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

June 3, 2011

**VIA ELECTRONIC FILING**

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

Subject: Semi-Annual Report on Demand Response Programs; Docket No. ER01-3001-___.

Dear Ms. Bose:

Enclosed for filing in the above-referenced docket is the New York Independent System Operator's ("NYISO's") Semi-Annual Report to the Federal Energy Regulatory Commission ("Commission") on the NYISO's Demand Side Management programs. This filing is made for informational purposes only in accordance with the Commission's delegated order issued February 23, 2010 in this docket. The eFiling of this report was delayed due to the power outage at the Commission's offices.

## I. List of Documents Submitted

1. NYISO Semi-Annual Compliance Report on Demand Response Programs, June 1, 2011

## II. Correspondence

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## III. Service List

The NYISO will send an electronic link to this filing to the official representative of each of its customers, to each participant on its stakeholder committees, to the New York Public Service Commission, to all parties listed on the Commission's official service list in Docket No. ER01-3001-000 and to the electric utility regulatory agency of New Jersey. In addition, the complete filing will be posted on the NYISO's website at www.nyiso.com.

Respectfully Submitted,

/s/ David Allen
David Allen, Counsel
New York Independent System Operator

# New York Independent System Operator, Inc.
# Docket No. ER01-3001-____

# Semi-Annual Compliance Report on Demand Response Programs
# June 1, 2011

This report summarizes the current status of demand response participation in the New York Independent System Operator's (NYISO's) markets as of June 1, 2011. As in previous years, this report focuses on registered demand response participation in preparation for the Summer Capability Period.[1] A discussion of the current status of several demand response initiatives that the NYISO has underway is also provided below.

Activations of the NYISO's two reliability-based programs (the Emergency Demand Response Program (EDRP) and the Installed Capacity Special Case Resources (ICAP/SCR)) during the Summer of 2010, including activations for the Targeted Demand Response Program (TDRP), were reported in the NYISO's 2010 Demand Response Annual Report.[2] This report provides information on the recent market rule changes in the ICAP/SCR program, and the impact on enrollment for May 2011.

The NYISO has two economic programs, the Day-Ahead Demand Response Program (DADRP) and the Demand-Side Ancillary Services Program (DSASP). DADRP offer activity remains frequent, but only a limited number of resources participate. A few demand resources are currently working toward completion of the qualification process for DSASP.

## Demand Response Enrollment

The report presents statistical data on demand response enrollment. Demand response resources include individual retail electricity consumers that enroll to perform their own load reductions and curtailment service providers, which is a general term used to identify the NYISO Customers that represent end-use customers in the NYISO's demand response programs.[3]

Table 1 identifies the number of curtailment service providers by the following organizational categories:

- Aggregators, entities which enroll retail electricity consumers as individual resources that may be aggregated for treatment as a single resource;
- Direct Customers, entities which register as a Market Participant with the NYISO to participate on their own behalf in any of the NYISO's markets, including the NYISO's demand response programs;
- LSEs, entities which provide commodity service to retail customers; and

[1] Capitalized terms not defined herein shall bear the meanings assigned by the NYISO's Market Administration and Control Area Services Tariff.
[2] Docket No. ER01-3001-000, NYISO 2010 Demand Response Annual Report (filed January 18, 2011), and Supplement and Errata to Annual Report (filed January 25, 2011) (collectively, the January 2011 Report).
[3] The term "curtailment service providers" as used in this report refers to Responsible Interface Parties (RIPs) as that term is used in the Installed Capacity Manual, Demand Response Providers (DRPs) as defined in the DADRP Manual, and the four classes of market participants identified in the EDRP Manual. A retail customer participating in a NYISO demand response program in respect of its own load acts as its own curtailment service provider.

- Transmission Owners (TO), the investor- and public authority-owned transmission and distribution companies that are NYISO Customers located in New York State.

**Table 1. Demand Response Service Providers by Provider Type**

| Provider Type | Count (as of May 2011) | Change from January 2011 Report |
|---|---|---|
| Aggregators | 33 | **+ 2** |
| Direct Customers | 14 | **+ 2** |
| LSEs | 6 | **0** |
| Transmission Owners | 7 | **0** |
| **Total** | **60** | **+ 4** |

Since the January 2011 Report, the NYISO's demand response programs have experienced a net increase of four curtailment service providers, which includes an increase of two Aggregators and two Direct Customers.

Tables 2 through 4 present zonal enrollment statistics for EDRP, ICAP/SCR, and DADRP, respectively, as of mid-May 2011. For each Load Zone (Zone), information on the total number of resources, total MW registered, and the amount of load reduction being supplied through the use of Local Generators is provided. In addition, changes in number of resources and enrolled MW since the January 2011 Report are shown by Zone.

Figure 1 below provides a geographic distribution of resources currently enrolled in the NYISO's EDRP and ICAP/SCR programs.

**Figure 1. Zonal Distribution of Combined Reliability Program Enrollment**

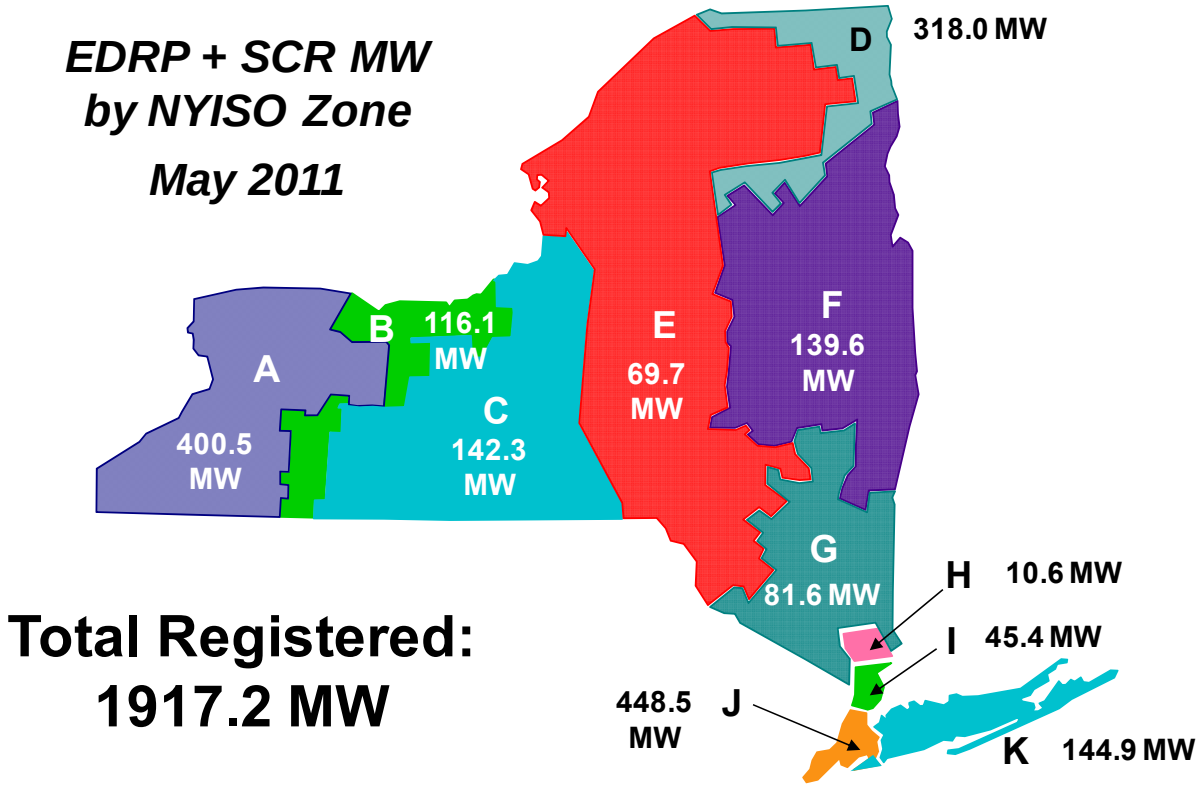


**Table 2. EDRP Enrollment: May 2011**

| Zone | Count | Load (MW) | Gen (MW) | Total (MW) | Change in Count from January 2011 Report | Change in MW from January 2011 Report |
|---|---|---|---|---|---|---|
| A | 13 | 0.6 | 9.9 | 10.5 | -4 | -9.5 |
| B | 1 | 0 | 1.0 | 1.0 | -1 | -0.3 |
| C | 27 | 3.2 | 11.9 | 15.1 | -5 | -1.6 |
| D | 8 | 0.6 | 3.1 | 3.7 | -1 | -0.5 |
| E | 26 | 1.1 | 24.0 | 25.1 | -7 | -9.1 |
| F | 10 | 0.9 | 4.4 | 5.3 | -18 | -23.6 |
| G | 13 | 0 | 17.1 | 17.1 | 0 | -1.6 |
| H | 3 | 0.3 | 1.5 | 1.8 | -1 | -1.0 |
| I | 13 | 2.0 | 1.7 | 3.7 | -1 | -1.1 |
| J | 22 | 4.6 | 0.5 | 5.1 | -32 | -71.8 |
| K | 0 | 0.0 | 0 | 0.0 | -1 | -50.7 |
| **Total** | **136** | **13.3** | **75.1** | **88.4** | **-71** | **-170.8** |

Enrollment in EDRP shows a reduction of 66% in enrolled MW since August 2010. The largest reductions occurred in Zones J, K, and F, respectively. Nominal changes occurred in all other Zones. The changes in enrollment do not necessarily indicate that there will be a reduction in enrollment of EDRP resources for the Summer 2011 Capability Period because EDRP resources can enroll in the month prior to when the resources expect to participate.

**Table 3. ICAP/SCR Enrollment: May 2011[4]**

| Zone | Count | ICAP Load (MW) | ICAP Gen (MW) | ICAP Total (MW) | Change in Count from January 2011 Report | Change in MW from January 2011 Report |
|---|---|---|---|---|---|---|
| A | 510 | 384.6 | 5.4 | 390.0 | 23 | -117.1 |
| B | 250 | 105.0 | 10.1 | 115.1 | 14 | -45.9 |
| C | 322 | 124.2 | 3.0 | 127.2 | 35 | -84.1 |
| D | 22 | 314.2 | 0.2 | 314.3 | -4 | 82.5 |
| E | 156 | 40.5 | 4.1 | 44.6 | 1 | -27.9 |
| F | 199 | 124.8 | 9.5 | 134.3 | 6 | -45.3 |
| G | 148 | 57.6 | 6.9 | 64.5 | -16 | -37.9 |
| H | 21 | 8.4 | 0.4 | 8.8 | 10 | 1.5 |
| I | 129 | 38.0 | 3.7 | 41.7 | 10 | -0.7 |
| J | 2545 | 340.0 | 103.5 | 443.5 | 713 | -103.3 |
| K | 984 | 119.5 | 25.3 | 144.8 | 323 | -31.5 |
| **Total** | **5286** | **1656.8** | **172.1** | **1828.9** | **1115** | **-409.6** |

The ICAP/SCR data in Table 3 is based on the enrollments prior to the May ICAP Spot Market Auction. Approximately 9% of enrolled MW in ICAP/SCR are attributed to Local Generator sources.

The data in Table 3 shows a 22% MW decrease from the period reported in the January 2011 Report and a 27% increase in the number of end-use locations. The NYISO anticipated the decrease in enrolled MW based upon changes to its Services Tariff that were accepted by the Commission on April 11, 2011.[5] Historic data shows that enrollment in the ICAP/SCR program changes monthly and grows in months during the Summer Capability Period. Additional discussion on the enrollment data is provided in the section below, "Impact of Market Rule Changes for Summer 2011".

## *Overview of Market Rule Changes to the SCR Baseline Methodology, Aggregation Performance, and Market Participant Deficiencies*

The 2011 Market Rule Changes and associated revisions in the ICAP Manual modified the ICAP/SCR Program as summarized below.

- Change to the ICAP/SCR baseline methodology from Average Peak Monthly Demand (APMD) to Average Coincident Load (ACL)
  - The Average Coincident Load baseline methodology uses the average of a Special Case Resource's top 20 load hours that are coincident with the SCR Load Zone Peak Hours identified by the NYISO. For the Summer 2011 Capability Period, the SCR Load Zone Peak Hours are the top 50 hours of NYCA Load from the corresponding Prior Equivalent Capability Period, adjusted for each Load Zone to exclude demand response events and tests.

[4] NYISO Technical Bulletin 201 ("TB 201"), which addresses the NYISO's enrollment requirement for resources using a single distribution utility account number, was issued in March 2011. TB 201 provides that a single resource be enrolled with its unique distribution utility account number, except that it allows for a resource with more than one distribution utility account number at a single physical location to enroll as a single resource using only one of its account numbers when its other applicable account numbers have been reported to the NYISO.

[5] *New York Indep. Sys. Operator, Inc.*, 135 FERC ¶ 61,020 (April 11, 2011); Docket No. ER11-2906-001, Order May 31, 2011 (collectively, 2011 Market Rule Changes).

- Provisional ACL
  - For new resources to the Special Case Resource program that did not have interval meter data for the Prior Equivalent Capability Period, the RIP estimates the ACL when enrolling the new resource. This Provisional ACL is verified with in-period data from the same Capability Period in which the resource is enrolled with a Provisional ACL. A deficiency penalty will be assessed if the actual data indicates that the resource sold capacity that it was not able to provide.
- Aggregation Performance Factor
  - On a monthly basis, each aggregation will have a performance factor calculated to allow for over performance of one resource in an aggregation to compensate for the under performance of another resource in the aggregation.
- RIP Deficiency Calculation
  - The RIP will be assessed a deficiency for each month in which the enrolled capacity in a Load Zone is greater than the aggregate performance of the resources in that Load Zone.

## *Impact of 2011 Market Rule Changes to Enrollment for Summer 2011*

The NYISO evaluated the impact of the 2011 Market Rule Change from APMD to ACL baseline methodology and believes that this change contributed to the reduction in MW enrolled for May 2011.

To evaluate the impact of the 2011 Market Rule Change from the APMD to the ACL baseline methodology on the amount of enrolled MW the NYISO compared enrollment characteristics of resources which were enrolled in May 2010 and re-enrolled in May 2011. The 3,078 resources analyzed represent 82% of the resources enrolled in May 2010 and 58% of resources enrolled in May 2011.

To quantify the effect of the 2011 Market Rule Change for May 2011, the NYISO analyzed two aspects of the data:

- **Comparison of APMD and ACL** to determine impact of change to gross resource capacity; and
- **Comparison of Committed Maximum Demand (CMD) for May of each year** to determine whether resources adjusted the amount of capacity (the Declared Value) they could make available.
  - Declared Value is calculated by subtracting the CMD from the resource's baseline (APMD or ACL) and is the basis for the enrolled capacity of the resource.

Table 4 below illustrates how a change to the 2011 CMD affects the Declared Value of a resource, depending on whether the 2011 ACL is greater or less than the 2010 APMD. The table includes the end-use location count and MW change for each of the possible combinations in enrollment for May 2011.

To illustrate the impact of enrollment changes, Figure 2 provides an example of the combination shown in the first two cells of the first shaded row in Table 4: when the 2011 ACL of a re-enrolled resource is less than the 2010 APMD and the resource raises its CMD, the result is a lower Declared Value for May 2011. The 100 kW reduction from the 2010 APMD to the 2011 ACL plus the 100 kW increase in the 2011 CMD resulted in a 200 kW reduction to the 2011 Declared Value. Keeping the same CMD value for 2011 would result in a 100 kW reduction from the 2010 Declared Value.

**Figure 2. Example of Impact from Enrollment Changes**

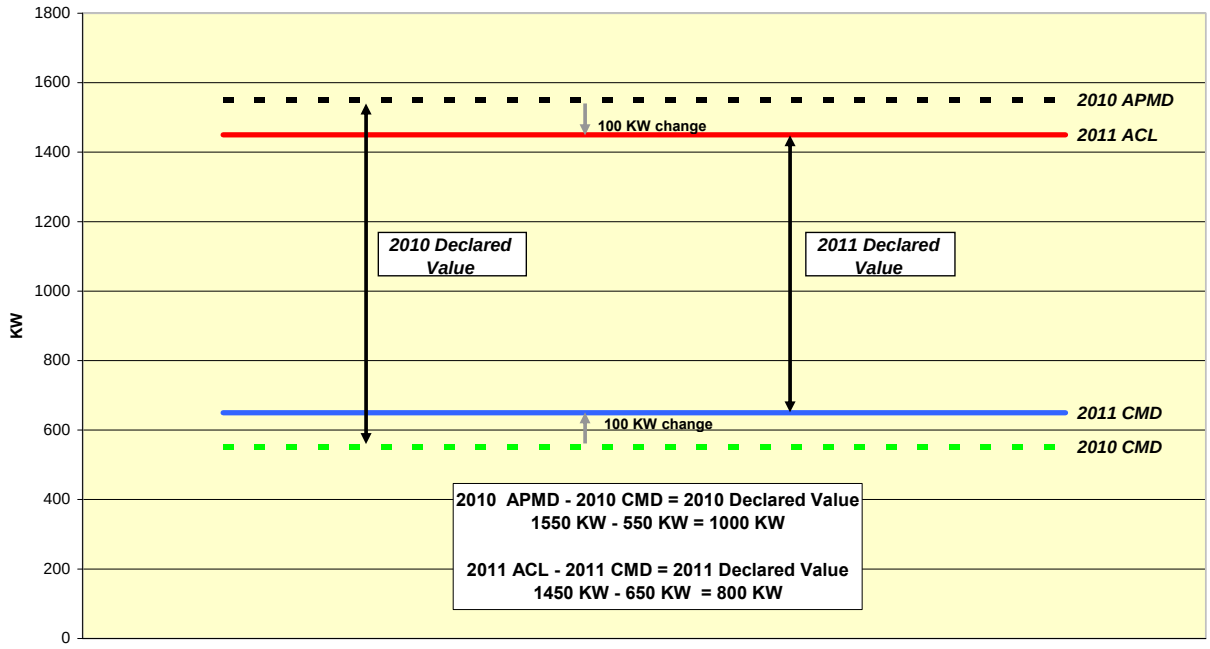


**Table 4. May 2011 Enrollment Changes for Re-enrolled Resources**

| Enrollment Change | Higher CMD | Same CMD as 2010 | Lower CMD | Net Impact from Re-enrolled Resources |
|---|---|---|---|---|
| **2011 ACL ≤ 2010 APMD** | Lower Declared Value than 2010 | Lower Declared Value than 2010 | Same Declared Value as 2010 or Increase over 2010 Declared Value | |
| ***1947 End-use Locations*** | *543* | *100* | *1304* | |
| ***-351 MW*** | *-119* | *-17* | *-215* | *-351* |
| | | | | |
| **2011 ACL > 2010 APMD** | Same Declared Value as 2010 or Lower Declared Value than 2010 | Increase over 2010 Declared Value | Increase over 2010 Declared Value | |
| ***1131 End-use Locations*** | *812* | *52* | *267* | |
| ***-3 MW*** | *-36* | *3* | *30* | *-3* |
| | | | | |
| ***Totals*** | | | | |
| ***3,078 End-use Locations*** | *1355* | *152* | *1571* | |
| ***-354 MW*** | *-155* | *-14* | *-185* | *-354* |

The net impact from re-enrolled resources was a reduction of 354 MW, 87% of the difference in enrolled MW for the 3,078 resources analyzed. The first column of Table 4 shows that, for the 1,947 resources where the ACL method resulted in a lower baseline than the APMD method, the change to enrolled MW was a reduction of 351 MW. The net reduction in enrolled MW from the 1,131 resources that realized an ACL greater than their May 2010 APMD, was 3 MW.

The second through fourth columns of Table 4 provide detail on the effect of the change to the Committed Maximum Demand on the quantity of enrolled MW, and the number of resources that made the change. Resources that maintained the same Committed Maximum Demand as last year show a net reduction of 14 MW (column 3, last row). Resources that lowered their Committed Maximum Demand[6] show a net reduction of 185 MW enrolled (column 4, last row).

**Table 5. DADRP Enrollment: May 2011**

| Zone | Count | Load (MWs) | Gen (MWs) | Total MWs | Change in Count from January 2010 Report | Change in MW from January 2010 Report |
|---|---|---|---|---|---|---|
| A | 4 | 58.0 | 0.0 | 58.0 | 0 | 0.0 |
| B | 1 | 2.8 | 0.0 | 2.8 | 0 | 0.0 |
| C | 2 | 38.0 | 0.0 | 38.0 | 0 | 0.0 |
| D | 1 | 100.0 | 0.0 | 100.0 | 0 | 0.0 |
| E | 1 | 10.0 | 0.0 | 10.0 | 0 | 0.0 |
| F | 8 | 92.0 | 0.0 | 92.0 | 0 | 0.0 |
| G | 1 | 9.0 | 0.0 | 9.0 | 0 | 0.0 |
| H | 0 | 0.0 | 0.0 | 0.0 | 0 | 0.0 |
| I | 0 | 0.0 | 0.0 | 0.0 | 0 | 0.0 |
| J | 2 | 6.6 | 0.0 | 6.6 | 0 | 0.0 |
| K | 30 | 15.0 | 0.0 | 15.0 | 0 | 0.0 |
| **Total** | **50** | **331.4** | **0.0** | **331.4** | **0** | **0.0** |

DADRP enrollments remain constant with statistics reported in the January 2011 Report.

Demand Side Ancillary Services Program

While customers have expressed an interest in having resources participate in DSASP, and there are a number of demand side resources at various stages of meeting program participation requirements, no resources have completed the qualification process to provide Ancillary Services through DSASP at this time. Additional information regarding current activities associated with DSASP is discussed below.

## Demand Response Initiatives in 2011

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 a brief synopsis of the efforts to date on these initiatives:

- Market Rules for Aggregations of Small Demand Resources in the Ancillary Services Markets
- Procedures for Direct Communication for DSASP
- Order 745 Compliance Filing
- Program Design for Demand Response Participation in the Real-Time Energy Market
- Continued Development of the Demand Response Information System (DRIS)

[6] One reason a resource may have lowered its Contract Minimum Demand is in recognition of a change to its SCR baseline that resulted from the 2011 Market Rule Changes.

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

On December 8, 2010, the NYISO's Business Issues Committee approved a market design concept to incorporate aggregations of small demand resources into its Ancillary Services markets and Direct Communication for DSASP. [7] Direct Communication for DSASP is expected to streamline program participation, which will make possible and facilitate the participation of aggregation of small demand resources in NYISO's Ancillary Services markets. The concept included changes to market rules and procedures to allow aggregations of small demand resources into DSASP would include in the proposed timeline for developing the specifications and requirements for Direct Communications for DSASP. The NYISO has committed to its stakeholders to complete projects to provide an opportunity for aggregations of small demand resources to participate in its Ancillary Services markets and provide functional specifications for Direct Communication for DSASP by the end of 2011. Those projects are underway.

## *Procedures for Direct Communication for DSASP*

As described above, a project to develop functional specifications for Direct Communications for DSASP is currently underway and expected to be complete by the end of 2011. The functional specifications will provide details on how demand side resources can communicate directly with the NYISO for real-time dispatch of ancillary services as a DSASP resource.

## *Order 745 Compliance Filing*

The NYISO presented an overview of the requirements of Order 745 to the Price-Responsive Load Working Group.[8] The presentation outlined provisions of the Day-Ahead Demand Response Program that may require changes so that it is compliance with Order 745. The NYISO is developing the methodology for the monthly net benefits test, preparing the historical price thresholds, and internal procedures to comply with the monthly update requirement. In addition, the NYISO is reviewing its current measurement and verification rules to ensure the accuracy of the baseline consistent with the provisions of Order 745. Finally, the NYISO is reviewing the current cost allocation method used to allocate costs associated with paying LMP to DADRP resources in relation to the requirements of the Order. Following the NYISO's compliance filing in July 2011, the NYISO will begin to establish the requirements for the Dynamic Net Benefits Test Study for the compliance filing due in September 2012.

## *Program Design for Demand Response in the Real-Time Energy Market*

In its February 2010 Compliance Filing,[9] the NYISO outlined a timetable for activities it would undertake to develop the design to incorporate demand response into its real-time energy market. At that time, the NYISO indicated that the preliminary market design would incorporate any decisions from the Commission regarding compensation of demand response resources for energy market participation into its preliminary market design during the third and fourth quarters of 2010. Additional concepts were presented to the Commission at its September 13, 2010 Technical

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[7] The BIC approved a concept Presentation available at http://www.nyiso.com/public/webdocs/committees/bic/meeting_materials/2010-12-08/07_DSASP_Aggregations_BIC_120810.pdf.

[8] Presentation available at < http://www.nyiso.com/public/webdocs/committees/bic_prlwg/meeting_materials/2011-05-09/PRLWG_-_Order_745_on_DR_Compensation.pdf>

[9] Docket No. ER-09-1142-000, *New York Indep. Sys. Operator, Inc.*, Compliance Filings February 25, 2010, p. 11 (February 2010 Compliance Filing).

conference. Based on the additional information, the NYISO is continuing its examination of market design options to incorporate demand response in its real-time energy markets. The NYISO has a project to provide an architectural design to market participants by the end of 2011 and will work with stakeholders to identify a 2012 project to complete the market design.

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

In January 2011, the NYISO deployed its fifth release of the Demand Response Information System. The release included the following functionality:

- Updates to existing functionality to improve imports, expand enrollment data, and resource details;
- Automation of performance factor calculations;
- Support for import of event response data; and
- Integration of DRIS with the market settlement system for event response payments.

The next market-facing deployment for DRIS is scheduled for September 2011. The deployment will implement the changes to enrollment, performance factor and deficiency calculations that were approved as part of the April 11, 2011 order (please refer to the section immediately following Table 3 above for complete details on the changes to the ICAP/SCR program).