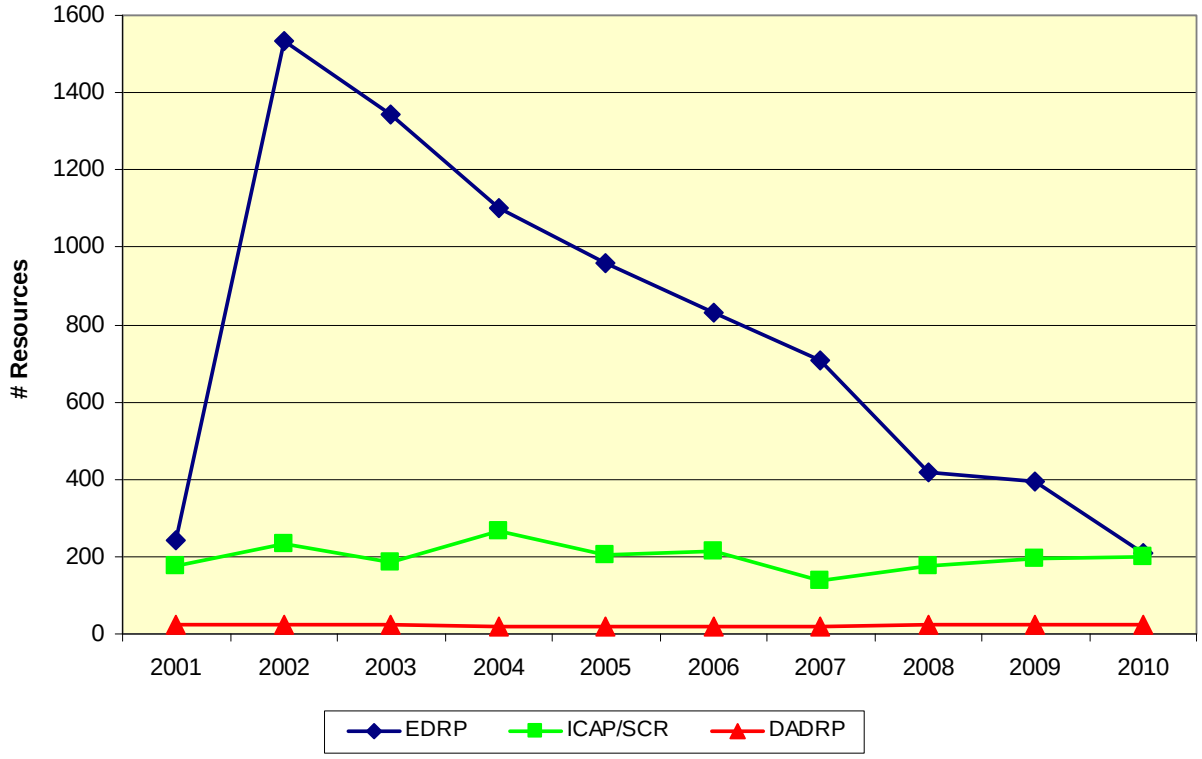
~~Figure 2~~Figure 2- shows the number of Program IDs, including individually enrolled resources and aggregated resources. ~~Figure 3~~Figure 3 provides information on the total number of end-use locations. Eighty-seven (~~86~~87) individually enrolled resources account for ~~660.7~~682.1 MW. ICAP/SCR enrollment of end-use locations was initiated in 2004; prior to that period, the enrolled resources shown in

~~Figure 2 and Figure 3~~Figures 2 and 3 for ICAP/SCR were based on program IDs. In addition, for 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.[5]

[5] 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~~MW of Demand Reduction in the

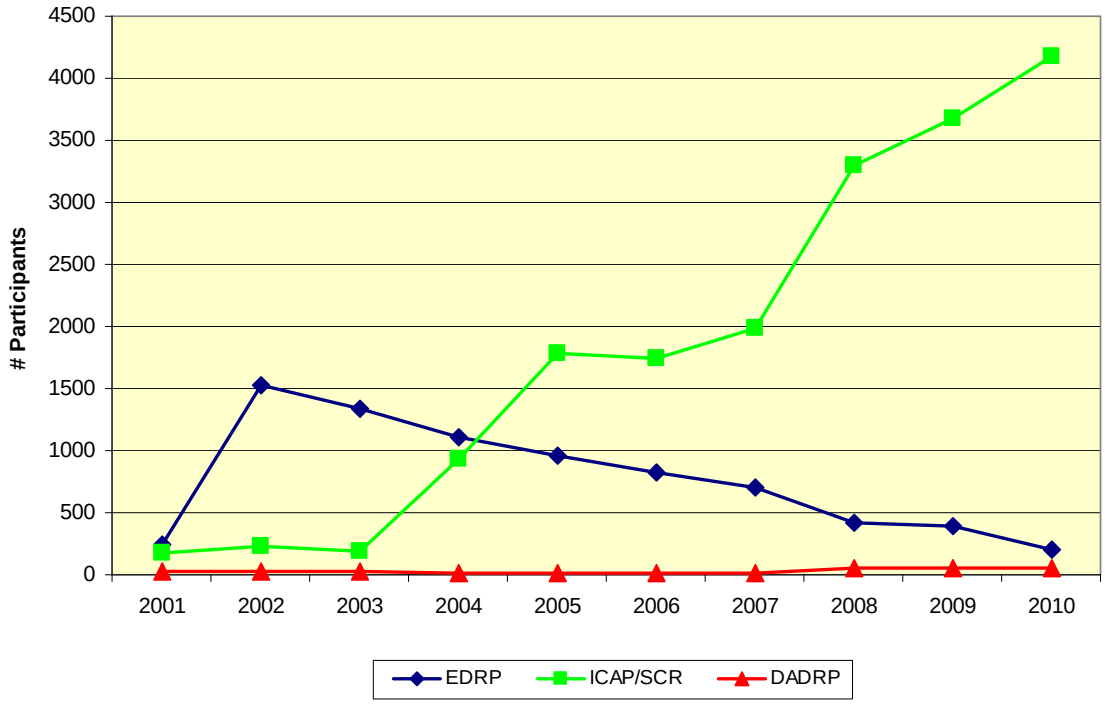
~~Figure 4~~Figure 4 shows that since making EDRP and ICAP/SCR mutually exclusive, the general trend has been for EDRP enrollment and MW to decrease and ICAP/SCR enrollment and MW to increase, as expected, given the monthly reservation payment associated with the ICAP/SCR program.

**~~Figure 2:~~Figure 2: Demand Response Program Enrollment History by Program ID, 2001 – 2010**

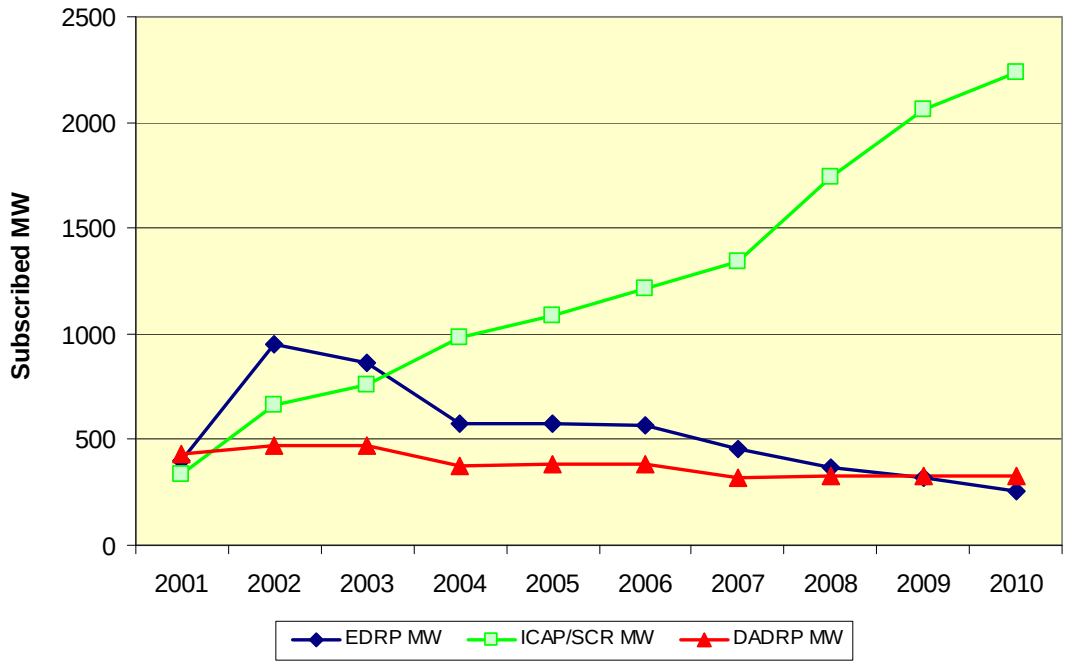


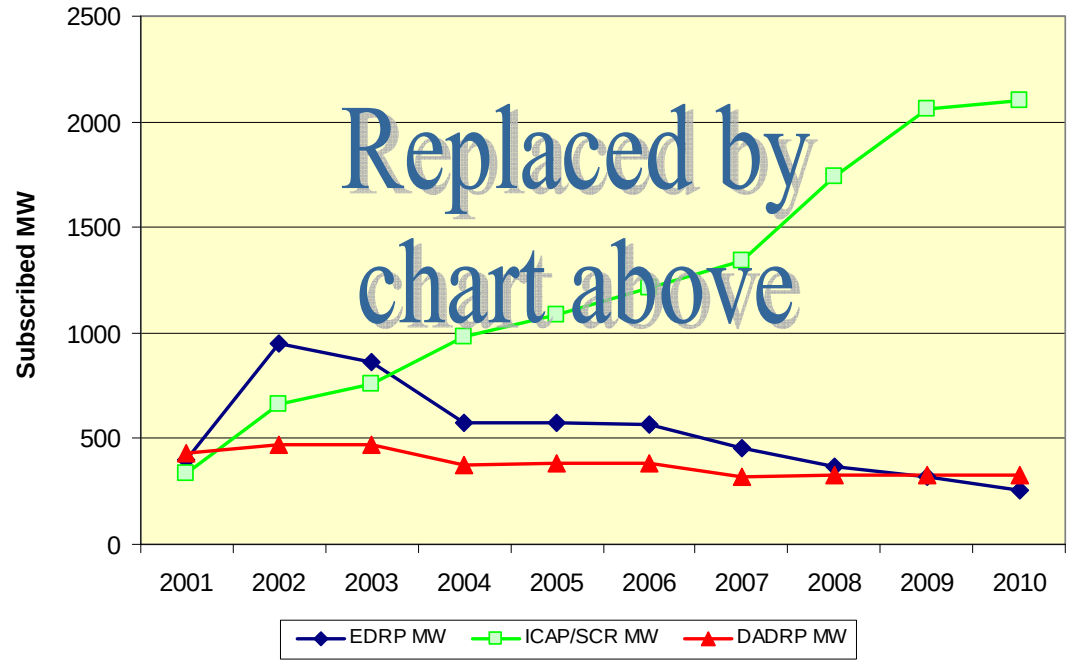

**~~Figure 3:~~Figure 3: Demand Response Program Enrollment History by Number of End-use locations, 2001 – 2010**

Special Case Resource from the ~~MWs~~MW in the Emergency Demand Response Program. The metering requirement supports the program rule that MW cannot be committed both as Unforced Capacity and to the Emergency Demand Response Program.




**~~Figure 4:~~Figure 4: Demand Response Program MW Enrollment History, 2001 - 2010**



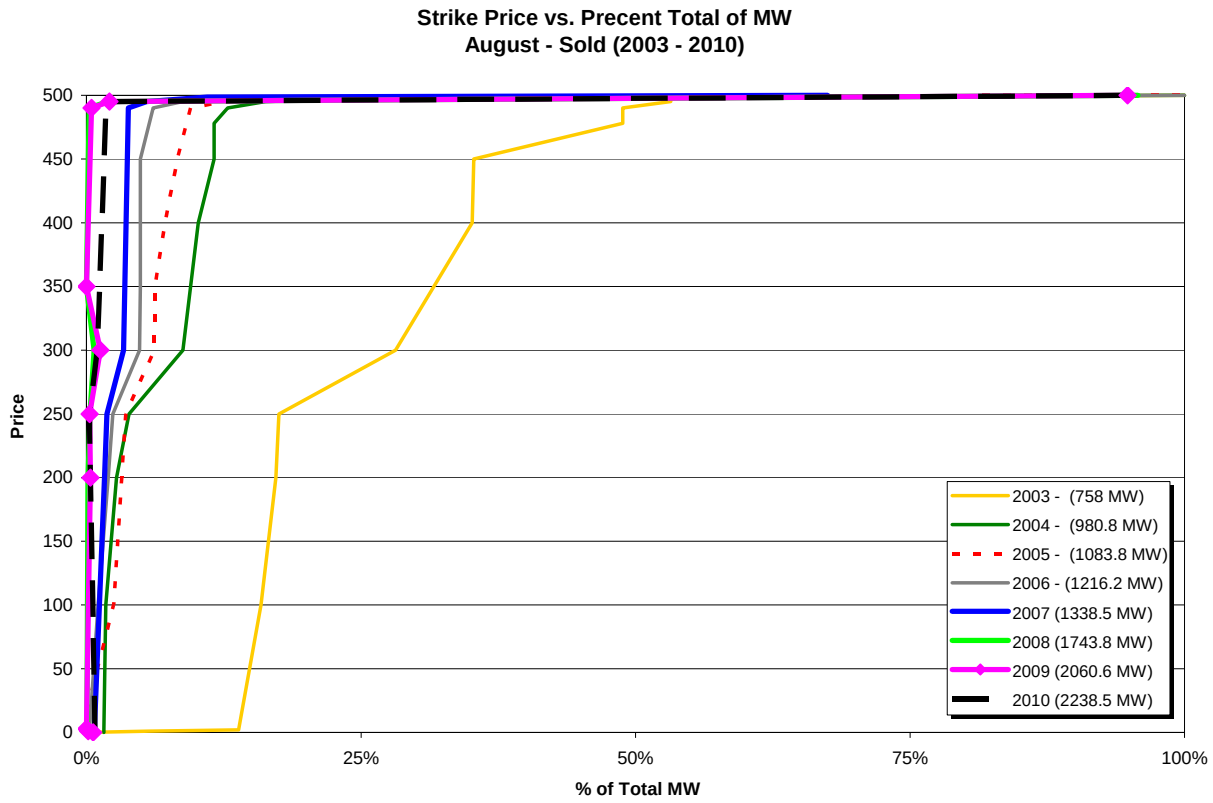

Analysis of ICAP/SCR Strike Prices

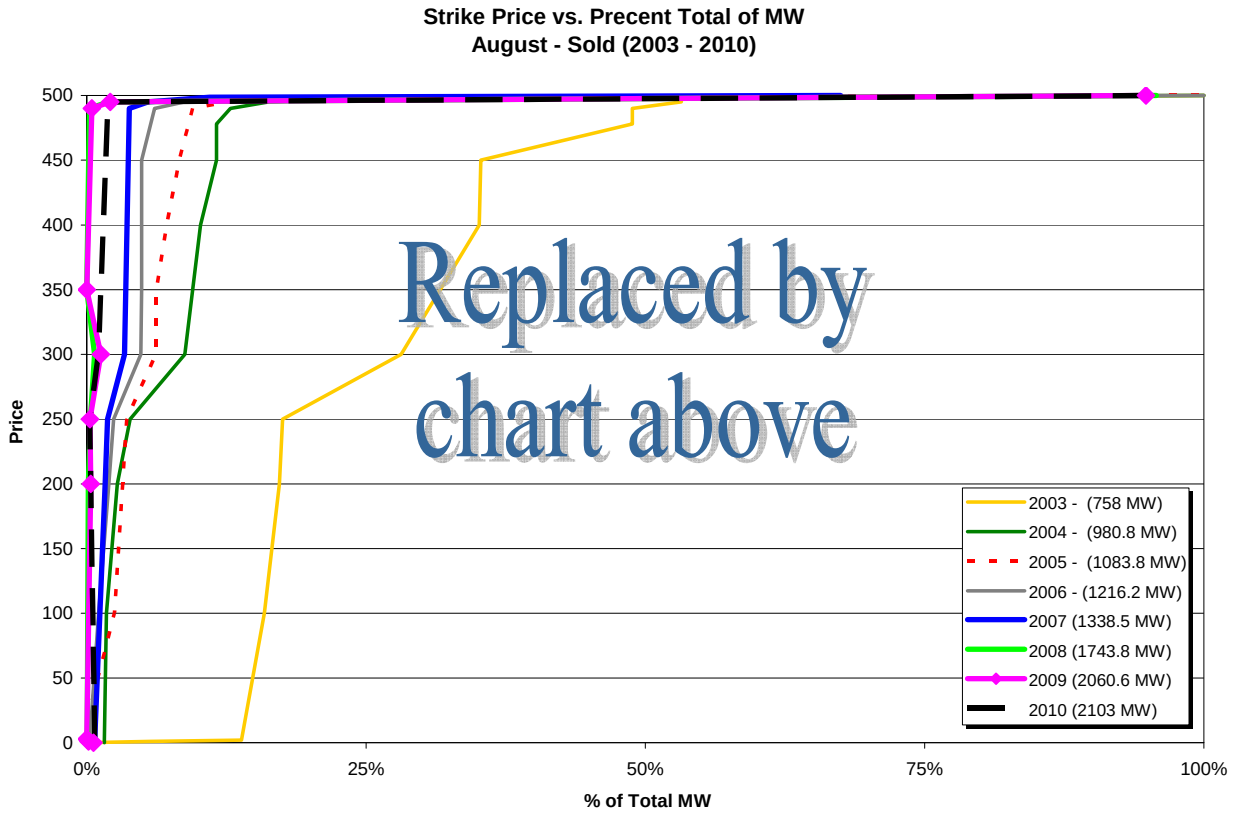
Beginning in 2003, resources in the ICAP/SCR program were required to indicate, at the time of enrollment, a curtailment strike price, between $0-$500/MWh, which would be used by

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 developed for all resources for ~~2009~~2010. The curves map out the percentage of enrolled MW at a given strike price. ~~Figure 5~~ Figure 5 illustrates the strike price curves for 2003 to ~~2009~~2010, covering the period of time that 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 resources ~~have~~, over time, have increased the number of higher strike prices.

**~~Figure 5:~~Figure 5: 2003 - 2010 ICAP/SCR Curtailment Bid Curves**


Strike Price vs. Precent Total of MW
August - Sold (2003 - 2010)
Price
% of Total MW
0
50
100
150
200
250
300
350
400
450
500
0%
25%
50%
75%
100%
2003 - (758 MW)
2004 - (980.8 MW)
2005 - (1083.8 MW)
2006 - (1216.2 MW)
2007 (1338.5 MW)
2008 (1743.8 MW)
2009 (2060.6 MW)
2010 (2238.5 MW)


Strike Price vs. Precent Total of MW
August - Sold (2003 - 2010)
Price
% of Total MW
0
50
100
150
200
250
300
350
400
450
500
0%
25%
50%
75%
100%
2003 - (758 MW)
2004 - (980.8 MW)
2005 - (1083.8 MW)
2006 - (1216.2 MW)
2007 (1338.5 MW)
2008 (1743.8 MW)
2009 (2060.6 MW)
2010 (2103 MW)
Replaced by chart above

## Emergency Demand Response Program/ICAP Special Case Resources 2010 Event Performance

In 2010, the NYISO activated EDRP and SCR resources on four occasions. There were two deployments of the TDRP in June 2010 and two deployments of the ICAP/SCR and EDRP programs during July 2010. The TDRP deployments, in response to the local Transmission Owner request in the NYC Zone (J), occurred on June 28, 2010 from 3:31 ~~pm~~p.m. to 11:30 ~~pm~~p.m. and on June 29, 2010 from 3:35 am to 11:00 am. The NYISO deployments of the ICAP/SCR and EDRP programs occurred from 1:00 ~~pm~~p.m. to 7:00 ~~pm~~p.m. on July 6, 2010 and July 7, 2010. The NYISO is continuing to analyze the performance data and is doing so in relation to alternative performance measures The 2010 activations were as follows:

~~. The NYISO will file a supplemental to this report setting forth its detailed analysis.~~

~~In 2010, the NYISO activated EDRP and SCR resources on two occasions~~:

**June 28:**
EDRP and SCR resources were activated in Zone J, Subload Pocket J8, from approximately 3:30 ~~pm~~p.m. to 11:30 ~~pm~~p.m., in response to the local Transmission Owner request in the NYC Zone (J).

**June 29:**
EDRP and SCR resources were activated in Zone J, Subload Pocket J8, from approximately 3:30 am to 11:59 am, in response to the local Transmission Owner request in the NYC Zone (J).

**July 6:**
EDRP and SCR resources were activated in Zone J from 1 ~~pm~~p.m. to 7 ~~pm~~p.m..

**July 7:**
EDRP and SCR resources were activated in Zone J from 1 ~~pm~~p.m. to 7 ~~pm~~p.m..

**June 2010: Targeted Demand Response Program Events**

The two TDRP events in June 2010 were called in the NYC Load Zone J Subload Pocket J8. At the time of the event there were 422 resources enrolled in the ICAP/SCR program and 4 resources enrolled in the EDRP (Table 8). Of the enrolled resources, 44 ICAP/SCR resources (10%), responded to both June events and no EDRP resources responded to either June event.

Because response to a TDRP event is voluntary for ICAP/SCR resources, the performance factor applied to such resources, and thus their performance in the next Capability Year, is not affected if they do not respond, nor are deficiency penalties assessed. SCR resources provided 100% of the total MWh reductions for the TDRP events. The total average hourly MW response of the ICAP/SCR resources that participated in the June 28 event was 1.75MW and to the June 29 event was 1.99MW (Table 9), which represents less than 1.7% of enrolled ICAP/SCR MW for Subload Pocket J8. Capacity reductions are not calculated for TDRP events (Table 9). Tables 10 and 11 provide the hourly energy response for the June 28 and June 29 TDRP events, respectively.

**Table 8: Number of Resources that responded to the June 2010 TDRP events**

| | | *June 28, 2010* | | *June 29, 2010* | |
|---|---|---|---|---|---|
| | **Enrolled Resources** | **Responding Resources** | **Enrolled Resources** | **Responding Resources** | **Enrolled Resources** |
| **SCR** | **422.00** | 44 | 10.4% | 44 | 10.4% |
| **EDRP** | **4.00** | 0 | 0.0% | 0 | 0.0% |

**Table 9: Average Hourly Energy Performance MW – TDRP Events**

| | | *June 28, 2010* | | *June 29, 2010* | |
|---|---|---|---|---|---|
| | **Enrolled MW** | **Avg MW** | **% Enrolled MW** | **Avg MW** | **% Enrolled MW** |
| **SCR** | **116.72** | 1.75 | 1.5% | 1.99 | 1.7% |
| **EDRP** | **0.50** | 0.00 | 0.0% | 0.00 | 0.0% |

**Table 10: Hourly Energy Performance Detail**

**Targeted Demand Response Event – June 28, 2010**

| | | MWh | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Zone | HB13 | HB14 | HB15 | HB16 | HB17 | HB18 | HB19 | HB20 | HB21 | HB22 | HB23 | Total MWh |
| SCR | J | 0.69 | 4.94 | 0.69 | 1.12 | 1.52 | 1.71 | 1.95 | 2.11 | 2.08 | 1.98 | 0.43 | 19.21 |
| EDRP | J | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**Table 11: Hourly Energy Performance Detail**

**Targeted Demand Response Event – June 29, 2010**

| | | MWh | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Zone | HB03 | HB04 | HB05 | HB06 | HB07 | HB08 | HB09 | HB10 | Total MWh |
| SCR | J | 0.70 | 1.59 | 1.60 | 1.80 | 1.96 | 2.52 | 3.57 | 2.19 | 15.93 |
| EDRP | J | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**NYISO Demand Response Program Events**

During the month of July 2010, when the NYISO deployed the ICAP/SCR and EDRP resources for two events in Load Zone J, there were 1803 enrolled ICAP/SCR resources and 54 enrolled EDRP resources in the Load Zone. For the July 6 event, 1,486 ICAP/SCR resources (82%) provided a total average hourly MW reduction of 386.50MW, which was 90.6 % of total enrolled MW in Load Zone J (Table 12). The average number of ICAP/SCR resources responding to the event was 1,233, with the minimum of 1,083 resources responding during hour beginning 13 and the maximum of 1,308 resources responding during hour beginning 18. The total number of ICAP/SCR resources responding to the July 7 event was 1,424. The average number of ICAP/SCR resources responding to the event was 1,282, with the minimum of 1,173 resources responding during hour beginning 14 and the maximum of 1,353 resources responding during hour beginning 17. The total average hourly MW reduction to the July 7 event was 409.38MW, which was 96% of total enrolled MW and 79% of total enrolled resource in Load Zone J (Table12).

ICAP/SCR Capacity Performance

Table 12 contains performance figures based on the ICAP/SCR reporting rules contained in the NYISO's Installed Capacity Manual. ICAP/SCR performance is determined by comparing the actual hourly interval metered energy with the Average Peak Monthly Demand (AP.M.D):

$$RED\_MW_{gn} = AP.M.D_{gm} - METER\_MW_{gn}$$

where:

- $RED\_MW_{gn}$ is the Installed Capacity Equivalent performance that Resource g supplies during hour n of an SCR event;
- $AP.M.D_{gm}$ is the Average of Peak Monthly Demands for Resource g applicable to month m, using data submitted in its Special Case Resource Certification, and
- $METER\_MW_{gn}$ is the metered hourly integrated energy for Resource g in hour n of an SCR event.

Performance using this measure compares actual reduction with the resource's reduction capability sold as UCAP.

**Table 12: SCR MW Performance Based on UCAP Measures (July 2010 Events)**

| | Zone | MWh HB13 | HB14 | HB15 | HB16 | HB17 | HB18 | Avg perf MW | % UCAP |
|---|---|---|---|---|---|---|---|---|---|
| 6-Jul | J | 291.35 | 315.47 | 396.82 | 413.68 | 417.73 | 483.96 | 386.50 | 90.6% |
| 7-Jul | J | 326.72 | 346.88 | 415.20 | 428.30 | 435.03 | 504.15 | 409.38 | 96.2% |

Individual resource performance factors used to determine the kW that can be sold in the next like Capability Period (*i.e.*, Summer or Winter) are based on the four highest contiguous hours of reduction during each event.

NYISO Event Energy Performance and Payments

In addition to being compensated for committing to reduce Capacity, SCR resources are also paid for their actual energy reduction during a called event. To compute Energy payments, performance is determined using a Customer Baseline Load (CBL) computed using recent historical data to determine what the resource's energy consumption would have been if the Special Case Resource had not reduced its load. This computation method based on the same method used in the EDRP program to measure performance. The CBL is computed as follows:

- Beginning with the weekday two days prior to the demand response event, look back ten weekdays and determine the five highest energy consumption days corresponding to the time period of the event. For example, if the event occurs between noon and 4 p.m., the baseline consumption is determined by the five previous days with the highest energy consumption between noon and 4 p.m.
- Use the average of the five readings for each hour to determine the baseline for that hour.

The difference between the hourly CBL and hourly interval meter readings constitutes the amount of load reduction.

Table 13 presents a summary of energy reduction data and energy payments for ICAP/SCR resources that performed in the TDRP events or the NYISO's ICAP/SCR events. Since the ICAP AP.M.D values are determined for the prior like Capability Period and the CBL is

determined from load data two weeks prior to the event, differences in performance can be expected. Contributing to the difference between the capacity performance reported above in Table 12 and the energy performance reported (in Tables 10 and 11 for TDRP events, and Tables 16 and 17 for NYISO events) is the fact that not all Responsible Interface Parties submitted CBL energy performance data. The NYISO has observed that some RIPs only submit CBL data for larger resources, particularly in Zone J where capacity prices are higher than the rest of the NYCA.

**Table 13: Summary of SCR Energy Performance and Payments in Summer 2010 events**

| Event | Zone | Date | Total MWh | Total $ |
|---|---|---|---|---|
| TDRP | J8 | 28-Jun | 19.21 | $9,603.73 |
| TDRP | J8 | 29-Jun | 15.93 | $7,963.66 |
| ICAP/SCR | J | 6-Jul | 1050.15 | $525,329.68 |
| ICAP/SCR | J | 7-Jul | 1079.98 | $540,038.13 |

Table 14 reports the summary energy reduction and payments for EDRP participants computed using the CBL method.

**Table 14: Summary of Energy Payments to EDRP Resources for All 2010 Events**

| Event | Zone | Date | Total MWh | Total $ |
|---|---|---|---|---|
| TDRP | J8 | 28-Jun | 0.00 | $0.00 |
| TDRP | J8 | 29-Jun | 0.00 | $0.00 |
| EDRP | J | 6-Jul | 2.20 | $1,097.51 |
| EDRP | J | 7-Jul | 4.85 | $2,425.95 |

Table 15 provides a summary of energy reduction and payments for NYISO demand response program events during the 2010 Summer Capability Period.

**Table 15: Summary of Energy Payments for All 2010 Events**

| Event | Zone | Date | Total MWh | Total $ |
|---|---|---|---|---|
| TDRP | J8 | 28-Jun | 19.21 | $9,603.73 |
| TDRP | J8 | 29-Jun | 15.93 | $7,963.66 |
| ICAP/SCR & EDRP | J | 6-Jul | 1052.34 | $526,427.19 |
| ICAP/SCR & EDRP | J | 7-Jul | 1084.84 | $542,464.08 |
| | | Total Payments: | | $1,086,458.65 |

NYISO Event Energy Performance Detail

SCR resources provided 99.79% of the total MWh reductions (1050.15 MWh) during the 6-hour event on July 6, 2010 (Table 16). EDRP resources provided 2.2 MWh of the total reduction. Average hourly energy performance for ICAP/SCR resources in Load Zone J provided 41.1% of the enrolled SCR MW in the NYC Load Zone J while EDRP resources provided 0.5% of the enrolled EDRP MW in the NYC Load Zone J.

**Table 16: Hourly Energy Performance Detail**

**NYISO Demand Response Event – July 6, 2010**

| | | MWh | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Zone | HB13 | HB14 | HB15 | HB16 | HB17 | HB18 | Total MWh | Avg Hourly MW | Enrolled MW | % Enrolled MW |
| SCR | J | 157.75 | 175.74 | 195.40 | 191.60 | 175.69 | 153.97 | 1050.15 | 175.02 | 426.03 | 41.1% |
| EDRP | J | 0.43 | 0.39 | 0.41 | 0.36 | 0.31 | 0.29 | 2.20 | 0.37 | 76.87 | 0.5% |
| *Total Energy Response:* | | *158.18* | *176.13* | *195.81* | *191.96* | *176.00* | *154.26* | *1052.34* | *175.39* | *502.90* | *34.9%* |

During the July 7, 2010 event, SCR resources provided 99.55% of the total MWh reductions (1079.98 MWh) for the 6-hour event (Table 17). EDRP resources provided 4.85 MWh or 1.1% of the total reduction. Average hourly energy performance for ICAP/SCR resources in the NYC Load Zone J provided 42.2% of the SCR enrolled MW in the NYC Load Zone J while EDRP resources provided 1.1% of the enrolled EDRP MW in the NYC Load Zone J.

**Table 17: Hourly Energy Performance Detail**

**NYISO Demand Response Event – July 7, 2010**

| | | MWh | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Zone | HB13 | HB14 | HB15 | HB16 | HB17 | HB18 | Total MWh | Avg Hourly MW | Enrolled MW | % Enrolled MW |
| SCR | J | 165.17 | 179.30 | 198.80 | 195.07 | 181.97 | 159.69 | 1079.98 | 180.00 | 426.03 | 42.2% |
| EDRP | J | 0.68 | 0.73 | 0.85 | 0.81 | 0.90 | 0.88 | 4.85 | 0.81 | 76.87 | 1.1% |
| *Total Energy Response:* | | *165.84* | *180.03* | *199.65* | *195.88* | *182.87* | *160.57* | *1084.84* | *180.81* | *502.90* | *36.0%* |

Overall NYISO Demand Response Program Event Performance

On an average hourly basis, resources in the ICAP/SCR and EDRP programs provided approximately 400 MW of reduction per NYISO event, with approximately 80% of enrolled MW responding over the two events (Table 18).

**Table 18: Overall NYISO Demand Response Program Event Performance for Summer 2010**

| | | *July 6, 2010* | | | *July 7, 2010* | | |
|---|---|---|---|---|---|---|---|
| | Zone | Avg Hourly MW | Enrolled MW | % Enrolled MW | Avg Hourly MW | Enrolled MW | % Enrolled MW |
| SCR | J | 386.08 | 426.03 | 90.6% | 409.65 | 426.03 | 96.2% |
| EDRP | J | 0.37 | 76.87 | 0.5% | 0.81 | 76.87 | 1.1% |
| *Total Avg Hourly Event Response:* | | *386.45* | *502.90* | *76.8%* | *410.46* | *502.90* | *81.6%* |

## Day-Ahead Demand Response Program

The DADRP program provides demand 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, so 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 and Real-Time market price.

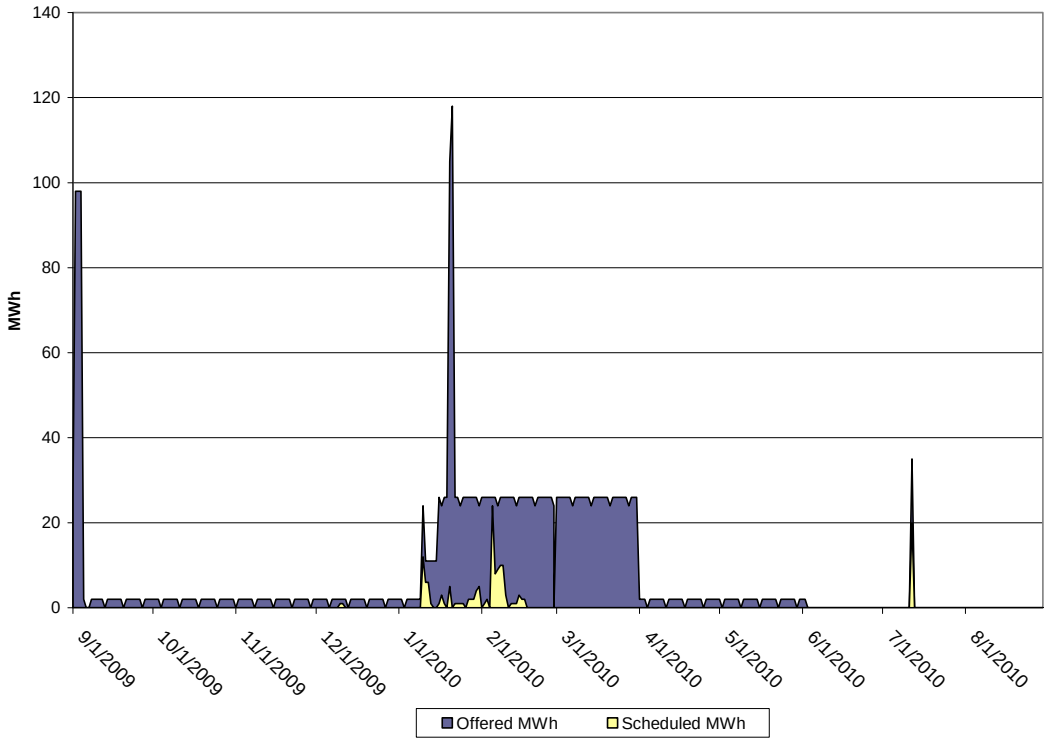
DADRP Participation and Offer Summary

Offered and Scheduled MWh

During the analysis period of September 2009 through August 2010, three resources representing over 30 end-use locations, submitted offers in Zone F (Capital), and Zone K (Long Island). Offer activity decreased by 70% over the previous 12-month period and 87% fewer hours were scheduled (134) than in the previous period (1,067). In 2010, 13% of offers were scheduled compared to 12% of offers in 2009. The average DAM LBMP over all hours during the analysis period was $46.85 in Zone F, and $57.51 in Zone K[6]. Overall, the average hourly offer remained virtually the same as 2009, 2.28 MW (2.29 MW in 2009), while scheduled offers decreased by 44% to an average of 1.14 MW.

**~~Figure 6:~~Figure 6: DADRP MWh, Offer vs. Scheduled**

[6] Analysis was not performed on Zone G (Hudson Valley) because no performance information was submitted for resources in this Zone.




Prior to 2008, offers were very limited, with a noteworthy number of offers occurring around holidays. Beginning in 2008, load reduction offers occurred on a regular, almost daily, basis, exclusively at the offer floor price. As a result of lower LBMPs, load reduction offers during the period of analysis, September 2009 through August 2010, and associated schedules, decreased in volume and frequency.

The winter months of January through March had the greatest number of scheduled DADRP MWh and accounted for 87% of all scheduled MWh in the analysis period. Overall average hourly DAM LBMPs in Zone F was $79.74/MWh with the highest average hourly price scheduled for the analysis period topping out at $112.72/MWh . The single highest day-ahead price scheduled in Zone F was $112.72/MWh (January 2010) and the lowest was $39.93/MWh (February 2010). In the Long Island zone, the highest average hourly price scheduled reached $95.38/MWh. The single highest day-ahead price scheduled in Zone K was $79.97/MWh (December 2009) and the lowest was $74.12/MWh (December 2009). With so few hours scheduled during the analysis period, the average price often represents the only scheduled hour.

There were 32 hours when DADRP resources were scheduled below the offer floor of $75/MWh. These scheduled hours occurred in the reliability stage of the Security Constrained

Unit Commitment (SCUC) process that the NYISO uses to commit supply resources. As with generators who are scheduled below their offer price, DADRP resources are paid a Bid Production Cost Guarantee for load reductions.

~~Table 8~~ Table 19 shows a comparison of DADRP offer activity for the analysis periods of 2008 and 2009. In total, 5% of offers were accepted, while 5.3% of total MWh offered were accepted.

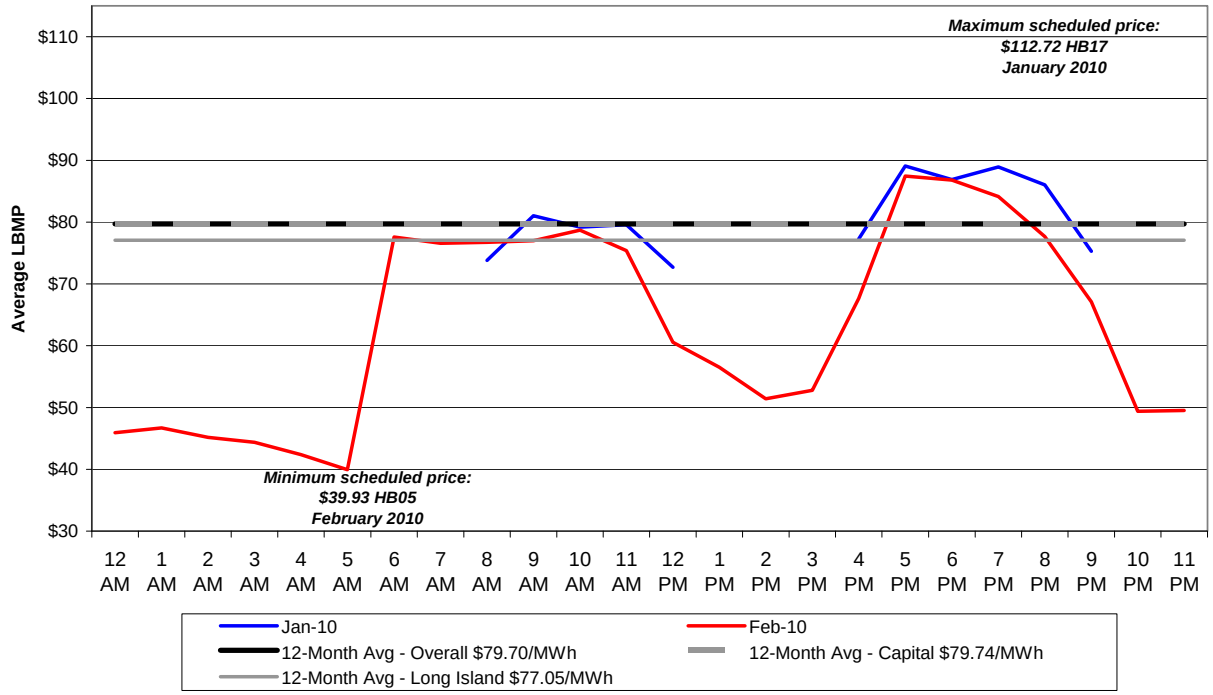
**~~Table 8:~~Table 19: DADRP Offer Activity – Comparison of 2009 and 2010**

| | 2010 | 2009 | % change |
|---|---|---|---|
| **Total Offer Hours** | 2,681 | 9,024 | -70% |
| **Scheduled Hours*** | 134 | 1,067 | -87% |
| **Offered MWh** | 2,856 | 20,536 | -86% |
| **Scheduled MWh** | 153 | 2,192 | -93% |
| **Average Offer** | 1.07 | 2.28 | -53% |
| **Average Schedule** | 1.14 | 2.05 | -44% |

***Scheduled hours are cumulative for all resources, not unique.***

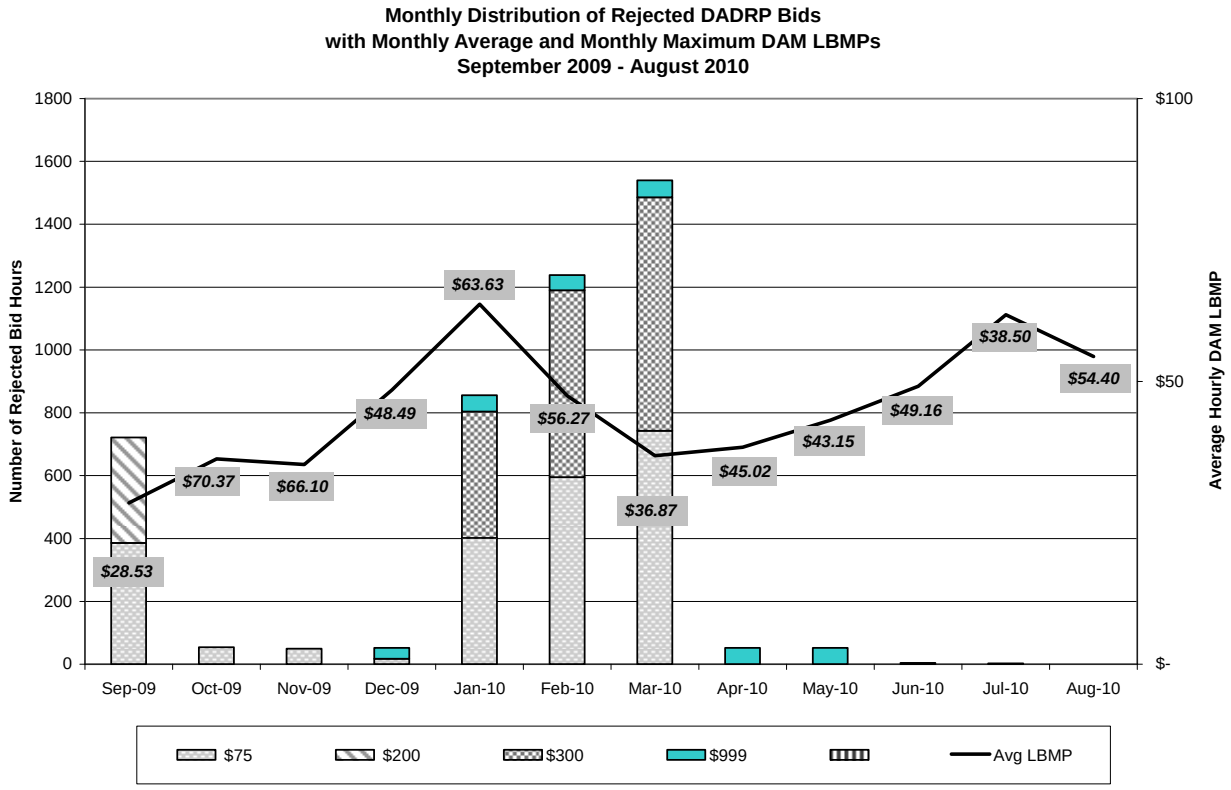
~~Figure 7~~Figure 7 shows the average hourly DAM LBMP for scheduled DADRP offers in both Zone F and Zones K for the months of January and February, and the 12-month average of scheduled hours for both Zone F and Zones K. The 12-month average prices for Zone F ($46.85/MWh) and Zone K ($57.51) are solid and dashed gray lines, respectively. Broken or incomplete lines indicate months where no DADRP schedules occurred for those hours. Average hourly LBMPs represent only the hours when a DADRP resource was scheduled; in some instances, this is a single hour. For example, the red line representing February 2010 shows single values for the hours of midnight through 11 p.m. Early morning and late afternoon hours between for February 2010 are the average of multiple resource schedules.

**~~Figure 7:~~Figure 7: Average Hourly DAM LBMP by Month for Scheduled DADRP offers - selected months**




The number of rejected offers increased by over 7%, representing 95% of offered hours. ~~Figure 8~~Figure 8 shows the monthly distribution of the number of rejected hourly DADRP offers by price level with the monthly average DAM LBMP for the analysis period. Offers that occur at price levels above the offer floor price are additional points on the price/MW offer curves submitted by DADRP resources.

**~~Figure 8:~~Figure 8: Rejected Offers by Month**




Price Reduction Impact

With so few hours scheduled during this analysis period, a price reduction impact analysis was not performed.

Historical Analysis of DADRP

~~Table 9~~Table 20~~-~~ provides a summary of the scheduled reductions, scheduled hours, average hourly scheduled MW, and program payments for each year since the DADRP program began. The results reported for 2001 reflect transactions in the months of July and August. For 2002, program payments include event months of April, July and August. All other totals for 2002 and all other years reflect DADRP transactions for the analysis period of September of the previous year through August of the current year. That is, the analysis period reported for 2010 includes all DADRP scheduled transactions from September 2009 through August 2010.

**~~Table 9:~~Table 20: DADRP Program Summary 2001-2010**

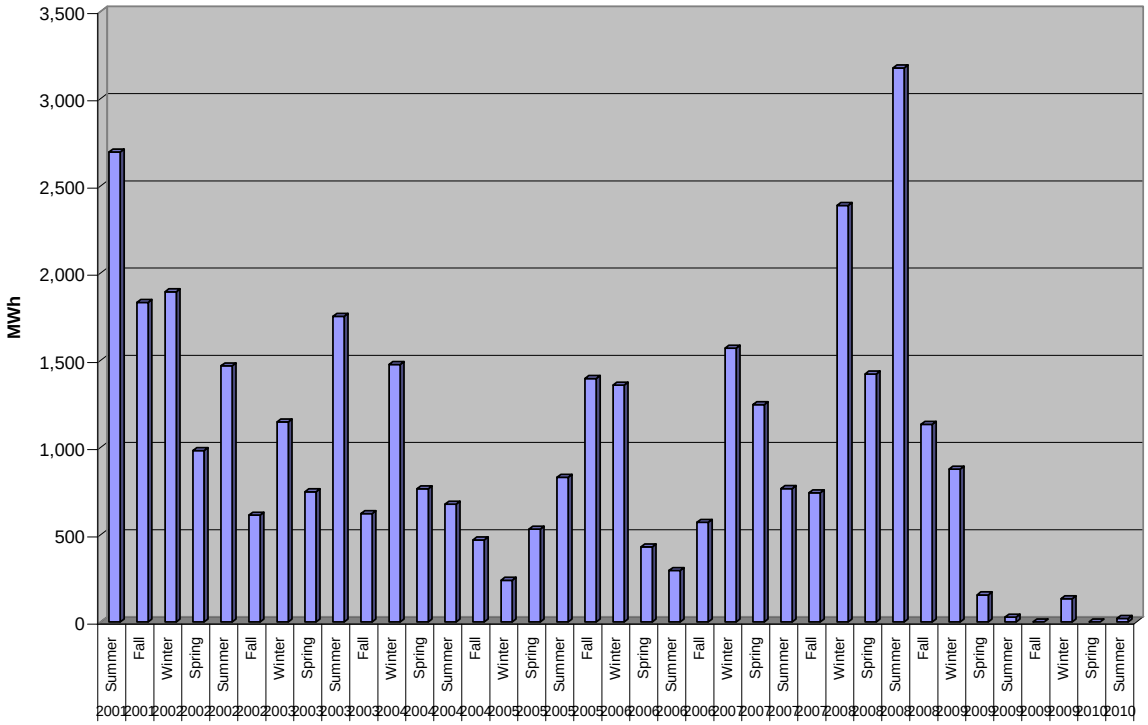
| | Scheduled DADRP MWh | Total Scheduled Hours | Average Hourly Schedule (MWh) | | Program Payments** |
|---|---|---|---|---|---|
| 2001 | 2,694 | 531 | 5.07 | $ | 217,487 |
| 2002 | 6,176 | 1,529 | 4.04 | $ | 110,216 |
| 2003 | 4,257 | 1,725 | 2.47 | $ | 263,311 |
| 2004 | 3,535 | 1,275 | 2.77 | $ | 209,624 |
| 2005 | 2,070 | 464 | 4.46 | $ | 172,376 |
| 2006 | 3,479 | 1,343 | 2.59 | $ | 332,941 |
| 2007 | 4,152 | 2,509 | 1.65 | $ | 365,862 |
| 2008 | 7,727 | 5,128 | 1.51 | $ | 801,108 |
| 2009 | 2,192 | 1,067 | 2.05 | $ | 190,129 |
| 2010 | 153 | 134 | 1.14 | $ | 7,791 |

** Total payments shown for 2001 are July and August. In 2002, payment totals include event months of April, July and August.

~~Figure 9~~Figure 9[7] shows the history of scheduled MWh by season since the program's inception. The summer season months[8] 2008 had the greatest number of scheduled MWh of any season since the initial summer of the program and almost double the overall average for summer months. Winter[9] 2010 is the only season with any measurable scheduled MWh, the scheduled MWh for summer 2010 were the fewest number of scheduled MWh in the history of the DADRP program.

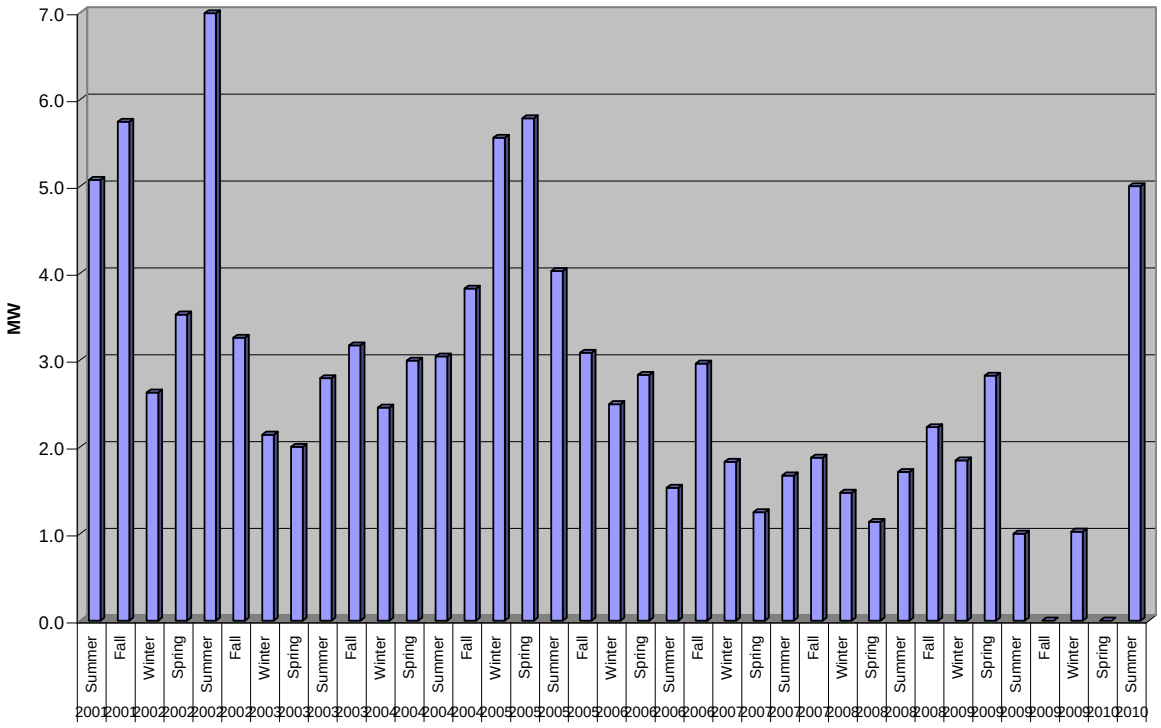
**~~Figure 9:~~Figure 9: Total MWh Scheduled in DADRP by Season and Year, 2001-2010**

[7] References to seasons in Figure 9 correspond to the calendar seasons and not to "Summer" and "Winter" Capability Period months.
[8] June, July, and August.
[9] December, January, and February.



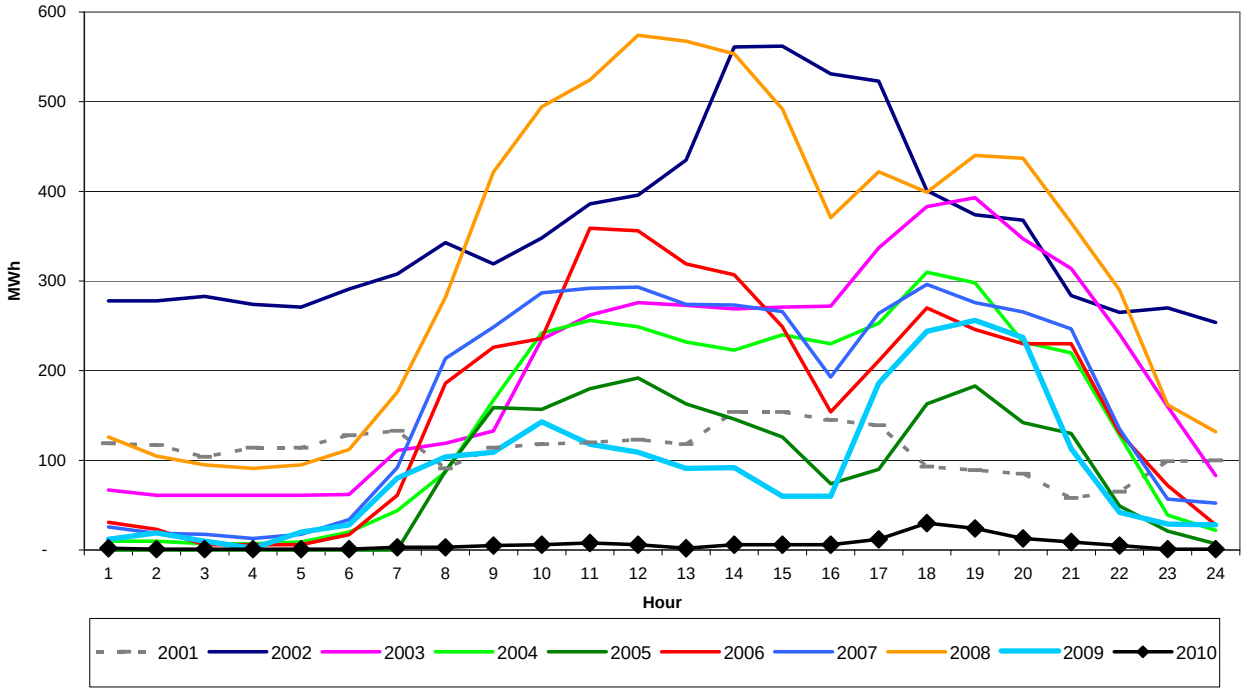

~~Figure 10~~Figure 10~~-~~ shows the history of the average scheduled DADRP offered by season since the program's inception. Average scheduled MWh for the entire 2009-2010 analysis period were below the seasonal averages to date.

**~~Figure 10:~~Figure 10: Average Scheduled DADRP Offer (MWh) by Season and Year, 2001-2010**




~~Figure 11~~Figure 11~~-~~ shows the distribution of scheduled DADRP offers by hour since the program's inception. The current analysis period is shown with hour markers on the line. In 2010, scheduled load reductions were the lowest since the DADRP began.

**~~Figure 11:~~Figure 11: Total Scheduled DADRP Offers (MWh) by Hour and Program Year (9/1 – 8/31) 2001*-2009 (*2001: July and August only)**




DADRP Estimated Market Benefits Summary – Summer

When DADRP curtailments displaced higher-priced generation resources, the corresponding DAM clearing price dropped, thereby reducing the cost of purchases. Reductions in the average DAM LBMP for the summer of 2010 ~~is~~ are compared to those from 2001 through 2009 in ~~Table 10~~Table 21.

The fewest number of scheduled hours (134) occurred in the Summer of 2010. As shown in the rejected offer chart (~~Figure 8~~Figure 8), the average prices for the majority of the analysis period were significantly below the offer floor price of $75/MWh. As a result, the few hours scheduled during the summer month resulted in, on average, no impact on the day-ahead prices.

**~~Table 10:~~Table 21: DADRP Average Price Reductions (Summer Season)**

| | Scheduled DADRP MWh | Program Payments | Average Price Reduction ($) | Average Hourly Schedule (MWh) |
|---|---|---|---|---|
| 2001 | 2,694 | $ 217,487 | $ 0.58 | 5.07 |
| 2002 | 1,468 | $ 110,216 | $ 0.30 | 6.99 |
| 2003 | 1,752 | $ 121,144 | $ 0.12 | 2.79 |
| 2004 | 675 | $ 40,651 | $ 0.07 | 3.04 |
| 2005 | 829 | $ 77,885 | $ 0.10 | 4.02 |
| 2006 | 295 | $ 29,821 | $ 0.05 | 1.53 |
| 2007 | 765 | $ 64,737 | $ 0.04 | 1.67 |
| 2008 | 3,177 | $ 348,509 | $ 2.05 | 1.71 |
| 2009 | 28 | $ 2,605 | $ - | 1.00 |
| 2010 | 20 | $ - | $ - | 5.00 |

DADRP Conclusions

The major factor contributing to the marked decrease in scheduled hours for DADRP during this analysis period was that offer prices primarily at the DADRP offer floor combined with very low day-ahead prices resulted in fewer opportunities for scheduling of DADRP resources. The NYISO will continue to evaluate resource participation and program parameters to ensure the programs are delivering the intended market outcomes.

## Demand Response Initiatives in 2010

Over the past several months, the NYISO has been working with its stakeholders on a number of initiatives intended to improve the administration of its demand response programs and to address regulatory directives to facilitate market participation. This section provides an update on the efforts to date on these initiatives:

- Deployment of the Demand Response Information System
- Telemetry Requirements for DSASP
- Market Rules for Aggregations of Small Demand Resources in the Ancillary Services Markets
- Plan of Action for Accommodating Demand Response Resource Participation in the Real-Time Energy Market

## *Deployment of the Demand Response Information System*

The Demand Response Information System (DRIS) continues to be developed by NYISO to automate much of the demand response program administration that it has been performing manually through spreadsheets. The Demand Response Information System will consist of the current core functionality of registration processing, event notification, and reporting. It also will automate ICAP/SCR processing and event performance, management, and settlement preparation calculations. Additionally, it will provide new functionality for managing event and meter data as well as a web interface to provide authorized market participants direct access to data on their enrolled demand response resources.

The NYISO has deployed three releases of DRIS since November 2009 and one is scheduled for early 2011:

- November 2009
    - The NYISO deployed the initial release of DRIS. This deployment was an internal release that provided the foundation for DRIS, imported demand response program enrollment information for EDRP and the ICAP/SCR program, and automated some monthly processing activities for the ICAP/SCR program.
- March 2010
    - The NYISO deployed a second internal deployment of DRIS, which included the screens to manage enrollments, resources, and contact information.
- June 2010
    - The June 2010 deployment was the first of the market-facing deployments of the DRIS. NYISO Customers interact with the DRIS to import their resource enrollments and manage their monthly SCR activities, including aggregation management. They also have the capability to view and export resource information. The June 2010 deployment of the DRIS included a “dashboard” that will provide an overview of the current status of the Customer’s enrollment requests and a calendar to identify the periods when specific enrollment activities are permitted. Market Trials were conducted before this

market-facing release to provide demand response providers with the ability to get familiar with the user interface and the functionality. Multiple training sessions on the DRIS were provided before the Market Trials began.

- January 2011
  - The next deployment of the DRIS will occur on January 19, 2010. This release expands functionality of the DRIS to include: a) the automation of the calculation of performance factors for Special Case Resources; b) ability to import event and test data; c) ability to enter Change of Status information into the DRIS; d) ability for Market Mitigation and Analysis to identify of resources subject to offer floor and provide visibility into the tracking of those resources; e) expansion of import capabilities to include import files in Excel format. As with other deployments of the DRIS, the NYISO provided its stakeholders with regular updates on project status and detailed deployment-related activities at meetings of the Price-Responsive Load and the Installed Capacity Working Groups. Provided no issues arise with the deployment, Market Participants will be able to access DRIS on January 20, 2011.

## *Telemetry Requirements for DSASP*

In its February 2010 Compliance Filing,[10] the NYISO described its plans for a workshop or technical conference to improve communications between Transmission Owners and demand response resources and to explore the develo~~pm~~p.m.ent of standardized processes that could help to facilitate participation by demand response resources in the NYISO's Ancillary Services markets.

[10] February 2010 Compliance Filing at p. 9

On May 12, 2010, the NYISO conducted a DSASP Workshop[11] which included a presentation by the NYISO providing an overview of DSASP market rules, current communications/telemetry requirements for DSASP, the Direct Communications concept for DSASP, a proposed timeline for addressing Direct Communications for DSASP and its relationship to other demand response initiatives, and a request for market participant feedback. The topic of how Direct Communications for DSASP might affect aggregations providing ancillary services was intertwined throughout the presentation.

NYISO stakeholders have approved a project for 2011 to define the functional requirements for Direct Communication for DSASP.

## *Market Rules for Aggregations of Small Demand Resources in the Ancillary Services Markets*

As discussed above, the DSASP Workshop introduced concepts that may frame further discussions for aggregations of small demand resources in the NYISO's ancillary services markets. Direct Communication for DSASP is expected to provide a streamlined approach to implementation that will make it possible for aggregations of small demand resources to participate in NYISO's ancillary services markets.

On November 30, 2010, the NYISO presented its Market Design Concept to stakeholders at the Price-Responsive Load Working Group[12]. The presentation outlined the timeline to deploy the ability for aggregations of small customers to provide operating reserves by the end of the third quarter of 2011. The Market Design Concept presentation was also presented at the Market

[11] NYISO DSASP Workshop presentation available at: http://www.nyiso.com/public/webdocs/committees/bic_prlwg/meeting_materials/2010-05-12/Demand_Side_Ancillary_Services_Program_Workshop.pdf

[12] NYISO presentation available at: http://www.nyiso.com/public/webdocs/committees/bic_prlwg/meeting_materials/2010-11-30/DSASP_Aggregations_113010_PRLWG.pdf

Issues Working Group on December 6, 2010 and received approval from the Business Issues Committee on December 8, 2010.

## *Plan of Action for Accommodating Demand Response Resource Participation in the Real-Time Energy Market*

The NYISO has suspended its proposed plan of action for accommodating demand response resource participation in the real-time energy market outlined in its February 2010 Compliance Filing[13] until the Commission rules on the current regarding compensation of demand response resources in energy markets.[14] The NYISO expects to incorporate any decisions from the Commission regarding compensation of demand response in energy markets as it develops its preliminary market design, which has been reprioritized to the fourth quarter of 2011.

[13] February 2010 Compliance Filing at pp 11

[14] Docket No. EL-09-68-000, RM10-17-000, May 13, 2010