

December 1, 2004

**E-Filed**

The Honorable Magalie R. Salas, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

New York Independent System Operator, Inc.  
Seventh Bi-Annual Compliance Report on Demand Response Programs  
and the Addition of New Generation in Docket No. ER01-3001-00

Dear Ms. Salas:

Pursuant to Ordering Paragraph “(B)” of the October 25, 2001 Order in this proceeding (the “Initial Order”),<sup>1</sup> Ordering Paragraph “(C)” of the July 19, 2002 Order in this proceeding (the “July 19, 2002 Order”),<sup>2</sup> paragraph 5 of the September 3, 2002 letter order in this proceeding (the “September 3, 2002 Order”),<sup>3</sup> and paragraph 7 of the October 24, 2003 Order in this Proceeding (the “October 24, 2003 Order”),<sup>4</sup> the New York Independent System Operator, Inc. (“NYISO”), by counsel, hereby submits this report.

The report addresses, as of December 1, 2004: (i) the NYISO’s demand response programs, the status of real-time demand response mechanisms, and the effects of demand response programs on wholesale prices; and (ii) the status of new generation resources in the New York Control Area (“NYCA”).<sup>5</sup> This filing represents the NYISO’s seventh bi-annual report to the Commission in compliance with the Initial Order and the subsequent orders listed above.

**I. List of Documents Submitted**

The NYISO submits the following documents:

1. This filing letter;

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<sup>1</sup> *New York Independent System Operator, Inc.*, 97 FERC ¶ 61, 095 (2001).

<sup>2</sup> *New York Independent System Operator, Inc.*, 100 FERC ¶ 61, 081 (2002).

<sup>3</sup> *New York Independent System Operator, Inc.*, 100 FERC ¶ 61,243 (2002).

<sup>4</sup> *New York Independent System Operator, Inc.*, 105 FERC ¶ 61,115 (2003).

<sup>5</sup> Capitalized terms not otherwise defined herein shall have the meaning set forth in Article 2 of the NYISO’s Market Administration and Control Area Services Tariff.

The Honorable Magalie R. Salas, Secretary  
December 1, 2004

Page 2

2. A report entitled “NYISO 2004 Demand Response Programs” (“Attachment I”);
3. Tables summarizing the load and capacity outlook for the entire NYCA, New York City and Long Island (“Attachment II”);
4. A table listing proposed new interconnections in the NYCA (“Attachment III”);
5. A table, prepared by the New York State Department of Public Service, listing proposed new power plant projects that have been reviewed pursuant to New York State’s “Article X” process (“Attachment IV”); and,
6. A form of *Federal Register* Notice (“Attachment V”).

## **II. Copies of Correspondence**

Copies of correspondence concerning this filing should be served on:

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Elaine Robinson, Acting Director of Regulatory Affairs  
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## **III. Service List**

The NYISO respectfully requests a waiver of the requirements of Rule 2010 so that it may use electronic service methods. The NYISO will electronically serve a copy of this filing on the official representative of each of its Market Participants, on each participant in its stakeholder governance committees, on the New York Public Service Commission, and on the New Jersey Board of Public Utilities. The NYISO will provide the Pennsylvania Public Utility Commission with a hard copy of this filing, as request by that agency. The use of this procedure has been convenient for both the NYISO and for the recipients of this form of service, and to date, the procedure has engendered no complaints. Finally, allowing the use of electronic service would be consistent with the spirit of the Commission’s recent Notice of Proposed Rulemaking regarding service and notification procedures.<sup>6</sup>

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<sup>6</sup> *Electronic Notification of Commission Issuances, Notice of Proposed rulemaking*, 107 FERC ¶ 61,311 (2004).

#### **IV. Compliance Report**

##### **A. Status of NYISO Demand Response Programs for 2004**

The NYISO administers three demand response programs under its Market Administration and Control Area Services Tariff (“Services Tariff”). The three programs, all of which were available for the Summer 2004 Capability Period (May 1 through October 31, 2004) are: (i) the Emergency Demand Response Program (“EDRP”); (ii) the Day-Ahead Demand Response Program (“DADRP”); and, (iii) Installed Capacity/ Special Case Resources (ICAP/SCR) (all three programs also referred to, collectively, as (“Demand Response Programs”).

The EDRP provides for payments to Curtailment Service Providers that voluntarily reduce their Loads at the NYISO’s request to reduce demand in the NYCA during an Emergency condition.<sup>7</sup> The DADRP allows Demand Side Resources that are qualified to participate in the competitive Energy markets by bidding their Load reductions into the Day-Ahead Energy Market. For the purposes of establishing a Day-Ahead schedule and associated LBMPs, these Load reduction bids are then recognized and assessed by the NYISO’s Security Constrained Unit Commitment software on the same footing as other competing supply resources, including potentially setting the market clearing price. Special Case Resources include interruptible loads and qualifying distributed generators through which some Demand Reduction Providers achieve the Load reductions that are made available to the NYISO.<sup>8</sup> Special Case Resources also qualify to be suppliers of Installed Capacity (“ICAP”) in the NYISO’s ICAP markets.

Attachment I to this filing is a report entitled “NYISO 2004 Demand Response Programs” (“2004 DRP Report”). The 2004 DRP Report summarizes the principal provisions of each of the three individual programs and program changes that have been implemented since the last bi-annual report.

Because unusually cooler temperatures prevailed throughout the NYCA during the just concluded peak season, the NYISO’s reliability demand response programs were not called upon at any time during the Summer 2004 Capability Period. Consequently, the 2004 DRP Report comments on changes planned for the programs beyond 2004, including preparations for the

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<sup>7</sup> Under the EDRP, qualified demand resources are paid for reducing their energy consumption when the NYISO declares that an operating reserves deficiency or major emergency exists. There is, however, no obligation to respond to the NYISO’s declaration. Participation in the program occurs through “Curtailment Services Providers,” who are paid \$500/MWh for verified load reductions.

<sup>8</sup> Under the ICAP/SCR, retail electricity customers are paid for making their load reduction capability available over a specified contract period. Thus, ICAP/SCR participants are paid in advance for agreeing in advance to curtail usage during times when the grid could be jeopardized.

Summer 2005 Capability Period, when the programs may be called upon. The 2004 DRP Report also contains information concerning the current registration status for the programs.

With respect to the 2004 DRP Report, since the reliability demand response programs were not activated during the last summer capability period, the NYISO has no additional information to report to the Commission regarding the programs' effects on wholesale energy prices during this period. Accordingly, the NYISO again respectfully refers the Commission to the information concerning the price impacts of demand response programs during the Summer 2003 period, which was submitted in the NYISO's December 1, 2003 compliance report.

Finally, the NYISO has developed a preliminary benefit/cost assessment methodology that has been applied to the DADRP and EDRP programs. The results of this analysis are included for the Commission's information. NYISO expects to further refine both the analytical approach, as well as the analysis itself over the coming months in anticipation of a 2005 filing seeking extension of the DADRP and EDRP programs.

## **B. Status of Addition of New Generation Resources**

Similar to prior report formats, this report on the status and progress of the development of new generation resources in New York State includes three tables of data contained in Attachments II, III, and IV to this filing and discussed in more detail below. Attached to the NYISO's previous report was a presentation version of "*ISO Power Trends.*" *Power Trends* was released by the NYISO in May 2004, and was the fourth in a series of its annual assessments of energy issues facing New York State. The full text of this report is posted on the NYISO's web site at – [www.nyiso.com](http://www.nyiso.com).

### **1. Attachment II – Forecasted Load and Capacity Data**

Attachment II to this report is a one-page schedule of data consisting of four tables. Table 1 presents the NYISO's most recent forecast of load and capacity data for New York State as a whole, and for the New York City and Long Island Load Zones, for the Summer 2005 Capability Period.<sup>9</sup> The second, third, and fourth tables in Attachment II identify new generating resources that are expected to be on line and available for service for the state and the two localities for the Summer 2005 Capability Period.

The expected resource availabilities listed in Attachment II are based on information that is provided by participants in the Installed Capacity ("ICAP") Subcommittee of the New York State Reliability Council ("NYSRC"). The information is included in the NYSRC's development of the Installed Reserve Margin ("IRM") for the 2005/2006 Capability Year. The

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<sup>9</sup> Summer Capability Periods are the six-month period from May 1 through October 31 of each year. The highest peak demands in the New York Control Area typically occur at some point during a Summer Capability Period.

IRM represents the amount of ICAP that the NYSRC will require the New York Control Area (“NYCA”) to have in place in the upcoming capability year, and is set on an annual basis under the NYSRC’s responsibility to establish and enforce Reliability Rules for the New York transmission system.

In its December 1, 2003, and June 1, 2004, reports, the NYISO forecasted that the Summer 2004 IRM for the NYCA, as a whole, would be met entirely with capacity resources internal to New York. As Table 1 of Attachment II of this report indicates, the NYISO currently anticipates that available internal supplies will be 3 MW short of meeting the NYCA IRM of 118% of forecasted peak demands for the Summer 2005 Capability Period.

In addition to the statewide IRM, the Reliability Rules also mandate Locational ICAP requirements, whereby a minimum level of ICAP must be electrically located within the New York City and Long Island load zones. At this time, the NYISO is preliminarily forecasting that New York City’s available capacity supplies will fall 77 MW short of its In-city Locational ICAP requirement of 9,092 MW (80% of a total New York City IRM of 11,365 MW) of the 2005 Summer Capability Period. This shortfall in In-city supplies could be met with a combination of new units or the availability of new Special Case Resources. Table 1 also indicates that Long Island is currently forecasted to have sufficient resources located within the zone to meet its Summer 2005 Locational ICAP Requirement of 99% of total IRM.

## **2. Attachment III – Planned Generation-Related Transmission Interconnection Projects**

Attachment III is an updated five-page table that lists proposed transmission interconnections within the NYCA for which the NYISO has received applications to perform an initial System Reliability Impact Study (“SRIS”). Attachment III to this report has been refined from previous reports to now reflect only those new interconnections that are associated with proposed new generation resources.

Although Attachment III indicates that over 20,000 MW of potential new generation appears to be planned by developers, it is unlikely that this level of new resources will actually materialize in New York for two reasons. First, only eleven out of the 83 projects listed in the attachment have the necessary authorization from the New York Public Service Commission (“NYPSC”) to, in fact, begin construction. This subset of authorized projects represents just less than 5,200 MW of new resources. Second, as a part of the implementation of the Commission’s new standard transmission interconnection procedures, during October 2004, the NYISO notified the sponsors of the projects listed in Attachment III that they must reaffirm their intent to pursue their interconnection applications and submit any necessary study fees if they wish to remain in the application queue. These reaffirmations are to be submitted by the end of this year (2004) and the NYISO anticipates that many of the project proposals, particularly those that have been inactive, will not reaffirm their intent to continue. As a result, future listings of proposed

interconnection projects will be significantly reduced, but will more realistically reflect a set of viable proposed new generation resources.

### **3. Attachment IV – Table of NYPSC “Article X” Proceedings**

Prior to its expiration in December 2002, Article X of the New York State Public Service Law provided a “one-stop” avenue for reviewing and approving new power plant siting proposals by the NYPSC. Siting applications that were submitted prior to Article X’s expiration remain pending before the NYPSC. As in prior reports, for the Commission’s information, the NYISO has also included as Attachment IV to this report a four-page table of those pending applications. This table is reproduced from the NYPSC’s website, and a link to this table is included on the home page of the NYISO’s website. Attachment IV currently indicates that five previously authorized projects totaling 2,300 MW of capacity are under construction, with current in-service date estimates ranging from the fourth quarter of 2004 to 2006. The projected in-service dates indicated in Attachment IV do not differ at this time from the NYISO’s best estimate of when these proposed projects will be complete, based on all publicly available information and the NYISO has no reason at this time to anticipate that the listed projects will not achieve their forecasted in-service dates.

### **4. Status of Development of New Generation Resources**

In referring to *ISO Power Trends* in its most recent report to the Commission, the NYISO noted that, between 2001 and 2004, New York State’s forecasted peak demand had increased by approximately 1,600 MW to an expected peak demand of 31,800 MW in the Summer 2004 Capability Period. According to Attachment II, the NYISO is currently forecasting a peak demand of 32,320 MW for Summer 2005. Including the additional 18% reserve requirement under New York reliability rules, required Installed Capacity for next summer will increase to 38,138 MW.

Fortunately, recent additions of new capacity have, thus far, kept pace with this growth in peak demand. Moreover, those aspects of the design of the ICAP markets that were intended to encourage the addition of new generation in those load zones where it is needed have, in fact, worked. New projects that have recently become commercially available – the Athens Generating Plant and the Ravenswood Cogeneration Project – have provided needed resources for the constrained New York City zone. Projects currently under construction and expected to be commercially available within the next two years are also located in Eastern New York or within the Long Island and New York City localities, some of which are anticipated to be available to satisfy the 77 MW shortfall of locational New York City ICAP described above.

As the NYISO noted in its prior report, however, there remains, in its view, much unfinished business if adequate levels of new generation capacity are to be attracted and sited within New York State. More recently, in a draft Initial Planning Report prepared by NYISO staff and presented to New York market stakeholders during a governance committee meeting,

the NYISO confirmed that additional resources beyond what is currently under construction must be committed to the Long Island and New York City load zones.<sup>10</sup> Specifically, the NYISO's current analysis indicates that resource adequacy in those zones cannot be maintained beyond 2006 and 2008 for Long Island and New York City, respectively, absent additional new resources.

As reported in previous filings with the Commission, a key impediment to efficiently and more quickly developing new resources has been the expiration in 2002 of the Article X sitting process, for which no replacement statute has been provided. As the table of remaining pending applications in Attachment IV demonstrates, only one application – TransGas Energy – remains in the NYPSC's queue of projects actively seeking certification. Along with project developers, the NYISO considers the passage of a replacement statute that would provide developers with the same one-stop process that was available under Article X is of paramount importance to ensuring adequate new resources in the future. Without such a statutory provision, New York lacks a clear and timely mechanism for securing the necessary permits and approvals that are required to build generating stations in the state. It remains uncertain whether a similar expedited licensing process will be available to future generating project proposals. This is particularly critical given that an Initial Planning Report, issued by the NYISO pursuant to a comprehensive Electric System Planning Process that has been undertaken with its stakeholders, indicates that capacity beyond that currently under construction in the constrained New York City and Long Island load zones needs to be committed to the market and begin construction within an approximately one-year time frame.

The NYISO is also aware that securing adequate financing for a new merchant generation project continues to be problematic in New York. Absent either market revenue streams that potential lenders will find sufficient to support new projects or firm long-term power purchase agreements in hand, it is unlikely that capital will be made available to project developers. For example, in the most recent of his annual reviews of the New York wholesale electric energy markets, the *2003 State of the Market Report – New York ISO*, the NYISO's independent Market Advisor, Dr. David B. Patton, concluded that net revenues for energy suppliers in New York during 2003, defined as market revenues net of operating costs, would not have supported the addition of a new gas turbine in any of the New York Load Zones. Dr. Patton did note, however, that the net revenue results for 2003 suggested that revenues might come close to supporting a new natural gas combined-cycle unit in upstate New York.

More recently, in his Summer 2004 Review of the New York Electricity Markets<sup>11</sup>, Dr. Patton reported that net revenue levels during the Summer 2004 Capability Period continued to be substantially below the cost of entry for most new resources. With the continued need for new investment in both New York State, as a whole, and in New York City and on Long Island in particular, the NYISO and its stakeholders must continue to develop and explore market

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<sup>10</sup> The Initial Planning Report was developed pursuant to the NYISO's development of a comprehensive resource planning process, which is planned to be conducted on an annual basis.

<sup>11</sup> Presented to the NYISO Board of Directors and the Management Committee on November 15, 2004.

innovations that will provide the price signals and potential revenue streams that will be absolutely required for energy infrastructure investment to come to New York. One example of such innovations is the current effort to modify the NYISO's software modeling requirements and its market rules so as to adequately recognize combined cycle generating units within its energy markets.<sup>12</sup>

As the NYISO informed the Commission in its June 1, 2004, report, in the near term, forward contracts or other financial mechanisms for providing capacity payments will be necessary to enable project developers to attract the new investment they will need for construction. The ICAP Demand Curves approved by the Commission and implemented by the NYISO for the Summer 2003 Capability Period are one example of an innovative capacity payment mechanism that has increased revenues to suppliers, improved the price signals for encouraging new capacity investment, and eliminated the extreme revenue fluctuations that would have otherwise discouraged new development.

In another recent development that should support the ability of developers to finance new projects, three different entities in New York – the New York Power Authority, the Long Island Power Authority, and Consolidated Edison Company of New York, Inc. – have all recently issued requests for proposals for new energy and capacity supplies. The potential for contractual certainty and revenue stability should enhance the ability of potential bidders on these utilities' proposals to secure adequate financing at reasonable rates. At the same time, load-serving entities will need some sort of regulatory assurance of rate recovery if they are to enter into such forward agreements.

#### **V. Federal Register Notice**

A form of *Federal Register* Notice is provided herewith. A diskette of the Notice is also provided in WordPerfect format.

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<sup>12</sup> See, first Quarterly Report by New York Independent System Operator, Inc. in docket Nos. ER-04-230-002, ER04-230-003, ER04-230-004, ER04-230---5, ER01-3155-005, ER01-1385-014, and EL01-45-013.



The Honorable Magalie R. Salas, Secretary  
December 1, 2004  
Page 9

Respectfully submitted,

*s/s Gerald R. Deaver*

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cc: Daniel L. Larcamp, Director Office of Markets, Tariffs and Rates, Room 8A-01,  
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**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served the foregoing document upon each person that has executed a Service Agreement under the NYISO's Open Access Transmission Tariff or Market Administration and Control Area Services Tariff, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.2010 (20001).

Dated at Washington, D.C. this 1st day of December, 2004.

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## **ATTACHMENT I**

# **NYISO 2004 Demand Response Programs**

## **Emergency Demand Response and Special Case Resource Installed Capacity Programs**

NYISO offers two demand response programs to support reliability: the Emergency Demand Response Program (EDRP) and the Installed Capacity-Special Case Resource Program (ICAP-SCR).

The Emergency Demand Response Program (EDRP) provides resources an opportunity to earn the greater of \$500/MWh or the prevailing LBMP for curtailments provided when the NYISO calls for them. There are no consequences for enrolled participants that fail to curtail. EDRP curtailments, until this year, were called in conjunction with the dispatch of ICAP-SCR curtailments.

The ICAP-SCR program allows customers that can meet certification requirements to offer unforced capacity (UCAP) bilaterally to LSEs and in the six-month strip and the monthly auctions that the NYISO operates. Resources are obligated to curtail when called upon to do so with two or more hour's notice, provided that they were notified the day ahead of the possibility of such a call. In addition, ICAP-SCR resources may be subject to testing to verify that they can fulfill their curtailment requirement. Failure to curtail could result in penalties administered under the ICAP program that can exceed the amount the participant received initially as an ICAP payment. Curtailments are called when reserve shortages are anticipated.

### **Participation**

As of August 31, 2004 (the date customarily used for reporting participation statistics) a total of thirty-four Curtailment Service Providers (CSPs) offer programs that deliver the NYISO's Emergency Demand Response Program and Special Case Resource ICAP program to retail customers:

- Eight transmission owners
- Nine load serving entities unaffiliated with transmission owners
- Fifteen aggregators
- Two EDRP/SCR direct customers

Non-TO providers currently sponsor 55.3 percent of the total EDRP/SCR registered megawatts.

### **Enrollment Changes and Aggregation of ICAP-SCR Resources**

Prior to 2004, ICAP-SCR enrollments were made up of single retail customers and aggregations of participants that were counted as a single resource for program administration purposes. In 2004, NYISO made an administrative change to the way ICAP-SCR resources are enrolled

resulting in each participant that is part of an aggregation being identified and tracked separately. Consequently, this year a more detailed characterization of ICAP-SCR enrollment can be provided. As a result, this year's ICAP-SCR program data cannot be compared directly with that of previous years.

Table 1 illustrates the results of tracking individual customers. Consider the first boxed columns, which represent total ICAP participation. Previously, enrollments were tracked as resources, categorized as either individual customer registrants or aggregations of customers. The table shows that under this classification total ICAP-SCR resources for 2004 are 268, comprised of 236 individually registered customers and another 32 aggregations that contain one or more individual customers. The new disaggregated system tracks participants, which correspond to individual metered customers. The table shows that the 32 aggregations contain 697 individual participants, and the total participation is 933 customers, over four times the number of reported resources. Since previous years' enrollments are reported in terms of resources, with aggregations, it is not possible to compare total participants under the new, disaggregated reporting with the number of resources reported in earlier years.

Table 1: Detail of 2004 ICAP-SCR Program participation level by resource type

Resource Type	ICAP			ICAP UnSold		
	# Resources	# Participants	Sold MW	# Resources	# Participants	Subscribed MW
Individual Resources	236	236	637.3	12	12	3.9
Aggregated Resources	32	697	343.5	3	17	6.4
<b>Total</b>	<b>268</b>	<b>933</b>	<b>980.8</b>	<b>15</b>	<b>29</b>	<b>10.3</b>

The second box provides the same information for unsold ICAP-SCR resources. ICAP-SCR registrants can sell their ICAP-SCR load to an LSE, or offer it into the NYISO ICAP auctions, once every six months for a six-month strip, and monthly reconfiguration auctions for strips of one to six months. In cases where an ICAP-SCR participant offers load to an auction but it is not taken, that load is automatically enrolled in the EDRP program until the next auction, or the participant completes a bilateral transaction with an LSE. As the table shows, in 2004 a very small percentage (1%) of registered ICAP-SCR load went unsold.

## Program Participation

At the end of August 2004, the reliability programs had a total of 2,059 participants enrolled providing a total of 1,562 MW of curtailable load.<sup>13</sup> There were 1,126 resources in EDRP and 933 participants in ICAP-SCR. ICAP-SCR enrollments are 45% of the total but provide 50.6% of the curtailable load. EDRP had more participating customers, but they provided only 29.4% of the demand response resources. A small number of DADRP participants (1% of total program participants) accounted for 19.4 % of the demand response resources available. The average registered curtailable load for ICAP-SCR participants was 1,050 kW, twice that for EDRP (520 kW).

CSP Type #	CSP Type	EDRP <sup>(1)</sup>		ICAP UnSold <sup>(2)</sup>		ICAP <sup>(3)</sup>		DADRP <sup>(4)</sup>	
		#	MW	#	MW	#	MW	#	MW
15	Aggregator	58	20.5	14	2.2	722	512.0	0	0.0
0	Curtailment Program End-Use Customer	0	0.0	0	0.0	0	0.0	0	0.0
2	Direct Customer	0	0.0	0	0.0	1	2.0	1	8.0
9	LSE	13	8.1	15	8.1	178	309.9	4	46.5
8	Transmission Owner	1026	542.1	0	0.0	32	156.9	12	322.4
<b>34</b>	<b>Total</b>	<b>1097</b>	<b>570.7</b>	<b>29</b>	<b>10.3</b>	<b>933</b>	<b>980.8</b>	<b>17</b>	<b>376.9</b>

Note 1: The sum of EDRP and ICAP UnSold = Total EDRP.

Note 2: Participants in the ICAP program with UnSold capacity are considered as 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 participation is not necessarily the sum of all programs due to the rules that state that participants are allowed to participate in a reliability program (EDRP or ICAP) and economic (DADRP).

Table 2: Program Participation Summary by Curtailment Service Provider Type

Table 2, *Program Participation Summary by Curtailment Service Provider Type*, above, shows program participation by Curtailment Service Provider (CSP) type. Customers enroll in NYISO demand response programs through one of five means; through an Aggregator, a Load Serving Entity (LSE), and Transmission Owner (TO), or as a Direct Service customers or a Curtailment Program End-Use Customer (CP-EUC). They are defined as follows:

- Aggregators are entities that recruit customers to participate as part of an aggregation of several customers.
- LSEs are competitive providers of commodity service to retail customers.
- TOs are the state's seven utilities.
- A Direct Customer is a retail customer that has registered as a member of the NYISO and consequently can participate directly in its markets.
- Curtailment Program End-Use Customer is a customer that enrolls directly with the NYISO in the EDRP program.

Aggregators provide only about 5% of participants and load to EDRP, which is dominated in both categories (over 94%) by enrollments through TOs. Conversely, ICAP-SCR enrollments are

<sup>13</sup> A participant is defined as a single customer enrolled in a program individually or as part of an aggregated resource.

dominated by Aggregators, which provide 66% of participating customers and 90% of the load. LSEs are virtually inactive in the EDRP market but provide 19% of participants and 32% of load to ICAP-SCR. In 2004, there were no Direct Customers or Curtailment End-Use Customers enrolled in EDRP and only one Direct Customer enrolled in ICAP-SCR.

Table 3: 2004 Program Participation by Zone

Table 3, *Program Participation by Zone*, shows program participation detail by NYISO zone.

Zone	EDRP <sup>(1)</sup>		ICAP UnSold <sup>(2)</sup>		ICAP <sup>(3)</sup>		DADRP <sup>(4)</sup>	
	#	MW	#	MW	#	MW	#	MW
A	45	39.4	0	0.0	128	357.6	3	126.0
B	17	36.6	0	0.0	27	52.3	0	0.0
C	101	32.1	0	0.0	43	102.6	2	37.4
D	14	5.1	0	0.0	5	84.7	1	100.0
E	50	50.8	0	0.0	26	32.6	1	10.0
F	54	45.0	0	0.0	20	64.0	8	89.0
G	35	45.4	0	0.0	2	1.4	0	0.0
H	9	6.5	1	0.2	4	4.0	0	0.0
I	24	9.6	11	2.6	5	9.1	0	0.0
J	138	146.4	15	7.0	637	174.7	1	2.5
K	610	153.8	2	0.5	36	97.8	1	12.0
<b>Total</b>	<b>1097</b>	<b>570.7</b>	<b>29</b>	<b>10.3</b>	<b>933</b>	<b>980.8</b>	<b>17</b>	<b>376.9</b>

Note 1: The sum of EDRP and ICAP UnSold = Total EDRP.

Note 2: Participants in the ICAP program with UnSold capacity are considered as 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 participation is not necessarily the sum of all programs due to the rules that state that participants are allowed to participate in a reliability program (EDRP or ICAP) and economic (DADRP).

Zones J and K, New York City and Long Island, respectively, have the majority (68%) of participants in the EDRP program which represent 53% of the total MW enrolled. For the ICAP-SCR program, Zones J and K constitute an even greater percentage (72%) of statewide participation, but account for only 28% of the total enrolled MW. The Western superzone, made up of zones A through E, is characterized by greater load per participant, providing 21% of participants in EDRP and 29% of total enrolled MW and 25% of the participants in ICAP-SCR which provide 64% of total program MW.

## Migration Summary

Table 4, *Program Enrollment Changes 2003 to 2004*, provides a summary of how enrollment changed from 2003 to 2004 and the average subscribed MW per participant for each year. Overall, participation and the number of MW enrollment decreased in the EDRP and DADRP programs. However, 2004 ICAP-SCR program participation increased by 44% over 2003, proportionally greater than the 30% increase in subscribed MW. Note that the comparison of ICAP-SCR between 2004 and 2003 is on the basis of resources, which masks the number of customers involved in aggregations, as discussed earlier. All but the DADRP program was

characterized by a decline (10-19%) in the average subscribed MW per participant. The average MW per participant in ICAP-SCR is seven times that of EDRP in 2004.

An important measure of program performance is retention and migration. Retention is defined as a customer remaining in a program two consecutive years, including the current reporting year. Migration is defined by a customer changing from the program it participated in the previous year to a new NYISO program in the reporting year.

Table 4: Program Enrollment Changes 2003 to 2004

	2003		2004		Percent Change From 2003 to 2004		Subscribed MW per Participant		
	Count	MW	Count	MW	Participant Count	Subscribed MW	2003	2004	Percent Change
<b>EDRP</b>	1342	864.6	1097	570.7	-18%	-34%	0.64	0.52	-19%
<b>ICAP UnSold</b>	25	73.9	15	5.3	-40%	-93%	2.96	0.35	-88%
<b>ICAP</b>	186	756.0	268	980.8	44%	30%	4.06	3.66	-10%
<b>DADRP</b>	25	470.3	17	376.9	-32%	-20%	18.81	22.17	18%

Figure 1, *Demand Response Program Migration-Resources*, provides a detailed accounting of changes in program participation in terms of migration and retention, from 2003 to 2004. The rows in Figure 1 correspond to the four programs. The last row of the figure shows how the previous year's participation (for each program) is adjusted for retention (drop outs and new additions) and migration (from another program) to produce the current year's program participation.

For example, consider the EDRP program, the first row in Figure 1. Beginning with the enrollment for 2003 (1,342) shown in the first column, labeled Previous Year. The next two columns show the number of resources that withdrew from EDRP in 2004 (Drop) and the number that joined EDRP for the first time (New) in 2004, respectively. The next set of columns track net migration (net change in resources) from EDRP to other NYISO DR programs.

Each box in the Net Migration section of Figure 1 represents the net inflow from another program and outflows of participants to a different NYISO DR program. Tracking migration is important given that each program has different provisions and it is thought that experiences in programs with simpler requirements act as a training ground for participation in programs that have penalties for non-compliance. Figure 1 can be tracked from one year to the next, but it does not show where participants came from when joining a given program or where participants went when they left the program they were in during the previous year.

To understand this level of change within a given program, refer to Figure 2, *Migration Detail*, which expands the Net Migration section of Figure 1 to show detailed movement into and out of each Demand Response program. Continuing with the EDRP program example, the first row of Figure 1, shows that no customers (0) switched from the ICAP-SCR *not sold* category in 2003 to EDRP in 2004, that a net change of 10 customers that were in EDRP in 2003 left for ICAP-SCR



in 2004 (thus the -10 entry), and a net change of three (-3 entry) left for DADRP. For EDRP, the Net Migration Detail shown in Figure 2 shows this clearly.

Figure 1: Demand Response Program Migration - Resources

	Previous Year*	Drop <sup>(5)</sup>	New <sup>(6)</sup>	Net Migration <sup>(7)</sup>			Current Year**	Percent Change Previous Year to Current Year	
				EDRP	ICAP UnSold	ICAP			DADRP
EDRP <sup>(1)</sup>	1,342	348	116		0	-10	-3	1,097	-18%
ICAP UnSold <sup>(2)</sup>	25	21	10	0		2	-1	15	-40%
ICAP <sup>(3)</sup>	186	83	156	10	-2		1	268	44%
DADRP <sup>(4)</sup>	25	4	2	-4	0	-2		17	-32%
Calculation	Previous Year*	- Drop	+ New	+ Net Migration			= Current Year**		

Note 1: The sum of EDRP and ICAP UnSold = Total EDRP.

Note 2: Participants in the ICAP program with UnSold capacity are considered as EDRP resources in the month(s) that capacity is unsold. MW represent offered unsold MW.

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

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

Note 5: Drop is defined as a participant who was enrolled in a NYISO DR program in the previous year and choose not to enroll in either an alternative NYISO DR program or in the same NYISO DR program in the current year.

Note 6: New is defined as a participant who enrolls in a NYISO DR program in the current year and was not enrolled in any NYISO DR programs in the previous year.

Note 7: Net Migration is the net amount of participants/MWs out of and into a NYISO DR Program. (e.g. 20 participants move into EDRP from another NYISO DR program at the same time that 10 participants move out of EDRP into another NYISO DR program so, Net Migration = 20 - 10 = +10)

Figure 2: Migration Detail

	Previous Year*	Drop <sup>(5)</sup>	New <sup>(6)</sup>	Net Migration <sup>(7)</sup>				Changes to Subscribed MW <sup>(8)</sup>	Current Year**	Percent Change Previous Year to Current Year
				EDRP	ICAP UnSold	ICAP	DADRP			
EDRP <sup>(1)</sup>	864.6	253.7	39.6		0.0	-13.7	-80.5	14.3	570.7	-34%
ICAP UnSold <sup>(2)</sup>	73.9	18.0	3.5	0.0		-10.9	-43.2	0.0	5.3	-93%
ICAP <sup>(3)</sup>	756.0	389.8	538.5	37.7	10.7		8.2	19.5	980.8	30%
DADRP <sup>(4)</sup>	470.3	142.5	24.5	70.6	0.0	-51.0		5.0	376.9	-20%
Calculation	Previous Year*	- Drop	+ New	+ Net Migration				+ Changes to Sub. MW	= Current Year**	

Note 1: The sum of EDRP and ICAP UnSold = Total EDRP.

Note 2: Participants in the ICAP program with UnSold capacity are considered as EDRP resources in the month(s) that capacity is unsold. MW represent offered unsold MW.

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

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

Note 5: Drop is defined as a participant who was enrolled in a NYISO DR program in the previous year and choose not to enroll in either an alternative NYISO DR program or in the same NYISO DR program in the current year.

Note 6: New is defined as a participant who enrolls in a NYISO DR program in the current year and was not enrolled in any NYISO DR programs in the previous year.

Note 7: Net Migration is the net amount of participants/MWs out of and into a NYISO DR Program. (e.g. 20 participants move into EDRP from another NYISO DR program at the same time that 10 participants move out of EDRP into another NYISO DR program so, Net Migration = 20 - 10 = +10 )

To further illustrate the difference between the Net Migration in Figure 1 and the Migration Detail provided in Figure 2, consider the fourth row of Figure 1, the DADRP program. Here Figure 1 shows a Net Migration of -4, indicating a net transfer of DADRP participants to EDRP. In Figure 2, the DADRP row shows the detail of changes to the DADRP program with respect to EDRP participants: two participants from EDRP transferred to DADRP and six participants left DADRP for EDRP resulting in the net change of -4 (2-6) shown in the Net Migration table in Figure 1. The second to the last column in Figure 1 shows the total enrollment in EDRP for 2004, and the last column displays the percent change in enrollment from the Previous Year, 2003.

Overall, EDRP participation was down 18%, largely due to customers that apparently dropped out of the NYISO demand response programs completely, and ICAP participation increased. It is possible that some, or perhaps most, of these customers transferred to the ICAP-SCR program, but that migration is masked by the fact that the table involves a comparison of resources, and not actual customers.

Figure 3, *Demand Response Program Migration-Subscribed MW*, provides the same detailed accounting of changes in program subscription, but for the level of MW offered or committed for curtailment instead of participation. One additional column is included in Figure 3 to account for changes to the level of subscribed MW made by re-enrolling participants. Some of the net change in program MW between 2003 and 2004 is due to customers that reenroll in the same

program but increase or decrease the level of MW subscribed to that program. It is important to distinguish between changes due to migration and those due to change in the level of curtailment committed by customers that continue their participation from year to year.

Figure 3: Demand Response Program Migration - MW

	In From EDRP	Out to EDRP	In From ICAP UnSold	Out to ICAP UnSold	In From ICAP	Out to ICAP	In From DADRP	Out to DADRP
<b>EDRP</b> <sup>(1)</sup>			0	0	0	-10	0	-3
<b>ICAP UnSold</b> <sup>(2)</sup>	0	0			5	-3	0	-1
<b>ICAP</b> <sup>(3)</sup>	10	0	3	-5			1	0
<b>DADRP</b> <sup>(4)</sup>	2	-6	0	0	0	-2		

Note 1: The sum of EDRP and ICAP UnSold = Total EDRP.

Note 2: Participants in the ICAP program with UnSold capacity are considered as EDRP resources in the month(s) that capacity is unsold. MW represent offered unsold MW.

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

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

### Analysis of ICAP-SCR Strike Prices

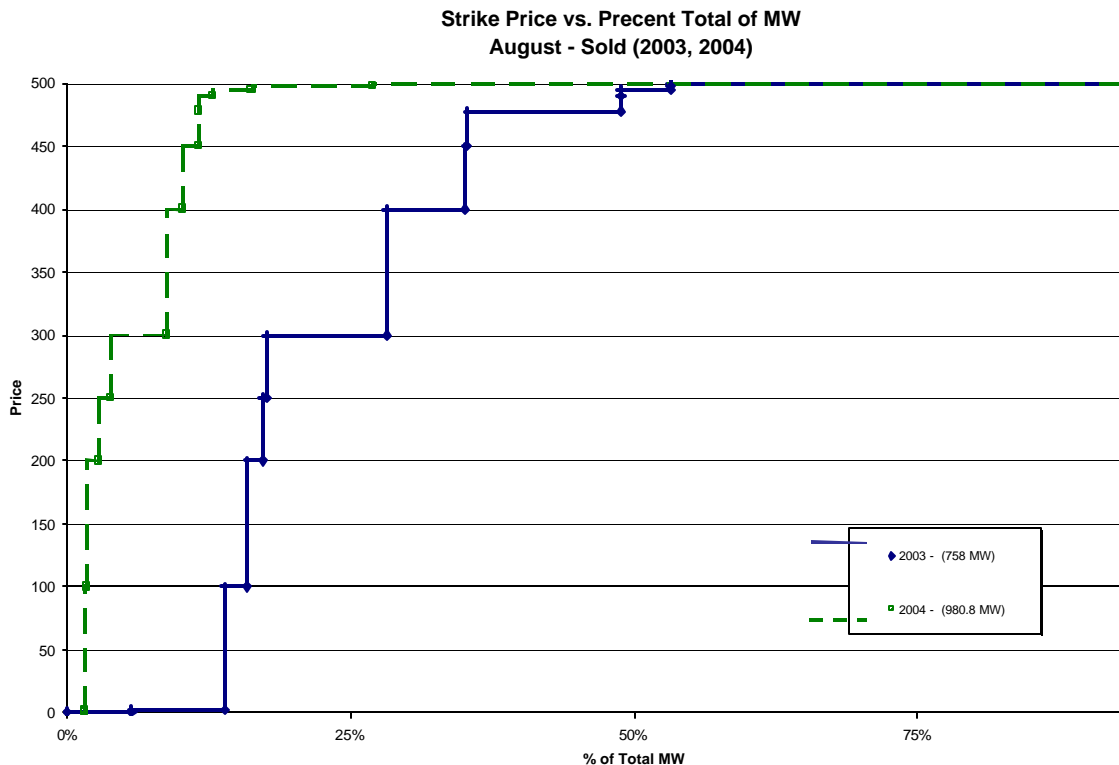
Beginning in 2003, participants in the ICAP-SCR program were required upon enrollment to indicate a curtailment strike price, between 0-\$500/MWH, which would be used by the NYISO to determine which resources to call for curtailments in the case where all available resources were not needed to restore system security to its equilibrium state. The NYISO anticipated stacking the curtailment strike prices in ascending order, in the same way it stacks generation supply bids, specifying the MW of curtailment needed, and calling all the resources that bid a strike price at or below the resulting price. A linear dispersion of strike prices over the MW/Price space would provide the NYISO with the greatest granularity for dispatching ICAP-SCR resources. If bids are clumped together too tightly, then some of the flexibility is lost.

To characterize how participants responded to this requirement, strike price curves were developed for all resources for 2004, and then the strike prices were disaggregated to characterize the nature of bids according to how long participants had been enrolled in the ICAP-SCR program. The curves map out the percentage of MW at a given strike price. If the program strike price curve is a straight line out of the origin and intersects the \$500 price ceiling at the 100% load level, then the dispersion of resources for dispatch purposes would be uniform, providing the ISO utmost flexibility is dispatching only as many resources as are needed. If that line was bowed upward, then resources are clumped at lower prices, and if it is bowed downward, the bias it toward higher prices. If the curve intersects the \$500 threshold price at a load level under 100%, then resources are clumped even more dramatically toward the highest price, and the bid curve offers little dispersion and therefore limited dispatch flexibility.

Figure 4, *2003 & 2004 ICAP-SCR Curtailment Bid Curves*, illustrates the strike price curves for 2003 to 2004, the two years the provision has been in place. First, both strike price curves intersect the \$500 threshold at 50% load or less, indicating that bids are highly clumped around the threshold. Second, the 2004 curve shows an even greater concentration of strike prices at the \$500 threshold than that of 2003.

The steeper slope for the strike price curve overall indicates that strike prices are clustered close to the bid ceiling of \$500/MWH. Higher strike prices in 2004 may be the result of the outcome of the 2003 blackout. Each participant that is called upon to curtail during an ICAP-SCR event and responds, under program provisions, is paid the market price at the time of the event, plus an additional amount defined by the difference its strike price and the market price at the time of the event. Generally, these circumstances would result in market prices being close to the strike prices of the last ICAP-SCR resource dispatched. As a result, the make-up payments would be small. However, in 2003, the day after the 2003 blackout, an ICAP-SCR event was declared and all ICAP-SCR resources called upon to curtail. But real-time market prices were set administratively at around \$125/MWH. Thus, the strike price had no impact on which participants were called upon to curtail, but those with a strike price below were paid only \$125/MWH, and those above received the market prices, plus a makeup bid that resulted in their being paid a higher price. Given this experience, it is not surprising that this year's strike prices are predominantly high.

Figure 4: 2003 & 2004 ICAP-SCR Curtailment Bid Curves



## **Impact of EDRP and SCR Program Changes on Participation**

The NYISO implemented only minor EDRP and SCR program changes in 2004:

1. Both the EDRP and SCR Manuals were amended to allow Distributed Generation to receive energy payments for output in excess of the host facility's load, provided that utility parallel interconnection requirements are met;
2. Eliminated the EDRP requirement that CSPs submit DEC permits for Distributed Generation resources to NYISO.
3. Amended certain EDRP deadlines by which the NYISO will notify LSEs of customer registrations in the EDRP program, as well as deadlines by which program participants will be deemed registered in the absence of specific action by the NYISO, specifically the requirement that NYISO notify an enrolling customer's LSE and Transmission Owner within two days was eliminated and the time before an application would be deemed approved in the absence of specific action by the NYISO was extended from 14 to 30 days..

These changes were approved at the March 17, 2004 Business Issues Committee meeting and incorporated into the EDRP Manual on April 5, 2004. The changes to the SCR program were incorporated into the ICAP Manual on April 8, 2004.

To date, as a result of the programs not having been activated in 2004, no Distributed Generation resources have availed themselves of the new opportunity to receive payment for energy production in excess of their host load.

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

The DADRP program provides retail customers with an opportunity to bid their load curtailment capability into the day-ahead spot market as supply resources. Customers submit bids 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 bid price had to be \$50/MWH or higher. Bids are structured like those of generation resources, so DADRP program participants may specify minimum and maximum run times and effectively submit a block of hours on an all or nothing basis, which makes them eligible for production cost guarantee payments that make up for any difference between the market price during that block of hours and their block bid price. Load schedule in the DAM is obligated to curtail the next day. Failure to comply results in the imposition of a penalty defined by the MW curtailment shortfall times the corresponding real-time market price.

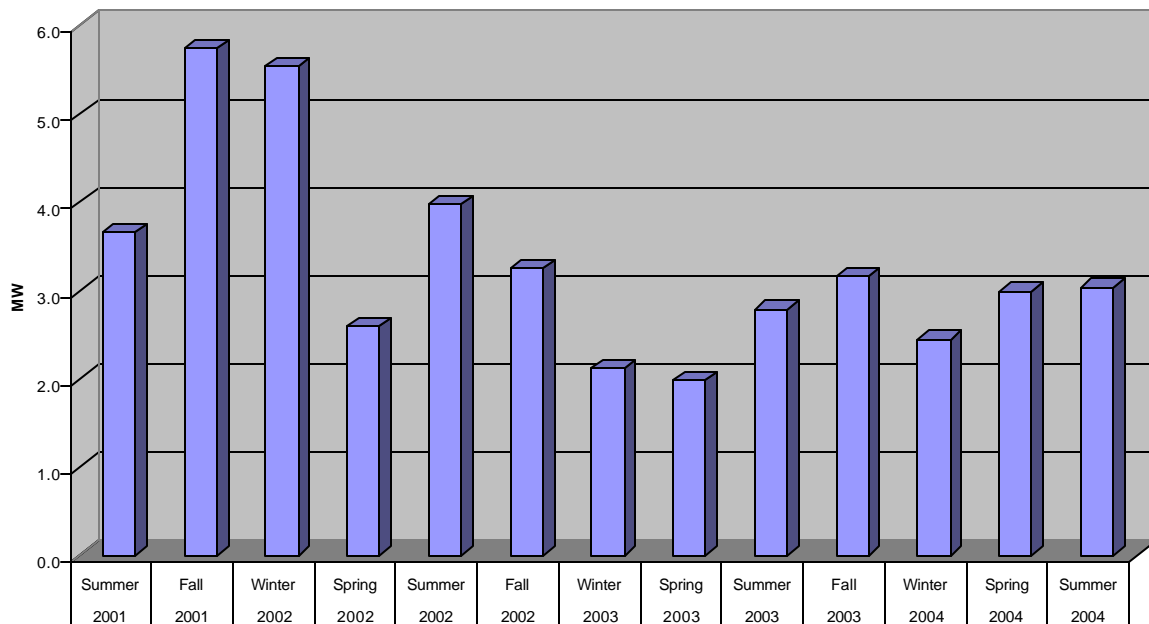
Two changes in Day-Ahead Demand Response Program (DADRP) protocols went into effect in 2004: the program was extended to October 31, 2005 and the existing \$50/MWH bid floor was increased to \$75/MWH to address concerns regarding free-ridership, as well as to reduce Net Social Welfare losses. However, these changes were not effective until November 1, 2004. As such, NYISO has not had an opportunity to assess their impact on DADRP.

### **DADRP Participation and Bidding Summary**

Registration in DADRP remained virtually unchanged; 26 customers were registered in 2004, compared with 25 in 2003. The amount of bids scheduled in the summer months was up 20% from 2002, to 1,752 MWH. The scheduled bids are illustrated in Figure 5, in part due to the lower prices that characterized the upstate zones where most of the bids were submitted. Declining price volatility in the DAM and RTM reduces the number of opportunities for scheduling DADRP bids, especially upstate where participation is highest. In addition to reducing the number of bids scheduled, reduced price volatility affects the impacts of those bids on market prices, as discussed below.

Overall, fewer DADRP bids were scheduled in 2004, largely due to the lower price volatility of the DAM. DADRP bids were scheduled a total of 1,275 hours during this reporting period, September 1, 2003 and August 31, 2004, which resulted in 3,535 MWhs of load reductions, and average hourly reduction of 2.77 MW. Figure 5 shows a comparison of scheduled DADRP bids by season since the program's inception. A pattern has emerged over the past 3 years. Few bids are scheduled in the spring and fall, when DAM prices are relatively low, and a greater number of bids are scheduled in the summer and winter, when DAM prices are higher. In addition, the imposition of the \$50/MWH price floor in 2002 reduced overall the number of bids that were scheduled. Due in large part to the low prices experienced during the summer of 2004, even fewer bids were scheduled this year compared with the summers of 2003 and 2002. However, the number of bids scheduled during the winter of 2003-2004 is comparable to that of past years

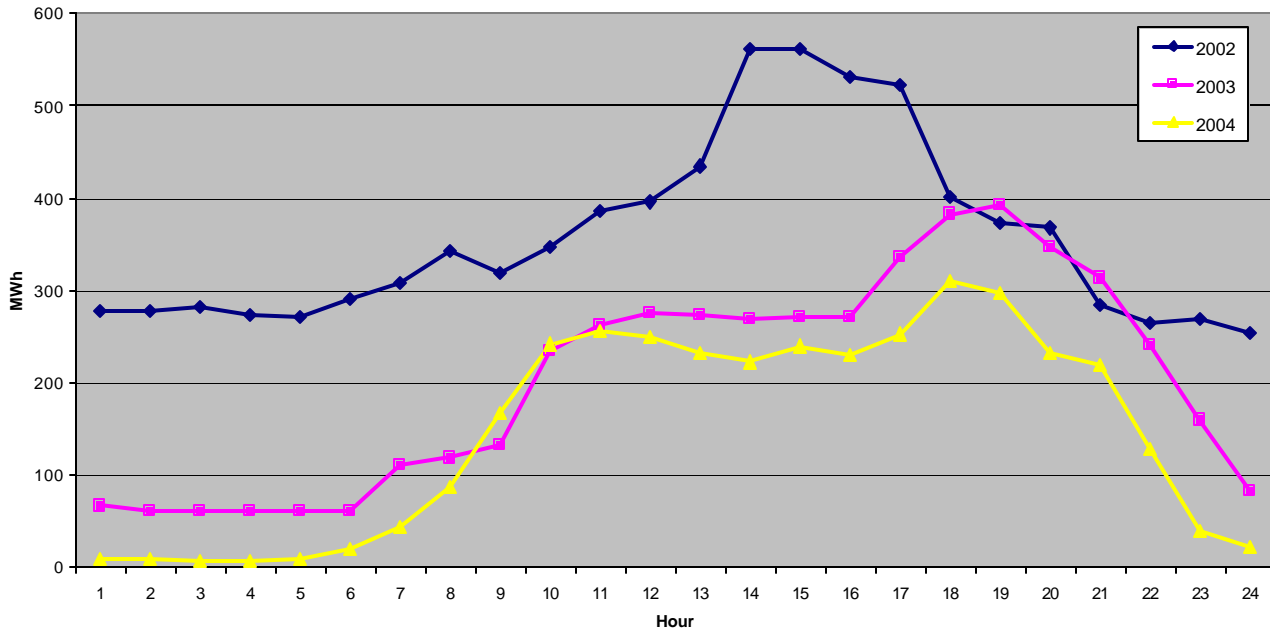
Figure 5: Average Scheduled Hourly DADRP Bid (MW) by Season and Year



The average size of scheduled bids is declining. The average scheduled hourly bid between September 1, 2003 and August 31, 2004 was 2.7 MW, which is lower than the previous year (2.9 MW) and substantially less than the same period in 2001-2002 (4.8 MW).

DADRP bids in 2004 were largely scheduled during the day and evening hours, 9:00 a.m. to 10:00 p.m. Figure 6 shows the number of scheduled MWhs of load curtailment by hour and program year (September 1 – August 31) for 2002-2004. The imposition of the \$50/MWH bid floor is largely responsible for the reduction in the number of overnight bids scheduled in the past two years, compared to the first year, along with the general reduction in price volatility.

Figure 6: Total Scheduled DADRP Bids (MWh) By Hour and Program Year (9/1 – 8/31)



### DADRP Estimated Market Benefits Summary

Scheduled DADRP curtailments impact the NYISO market in three distinct ways. First, when DADRP curtailments displace higher priced generation resources, the corresponding DAM clearing price drops, thereby reducing the cost of purchases made by LSEs through fixed price and price cap load bids. The amount of those bill savings depends on how steep the supply curve was at that time. The steeper the supply curve, the larger the reduction in prices when demand is reduced. Such reductions in DAM LBMPs will also cause the expected future market outlook of price volatility to be reduced. These expectations are hypothesized to place downward pressure on bilateral transactions between LSEs and suppliers. Hedge cost savings and bill savings are both transfer payments. Money that formerly was paid by LSEs, on their retail customers' behalf, to generators is now in effect transferred back to LSEs, and eventually to their customers, as avoided costs.

From a social welfare perspective, as defined by economists, these transfers are not defined as benefits, just neutral transfers among market participants with no specific weight or merit. However, such transfers are important to consumers, since they amount to reduced costs for the electricity purchased by consumers, and all other things equal, they are therefore desirable. Economists define a third flow of benefits that results when customers respond to actual market costs rather than usage prices based on average costs. Such changes in usage of electricity reduce deadweight social losses, which are defined as the utilization of resources in other than the socially optimal manner. DADRP induces customers paying average prices for electricity to



adjust their usage to contemporary, actual supply costs, thereby reducing deadweight losses and improving social welfare. This third flow of benefits from DADRP is the improvement in net social welfare that is realized when DADRP bids from participants on flat-rate tariffs are scheduled.

Market price impacts for the summer months (June, July and August) of 2004 were estimated using the methods and protocols developed for previous reports.<sup>14</sup> Supply flexibilities were developed for two aggregate regions: Western NY and Hudson River, and two NYISO zones: New York City and Long Island.<sup>15</sup> Supply flexibilities, defined as the percentage change in LBMP resulting from a one percent change in the load served, characterize the nature (slope) of the resource supply curve. The greater the price flexibility, the greater the reduction in the calculated DAM LBMP due to the scheduling of a DADRP curtailment bid. High supply flexibilities over a narrow range of load levels are indicative of a pronounced “hockey-stick” shaped supply curve. In the market impact analyses, the supply flexibilities are used to construct a statistical representation of the bid curve during hours that DADRP bids are scheduled, so that the level of price that would have been achieved in the DAM and RTM, had these curtailments not been scheduled and delivered, can be estimated, as well as the corresponding bill savings. In addition, the supply flexibility is used in the derivation of the net social welfare results.

Overall, price flexibilities in the 2004 DAM are comparable to those reported in 2003, while the RTM experienced much lower flexibilities than last year, as illustrated in Tables 5 and 6. However, the estimated price flexibilities in both markets still remain much lower than they were in either of the first two years of the demand response programs. The low price flexibilities result in smaller market effects when DADRP curtailment bids are scheduled, and as demonstrated below, undermine the net social welfare gains from DADRP.

All three types of market effects estimated for the summer of 2004 are compared to those from 2001 through 2003 in Table 7.<sup>16</sup> The lower level of scheduled DADRP bids in 2004 resulted in a 78% reduction collateral savings and reduced hedge costs. Collateral impacts measure the reduction in the cost of DAM and RTM purchases by LSEs resulting from DADRP scheduled curtailments depressing prices. Hedge cost impacts estimate the ripple effect lower prices in the DAM during curtailment hours are postulated to have on future bilateral contract supply costs.

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<sup>14</sup> This analysis is confined to the summer months to accommodate a comparison of 2004 results with prior year’s analyses that included only these months. More detailed impacts of DADRP for September 2003 – May 2004 are provided in an appendix.

<sup>15</sup> Western NY superzone consists of NYISO zones A – E, while the Hudson River superzone is comprised of NYISO zones F – I.

<sup>16</sup> In previous years, market impacts were estimated only for the summer months, where DADRP bids were most likely to be scheduled. Starting in 2004, market impacts are estimated for the entire year. In order to accommodate year-to-year comparisons, the summer 2004 impacts are presented here.

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	2001	2002	2003	2004
West	6.4	6.7	3.4	2.3
Hudson/Capital	8.6 / 8.4	4.7 / 6.0	2.5	1.2
New York City	14.5	12.8	5.9	1.8
Long Island	10.4	5.2	6.0	2.1

Price Flexibility = % change in LBMP resulting from a 1% change in load served  
 Table 5: DAM Price Flexibilities (Summer)

Table 6: RTM Price Flexibilities (Summer)

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	2001	2002	2003	2004
West	9.4	4.2	1.4	1.8
Hudson/Capital	5.1 / 11.8	3.9 / 5.0	1.9	1.6
New York City	9.4	3.6	3.5	0.7
Long Island	5.1	6.5	1.2	0.6

Price Flexibility = % change in LBMP resulting from a 1% change in load served

Table 7: DADRP Market Effects (Summer)

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	Scheduled DADRP MWHs	Collateral Savings	Reduction in Hedge Cost	Total Market Effect	Program Payments	Change in NSW
2001	2,694	\$892,140	\$682,358	\$1,574,498	\$217,487	N/A
2002	1,468	\$236,745	\$202,349	\$439,094	\$110,216	N/A
2003	1,752	\$45,773	\$161,558	\$207,331	\$121,144	-\$72,271
2004	675	\$8,996	\$36,940	\$45,936	\$40,651	-\$27,408

DADRP scheduled bids resulted in a decrease in net social welfare (NSW), although the amount (\$27,408) is less than in 2003. The change in NSW reflects a change in allocative efficiency of scarce resources due to customers on a flat rate being able to express their changing value for electricity through load-curtailement bidding.

Why then are NSW benefits negative the past two years? The answer is that scheduling DADRP bids at relatively low DAM prices, for example at the \$50/MWH bid floor price, generally corresponds to a very low supply flexibility, the supply curve is relatively flat, and the deviance from the average price the customer pays and the socially optimum DAM price is very small. The change in NSW is based on that deviation, net of the payment the customer receives for curtailing, i.e., the DAM price. When the supply curve is very flat, the reduced deadweight loss can be less than the payment to the customers, resulting in a reduction in NSW.

Negative NSW contributions do not necessarily mean that DADRP is counterproductive. DADRP is intended to reduce price volatility. When prices are very high, \$500/MWH or more, as they were at times in 2000-2002, the incentives to shift load for DADRP participants are high. Moreover, these circumstances are coincident with very high supply flexibilities, upwards of 10 at times in 2001-2002, which result in relatively greater reductions in deadweight losses from DADRP induced curtailments, and positive NSW contributions. The challenge is how to induce customers to join the program and monitor prices so that when they spike, DADRP bids will be forthcoming, scheduled, and deliver NSW improvements, and provide them with opportunities to realize benefits when prices are low, and their curtailment costs are even lower.

NYISO intends to work with its Market Participants during 2005 to develop DADRP enhancements that facilitate the submission of standing bids and the notification of participants when their standing bids have been accepted. The goal being to have DADRP bids standing ready to be accepted in the event that prices spike to levels that make them economic.

The lower market effects in 2004 reflect the relatively flat nature of the resources supply curve during the summer months. Low supply flexibilities mean that scheduled curtailments have a lower impact on the DAM LBMP. Program costs are based on the price at which the DADRP curtailment was scheduled, but are also down substantially from 2003. The ratio of market effects, the sum of transfer costs and NSW, to DADRP curtailment payments, referred to as the program impact ratio, in 2004 was 1.1, compared to 1.7, 4.0 and 7.2 in 2003, 2002, and 2001 respectively. In general, the low impact ratio in 2004 is attributable to the low DAM prices and low supply flexibilities.

## Demand Response Cost/Benefit Evaluation

To better weigh program benefits against implementation and support costs, the NYISO developed an evaluation approach that looks at both qualitative performance criteria and quantitative program costs and benefits. Quantitative costs include:

- payments to market participants,
- internal labor costs,
- consultant fees,
- maintenance fees for software development and support

Since these programs add to the market design (versus replacing existing procedures), no internal savings were given for the demand response programs. Benefits associated with the EDRP/SCR and DADRP programs have been taken from the annual Demand Response Program Evaluation Reports prepared by Neenan Associates<sup>17</sup>.

Qualitative rankings were determined for four significant demand response categories:

- avoided risk,
- customer satisfaction,
- environmental impact, and
- market efficiency

A scale was implemented for each category of 0 to 4. A score of 4 indicated “high” impact on the category. A score of “1” indicated no change, and a “0” implied that there was actually a negative effect. Each score is described more fully on Table 1. This qualitative scoring allowed for a core benefit matrix to be developed, such that equal 10% weightings were assigned to each category, totaling 40%.

For each program year and for the total program period (2001-2004), a ratio of costs to benefits was developed. The remaining 60% of the overall evaluation used the cost-to-benefit ratio, normalized to the 0 to 4 scale; the complete ranking model is:

$$0.1 * (\text{avoided risk} + \text{customer satisfaction} + \text{environmental impact} + \text{market efficiency}) + 0.6 * (4 - \text{cost/benefit ratio})$$

### EDRP/SCR Evaluation (Refer to Table 9)

Each year there was a separate financial obligation of \$3 - \$4 million paid to participants, increasing to over \$7 million in 2003 due to the magnitude of the EDRP/SCR response to the August blackout. As noted in the evaluation reports, this impact was calculated as a Value of Unserved Energy, and served as a cost/benefit measure of reliability. Nothing has been paid out in 2004, since there have been no emergency events to date.

Consultant fees to assess the program results have been incurred, starting with 2002, averaging less than \$90,000 per year. Internal labor hours were driven by averaging actual hours for a 2-

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<sup>17</sup> Reference to evaluation reports

year timeframe and spreading them evenly to all years. 200 hours of EDRP/SCR labor in 2004 were deducted to account for time normally spent processing response data for payment but not incurred since no demand response events were recorded. This labor averaged \$48,000-58,000 each year of activity. Development and recurring license fee expenses for a web-based automated event notification system have also been incurred.

Qualitative inputs were derived from evaluations of the number of megawatts and customers each year; large increases in numbers from year to year resulted in a large score. Avoided risk rankings reflect the initial need for demand-side programs and the contribution of EDRP/SCR programs to the August 2003 blackout restoration effort. Customer satisfaction was based on the level of satisfaction by market participants of the program. Environmental rankings are essentially neutral, but reflect a slight negative impact due to older diesel-fired unit participation. Market efficiency included an overall perspective, including such areas as the reduction of market volatility, the introduction of both new markets and new features to existing markets, improved liquidity, and benefits due to the effect of scarcity pricing.

#### **DADRP Evaluation (Refer to Table 10)**

Participant payments ranged from \$100,000 - \$200,000 annually. Consultant fees for work specifically directed at DADRP averaged under \$50,000 annually. There were some internal labor hours that generate ongoing costs, ranging between \$12,000 – 25,000 a year since the 2001 program inception. As noted in the annual program evaluations, market benefits were initially \$1,570,000 in 2001 as the program spread to the marketplace. Subsequent year benefits have been substantially less due to generally lower prices in those Zones with the greatest DADRP participation.

#### **Overall Assessment of Cost/Benefit Ratings**

In general, the EDRP/SCR programs showed a payback within six months during the period 2001 to 2003. While costs continue to be incurred each year, it is possible to have a year with no measured benefit as occurred in 2004 due to the lack of demand response events. Since earlier years reflected a relatively short payback, the lack of events over a 2-3 year period would still provide a positive payback to the marketplace.

DADRP is trending toward longer payback periods as a direct result of the lack of opportunity for demand-side resources to schedule reductions at cost-effective prices. The absence of these opportunities does not reflect problems with program design or implementation; they reinforce the basic balance between supply and demand, with current market conditions resulting in lower energy prices and price volatilities.

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Table 8 – Qualitative Ranking Criteria

Avoided Risk

0	No avoided risk
1	Some risk but not quantified
2	Low probability of occurrence, minimal NYISO impact, and/or substantial NYISO control
3	Medium probability of occurrence, moderate NYISO impact, and/or some NYISO control
4	High probability of occurrence, severe NYISO impact, and/or minimal NYISO control

Customer Satisfaction\*

0	No impact on customer service
1	Some impact but not quantified
2	Minimal improvement in one or more customer service benchmarks
3	Moderate improvement in one or more customer service benchmarks
4	Substantial improvement in one or more customer service benchmarks

Environmental Impact

0	Potential negative impact to air and/or water quality
1	No environmental impact
2	Slight positive impact on air and/or water quality
3	Moderate positive impact on air and/or water quality
4	Substantial positive impact on air and/or water quality

Market Efficiency

0	Negative impact on overall market efficiency
1	No change in overall market efficiency
2	Low positive impact on overall market efficiency
3	Medium positive impact on overall market efficiency
4	High positive impact on overall market efficiency

*\*Benchmarks for determining customer service impact:*

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- *Operations (load forecasting error, emergencies/reserve activations/alerts, SREs, CPS2)*
  - *Market Services (DAM, BME on-time posting, hours reserved for price correction, intervals corrected)*
  - *Customer Care (helpdesk ticket response, training evaluations, committee material distribution, interest charged/paid on true-ups)*
-

Table 9: EDRP Cost/Benefit Analysis

<b>EDRP Cost/Benefit Analysis</b>						
		<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>01 - 04</b>
<b>Labor</b>		\$58,603	\$58,603	\$58,603	\$48,717	\$224,525
<b>Payments to Participants</b>		\$4,167,079	\$3,513,508	\$7,344,377	\$0	\$15,024,964
<b>Consulting</b>		\$0	\$86,667	\$86,667	\$86,667	\$260,001
<b>Software, Maintenance</b>		\$0	\$113,000	\$26,000	\$40,000	\$179,000
<b>Total Program Costs</b>		\$4,225,682	\$3,771,777	\$7,515,646	\$175,384	\$15,688,487
<b>Market Impact</b>		\$8,159,000	\$7,028,000	\$60,137,000	\$0	\$75,324,000
<b>Qualitative Criteria</b>	<b>Weighting</b>					
<b>Avoided Risk</b>	<b>10%</b>	3.00	2.00	4.00	1.00	2.50
<b>Customer Satisfaction</b>	<b>10%</b>	3.50	2.50	2.50	3.00	2.88
<b>Environmental Impact</b>	<b>10%</b>	0.75	0.50	1.50	1.10	0.96
<b>Market Efficiency</b>	<b>10%</b>	2.00	1.00	2.00	1.00	1.50
<b>Core Benefits Score</b>	<b>40%</b>	2.31	1.50	2.50	1.53	1.96
<b>Cost/Benefit Ratio</b>	<b>60%</b>	0.52	0.52	0.12	<b>N/A</b>	0.20
<b>Overall Weighted Score</b> (0-4, 4=highest)		<b>3.01</b>	<b>2.69</b>	<b>3.33</b>		<b>3.06</b>

Table 10: DADRP Cost/Benefit Analysis

<b>DADRP Cost/Benefit Analysis</b>						
		<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>01 - 04</b>
<b>Labor</b>		\$20,453	\$9,818	\$9,818	\$12,272	\$52,360
<b>Payments to Participants</b>		\$217,487	\$110,216	\$263,311	\$120,136	\$711,150
<b>Consulting</b>		\$0	\$43,333	\$43,333	\$43,333	\$130,000
<b>Total Program Costs</b>		\$237,940	\$163,367	\$316,462	\$175,741	\$893,510
<b>Market Impact</b>		\$1,570,998	\$439,094	\$207,331	\$32,802	\$2,250,225
<b>Qualitative Criteria</b>	<b>Weighting</b>					
<b>Avoided Risk</b>	<b>10%</b>	2.00	2.00	2.00	2.00	2.00
<b>Customer Satisfaction</b>	<b>10%</b>	4.00	1.50	0.50	1.00	1.75
<b>Environmental Impact</b>	<b>10%</b>	2.00	2.00	2.00	2.00	2.00
<b>Market Efficiency</b>	<b>10%</b>	3.00	1.00	1.00	1.00	1.50
<b>Core Benefits Score</b>	<b>40%</b>	2.75	1.63	1.38	1.50	1.81
<b>Cost/Benefit Ratio</b>	<b>60%</b>	0.15	0.30	1.67	5.36	0.36
<b>Overall Weighted Score</b> (0-4, 4=highest)		<b>3.41</b>	<b>2.87</b>	<b>1.95</b>	<b>-0.21</b>	<b>2.91</b>

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## **ATTACHMENT II**

**NYCA & Locality Load and Capacity Outlook**  
**For Summer 2005 (as of October 8, 2004)**

<b><u>Statewide</u></b>	<b><u>Total NYCA</u></b>
Forecast Demand	32,320 MW
Reserve Requirement	<u>5,818 MW</u>
Total ICAP Requirement	38,138 MW
NYCA Available Supply	36,135 MW
Need for new units, externals, SCRs	3 MW

<b><u>New York City</u></b>	
Forecast ICAP Requirement	11,365 MW
In-City Requirements (80%)	9,092 MW
Available Supply	9,015 MW
Additional Capacity Needed	77 MW

<b><u>Long Island</u></b>	
Forecast ICAP Requirement	5,155 MW
On-Island Requirements (99%)	5,103 MW
Available Supply	5,127 MW

**Potential New Supply for New York State**  
**For Summer 2005 (as of October 8, 2004)**

<b><u>Generator</u></b>	<b><u>Rating</u></b>
Bethlehem	750 MW
Albany Steam Retirement (due to Bethlehem)	-356 MW
Cedars (radial connection to New York)	200 MW
Forecasted New Special Case Resources	<u>706 MW</u>
	1,300 MW

**Potential New Supply for New York City**  
**For Summer 2005 (as of October 9, 2004)**

<b><u>Generator</u></b>	<b><u>Rating</u></b>
Special Case Resources	250 MW
Poletti Expansion	500 MW
East River Repowering	<u>288 MW</u>
	960 MW

**Potential New Supply for Long Island**  
**to Be Installed by Summer 2005 (as of October 8, 2004)**

<b><u>Generator</u></b>	<b><u>Rating</u></b>
Special Case Resources	98.0 MW
Pinelawn Gas Turbine	79.9 MW
Bethpage Gas Turbine	79.9 MW
Stonybrook "reclaim"	<u>33.0 MW</u>
Net Total	290.8 MW

## **ATTACHMENT III**

**PROPOSED INTERCONNECTIONS / NEW YORK CONTROL AREA**

Site #	Project Name	Owner/Developer	Size (MW)	Date of Study Application	S	Interconnection Point	Utility	Status of Article X or VII	C	Proposed In-Service
3	Bethlehem Energy Center	PSEG Power NY	350	04/27/98	C	Albany	NM-NG	Certified 2/28/02	Y	2005/Sp
9	Millennium 1	Millennium Power Gen Co. LLC	160	02/23/99	I	Hell Gate/Bruckner	CONED	(No Filing)	N	None
10	Millennium 2	Millennium Power Gen Co. LLC	320	02/23/99	I	Hell Gate/Bruckner	CONED	(No Filing)	N	None
16	ABB Oak Point Yard	ABB Development Corp.	1075	04/15/99	C	Hell Gate/Bruckner	CONED	Inactive	N	None
18	Poletti Expansion	NYPA	500	04/30/99	C	Astoria	CONED	Certified 10/02/02	Y	2005/01
19	NYC Energy LLC	NYC Energy LLC	79.9	05/07/99	C	Kent Ave	CONED	N/A	Y	2004/Q4
20	Spagnoli Road CC Unit	KeySpan Energy, Inc.	250	05/17/99	C	Spagnoli Road	LIPA	Certified 5/8/03	N	2006
21	Shoreham Gen Station	KeySpan Energy, Inc.	250	05/17/99	I	Shoreham	LIPA	(No Filing)	N	None
22	Wawayanda Energy Center	Calpine Eastern Corporation	500	06/10/99	C	Coop Corn-Rock Tav Lines	NYPA	Certified 10/22/02	N	2007
23	Sullivan County Power Project	Calpine Eastern Corporation	1080	06/25/99	I	Coop Corn-Rock Tav Lines	NYPA	(No Filing)	N	None
24	Astoria Repowering-Phase 1	Reliant Energy	499	07/13/99	C	Astoria	CONED	Certified 6/25/03	N	2007
25	East River Repowering	Consolidated Edison of NY	288	08/10/99	C	E. 13th St.	CONED	Certified 8/30/01	Y	2004/Q4
26	Twin Tier Power	Twin Tier Power, LLC	520	08/20/99	I	Watercure-Oakdale 31 Line	NYSEG	Inactive	N	None
28	Spagnoli Road GT Unit	KeySpan Energy, Inc.	79.9	09/08/99	I	Spagnoli Road	LIPA	N/A	N	None
29	Bowline Point Unit 3	Mirant	750	10/13/99	C	W. Haverstraw	CONED	Certified 3/25/02	Y	2008
31	Astoria Energy	SCS Energy, LLC	1000	11/16/99	C	Astoria	CONED	Certified 11/21/01	Y	2006
32	Brookhaven Energy	American National Power	580	11/22/99	C	Holbrook-Brookhaven Line	LIPA	Certified 8/14/02	N	2006
33	Glenville Energy Park	Glenville Energy Park, LLC	540	11/30/99	C	Rotterdam	NM-NG	Appl accepted 4/9/02	N	2007
35	Gotham Power - Bronx I	1st Rochdale Coop Group	79.9	01/12/00	P	Parkchester/Tremont	CONED	N/A	N	None

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 The column labeled 'C' refers to construction status. Key: Y=Yes, N=No, C=Completed  
 Proposed in-service dates are shown in format Year/Qualifier, where Qualifier may indicate the month, season, or quarter.

**PROPOSED INTERCONNECTIONS / NEW YORK CONTROL AREA**

Site #	Project Name	Owner/Developer	Size (MW)	Date of Study Application	S	Interconnection Point	Utility	Status of Article X or VII	C	Proposed In-Service
38	Far Rochaway Gen Ext.	KeySpan Energy, Inc.	79	02/01/00	I	Far Rockaway	LIPA	N/A	N	None
39	E. F. Barrett Gen Ext	KeySpan Energy, Inc.	79	02/01/00	I	Barrett	LIPA	N/A	N	None
40	Riverhead Gen Station	KeySpan Energy, Inc.	79	02/01/00	I	Riverhead	LIPA	N/A	N	None
41	Southampton Gen Ext.	KeySpan Energy, Inc.	79	02/01/00	I	Southampton	LIPA	N/A	N	None
42	Holbrook Energy	PP&L Global, Inc.	300	02/01/00	I	Holbrook	LIPA	(No Filing)	N	None
43	PPL Kings Park	PP&L Global, Inc.	300	02/01/00	C	Pilgrim	LIPA	Appl accepted 3/22/02	N	2007
44	Ruland Energy	PP&L Global, Inc.	300	02/01/00	I	Ruland Road	LIPA	(No Filing)	N	None
46	Brookhaven Energy	PP&L Global, Inc.	300	02/03/00	I	Brookhaven	LIPA	(No Filing)	N	None
51	Wading River Gen Ext.	KeySpan Energy, Inc.	150	02/15/00	I	Wading River	LIPA	(No Filing)	N	None
57	Flat Rock Windpower	Flat Rock Windpower, LLC	100	03/21/00	C	Lowville-Boonville	NM-NG	N/A	N	N/A
58	Lovett #3 Repowering	Mirant	180	03/23/00	I	Lovett	CONED	(No Filing)	N	None
59	Hillburn Unit #2	Mirant	79.9	03/23/00	I	Hillburn	CONED	N/A	N	None
60	Hillburn #2 Conversion	Mirant	40	03/23/00	I	Hillburn	CONED	N/A	N	None
63	LSA Station A	Lewis Staley Associates, Inc.	650	05/11/00	I	Homer City-Stolle Rd Line	NYSEG	(No Filing)	N	None
64	LSA Station B	Lewis Staley Associates, Inc.	600	05/12/00	I	Dunkirk-Gardenville Line	NM-NG	(No Filing)	N	None
65	Lockport II Gen Station	Fortistar-Lockport Merchant Associates	79.9	05/15/00	C	Harrison Station	NYSEG	N/A	N	2005
68	Ruland Energy Ext.	PP&L Global, Inc.	300	06/23/00	I	Ruland Road	LIPA	(No Filing)	N	None
69	Empire State Newsprint	Besicorp/Empire State	660	07/14/00	C	Reynolds Road	NM-NG	Appl accepted 5/28/02	N	2006
70	Astoria Repowering-Phase 2	Reliant Energy	800	08/18/00	C	Astoria	CONED	Certified 6/25/03	N	2007

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**PROPOSED INTERCONNECTIONS / NEW YORK CONTROL AREA**

Site #	Project Name	Owner/Developer	Size (MW)	Date of Study Application	S	Interconnection Point	Utility	Status of Article X or VII	C	Proposed In-Service
72	Island Generating Station	Fortistar Power Marketing, LLC	79.9	09/08/00	I	Fresh Kills	CONED	N/A	N	None
73	Island Generating Station #2	Fortistar Power Marketing, LLC	500	09/08/00	I	Fresh Kills	CONED	(No Filing)	N	None
74	Oceanside Energy Center	FPL Energy, LLC	330	10/10/00	I	Barrett	LIPA	(No Filing)	N	None
76	Waterford	Calpine Eastern Corporation	530	10/30/00	I	NM-NG 230 or 115 kV	NM-NG	(No Filing)	N	None
78	Ravenswood Repowering Ph I	KeySpan Ravenswood Services, LLC	440	12/04/00	I	Vernon	CONED	(No Filing)	N	None
86	Berrians GT Replacement	NRG/ Berrians I GT Power, LLC	79.9	01/15/01	I	Astoria	CONED	N/A	N	None
90	Fortistar VP	Fortistar, LLC	79.9	03/20/01	C	Fresh Kills	CONED	N/A	N	2005/S
91	Fortistar VAN	Fortistar, LLC	79.9	03/20/01	C	Goethals/Fresh Kills	CONED	N/A	N	2005/S
92	Redhook Energy	Amerada Hess Corp.	79.9	05/01/01	I	ConEd 138 kV (tbd)	CONED	N/A	N	None
102	Indian Point Energy Center	Entergy Power Generation Corp.	400	07/23/01	C	Buchanan	CONED	Inactive	N	None
105	Titan Smith Street	Calpine Eastern Corporation	79.9	10/05/01	I	Gowanus 138 or 345 kV	CONED	N/A	N	None
106	TransGas Energy	TransGas Energy, LLC	1100	10/05/01	C	E13St, Rainey, or Farragut	CONED	Appl accepted 6/5/03	N	2007
107	Caithness Bellport	Caithness Bellport, LLC	299	10/09/01	P	Brookhaven-Holbrook or H'ville	LIPA	(No Filing)	N	None
108	SE Long Island	Sempra Energy Resources	575	11/29/01	I	Shoreham-Holbrook lines	LIPA	(No Filing)	N	None
109	Maspeth	Calpine Eastern Corporation	79.9	01/25/02	I	Vernon-Glendale line	CONED	N/A	N	None

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**PROPOSED INTERCONNECTIONS / NEW YORK CONTROL AREA**

Site #	Project Name	Owner/Developer	Size (MW)	Date of Study Application	S	Interconnection Point	Utility	Status of Article X or VII	C	Proposed In-Service
113	Prattsburgh Wind Park	Global Winds Harvest, Inc.	75	04/22/02	C	Eelpot Rd-Flat St. line	NYSEG	N/A	N	2004/Q4
115	East Fishkill Transformer	Central Hudson Gas & Electric	N/A	04/24/02	I	East Fishkill	CONED/CHG&E	N/A	N	None
117	Chautauqua Windpower Project	Chautauqua Windpower, LLC	50	05/14/02	C	Dunkirk-S. Ripley line	NM-NG	N/A	N	2005
118	Prattsburgh Wind Park II	Global Winds Harvest, Inc.	75	05/15/02	I	Eelpot Rd-Flat St. line	NYSEG	N/A	N	None
119	Prattsburgh Wind Farm	ECOGEN, LLC	79.5	05/20/02	C	Eelpot Rd-Flat St. line	NYSEG	N/A	N	2005/02
124	Bay Energy Project	Bay Energy, LLC	79.9	07/01/02	C	Gowanus	CONED	N/A	N	2004/Q4
128	Flat Rock Wind Power 230 kV	Flat Rock Wind Power, LLC	240	11/20/02	C	Adirondack-Porter line	NM-NG	(see #141 below)	N	N/A
130	Grace Corona Generation	Electrotek Concepts, Inc.	79.9	01/14/03	I	Corona	CONED	N/A	N	2005
131	Cody Road Wind Farm	Green Power Energy, LLC	10.5	03/05/03	I	Oneida-Cortland line	NM-NG	N/A	N	2005
132	Munnsville Windpower	Airtricity Developments, LLC	40	05/11/03	N/A	NYSEG Ckt 806	NYSEG	N/A	N	2004/Q3
135	Canandaigua Wind Farm	Canandaigua Power Partners, LLC	79.9	05/30/03	P	Avoca	NYSEG	N/A	N	2005/10
136	Rochester Transmission Project	Rochester Gas & Electric	N/A	06/12/03	C	RG&E System	RG&E	Appl accepted 1/30/04	N	2008/F
138	Indian Point 2 Uprate	Entergy Nuclear Operations, Inc.	36	07/23/03	C	Indian Point	CONED	N/A	N	2004/F
139	Indian Point 3 Uprate	Entergy Nuclear Operations, Inc.	38	07/23/03	C	Indian Point	CONED	N/A	N	2005/Sp
140	Leeds-PV Reconductoring	National Grid	N/A	08/26/03	A	Leeds/Athens-Pi. Valley	NM-NG	N/A	N	2006
141	Flat Rock Wind Power 300 MW	Flat Rock Wind Power, LLC	300	08/27/03	C	Adirondack-Porter line	NM-NG	Art VII Certified 4/12/04	N	2005
142	Hartsville Wind Farm	Airtricity Developments, LLC	50	10/30/03	A	Bennett-Palmiter	NYSEG	N/A	N	2006/12
143	Ginna Uprate Project	Constellation	95	01/30/04	C	Ginna	RG&E	(No Filing)	N	2005/02
144	High Sheldon Windfarm	Invenergy Wind, LLC	225	02/18/04	A	Stolle Rd-Meyer line	NYSEG	(No Filing)	N	2005-06
145	LIPA Summer Mobile Gens	KeySpan Energy for LIPA	96	03/02/04	A	Holtsville and Shoreham	LIPA	N/A	Y	2004/06
146	Mott Haven Substation	Con Edison	N/A	03/16/04	A	Dunwoodie-Rainey lines	CONED	N/A	N	2007/S
147	West Hill Windfarm	NY Windpower, LLC	40	04/16/04	P	Oneida-Cortland line	NM-NG	N/A	N	2006/F
148	Trigen-Nassau	Trigen Nassau Gen Co., LLC	79.9	05/18/04	P	Uniondale Substation	LIPA	N/A	N	2005/01
149	LIPA Wading River Em Gen	KeySpan Energy for LIPA	79.9	06/03/04	C	Wading River	LIPA	N/A	N	2004/07
150	Cherry Valley Wind Power	Reunion Power, LLC	92	06/17/04	P	East Springfield/Ames	NM/NYSEG	N/A	N	2006/09

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**PROPOSED INTERCONNECTIONS / NEW YORK CONTROL AREA**

Site #	Project Name	Owner/Developer	Size (MW)	Date of Study Application	S	Interconnection Point	Utility	Status of Article X or VII	C	Proposed In-Service
151	West Side Switching Station	Con Edison	N/A	06/30/04	P	West 49th St & Farragut	CONED	N/A	N	2011S
152	Stamford Wind Project	Invenergy Wind, LLC	129	07/23/04	P	Axtell Road-Grand Gorge Line	NYSEG	N/A	N	2006/12
154	Holtsville-Brentwood-Pilgrim	KeySpan Energy for LIPA	N/A	08/19/04	P	Holtsville & Pilgrim	LIPA	(No Filing)	N	2007/06
<b>Total - In-State Generation</b>			<b>20,861</b>							

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## **ATTACHMENT IV**

DEPARTMENT OF PUBLIC SERVICE ARTICLE X CASES <sup>1</sup> Revised 8/4/04								
Case Number	Project	MW	Developer	Town/ County	DEC Notice of Air & Water Permits <sup>2</sup>	Application Filing Date	Certification Date or Estimated Decision Date	Estimated Earliest In-Service Date <sup>2, 3</sup>
<b>Certified Article X Projects - In Service</b>								
97-F-1563	<a href="#">Athens Generating Plant</a>	1080	Athens Generating Co., LP	Athens/ Greene	6/12/00 Final	8/28/98	6/15/00	May 2004 (In-Service)
99-F-1625	<a href="#">Ravenswood Cogeneration Project</a>	250	KeySpan	Queens	9/4/01 Final	7/28/00	9/7/01	5/22/04 Commercially Available
<b>Certified Article X Projects - Under Construction</b>								
99-F-1191	<a href="#">Astoria Energy, LLC</a>	1000	SCS Energy	Astoria/ Queens	12/5/01 Final	6/19/00	11/21/01	2006

1 Seven projects are no longer in active status: Caithness, Grassy Point, Oak Point, Twin Tier, Ramapo, Sithe Sentry Station Heritage and Sunset.

2 Estimated dates shown as Quarters, actual filed dates shown as MM/DD/YY.

3 In-service dates are based on estimates of when an application will be deemed complete, the time necessary to complete the Article X process and one to two years for construction, dates can change as filing and compliance determination dates change.

4 Size of repowered projects shows site total and incremental increase resulting from repowering

5 Application was initially filed by Niagara Mohawk Power Corporation.

Case Number	Project	MW	Developer	Town/ County	DEC Notice of Air & Water Permits <sup>2</sup>	Application Filing Date	Certification Date or Estimated Decision Date	Estimated Earliest In-Service Date <sup>2, 3</sup>
<b>Certified Article X Cases - Under Construction</b>								
97-F-2162	<a href="#">Bethlehem Energy Center</a>	750 Total <sup>4</sup> 350 Net Increase	PSEG Power New York, Inc.	Bethlehem/ Albany	2/13/02 Final	11/27/98 <sup>5</sup> 7/2/01 Amendment	2/28/02	2Q 2005
99-F-1164	<a href="#">Bowline Unit 3</a>	750	Mirant Bowline, LLC	Haverstraw/ Rockland	3/26/02 Final	3/20/00	3/26/02	2Q 2008
99-F-1314	<a href="#">East River Repowering</a>	360 Total 200 Net Increase	Con Ed	Lower Manhattan	8/16/01 Final	6/1/00	8/30/01	1Q 2005
99-F-1627	<a href="#">Poletti Station Expansion</a>	500	NYPA	Astoria/ Queens	10/2/02 Final	8/18/00	10/22/02	4Q 2004

Case Number	Project	MW	Developer	Town/ County	DEC Notice of Air & Water Permits <sup>2</sup>	Application Filing Date	Certification Date or Estimated Decision Date	Estimated Earliest In-Service Date <sup>2, 3</sup>
<b>Certified Article X Projects</b>								
00-F-0566	<a href="#">Brookhaven</a>	540	Brookhaven Energy, LP	Brookhaven/ Suffolk	7/18/02 Final	6/25/01	8/14/02	N/A
00-F-1522	<a href="#">Reliant Energy Astoria Repowering (formerly Orion Power)</a>	1,816 Total 562 Net Increase	Astoria Generating Co., LP	Astoria/ Queens	5/6/03 Final	10/29/01	6/25/03	N/A
01-F-0761	<a href="#">Spagnoli Road Energy Center</a>	250	KeySpan	Huntington/ Suffolk	4/30/02 Final	1/28/02	5/8/03	N/A
00-F-1256	<a href="#">Wawayanda</a>	540	Wawayanda Energy Center, LLC (Calpine)	Wawayanda/ Orange	9/4/02 Final	8/27/01	10/22/02	N/A
<b>Filed Article X Projects</b>								
00-F-2057	<a href="#">Empire State Newsprint Project</a>	505	Besicorp - Empire State Develop. Co., LLC	Rensselaer/ Rensselaer	5/29/02 Draft	12/20/01	2Q 2004	2006
99-F-1835	<a href="#">Glenville Energy Park</a>	520	Glenville Energy Park	Scotia-Glenville/ Schenectady	4/17/02 Draft	01/31/02	N/A	N/A
00-F-1356	<a href="#">Kings Park</a>	300	PPL Global	Smithtown/ Suffolk	3/27/02 Draft	01/22/02	N/A	N/A
01-F-1276	<a href="#">Trans Gas Energy</a>	1100	TransGas Energy Systems, LLC	Greenpoint/ Brooklyn	6/4/03 Draft	12/24/02	3Q 2004	N/A

## **ATTACHMENT V**

UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION

New York Independent System Operator, Inc. ) Docket No. ER01-3001-00\_

NOTICE OF FILING

Take notice that on December 1, 2004, the New York Independent System Operator, Inc. (“NYISO”) submitted a sixth semi-annual report on the status of (i) its demand side management programs, and, (ii) the addition of new generation resources in New York State in compliance with the Commission’s previous orders in the above-captioned proceeding. The NYISO has served a copy of this filing upon all parties that have executed service agreements under the NYISO’s Open Access Transmission Tariff and Market Administration and Control Area Services Tariff.

Copies of this filing have been served on all parties listed on the official service list in the above-captioned proceeding. The NYISO has also served a copy of this filing to all parties that have executed Service Agreements under the NYISO’s Open-Access Transmission Tariff or Services Tariff, the New York State Public Service Commission, and to the electric utility regulatory agencies in New Jersey and Pennsylvania.

Any person desiring to intervene or to protest this filing must file in accordance with Rules 211 and 214 of the Commission’s Rules of Practice and Procedure (18 CFR 385.211 and 385.214). Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a notice of intervention or motion to intervene, as appropriate. Such notices, motions, or protests must be filed on or before the comment date. Anyone filing a motion to intervene or protest must serve a copy of that document on the Applicant. On or before the comment date, it is not necessary to serve motions to intervene or protests on persons other than the Applicant.

The Commission encourages electronic submission of protests and interventions in lieu of paper using the “eFiling” link at <http://www.ferc.gov>. Persons unable to file electronically should submit an original and 14 copies of the protest or intervention to the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426.

This filing is accessible on-line at <http://www.ferc.gov>, using the “eLibrary” link and is available for review in the Commission’s Public Reference Room in Washington, D.C. There is an “eSubscription” link on the web site that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email [FERCOnlineSupport@ferc.gov](mailto:FERCOnlineSupport@ferc.gov), or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Comment Date: 5:00 pm Eastern Time on (insert date).

Magalie R. Salas  
Secretary