



Submitted To:



# DLRP Program Evaluation Interim Report

Submitted By:



February 14, 2008

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The Distribution Load Relief Program (DLRP) is a demand response program offered by Consolidated Edison Company of New York, Inc. (CECONY) to commercial customers since 2001 that provides a financial incentive for curtailing load during network emergencies. The program was originally created to complement the New York Independent System Operator (NYISO) demand response programs that are available in CECONY's service territory, but are focused on the zonal level. For distribution system level emergencies, DLRP provides more targeted load relief than the programs sponsored by NYISO and is dispatched by network. DLRP is designed to reduce strain on local distribution lines in a specific network when contingencies occur in that network and require CECONY to take action to reduce load in the network (the specific conditions are set forth in CECONY's Rider U tariff).

As a result of the serious problems in the Long Island City Network in the summer of 2006, the New York State Department of Public Service (DPS) suggested that "the presence of more demand response resources could quickly mitigate damage or provide a greater margin of protection against major customer service interruptions." CECONY reviewed the DLRP program structure, and proposed a series of modifications to the program through their Rider U Tariff. The DPS issued an Order on June 21, 2007 and updated Rider U Tariff effective July 1, 2007 with various program modifications. The two most notable modifications to the previous DLRP were:

1. The inclusion of Load Aggregators into the program allowing the bundling of resources into portfolios and the management of performance risk
2. The development of a tariff component providing payments for the reservation of capacity and related provisions for the mandatory supply of the reserved capacity

In addition to approving program modifications to DLRP, the June 21, 2007 DPS Order also stated that CECONY conduct an independent assessment of DLRP and report the results to the DPS by January 31, 2008. Nexant's program evaluation included the following components:

- Collect program information and conduct interviews with CECONY staff to gain a thorough understanding of the program history, rules, procedures, tariff, and staff opinions on the program.
- Conduct market research through surveys with customers and aggregators participating in DLRP, as well as customers and NYISO-registered aggregators not currently enrolled in DLRP to gain insight on market dynamics, knowledge and familiarity with DLRP, customer satisfaction with the program rules and processes, and to identify barriers to participation.
- Conduct a utility best practices review of similar demand response programs around the country.
- Develop specific programmatic recommendations on how to improve DLRP in the future and increase program participation.

Due to the relatively short timeframe to meet the DPS deadline, and the anticipated high non-response rate of customers to the market research surveys, particularly during the holiday season, the process evaluation was split into two phases; with an interim report addressing the other three research areas listed above and including the available market research results at the time. A final report will be submitted on February 26, 2008 that incorporates the balance of market research data<sup>1</sup>.

## 1.1 SUMMARY OF KEY FINDINGS

- The DLRP program design has not included specified enrollment or performance goals, other than a recent goal set as part of the Rider U modifications to increase the 2006 program enrollment by 20%. However, the DLRP program design did not include the development of program criteria or written documentation that is typically created during DSM or DR program development, including development of specific short-term and long-term goals, including participation (MW) goals, or the activities to be undertaken to achieve these goals.
- CECONY personnel involved with DLRP are knowledgeable about the program and its rules and procedures. However, program documentation is scarce and aggregators and customer have indicated confusion regarding program rules and procedures.
- As shown in Table 1, program participation in 2007 exceeded the goal of a 20% increase over 2006 enrollment.

Table 1: DLRP Enrollment by Year

Program	Committed (MW)							Increase ('06 to '07)
	2001	2002	2003	2004	2005	2006	2007	
DLRP Direct Voluntary Customers*	Not Available	81.5	79.6	95.9	93.4	83.4	65.4	
DLRP Voluntary Customers through Aggregator*							27.6	
DLRP Mandatory Customers through Aggregator							48.4	
<b>TOTAL</b>	<b>0</b>	<b>81.5</b>	<b>79.6</b>	<b>95.9</b>	<b>93.4</b>	<b>83.4</b>	<b>141.4</b>	<b>70%</b>

\* Actual Delivery of Voluntary MW May Be Substantially Less

- The inclusion of aggregators, in general, appears to be successful in improving marketing and customer enrollment in both voluntary and mandatory options.
- Aggregators and CECONY Account Executives are the most effective method of informing customers about DLRP.
- Although the program has a minimum load requirement of 50 kW for direct customers, the inclusion of aggregators provides a participation option for smaller customers or those with less flexible loads, allowing the program to penetrate a wide variety of customer types.
- Tariff changes to include a mandatory participation option with a reservation payment have been successful in stimulating customer enrollment.
- DLRP uses two settlement methodologies: the APMD method for capacity reductions and the CBL method for energy savings, which is similar to the methods used in the

<sup>1</sup> Nexant does not anticipate substantial material changes to the report contents for the final report.

NYISO DR programs. There is a perception that APMD is easier to understand and calculate, however it is based on the previous year's facility loads and does not account for changes to facility load since the previous year (such as occupancy or equipment changes) and does not weather-adjust the load data. CBL, which is based on the facility's hourly load over the 10 days prior to a called event and includes an option for weather adjustment, provides much more accurate calculation of the load reduction that is actually achieved during an event. In addition to its improved accuracy, the CBL is straightforward and not difficult to understand.

- There is a great deal of confusion concerning the use of on-site generation for DLRP from both customers and CECONY staff, especially regarding environmental permitting issues.
- Specific program barriers to participation exist and are being identified and addressed by CECONY.

## 1.2 SUMMARY OF RECOMMENDATIONS

Based on the program and market research and the findings listed above, Nexant makes the following recommendations for the program. A full and detailed list of all program recommendations is included in Section 7.

- Develop a focused program logic model with short term and long term goals. These goals should include MW enrollment goals for the overall program, for the voluntary and mandatory program options, and desired participation by network.
- Develop a detailed program manual so that all program rules, procedures, and definitions are included in one place and CECONY staff, aggregators, and customers will have a source for program information. The development of this manual will also require formalizing and refining some program procedures and operations.
- Update the DLRP marketing plan that was developed in 2007 with progress to date on the previous action items, and incorporate the short and long term goals developed as part of the program logic model into additional action items. CECONY should also continue to assess marketing performance and update the marketing plan annually.
- Have more detailed market focuses including industry-specific marketing, and materials and information based on methods of curtailment, such as generation versus load shedding.
- Gain a better understanding of the use of generators in DLRP and general NYSDEC permitting requirements for standby generators to minimize the confusion that currently exists for both CECONY staff and customers.
- Expand the DLRP website to include: more detailed program rules and procedures, a link to the Rider U tariff, a side-by-side comparison of DLRP with the NYISO programs, an online application and enrollment option, and a link from CECONY's homepage for "demand response".
- Develop a marketing plan to address the needs of smaller customers, particularly those that do not have a CECONY Account Executive, and offer information sessions

for customers to inform and answer questions about the program, facility auditing services, and assistance with load calculations and program enrollment.

- More actively market the program in conjunction with the NYISO EDRP and ICAP SCR programs, recognizing that the aggregation of incentives drives participation most effectively.
- Consider offering an incentive that would cover the remaining cost, after the NYSERDA incentive, of purchasing and installing an interval meter, with the requirement that the customer must remain in the program for two years.
- Develop a procedure for conducting annual test events, at the beginning of the summer capability period. Participation in the test event would be used to determine a “performance adjustment” for each customer that is applied to their load commitment when calculating the summer reservation payment.
- Consider using CBL method for all baseline calculations to more accurately determine energy savings and capacity reduction.
- Develop a protocol for evaluating the cost benefit ratios of the program, and annually evaluate the program’s performance based on this protocol.
- Continue to offer the mandatory program option and summer reservation payment. However, the calculation of the reservation payment amount would include the performance adjustment factor based on performance during test events and DLRP called events. This would eliminate the free ridership that currently exists by paying the reservation payment based on committed load without any performance testing.
- Eliminate the existing penalty from DLRP. The proposed “performance adjustment”, which would be calculated at every annual test event and every called event would provide motivation for mandatory customers to participate in events, or else their reservation payment going forward would be adjusted based on their non-performance.
- Continue to include aggregators in DLRP.
- Continue to differentiate between Tier 1 and Tier 2 networks, providing increased incentives for networks that have been identified as of critical importance. However, identification and classification of Tier 2 networks should not be based on the reliability of the networks, but should incorporate those networks that have the least DLRP participation, or are the farthest from their participation goals. It should be acknowledged that the composition of customers varies from network to network, and there are no market study results to show that networks with low participation can get more.
- Only allow metering that CECONY is able to independently verify the accuracy of the meter. This would include either interval meters or shadow meters, however aggregators would be required to submit all monthly data from the shadow meter, and CECONY can verify the consumption with their monthly kWh usage from their own meter.
- Allow greater flexibility than Rider U currently provides (which specifies a condition Yellow and an 8% voltage reduction) in determining the appropriate conditions for

calling a DLRP event. In some situations, activating load relief earlier could help mitigate latent damage to equipment that accrues during a heat emergency prior to load relief being activated.

Nexant, Inc. is pleased to provide this report summarizing the results of our process evaluation of Con Edison Company of New York's (CECONY) Distribution Load Relief Program (DLRP). This report is provided pursuant to CECONY's Request for Proposal and our Response dated November 13, 2007. Pursuant to an Order by the New York State Department of Public Service (DPS) dated June 21, 2007, DPS Staff recommended that certain modifications to Rider U, the tariff for the Distribution Load Relief Program, be made and that the resultant tariff modification be implemented on a temporary basis starting July 1, 2007. The Order specified that these temporary improvements to the CECONY Rider U were to be evaluated by an independent third party, and our report is submitted for this purpose. Our report has two primary objectives:

1. Assess the effectiveness of the program changes on increasing the level of customer (load) participation, and,
2. Determine if any other tariff changes should be implemented prior to the summer 2008 capability period.

Based on these primary objectives, Nexant's program evaluation included the following steps:

- Gain a thorough understanding of the program through collection of available program documentation, interviews with CECONY staff that are involved with the program, and review and analysis of the program conditions listed in the Rider U tariff and the DPS June 21, 2007 Order.
- Develop survey instruments for key market actors to gain insight on market dynamics, knowledge and familiarity with DLRP, customer satisfaction with the program rules and processes, and to identify barriers to participation. The key market actors include: participating customers and aggregators, as well as non-participating customers and aggregators.
- Conduct surveys with randomly drawn samples from the populations of each group of key stakeholder, stratifying each group appropriately to limit uncertainty.
- Perform a utility best practices review, by review published best-practice reports for DR programs around the country and comparing the characteristics of DLRP with practices in place in other DR programs and markets.
- Develop specific programmatic recommendations on how to improve DLRP in the future and increase program participation, including suggestions on program design, marketing, program processes, evaluation, and tariff modifications.

This process evaluation included analysis of DLRP as it is currently designed and the program stipulations listed in Rider U. Nexant has diligently reviewed the improvements to Rider U set forth in the June 21<sup>st</sup> Order and evaluated processes and factors that could further improve DLRP; however, the scope of this process evaluation did not include assessing the operational impact of DLRP on network reliability or the integration of the program with the physical design and loading aspects of the CECONY distribution system.

The structure and content of the report is presented below:

- **Section 1: Executive Summary**
- **Section 2: Introduction**
- **Section 3: DLRP Program Information**, which includes a description of the program's history, participation, and rules and procedures
- **Section 4: Market Research**, which summarizes the development of the survey instruments and samples for the key stakeholders interviewed, as well as the preliminary survey results for each group.
- **Section 5: Utility Best Practices Review**, which includes a review of available published best practices reports on demand response programs around the country.
- **Section 6: Findings**, which discusses the key program issues that affect the program and participation levels
- **Section 7: Recommendations**, which presents Nexant's recommendations, based on the findings discussed in Section 6, for improving the program and increasing participation.

### 3.1 PROGRAM PURPOSE

The Distribution Load Relief Program (“DLRP”) is a demand response program that CECONY offers to commercial customers that provides a financial incentive for curtailing load during network emergencies. The program was originally created to complement the New York Independent System Operator (NYISO) demand response programs that are available in CECONY’s service territory, which are focused on the zonal level. For distribution system level emergencies, DLRP provides more targeted load relief than the programs sponsored by NYISO and is dispatched by network. DLRP is designed to reduce strain on local distribution lines in a specific network when contingencies occur in that network and require CECONY to take action to reduce load in the network (the specific conditions are set forth in CECONY’s Rider U tariff).

### 3.2 PROGRAM HISTORY

CECONY has had the Distribution Load Relief Program in place since 2001. The original Rider U was filed as a result of the State of New York Public Service Commission (PSC) Case 00-E-1330 in August of 2000 and approximately coincided with the establishment of the demand response programs sponsored by the NYISO. The original DLRP was a voluntary-only program, allowing participants to choose whether or not to participate in each event, and only paid energy incentives for event performance. Mandatory participation options with capacity payments and summer reservation options were not offered.

As a result of the serious problems in the Long Island City Network in the summer of 2006, the New York Department of Public Service (DPS), which is the staff arm of the PSC, prepared the Staff Long Island City (LIC) Report<sup>2</sup>. This report noted that only voluntary resources were available under the existing Rider U which sets forth the tariff elements of DLRP. In part as a result of this report, the DPS, in its June 21, 2007 Order (Case 07-E-0392), suggested that “the presence of more demand response resources could quickly mitigate damage or provide a greater margin of protection against major customer service interruptions.” The ability of the current program design and processes to achieve this end is central to the evaluation undertaken by Nexant, Inc. as an independent evaluator.

As result of the DPS Order on June 21, 2007 various modifications to the Rider U Tariff were implemented and are included in the updated Rider U Tariff effective July 1, 2007. The two most notable modifications to the previous DLRP were:

1. The inclusion of Load Aggregators into the program allowing the bundling of resources into portfolios and the management of performance risk
2. The development of a tariff component providing payments for the reservation of capacity and related provisions for the mandatory supply of the reserved capacity

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<sup>2</sup> DPS Service Staff Report on its Investigation of the July 2006 Equipment Failures and Power Outages in Con Edison's Long Island City Network in Queens County, New York, issued February 9, 2007

### 3.3 COMPARISON OF DLRP WITH OTHER DR PROGRAMS

In addition to modifications to Rider U, the DPS and CECONY worked with the NYISO to address CECONY's distribution problems on a more targeted basis. The Installed Capacity (ICAP) Special Case Resources (SCR) and Emergency Demand Response Program (EDRP) were available only for dispatch for all of Zone J, which covers the majority of CECONY's service territory. These programs were modified after the Long Island City event in 2006 to allow for "sub-zonal" dispatch within Zone J, and therefore could address problems at a more local level. These are referred to as "sub-zonal" resources or "targeted" resources and currently represent a major portion of the registered load curtailment potential in CECONY's service territory. Based on information provided by CECONY, the loads registered in CECONY's service territory are as follows<sup>3</sup>:

▪ NYISO EDRP(Voluntary)	118 MW
▪ NYISO ICAP SCR (Mandatory)	450 MW
▪ CECONY DLRP(Voluntary)	93 MW
▪ CECONY DLRP(Mandatory)	48 MW

In this context it is important to note the following about DLRP:

1. Specific MW goals for market penetration have not been set at either the program or network level, although there was a specific goal when the program modifications were implemented in 2007 of a 20% increase in participation from the 2006 level
2. Voluntary program registered capacity is not a reliable indicator of dispatchable emergency load

#### 3.3.1 DLRP and NYISO Program Attributes

CECONY's DLRP has been established in a continuum of demand response programs that are available in CECONY's service territory, sponsored by either CECONY or the NYISO. These programs have a common goal of making resources available to address shortages of capacity. Table 2 shows programs that are currently in operation that are "callable" and can be used to mitigate distribution load.

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<sup>3</sup> NYISO program loads are as of August 1, 2007, DLRP program loads are as of October, 2007

Table 2: Demand Response Program Attributes

Program	DLRP Voluntary	DLRP Mandatory	EDRP ***	SCR ICAP
Sponsor	CECONY	CECONY	NYISO	NYISO
<b>Program Attributes</b>				
Notification	30 minutes	30 minutes	1 day advisory (when possible) /120 minutes	1 day/120 minutes
DG Dispatch	Requires verification of NYSDEC permit	Requires verification of NYSDEC permit	Permit is customer's responsibility	Permit is customer's responsibility
Penalty	None	150% of reservation payment for greatest portion of load reduction not provided	None	Derating based on portfolio performance or test
Participant Minimum Size	Direct 50 kW, 100 kW with Aggrgator	Direct 50 kW, 100 kW with Aggrgator	100 kW	100 kW
Events	NA	Minimum 4 Hours, Maximum 6 Events	ISO Called, Reserve Capacity Shortage	ISO Called Reserve Capacity Shortage
Energy Incentive	\$0.50/kWh curtailed or LBMP, whichever is greater	\$0.50/kWh curtailed or LBMP, whichever is greater	\$0.50/kWh curtailed or LBMP, whichever is greater	Two payment types: \$0.50/kWh curtailed or LBMP, whichever is greater -or- Customer Bid (\$0.50/kWh Max) or LBMP, whichever is greater
Capacity Incentive	None	\$3/kW month Tier I or \$4.50/kW month Tier II****	None	ICAP Market Summer, Winter Auction price
Performance Measurement with Interval Meter	Yes	Yes	Yes	Yes
Baseline Method	CBL(2002)*-Energy	APMD-Reservation** CBL(2002) -Energy	CBL***(2005)	APMD(ICAP) or CBL 2005 (Sm. Cust Aggreg.)****

\* Customer Base Load Method as Described in the NY ISO 2002 Emergency Demand Response Manual  
 \*\* Average Peak Monthly Demand Method in Attachment J to NY ISO Installed Capacity Manual  
 \*\*\* As Described in the NY ISO 2005 Emergency Demand Response Manual  
 \*\*\*\* ISO SCR(Special Case Resources) Allows use of CBL Method for Small Customer Aggregation Program  
 \*\*\*\*\* Additional Incentive for More than Six Events

For program participants the ability to plan for and predict events may make it more likely that load reduction will occur. The design of DLRP and the design of the NYISO programs are different in this regard. Table 3 summarizes, in more detail, the notification steps for NYISO Programs and for DLRP.

Table 3: Comparison of NYISO and DLRP Notification Procedures

Notification Type	NYISO		DLRP	
	Provided	Description	Provided	Description
Day Ahead Advisory	Yes	Load Forecast Initiated Warning	No	
In Day Advisory (prior to Event Activation)	Yes	Specifies Time Frames	No	
Activation	Yes	2-hr advance notice	Yes	30-minute advance notice
Extension Notice	Yes	Event beyond 4 hrs	Yes	Event beyond 4 hrs
Notice Terminating Event	Yes	End Event	Yes	End Event

### 3.4 PROGRAM ENROLLMENT PROCEDURES

CECONY's DLRP is available to any CECONY electric customer<sup>4</sup> who reduces usage by at least 50 kW and has an interval meter. Customers may elect to participate directly with CECONY in either the voluntary program or mandatory program by contracting to curtail at least 50 kW during system emergencies. Customers can also contract through load aggregators in either the mandatory or voluntary program, and aggregators must have a total portfolio curtailment of at least 100 kW.

To enroll, the participant is required to provide a written notice of intent along with a completed project application stating the amount of intended load reduction. The load-relief enabling technology or protocol to be used is stated by the participant on the project application. The customer and/or aggregator is responsible for determining that its operation of emergency generating equipment at the CECONY's request will be in conformance with the New York State Department of Environmental Conservation (NYSDEC) regulations, and submitting a copy of their NYSDEC permit or permit application.

Once the project application is received, either directly from the customer, or through the aggregator, the CECONY account representative responsible for handling the application forwards the application to DLRP staff for review and approval. As a part of the review process program staff verifies that the customer has an interval or shadow meter (pulse meter) installed on-site. If the customer does not have an interval meter on-site CECONY can furnish and install a revenue grade interval meter at the customer's expense. Once a voluntary customer is enrolled in the program, they remain enrolled in subsequent years. CECONY contacts voluntary customers prior to the capability each year to verify their continued participation. Customers in the mandatory program must re-apply each year or they are no longer enrolled in the program.

### 3.5 PROGRAM MARKETING

Marketing for DLRP has been conducted by a variety of CECONY staff. CECONY's Account Executives, who have strong relationships with CECONY's commercial customers, received extensive training when the program was created, and also receive periodic training, such as when the program modifications took effect in 2007, as well as email updates about the program. Each spring, the Account Executives review DLRP as well as other DR and DSM programs with their customers, with a general goal to increase both voluntary and mandatory program enrollment. CECONY's Sales and Business Response personnel also have received training on the program and assist with program marketing at tradeshow, conferences, and other public events.

CECONY's has developed a program website summarizing DLRP ([http://www.coned.com/sales/business/dist\\_load\\_relief.asp](http://www.coned.com/sales/business/dist_load_relief.asp)), containing enrollment instructions, and a link to a copy of the program application, which may be printed out (currently there is not an online application option). The website also has the program's email address, which is the general email account for all of CECONY's DSM programs ([dsm@coned.com](mailto:dsm@coned.com)) and a toll-free phone number (800-643-1289) to speak with sales and marketing staff, who respond to basic questions. More detailed customer questions and inquiries are referred to DLRP staff.

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<sup>4</sup> New York Power Authority, New York City Public Utility Service, County of Westchester Public Utility Service Agency, or Power Your Way customers are also eligible to participate in the DLRP.

CECONY's general website also has an "Energy Management" page ([http://www.coned.com/sales/business/bus\\_energy\\_manage.asp](http://www.coned.com/sales/business/bus_energy_manage.asp)) under their "Products and Programs" that lists six DR programs, including DLRP and the NYISO programs. To access either the DLRP website or the Energy Management page, CECONY's homepage has a dropdown quicklink for "demand side management", as well as the option to follow links for "products and programs", then "business", and "energy management".

DLRP staff also maintains regular communications with participants. Direct mailings are periodically sent out informing participants of program updates. In addition, prior to the 2007 summer capability period, DLRP staff placed phone calls to all participants to verify their continued participation.

For program marketing to non-participants, CECONY periodically sends out direct mailings to their large customers, including letters sent out in June and July, 2007 describing the amendments to Rider U. Additionally, CECONY has included program information in CECONY's corporate newsletter, and developed program description sheets that are distributed at tradeshow and conferences.

In May 2007, based on the changes to Rider U, CECONY developed a document entitled *Marketing and Implementation Plan to Improve and Increase Participation in Demand Response Programs*. The marketing plan details specific activities in the areas of market research, internal and external communications, web applications, tariff modifications, strategic partnerships and alliances, program monitoring, and training. The plan, as well as CECONY's implementation schedule of the plan's action items, is listed in Appendix C.

In addition, on June 29, 2007 CECONY hosted a meeting for potential aggregators to introduce DLRP and provide information on eligibility, procedures, and enrollment. After the meeting CECONY emailed a document to all attendees with a summary of the program topics discussed. Aggregators are free to market DLRP directly to CECONY's customers.

### 3.6 DLRP PROGRAM PARTICIPATION

DLRP enrollment has been provided by CECONY based on the load or distributed generation registered by participating customers and aggregators. As shown in Table 4, CECONY has exceeded the PSC goal of increasing 2007 participation by 20% above the 2006 level, and has actually increased enrollment 70% above 2006 levels.

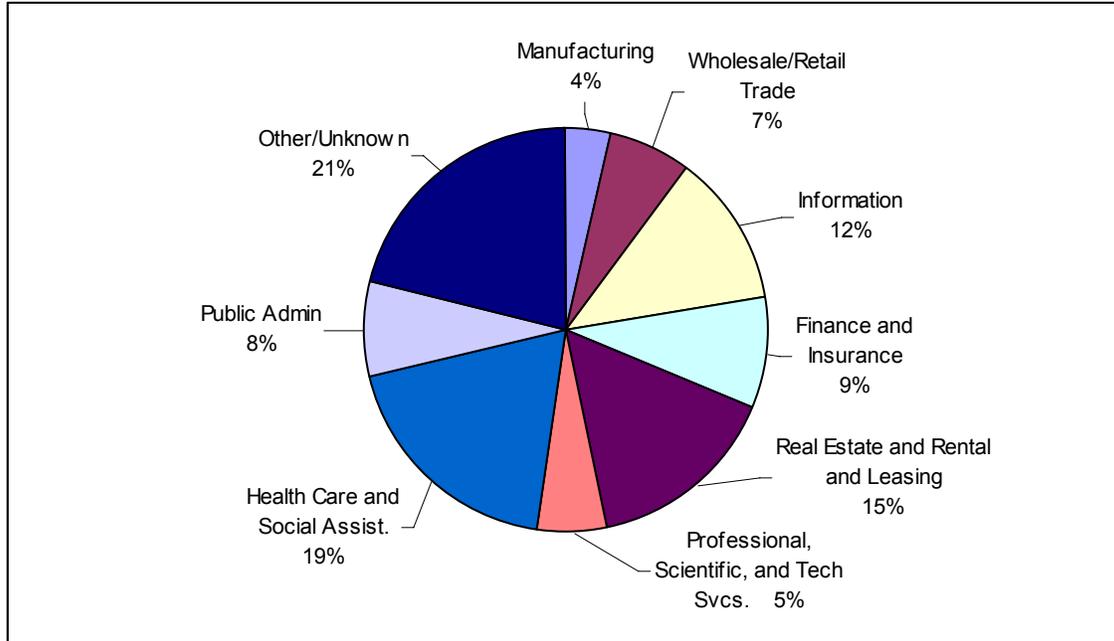
Table 4: DLRP Enrollment by Year

Program	Committed (MW)							Increase ('06 to '07)
	2001	2002	2003	2004	2005	2006	2007	
DLRP Direct Voluntary Customers*	Not Available	81.5	79.6	95.9	93.4	83.4	65.4	
DLRP Voluntary Customers through Aggregator*							27.6	
DLRP Mandatory Customers through Aggregator							48.4	
<b>TOTAL</b>	<b>0</b>	<b>81.5</b>	<b>79.6</b>	<b>95.9</b>	<b>93.4</b>	<b>83.4</b>	<b>141.4</b>	<b>70%</b>

\* Actual Delivery of Voluntary MW May Be Substantially Less

DLRP participants comprise a variety of industries, including 95 unique NAICS codes. Figure 1 lists the percentage of total program MW by NAICS category:

Figure 1: NAICS Categories and Percentage of Total Program MW



Three DLRP events were called in 2007. Table 4 has the 2007 summer capability period event information, with details on specific customer participation, performance, and incentives. The third event, which is not listed in the table, was called on Aug 3<sup>rd</sup>; however, there were no DLRP participants on the affected network.

Table 5: DLRP Event Performance Matrix

2007 Event Date	Program	Hours*	Participants	Committed kW	kW Achieved**	Realization	kWh Achieved***	Incentive kWh
July 19th	DLRP Voluntary	16.5	3	2,400	629	26%	1,855	\$928
	DLRP Voluntary	1.5	3	855	706	83%	932	\$466
Subtotal				<b>3,255</b>	<b>1,335</b>		<b>2,787</b>	<b>\$1,394</b>
Aug 8th	DLRP Mandatory	12.5	2	327	226	69%	1,820	\$1,291
	DLRP Voluntary	12.5	2	2,700	2,123	79%	11,675	\$8,063
Subtotal				<b>3,027</b>	<b>2,349</b>		<b>13,495</b>	<b>\$9,354</b>
<b>2007 Total DLRP</b>				<b>6,282</b>	<b>3,684</b>	<b>59%</b>	<b>16,282</b>	<b>\$10,748</b>

\* Total Event Hours

\*\* kW Achieved and kW Realization listed is based on the calculated energy savings (using CBL Method). For mandatory customers, capacity reduction used to verify load commitment is calculated separately using APMD Method.

\*\*\*Energy Savings calculated using CBL Method

Based on Nexant's experience, DLRP realization rates compare favorably to the response rates of the California utilities' voluntary tariff programs, which are similar to DLRP in the number of called events per year (typically four events or less). However, for the mandatory DLRP, the

response rate appears less than what might be expected due to the program penalty for non-performance. It should be noted that the data for the mandatory DLRP is based on only two participants and may not be indicative of the realization rate that might be expected going forward. This realization rate for mandatory DLRP may better be accessed by evaluation of DLRP test events. There has been one test event called to date, which occurred on October 4, 2007. This test event was called across all networks for all mandatory customers and resulted in participation of 20.8 MW out of the 48.4 MW enrolled in the mandatory program at the time, or 43% participation.

As an additional tool for responding to emergency situations, if the called DLRP event does not provide adequate load relief, CECONY can request dispatch of sub-zonal NYISO resources from the pool of EDRP and SCR customers participating in these programs with the NYISO. Unlike SCR participation in Zone J Events called by the NYISO, sub-zonal events requested by CECONY are not mandatory and cannot impact performance measurements for calculating the value of Unforced Capacity sales of ICAP resources into the market by SCR market participants. Two of the three DLRP events that were called in 2007 also required participation from NYISO DR participants. A summary of programs included in each event is listed in Table 6:

Table 6: 2007 NYISO and DLRP Events

2007 Event Date	Action/Program	Payments	Comment
July 19th	DLRP Voluntary	Energy	
	EDRP*	Energy	ISO Subzone J3
	SCR	Capacity and Energy	ISO Subzone J3
Aug 3th	5% Voltage Reduction	None	Crown Hgts, Brownsville SSs 3 Feeders Out in Crown Heights
	DLRP	N/A	No DLRP participants in network
	EDRP*	Energy	ISO Subzone J8
	SCR	Capacity and Energy	ISO Subzone J8
Aug 8th	5% Voltage		Williamsburg, Pros. Park SSs 3 Feeders Out in Williamsburg
	DLRP Mandatory	Capacity and Energy	
	DLRP Voluntary	Energy	

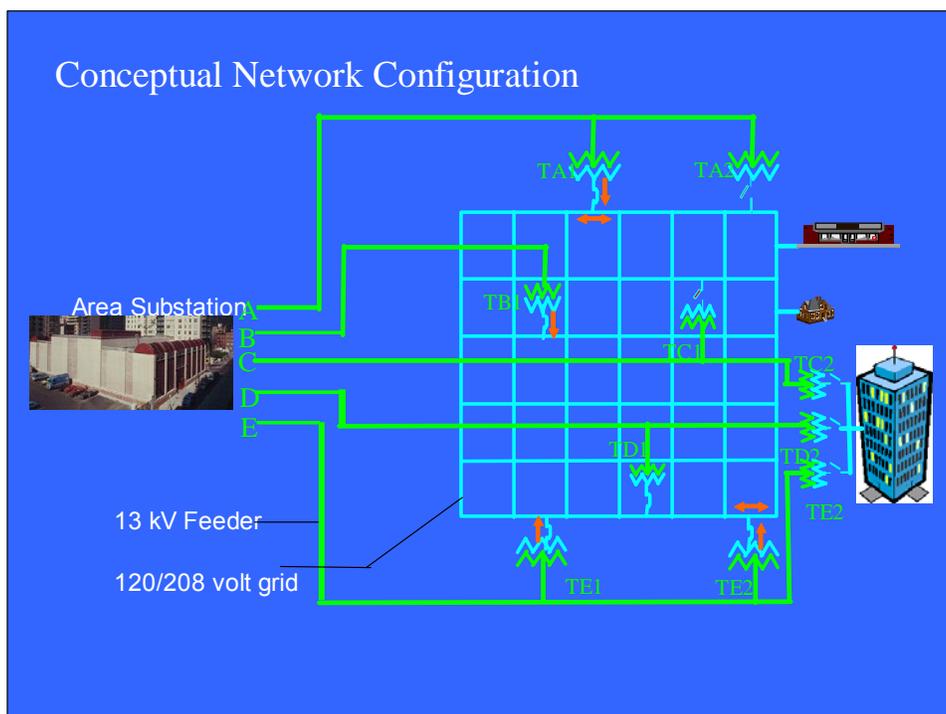
\*Provides Equivalent Payment to DLRP

### 3.7 DLRP EVENTS AND TARIFF DETERMINANTS

The physical nature of CECONY's distribution system is inherent in the design of DLRP. Key elements of the DLRP design were provided by the Distribution Engineering Department to Rate Design staff for incorporation into Rider U of CECONY's Tariff. CECONY primary use of DLRP is as an emergency response tool that can be implemented at the end of a series of escalating distribution system challenges. CECONY does not view DLRP as capacity planning tool to address network design requirements or high loading conditions. The goal of DLRP is to mitigate the risk of loss of service and secondarily to reduce loading on stressed feeders and

substations. These underlying assumptions define when DLRP is utilized and the degree to which market participants can provide a reliable resource. A conceptual representation of network design is shown in Figure 2 and illustrates some of the underlying physical conditions that have given rise to the definition of a DLRP event and the need for a rapid deployment of resources.

Figure 2: Network Configuration



Although DLRP is a useful resource to mitigate the loss of a network, CECONY has highly developed operational, engineering, predictive modeling and emergency management systems that are engaged well in advance of the initiation of a DLRP event. In many cases, prior to calling a DLRP event, CECONY can deal with arising problems in a localized fashion, with internal resources or with long standing off-program relationships with major customers. This approach has proven to be effective in the past and avoids the formality for customer participation in DLRP, particularly the potential for financial penalties assessed for failing to meet curtailment targets for mandatory participants.

Table 7 shows some of the actions taken by CECONY through the levels of contingency planning which ultimately result in a Condition Yellow and CECONY calling a DLRP Event<sup>5</sup>.

<sup>5</sup> "Criteria for Designating a Load Relief Period: If the next contingency would result in a Condition Yellow, or if an eight percent voltage reduction has been ordered, the Company may designate such period as a Load Relief Period. The Company may designate specific networks, feeders or geographical areas in which load relief will be requested. A Condition Yellow exists when the next contingency (excluding breaker failure) either will result in an outage to more than 15,000 customers or will result in some equipment being loaded above emergency ratings.", Rider U (PSC Case 07-E-0392), Section (D)(2), issued June 21, 2007.

Table 7: Typical Decision Matrix for DLRP Event<sup>6</sup>

Current condition	Next condition	Anticipated Actions
Normal	<ul style="list-style-type: none"> <li>▪ Extreme weather</li> <li>▪ No feeders out</li> </ul>	<ul style="list-style-type: none"> <li>▪ Notify control manager</li> <li>▪ Check Availability of Generators and Tankers</li> </ul>
Extreme weather No feeders out Load to exceed 11,000 MW	<ul style="list-style-type: none"> <li>▪ Extreme weather</li> <li>▪ One feeder out</li> </ul>	<ul style="list-style-type: none"> <li>▪ Notify control center</li> <li>▪ Review matrix for next action</li> <li>▪ Reserve Tanker</li> <li>▪ No heavy equipment excavating within 10' of feeder</li> </ul>
Extreme weather One feeder out Load to exceed 11,000 MW	<ul style="list-style-type: none"> <li>▪ Extreme weather</li> <li>▪ Second feeder out</li> </ul>	<ul style="list-style-type: none"> <li>▪ Notify engineering and energy services</li> <li>▪ Consider additional resource needs</li> <li>▪ Notify gas control center and construction management</li> <li>▪ <b>De-loading Feeders may be necessary</b></li> <li>▪ <b>Identify and notify large customers to reduce load</b></li> </ul>
Extreme weather Two or more feeders out Load to exceed 11,000 MW	<ul style="list-style-type: none"> <li>▪ Extreme weather</li> <li>▪ YELLOW condition</li> </ul>	<ul style="list-style-type: none"> <li>▪ Request OEM assistance</li> <li>▪ Hold pre mobilization conference meeting</li> <li>▪ <b>De-load feeders and reduce voltage (up to 8%), if necessary</b></li> <li>▪ <b>Initiate DLRP Load Reduction</b></li> <li>▪ <b>If necessary, contact NYISO to request activation of SCR sub-zonal program</b></li> </ul>
RED condition Severely overloaded equipment >15,000 customer outages	<ul style="list-style-type: none"> <li>▪ Additional feeders out</li> <li>▪ Primary feeder overloads</li> <li>▪ Multiple secondary burn outs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Shutdown affected area</li> <li>▪ Notify CIG</li> </ul>

### 3.8 DLRP EVENT PROCEDURES

Activation of a DLRP event occurs when the Regional Electric Control Center (“RECC”) determines that load reduction is necessary and the conditions, as defined in Rider U, have been met. The following sequence of events take place, which are described in CECONY’s draft event procedures document titled “Demand Response Communication Guidelines for Electric Load Curtailment”, however, this document has not been finalized.

- The RECC notifies DLRP staff and the respective Energy Services Manager of the network requiring load reduction and its anticipated duration.
- Energy Services notifies DLRP customers in specific geographic networks by phone, and DLRP staff may also assist with customer notification via phone and email. The notification informs participating customers that a DLRP event has been called and the hours included in the event.

If the RECC, in consultation with Energy Services, determines that DLRP participation is not sufficient to alleviate the emergency situation, CECONY will contact NYISO to request activation of a Targeted NYISO ICAP/EDRP Sub-Zonal Zone J event as follows:

<sup>6</sup> From CECONY’s Typical Underground Heat Event Decision Matrix, downloaded 12/18/2007

- System Operations will contact NYISO and inform them of the specific sub-zone requiring the load reduction and the duration of the reduction.
- The NYISO issues notifications to customers.
- Once the program is activated the NYISO will notify CECONY

As previously mentioned, often DLRP events coincide with periods of hot weather. The Distribution Engineering Command Post (“DECP”) is a centralized resource used to respond to contingencies that is activated during the summer when the weather is predicted to reach a certain point, and is staffed by Energy Services, System Operations, and Local Control Centers. When the DECP is activated, the event notification procedure is as follows:

- A representative from Energy Efficiency is present at the Command Post to answer demand response questions that arise.
- The DECP in consultation with RECC determines the outage status and notifies the Demand Response representative at the Command Post.
- The Demand Response representative notifies Energy Services to implement DLRP.
- Energy Services will notify customers as described above.
- After DLRP is activated, the Chief Engineer, in consultation with Demand Response representative, Energy Services, and the RECC, determines if there is a need to call the System Operator to contact the NYISO and request activation of the Targeted NYISO ICAP/EDRP Sub-Zonal Zone J program.
- If there is a need for the NYISO program the System Operator contacts NYISO as described above.

In situations where CECONY needs to extend a curtailment event, the following procedure is followed:

- The RECC and/or the DECP determine that continued load reduction is necessary and notifies Energy Services.
- For a DLRP event, Energy Services contacts DLRP customers and Managers of Demand Response as described above.
- For extension of a Targeted NYISO ICAP/EDRP Sub-Zonal Zone J event RECC/DECP notify the System Operator, who requests that NYISO extend the event.
- The NYISO will issue a notification, and once the notification is issued, the NYISO notifies System Operations.

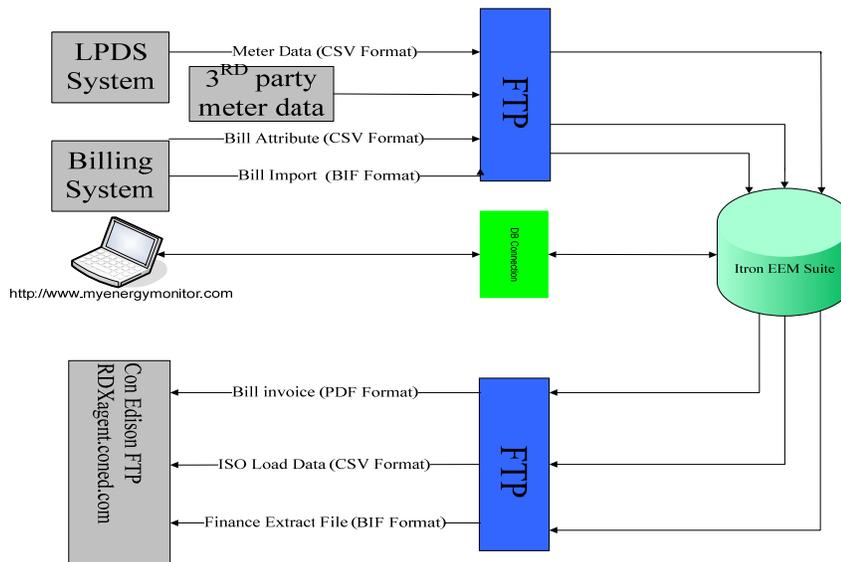
### *3.8.1.1 Event Processing*

The DLRP manager handles event settlements with the data processing provider, Itron. Event notification orders are processed at least 15 minutes prior to the start of the event. Critical information processed includes identification of the customer, data and time of the event and posting customer acknowledgement of each registered customer. The DLRP manager is responsible for interaction with Itron who is responsible for transmitting verified meter data, establishment of baseline usage and measurement of customer performance during event. The DLRP manager is responsible for validating incentive credits for each customer.

Itron processes event data and generates the reporting necessary to turn raw metered data into incentive payment calculations. Interval meter data is collected at the CECONY servers, CECONY staff verifies and data and then it is transmitted electronically to the Itron gateway. Shadow meter data and data collected by third party meter service providers is collected directly at the Itron gateway, this data cannot be verified by CECONY. CECONY has expressed concerns that the integrity of the data from “shadow” meters<sup>7</sup> cannot be verified because it does not come directly from a Revenue Grade Interval Meter.

Once Itron receives the data, it is uploaded into Itron’s web-based software suite, EEM Suite™. Itron uses its proprietary software package to scan the data for glitches and analyze the data using the appropriate M&V method. Itron then calculates the energy and capacity savings and payments and relays both the settlement statement with the summarized savings and incentives and the raw data to CECONY. Figure 3 illustrates the DLRP data flow.

Figure 3: DLRP Data Flow



### 3.8.1.2 Payment Procedures

After receiving the data from Itron, DLRP staff sends the incentive information to CECONY’s Corporate Customer Group, who issues the energy incentives to customers. Summer reservation payments for mandatory customers are calculated directly by CECONY using the APMD method, and are sent out separately from the energy incentives. Each incentive type, reservation payments and energy incentives, are paid once per year after the end of the summer capability period. The incentives are paid to government agencies via check, direct customers receive a bill credit and aggregators receive a wire transfer.

<sup>7</sup> “Shadow” meters are pulse meters which can receive data from a CECONY meter.

### 3.8.1.3 Test Events

DLRP has decided to use test events to verify load commitments for mandatory customers. Because the program modifications that create the mandatory category of participants were put into effect in August 2007, only one test event has been called to date, which occurred on October 4, 2007. Customers were informed that a test event would be occurring but were not informed of the exact date or time. When the test event was called, an email notification was sent to mandatory customers in all networks with the same 30-minute notification window as a called event, and informing customers that the test event would last from 2:00 pm to 4:00 pm. The test event had limited participation. As previously noted, 20.8 MW out of the 48.7 MW of mandatory load in the program was curtailed during the test event. The results of the test are listed in Table 8:

Table 8: October 4, 2007 Test Event Performance Summary

Event ID	\$ Paid**	kW Performance		
		Committed	Attained*	%
637	\$2,001	1,200	1,996	166%
638	\$911	6,474	911	14%
640	\$1,385	2,275	1,253	55%
641	\$16,728	21,636	12,481	58%
642	\$3,110	4,110	3,110	76%
652	\$1,064	9,593	1,005	10%
<b>Totals**</b>	<b>\$25,198</b>	<b>45,288</b>	<b>20,756</b>	<b>46%</b>
<b>Total Program***:</b>		<b>48,430</b>		<b>43%</b>

\*Measured Using CBL Method, so these percentages would not be used to penalize or de-rate customers (this table will be updated to include APMD for final report)

\*\* Customers were not actually paid for participation, but this is the energy incentive would have been if they were

\*\*\* Total enrollment in the mandatory DLRP

In the future, CECONY plans to call test events every year, at least for customers in networks where no actual events have been called. CECONY has not formalized the procedure that will be used, but the results of the test events, or the results of the actual called event, will be used to penalize mandatory customers that do not participate, and de-rate mandatory customers that do not achieve their load curtailment goal. CECONY has indicated they plan to begin implementing this policy for the 2007 test event; however, they have not made a final determination of how the penalty and de-rating will be assessed.

## 3.9 DLRP MEASUREMENT AND VERIFICATION METHODS

Currently CECONY uses two methods to calculate performance for participants in DLRP. DLRP staff indicated that the program uses the Average of Peak Monthly Demands (APMD) set forth by the NYISO to calculate the peak demand reduction and to calculate the reservation payment. However, the specific protocol used by CECONY is not clearly referenced. The APMD Method as used by the NYISO is referenced in Attachment J of the NYISO ICAP Manual. As stated in the ICAP Manual, this method may not be completely applicable to DLRP

since, one, Unforced Capacity (UCAP) is a term used at the wholesale level and, two, may include performance verification that is not currently in use by CECONY.

In the NYISO ICAP Manual, the average hourly peak use of each of the four summer months defines the baseline (APMD) and performance is based on the percent attainment of a Contract Minimum Demand (CMD) as adjusted by a ratio which is a function of the Actual Minimum Demand (the best four hours of any event) over the CMD, with this ratio not to exceed one. Appendix A lists the equation used in the NY ISO APMD method for calculating the capacity delivered under the NYISO ICAP SCR program. Actual hourly data is used to adjust and measure the performance using the smallest hourly ratio during the performance period.

According to DLRP staff, and stated in the CECONY meeting notes from the 6/29/07 aggregator information session<sup>8</sup>, the baseline demand for DLRP mandatory customers is derived from an average peak demand of June, July, August and September peaks from the previous year. The monthly peaks are limited to the 12:00 PM and 8:00 PM window. The current DLRP application requests the applicant provide load reduction information, including listing baseline kW for each of the four summer months, and states that “*Baseline Level will be the average of the monthly maximum demands for the four consecutive monthly billing periods commencing with the first bill issued in June of the prior Summer Billing Period*”. However, the application does mention the limitation to the 12:00 PM to 8:00 PM window.

Once the baseline demand is derived, CECONY subtracts the customer’s pledged load reduction from the baseline demand to determine the customer’s “firm service level”. This firm service level is the reduced total facility load that must be met during a called DLRP event. Verification of the capacity reduction for mandatory customers is conducted by comparing the customer’s load during the first four hours of the event period or test period to the firm service level based on the previous year’s performance data, as described above. The worst hourly performance is used to determine compliance with the customer’s committed kW reduction and assess penalties for non-compliance. According to CECONY, the method for calculating customer baseline and determining if the customer has achieved their pledged capacity reduction was selected due to its ease of understanding for customers. However, the average of the previous year’s peak monthly demands will not reflect load growth (or load contraction) and, because events tend to happen during system peaks, the average including more temperate months (June and September) will usually understate performance.

The Customer Base Load (CBL) method is used to by CECONY in DLRP to measure energy savings. This method generates typical hourly load curves from the 10 qualifying pre-event days to generate a weekday profile, a Saturday profile and a Sunday/Holiday profile. Various selection criteria are used to insure typical days are selected. Savings can then be calculated on an hourly basis by subtracting actual metered hourly data from the typical load curves. Since the baseline is a typical hourly load curve based on recent days, the data is timelier and may more accurately measure the incremental changes made by the participants, particularly if the weather adjustment option is utilized. (Note: customers have the option of selecting whether or not

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<sup>8</sup> CECONY provided Nexant with a document titled “Rider U Meeting 6-29-2007.doc” with meeting notes from the 6/29/07 meeting held with load aggregators to discuss the updates to Rider U and the new program procedures for mandatory customers and aggregators.

weather adjustment will be applied to their facility’s CBL calculation). A description of the CBL method used by DLRP is listed in Appendix A.

Table 9 provides a comparison of the two baseline methods currently utilized by DLRP.

**Table 9: Comparison of APMD and CBL Methods**

Method	Measures	General Description	Program Use	Reference Documents
APMD	Capacity (kW)	<p><u>Baseline:</u> Average Peak Previous Year, 4 Summer Months (12 PM to 8 PM window)</p> <p><u>Savings Method:</u> Average Base Month less Event Hourly Peak</p>	<ul style="list-style-type: none"> <li>▪ Mandatory DLRP</li> <li>▪ ICAP SCR</li> </ul>	2002 NYISO EDRP Manual <sup>9</sup>
CBL	Capacity (kW)	<p><u>Baseline:</u> Uses Current Year, Most recent Peak Days Uses Different Hourly Profiles for Day Types Has Option for Weather Adjustment</p> <p><u>Savings Method:</u> Base Peak Event Hours &amp; Days Less Event Hourly Data kW, Peak</p>	<ul style="list-style-type: none"> <li>▪ Not Used in DLRP</li> </ul>	2002 NYISO EDRP Manual 2005 NYISO EDRP Manual
	Energy (kWh)	<p><u>Baseline:</u> Uses Current Year, Most recent Peak Days Uses Different Hourly Profiles for Day Types Has Option for Weather Adjustment</p> <p><u>Savings Method:</u> Base Average kWh Event Hours Less Event Hourly Data kWh</p>	<ul style="list-style-type: none"> <li>▪ Voluntary DLRP</li> <li>▪ Mandatory DLRP for energy</li> <li>▪ EDRP</li> <li>▪ Small Customer Aggregation SCR</li> </ul>	

### 3.10 DISTRIBUTED GENERATION IN DLRP

Distributed generation assets are approximately 68% of DLRP resources that have been registered in 2007. Therefore, these assets represent a significant portion of the existing and potential DLRP market penetration, and they also present additional consideration due to the environmental impacts of the fuel-burning equipment used for distributed generation.

Very often distributed generation resources for the purpose of DLRP or SCR are back up generators and were originally designed to be used when the utility power was unavailable. The nameplate capacity can often be significantly larger than the load that is served by these generators since they are sometimes needed for service in a short time period in a cold start situation. Since CECONY receives manufacturer’s nameplate data in the DLRP application, it is

<sup>9</sup> Description and Reference based on information provided by CECONY and Itron; 2002 EDRP References ICAP SCR Described in NYISO ICAP Manual

unclear, if in determining the magnitude of the DLRP resource, whether the customer took measurements to verify the net output of the generator as required by the NYISO ICAP Manual. If the customer uses nameplate data as the primary determinant for establishing a curtailment commitment, the enrolled capacity may be overstated.

Currently, NYSDEC regulation exempts emergency generators that operate only when the usual supply of power is unavailable, and operate for no more than 500 hours per year. These emergency generators can be tested under load but are designed to be used only when the grid is down. Once a customer formally signs up with a Demand Response Program to be used for load curtailment, the current NYSDEC regulation requires that the generators be permitted and that the permit include a reference to demand program participation. The registration requires a limit of 12.5 tons per year of NO<sub>x</sub>, which is based on the unit’s “potential to emit” or 8,760 hours per year. For customers proposing to use their generator for load curtailment in DLRP, CECONY requires a copy of their NYSDEC permit or permit application for the generator as part of the DLRP application process. This requirement is more stringent than the NYISO programs, which do not require permit verification. Because NYISO did not include the permit verification requirement, customers may have been unaware of specific NYSDEC regulations that exclude peak shaving generators from classification as emergency generators, and may have assumed that they could participate by testing their equipment as they saw fit, overlapping tests with demand response events up to their annual 500 hour limit and not need to apply for a NYSDEC permit.

NYSDEC has developed a draft environmental regulation (Rule 222), which is currently under review and is being debated. The rule would affect distributed generators and, potentially, the participation in demand response programs including DLRP. Rule 222 has been in development for several years and creates three classifications of generators for permitting, as shown in Table 10.

**Table 10: Proposed Environmental Regulations for Distributed Generators**

Permit Category	Description	NO <sub>x</sub> Emission Standards, grams per brake-horsepower		
		Engine/Fuel Type		
		Diesel	Lean Burn Nat. Gas	Rich Burn Nat. Gas
I	Emergency	N/A	N/A	N/A
II	DG Resource	9.0	9.0	9.0
III	Economic Dispatch	7.5	3.0	2.0

Notes:

1. Emissions standards based on NYSDEC Rule 222 Draft Permit Categories and Requirements for 5/1/09
2. US EPA Clearing House for Inventories and Emmission Factors AP 42 data suggests 14 g/bhp diesel emergency generator stock
3. A specific prohibition on generator testing between 1 PM and 8 PM for Emergency DG has been proposed

The majority of existing backup diesel emergency generators<sup>10</sup> would not pass the emission requirements of the current draft of the Rule 222 NYSDEC requirements, which would result in a decrease in the use of generation equipment in both DLRP and NYISO programs. Additionally, the draft Rule includes a requirement for emissions testing by April 30, 2009, and subsequent testing after every 15,000 hours of operation or every five years, which is a more rigorous requirement than currently imposed on emergency generators, which are not required to conduct any periodic emissions testing. The draft regulation may dampen market participation by the existing stock of diesel emergency generators because testing during peak periods is clearly prohibited, because most of the existing population of diesel generators produces more than 9 grams of NO<sub>x</sub> per brake horsepower and these machines would be difficult to permit as DR Resources, which is the permit level required for participation in DLRP, and because of the increased regulatory burden of conducting emissions testing every five years.

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<sup>10</sup> Natural gas-fired engines typically have lower emission rates than diesel generators and are more likely to comply with the proposed emission standards; however, specific emission rates vary considerably depending on the specific equipment, controls, and engine operating conditions.

As part of the DLRP process evaluation, Nexant conducted market research interviews to better understand program operations, determine awareness of the overall program as well as specific program procedures, and identify the effectiveness of the program and the market dynamics that occur in response to the program. The key market actors interviewed include:

- CECONY personnel involved with DLRP
- Participating customers and aggregators
- Non-participating large commercial customers (with facility loads > 300 kW), and non-participating aggregators who are enrolled with the NYISO

## 4.1 METHODOLOGY

### 4.1.1 CECONY Staff Interviews

Nexant conducted interviews with CECONY staff that are directly or indirectly involved with DLRP, including: DLRP Program Manager, Systems Operations, Metering, Energy Services, Marketing, Energy Efficiency staff, former DSM staff that have had a historic role in DLRP, and the vendor used for calculating energy savings, Itron. A full list of CECONY personnel interviewed is included in Appendix B. The interview outlines developed included gaining a thorough understanding of the following:

- Program history and goals
- Program procedures, including: customer enrollment, system requirements for calling events, event notification, savings and incentive calculations, payment procedures
- Program marketing
- Internal staff training and understanding of program procedures
- Staff perceptions of DLRP, including program effectiveness and customer barriers to participation

The in-depth interviews were conducted as both face-to-face meetings and phone interviews. In addition to gaining an understanding of the program, these interviews also assisted with the development of the survey instruments for the customer and aggregator interviews.

### 4.1.2 Customer and Aggregator Surveys

Market research surveys were conducted with both program participants and non-participants, and each group included both CECONY customers and load aggregators. The primary goals of the surveys for each group included:

- *DLRP Participants* – Assess customers and aggregators experience with DLRP including program satisfaction, effectiveness of program design and recent tariff modifications, customer curtailment actions, barriers to curtailment, and likelihood of continued participation.

- *Non-participants* – General market assessment focused on DLRP and demand response familiarity, receptivity, barriers, opportunities, and load reduction potential among eligible customers and aggregators that are not currently participating in DLRP.

#### 4.1.2.1 *Survey Development*

Six unique survey instruments were developed for the DLRP program evaluation. The targeted groups for the individual survey instruments consisted of:

1. Customers participating in DLRP enrolled directly with CECONY
2. Customers participating in DLRP enrolled through an aggregator
3. NYISO-registered load aggregators participating in DLRP
4. NYISO-registered load aggregators not participating in DLRP
5. CECONY large commercial customers (>300 kW) who are not participating in DLRP but are enrolled in another demand response program.
6. CECONY large commercial customers (>300 kW) who are not currently participating in any demand response program.

The survey forms included information obtained from the CECONY interviews and input from CECONY staff prior to being finalized. Copies of the survey instruments are included in Appendix E.

#### 4.1.2.2 *Sample Selection Procedures*

DLRP customers, non-participating aggregators and large commercial non-participants were randomly selected for surveying to draw conclusions about the population based on selected representative sample. To minimize the uncertainty of the survey results the participant and non-participant populations were stratified by size and business sector. Generally speaking, the large commercial non-participants formed a fairly homogeneous population and so the levels of stratification were limited to avoid biasing the survey results.

Stratification was primarily done by size, dividing the population in three groups; small size (less than 1,500 kW), mid size (between 1,500 kW and 4,000 kW) and large size (greater than 4,000 kW). Each size group was further stratified by industry type using NAICS codes. Survey samples were randomly selected and assigned to each group weighted by the group's size relative to the population. The five participating aggregators were all interviewed and ten of the 26 non-participating aggregators were randomly sampled without stratification. The population and sample sizes for customers and non participants are shown in Table 11.

Table 11: Population and Sample Sizes

Group	Population <sup>11</sup>	Target Sample Size	# Completed Surveys	% of Target Sample
<b>Customers</b>				
Direct Participating Customers	95	37	9	24%
Participating Customers through Aggregators	112	43	21	49%
Non-participating customers in other DR	521	53	9	17%
Non-participating customers not in any DR	4,211	51	9	18%
<b>Aggregators</b>				
Participating Aggregators	5	5	5	100%
Non-participating Aggregators	26	10	9	90%
<b>Total</b>	<b>4,970</b>	<b>199</b>	<b>62</b>	<b>31%</b>

## 4.2 PRELIMINARY RESULTS

The following sections present preliminary market research results. The results are preliminary for this interim report due to challenges associated with the compressed and limited timeframe allowed for the evaluation. A final report that incorporates final findings and results will be issued to CECONY on February 26, 2008.

### 4.2.1 CECONY Interviews

#### 4.2.1.1 CECONY staff involved with Program Design and Event Procedures

The interviews with the DLRP Program Manager, Energy Services, Systems Operations, Metering, Communications, and Energy Efficiency staff provided information on the program's rules, procedures, operations, the 2007 program modifications, and events leading up to the modifications. Additionally, the interviews provided insight on CECONY's perceptions of potential barriers limiting customer and aggregator participation in DLRP and ideas for program improvements.

### Program Implementation

According to Energy Efficiency and Energy Services staff, DLRP is viewed by CECONY as an important tool for emergency situations, but is not an engineering solution for capacity planning. CECONY has other engineering solutions in place for capacity and system reliability issues. Due to the emergency nature of the program, the 30-minute notification timeframe was established because the load relief is needed immediately. However, CECONY currently has better predictive tools available than in previous years, and CECONY's threshold for when to request load relief has gone down in recent years, so the program may consider a tiered program, with first responders still meeting the 30-minute notification, and second responders reducing load within two hours.

<sup>11</sup> Customer information provided by CECONY was organized by customer accounts, rather than unique customer, so population listed is the total number of customer accounts, however there are some customers with multiple accounts. Nexant identified customer with multiple account in the random sample to ensure that duplicate account for the same the customer were not selected.

Systems Operations staff described the procedures in place when a network experiences an overload. Depending on the anticipated severity of the event, Systems Operations may wait for the event to occur because there are enough resources to mitigate the problem, or they may decide to implement one or more measures at their disposal including: sending out crews to close transformers, contacting customers to voluntarily reduce load (off-program), calling a DLRP event, and sending out mobile generators. Often these measures are implemented simultaneously because CECONY doesn't have the luxury of waiting to see if a particular solution is working. Systems Operations staff also indicated that sometimes there is confusion about which demand response program to call (NYISO programs or DLRP), and were not aware that an emergency procedures document is currently being developed.

Energy Services staff stated that during DLRP events, historically the program has gotten a positive response from customers when they are notified about participating, but CECONY does not have a good sense of actual participation by voluntary customers when an event is called. No impact evaluation of historical participation has been conducted and Energy Services stated that actual participation varies widely per event.

### **Program Participation and Procedures**

The DLRP Program Manager stated that the program uses the NYISO baseline load calculations and portfolio standard. The APMD method, which is used by NYISO's SCR program, is used for the reservation payment, and the CBL method, used by NYISO's EDRP, is used for the kWh payment. There have been issues and questions about which method is more appropriate for program, with considerations such as night-peaking networks, free ridership, and customer confusion.

The program currently has two pricing tiers, ordered by the PSC, with Tier 2 providing a higher incentive for load reductions in specific networks identified as higher priority and in need of additional demand response resources.<sup>12</sup> However, CECONY staff stated that network reliability is a very complex issue and the appropriate and optimal demand response determination is accordingly necessarily complex and nuanced, i.e., there is no method for precisely determining which networks are necessarily "in need" of more demand response, making it difficult for CECONY to provide customers with reasoned justifications as to why different levels of priority and, hence, different levels of incentives, have been assigned to specific networks. They stated that such assignments, if made, are likely to engender customer confusion and unwarranted concern over system reliability.

The program allowed shadow meters in 2007, however CECONY is not in favor of allowing non-revenue grade interval meters in the program because they are not able to verify the load reduction. According to Metering staff, CECONY has an obligation to make sure the data used to make decisions and provide financial incentives is valid. If complete monthly data with the shadow meters were provided by the aggregators, CECONY could manually compare with their monthly data. However, the aggregators are not currently providing adequate data to make that comparison. Another issue is the placement of the shadow meters; for DLRP, CECONY is

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<sup>12</sup> CECONY also notes that the total demand response resource eligible for Tier 2 payments is capped at 100 MW, which the Commission stated "is representative of the amount of non-voluntary customer load lost during the LIC outage event last summer." Order at 14-15.

primarily concerned with the load being relieved from the network, therefore, shadow meters installed at an on-site generator are not accurately recording what load is being taken off the system, only what the generator is contributing. The primary reasons CECONY staff believe aggregators use shadow meters rather than interval meters are that they are cheaper to purchase, and typically do not take as long to install. CECONY can take up to 8 weeks to install an interval meter, depending on if there is one in stock, and if the customer pays promptly for the meter. The customer also needs to install a dedicated phone line for the interval meter. If the phone line is not there when CECONY installs the meter, CECONY just installs the meter & demarcation box, and the customer will have to connect when phone line is installed. If the phone line is available, CECONY completes entire installation.

### **Non-DLRP Load Curtailment**

In addition to DLRP, CECONY has some large commercial customers who are not participating in the program, but are typically willing to shed load when called directly by CECONY to alleviate a potential network outage. The DLRP Program Manager and Energy Services staff speculate that these customers may not want to be associated with turning on generation, are not able to get upper management approval to enroll in the program, or simply are happy to assist when needed but do not want to make an official commitment.

### **CECONY Comments and Suggestions**

Other program barriers that were mentioned by CECONY staff include:

- confusion between available DR programs,
- turnover in staff at customer facilities,
- late DLRP incentive payments,
- trouble getting to decision makers at facilities, or depending on the facility managers to get upper management buy-in, and
- existing NYISO DR customers not wanting to participate in multiple programs because they are concerned that too many events would be called.

Some potential program suggestions included from CECONY staff include:

- expanding the program's website,
- create segment-specific marketing,
- develop better appreciation for the differences in marketing between customers with generators, and those that shed load to meet their curtailment goals,
- provide better program education to the Command Post and Systems Operations (during a previous event, they called DLRP during the evening when none of the participants were in their buildings, so no load could be reduced), and
- alleviate the cost of installing control equipment for load curtailment.

#### **4.2.1.2 CECONY Customer Account Executives**

Nexant also interviewed CECONY's six customer Account Executives and the Account Executive manager. The Account Executive Program was started 10 years ago to identify high

use and sensitive customers. Each Account Executive focuses on a specific industry segment, such as government, hospitals, property management, finance, universities, and hotels. The Account Executives maintain strong relationships with their customers. The interviews with Account Executives provided useful insight on DLRP and their customers.

### **Training and Marketing**

The Account Executives generally indicated they have received sufficient training to understand the rules and procedures, and they were familiar with the recent program modifications and the application and enrollment process. However, there was some confusion from several Account Executives on the use of on-site generation in the program, with one Account Executive stating they did not believe generators were allowed under the tariff, another stating that they believed generators were only allowed in the first year of the program, and another was unclear on what the specific permitting issues are for backup generators.

Account Executives indicated that they market the program every year to their customers. Several Account Executives stated that typically they try to get customers to enroll in the voluntary program so they don't have to worry about a penalty or participating in every called event, and then after a year or two in the program, they will promote the mandatory program. However, this was not a specified program marketing plan.

### **Account Executive Comments and Suggestions**

The Account Executives were also asked their opinions on what potential program barriers exist for their customers. The responses varied based on the customer size and type, but included:

- Customers who have lots of smaller facilities (<1,500 kW) do not currently have interval meters at their facilities. Even with the NYSERDA incentive covering the majority of the cost of meter installation, it is still beyond their budget to install meters in the dozens or even hundreds of facilities they own or manage
- Several Account Executives mentioned the program penalty as the primary barrier or concern for customers. If customers are not able to participate on a certain day when an event is called, they do not want to incur a financial penalty.
  - Customers are not averse to making money, but participation is not going to “make or break them”, so having a potential penalty may dissuade them from participating.
  - Additionally, government customers will not enroll in any type of program that involves a penalty, so they will not participate in the mandatory program. However, according to one Account Executive, government customers are very reliable in their participation, “every time CECONY calls, they participate”.
- Often it is tough for customers to get upper management buy-in to enroll in the program.
- Facilities don't always have the appropriate staff on hand or manpower to respond to an event

- Permitting issues for on-site generators – including having to obtain or modify a permit and also some customers are reluctant to share permitting information.

Account Executives also offered suggestions for program improvements. These included:

- Online program application
- Need to expedite payment of incentives – several Account Executives mentioned that there have been problems with the program payments being on time. Sometimes the payment is made after the customer’s fiscal year has ended, and several have mentioned getting complaints from customers about the late payments.
- CECONY also should let customers know what energy savings and load curtailment they have achieved and their incentive amount soon after an event.
- More advance notification, such as day-ahead, so that customers can have the correct personnel on-site when the event is called
- DLRP staff should conduct more seminars on the program for customers.

### **Non-Contractual (outside of DLRP) Load Curtailment**

Most of the Account Executives indicated that they do have customers that they can and do call directly to ask for load reduction during times of high loading on the system that are not current DLRP participants. One Account Executive described these procedures by stating that CECONY “did not start having these network issues when these programs became formal. We’ve been dealing with this for years and it’s always worked on an informal basis”. They also stated that typically they have a very good response rate to these direct requests for load reduction, primarily because they emphasize the mutual benefit of reducing load when asked; it helps alleviate problems for CECONY and also benefits the customer later that day by preventing a power outage in their immediate area. When DLRP was created, CECONY went to these customers and said “you used to help, now you can get paid for it if you sign up”. However, many preferred to stay off-line. The Account Executives believe that customer reservations about signing up for the program are based on several issues, including: less accountability and exposure, they (customers) were really only willing to help when the situation affected them directly, and the transaction cost was not worth the potential benefit.

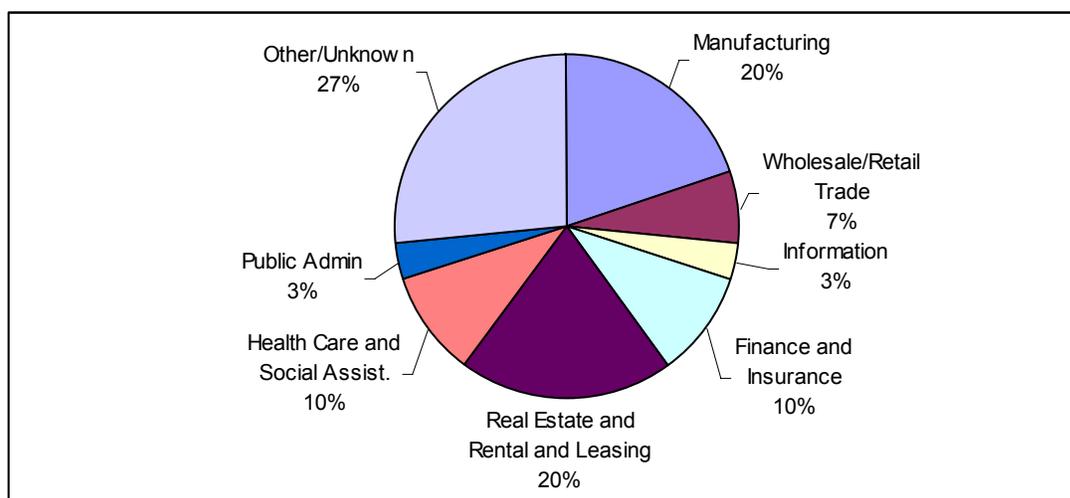
#### **4.2.1.3 Itron (DLRP vendor)**

As part of the internal process interviews, Nexant interviewed the DLRP vendor, Itron, about their role in the program. Itron indicated that they provide data gathering and processing service as well as providing software and hardware, but do not install meters. They received meter data via two pathways, either from the CECONY interval meter, or sent via FTP from a pulse meter or third party Meter Services Provider. Data received via the second pathway is not able to be verified primarily because billing data for the entire month is not currently required by the program, only event data. Additionally, processing the meter data would require extra administrative costs to match the submitted data to CECONY’s billing data. Itron also provided Nexant with a detailed description of the CBL method they use for calculating event settlements, which is listed in Appendix A.

## 4.2.2 Participating Customer Interviews

Currently Nexant has completed surveys with nine customers participating directly in the program through CECONY and twenty-one customers enrolled in DLRP through an aggregator, representing 38% of the targeted sample size for participating customers. Therefore, while the specific percentages of responses and opinions may vary when additional surveys are conducted, (results from additional surveys will be incorporated into the final report, which will be submitted to CECONY on February 26, 2008), there are sufficient surveys completed to make preliminary observations about the program based on the information provided by participating customers. Figure 4 shows the NAICS categories that are represented by the customers who have completed the market research surveys:

Figure 4: Customer NAICS Categories for Completed Surveys



All customers interviewed identified themselves as the person at the facility responsible for energy management or part of a team with energy management responsibility. 50% of customers indicated that they regularly review their hourly load data, and 67% stated that they track their peak monthly demand during the summer. These customers provided information on their knowledge of DLRP, as well as opinions about DLRP based on their participation in the program. A summary of key findings from the surveys is listed below. Additionally, Table 25 in Appendix B provides a summary of the survey results for the key program issues.

### Customer Awareness of DLRP

56% of customers participating directly in DLRP through CECONY stated that their CECONY Account Executives were the initial source of information about the program, and rated the DLRP information that the Account Executives provided as a 4.4 on a scale of 1 to 5<sup>13</sup>. 33% of customers participating through an aggregator stated that their aggregator introduced DLRP to them. Therefore, Account Executives and aggregators appear to be of primary importance in marketing the program. Only 40% of all participating customers surveyed stated they've visited

<sup>13</sup> All questions in the market research surveys requesting an opinion using a scale from 1 to 5 were based on a response of 1 signifying the most negative opinion and a response of 5 signifying the most positive opinion.

the DLRP website, and those that have visited it rated the usefulness of the information on the website as a 3.5 on a scale of 1 to 5. Additionally, despite CECONY stating that direct mailings have been sent out to customers, only 30% of the participants interviewed recall receiving any mailings from CECONY about DLRP. Table 12 lists the percent of customers surveyed that have heard of the program in the following ways:

Table 12: Ways Customers Have Heard of the Program

Method	%age of customers who heard of DLRP via this method
1. Received direct mailing from CECONY	30%
2. Program information included in newsletter from CECONY	13%
3. DLRP website	40%
4. CECONY Account Executive	40%
5. NYISO	30%
6. NYSERDA	30%
7. through participation in another demand response program	33%
8. Aggregator	63%
9. Trade/Industry groups	23%

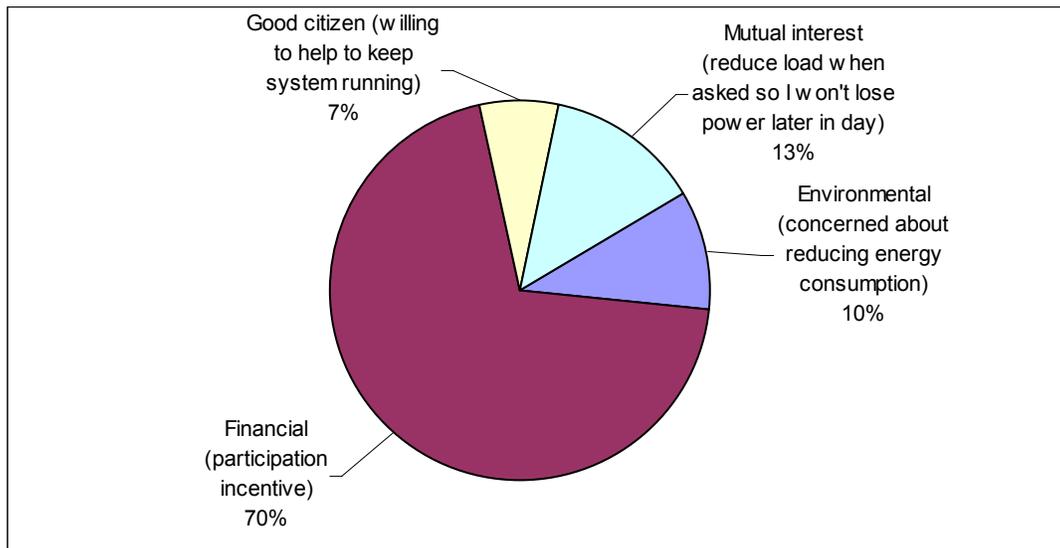
### Knowledge of other DR programs & Customer Confusion

50% of the customers stated that they are aware of other available demand response programs, and customers rated their understanding of the details of the various DR programs as a 3.27 on a scale from 1 to 5. 30% of the customers are participating in other DR programs, either the NYISO EDRP or ICAP SCR program. Only one of these customers indicated any concerns about participating in multiple programs, which was the potential for too many events; however, two other customers indicated confusion about which program takes precedent if both are called at the same time and if there is a penalty for participating in multiple programs. Therefore, it appears that while customers stated that they are at least moderately clear on the details of the various demand response programs, even customers currently enrolled in the programs still have some confusion about specific program procedures.

### DLRP Program Participation and Procedures

Figure 5 lists the potential reasons for customers to join DLRP and the percentage of customers that stated each as their primary reason for joining.

Figure 5: Primary Reason for Joining DLRP

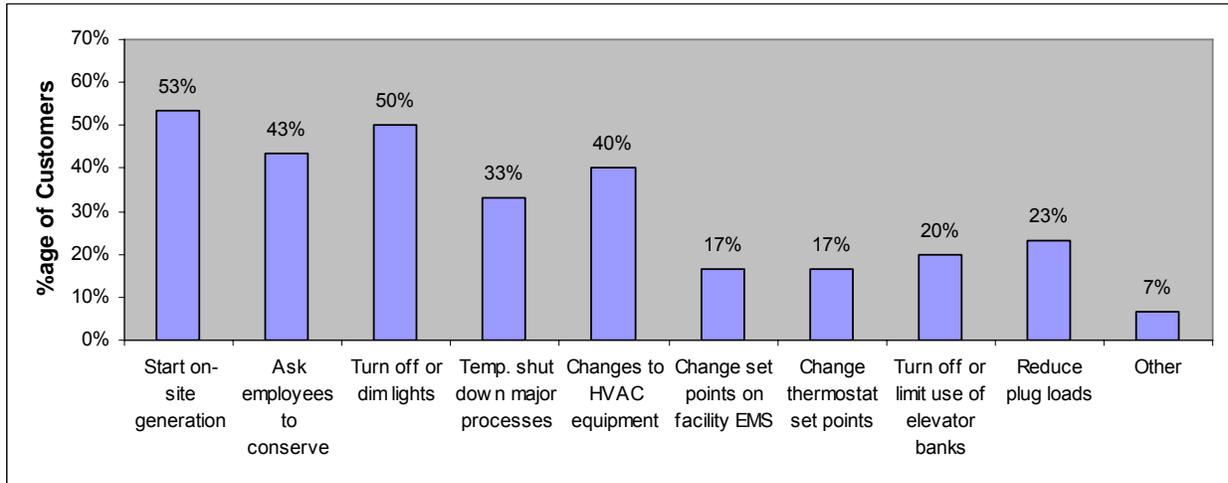


83% of customers surveyed have participated in a DLRP-called event. All customers who have participated stated that they met their load reduction target in the most recently called DLRP event. The direct customers, who receive event notification from CECONY, indicated they were satisfied with the event notification procedures, rating their satisfaction as a 4.29 on a scale from 1 to 5. Only 13% of customers indicated that they track their energy reduction during a DLRP event and calculate their potential savings and incentive prior to being informed by CECONY of their incentive; therefore, customer confusion over the CBL method for calculating capacity reduction and energy savings may not be a valid program concern.

Only 10% of customers stated that they have not participated when notified of a DLRP event, and the reasons for not participating were that critical operations were running and that the notification period was too short. 73% of customers stated that they have received their incentive payments in a timely fashion.

77% of the customers have on-site generation at their facility, but only 57% use their generators to participate in DLRP. Their reasons for not using their generators for DLRP included NYSDEC permitting issues, and not wanting to use their generators except in an emergency situation. Figure 6 lists all the curtailment methods used and the percentage of the customers surveyed that utilize each method.

Figure 6: Customer Load Curtailment Methods



### Customer Satisfaction

56% of direct customers stated when they have questions about the program they go to their Account Executive for answers, and 81% of customers enrolled through aggregators stated that they go to their aggregator with their questions, further emphasizing the importance of Account Executives and aggregators in DLRP. All customers who have had questions about the program indicated that their questions have been answered in a timely fashion.

Customers' average satisfaction with DLRP as a whole was 3.9 on a scale from 1 to 5. All thirty of the customers surveyed plan to continue participating in the program, with 37% planning on increasing their load commitment in the future. When asked what potential program modifications may entice customers to increase their load commitment, the top two choices, on average for direct customers were: a gradual increase in the incentive rate after the first called event, and more advance notification of events (either a 2-hr notification or a day-ahead alert). The top two program modifications that customers through aggregators selected, on average, were: an additional financial bonus for adding more facilities, and a gradual increase in incentive rate after the first called event.

### Direct Voluntary Customers Opinions

Currently all customers enrolled in DLRP directly with CECONY are enrolled in the voluntary program. 66% of customers stated they are aware that DLRP has a mandatory and voluntary participation level. Of the direct customers aware of the mandatory program, the primary reason cited for not currently participating in the mandatory program is that the customers are unsure if they can always meet their load target when a DLRP event is called. These customers stated their interest in potentially participating in the mandatory program as 1.83 on a scale of 1 to 5, with four of the six customers stating they have no interest at all in the mandatory program.

89% of direct customers are aware of the option to participate in the program through an aggregator, but only 44% stated that they may be interested in the future in participating through an aggregator, indicating that the majority of these direct customers are familiar enough with

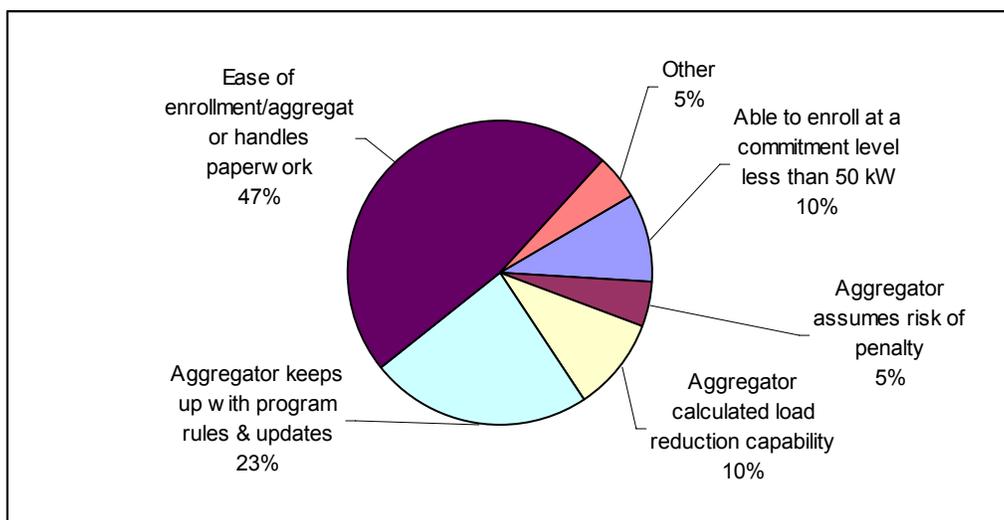
their demand response capabilities and DLRP to participate on their own directly with CECONY.

### Aggregators provide customers with useful program information and guidance

As previously stated, customers participating through aggregators identified their aggregators as the source of the most useful information about DLRP. 43% of these customers stated that before their aggregator introduced the program to them, they were not aware of DLRP. Aggregators also assisted in facility auditing at 71% of the customer's facilities, and helped calculate their load reduction for 90% of the customers interviewed (who are enrolled through an aggregator).

Customers rated their overall satisfaction with their aggregator as 4.1 on a scale from 1 to 5. Figure 7 lists the benefits of using an aggregator for customers and the percentage of customers that cited each as the primary benefit.

Figure 7: Primary Customer Benefits of Using Aggregator



#### 4.2.3 Participating Aggregator Interviews

A total of five DLRP participant aggregators were surveyed by Nexant. All five companies were local with supplementary businesses that also operate in the Mid-Atlantic states and New England. These aggregators are primarily involved in load aggregation with few side sales in energy commodity trades.

Aggregators currently enrolled in DLRP have between 2 and 24 MW of load participating in the program. The majority of these companies enroll customers in multiple DR programs to leverage financial benefits in the DR market. Three of the five aggregators stated that 100% of the load they have enrolled in DLRP is also enrolled in other DR programs; however the other two aggregators stated that 10% or less of their DLRP load is enrolled in other DR programs.

Aggregators provided their opinions on key program rules, procedures, and issues, which are discussed below. Additionally, Table 26 in Appendix B provides a summary of the survey results for the key program issues.

### **CECONY Marketing could be Improved**

A total of four of the five participant aggregators said they heard of DLRP through sources other than CECONY, including external consultants, NYISO staff, tradeshow, and from their involvement in DR market development activities. Therefore, CECONY's marketing may not be effectively reaching out to aggregators. CECONY did hold an aggregator information session on June 29, 2007. The aggregators gave slightly mixed reactions to the level of information provided in the session, with an average ranking, when asked how informative the session was, of 3 out of 5. They stated that the presentation overall lacked clarity with a less than average organization of key rules and regulations. The Rider U tariff is complex and the inherent changes were not explained in detail.

Aggregators have found the CECONY DLRP website to be adequately useful for DR marketing; especially marketing to majority of their customers currently enrolled in other NYISO programs. Four of the five aggregators said these customers lack understanding of DLRP and the DR market in general, leading to a strong need of marketing the program with clarity and ease of enrollment. The aggregators estimated that only between 0% and 10% of their customers have heard of DLRP prior to being introduced to the program by the aggregator, with three of the five aggregators estimating that none of their customers have heard of the program. Additionally, the overall level of confusion over incentive structures, benefits, penalties and offerings is high. According to aggregators, the majority of customers compare DLRP to the NYISO programs and conclude that the DLRP benefits are insufficient to warrant risk of enrollment. Aggregators strongly advocate the improvement of CECONY marketing, including restructuring the marketing procedures to provide assistance to aggregators marketing the program.

### **Program Rules and Procedures**

"Ease of enrollment" is the primary reason aggregators identified when asked why customers enroll in the program through aggregators. Four of the five aggregators report that DLRP enrollment procedures are tedious and customers like aggregators to handle all paperwork, billing and tracking of load curtailments. In addition aggregators provide customers auditing services to estimate their load potential, keep up with program rules, assist with NYSDEC permitting for their generators and assume the risk of penalty, which is a major bonus.

An important point to consider is that notification procedures and protocols greatly ease aggregator and customer efforts in responding to events. All five aggregators expressed serious concerns over DLRP event notification protocols. Aggregators said the notification protocols need to be clearly documented and followed by CECONY and additional efforts are needed to clarify these protocols. Four of the five aggregators also complained about delayed incentive payments.

## **Program Rider U and Metering Methods**

Generally speaking, DLRP aggregators strongly support Rider U, mainly the inclusion of the summer reservation payment which is “reasonable and sufficient” as stated by four of the five aggregators. The four aggregators, however, also report that the value of the summer reservation payment may not have a significant impact on participation. The penalty imposed for non-compliance, on the other hand, hampers customers’ motivation to leverage the summer reservation payment in justifying enrollment.

Aggregators have made strong statements on the 30-minute notification window being “too-short”. The notification window was identified by three of the five aggregators as the biggest barrier for participation. Customers have serious problems in responding to an event with a 30-minute notification window due to system lead times. The majority of customers utilize emergency generators for load curtailment and startup times on these generators do not allow customers to transfer the facility load in a 30-minute time period. A greater portion of customers reset their HVAC systems for curtailment and system reset procedures cannot be completed in a 30-minute time window.

On the topic of M&V methods, all five aggregators were in general agreement that “energy and capacity calculations for DLRP need to be simple and straight forward”. However, Nexant observed high diversity in the feedback received from aggregators on the calculation methods used for energy and capacity:

- One aggregator favored the current DLRP procedure of using the APMD method for baseline and capacity reductions, and the CBL method for energy savings calculations.
- Two aggregators favored using the CBL method, stating that “APMD does not accurately measure real-time impact, which is the real goal” and that “having two methods creates too much confusion”.
- One aggregator favored the APMD for all calculations, stating that “APMD represents capacity more accurately”.

## **Suggested Program Modifications and Overall Recommendations**

Overall, aggregators’ experience with DLRP has been ‘satisfactory’, with an average overall ranking of 3.4 out of 5. All five aggregators stated that not only do they plan to continue participating in the program in the future; they all are anticipating increasing their load commitment in the program. However, the aggregators’ did express some concerns and opinions about specific areas of improvement for the program. These included:

- Two of the five aggregators stated “The DLRP program rules and procedures are not clear or rather are not followed”. Aggregators strongly support the idea of publishing a “DLRP procedures manual” and are willing to assist CECONY in developing and documenting protocols.
- In addition to documenting protocols aggregators said “The ITRON M&V methods are black box” – aggregators feel the APMD and CBL calculations need to be clarified and made public.

- CECONY’s marketing efforts need to be improved and targeted to assist aggregators.
- Overall, the majority of the aggregators oppose the 30 min notification window, which being increased to two hours will result in a substantial increase in participation.

Aggregators were also asked about specific potential program modifications and how important they were to increasing program participation. The results have been prioritize by the average ranking and are listed in Table 13 below:

**Table 13: Aggregator Rankings of Potential Program Modifications**

<b>Potential Program Modification</b>	<b>Avg Ranking (scale of 1 to 5)</b>
Day-ahead preliminary notice that an event MAY be called (actual notification would still be 30-min)	4.8
Summer reservation payment increased	4.6
30-min notification period increased to 2-hours	4.2
Reduction in the severity of penalty for non-compliance	4.2
Summer reservation payment offered in the first year to voluntary customers as well as mandatory customers (but not offered subsequently unless they enrolled in mandatory program)	3.8
Gradual increase in incentive rate after the first called event (payment amounts increase for 2 <sup>nd</sup> event, and again for 3 <sup>rd</sup> event, etc.)	3.6
Low cost financing for generation equipment	3.2
Smaller limit to the number of annual events that require mandatory participation (currently 6 events per year)	3.2

#### 4.2.4 Non-participating aggregators

The results presented in this section draw on the non-participant aggregator surveys administered by Nexant and SRBI. A total of 10 of the 26 NYISO-registered aggregators who do not currently have load enrolled in DLRP were randomly sampled. The findings in this interim report are based on nine completed surveys. The majority of companies interviewed were local with supplementary businesses in the adjoining states. These aggregators are primarily involved in load aggregation with few side sales in energy commodity trades. Additionally, Table 27 in Appendix B provides a summary of the survey results for the key program issues.

#### **DLRP Rules, Procedures and Marketing**

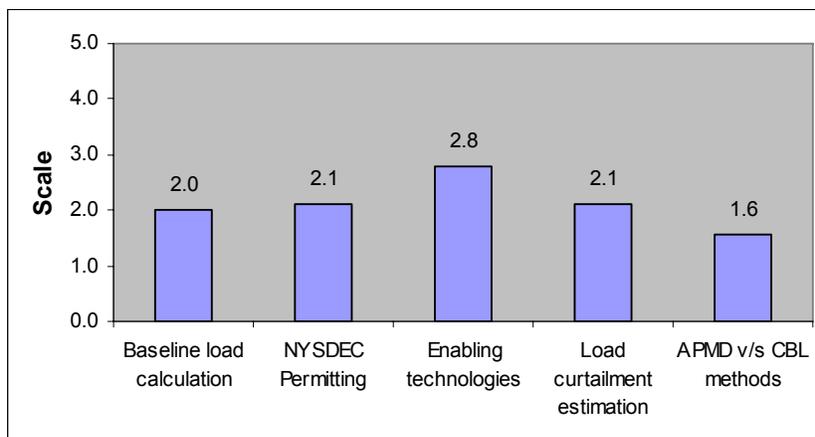
Administering surveys to a diverse mix of aggregators participating in the New York Demand Response Market allowed Nexant to probe the overall awareness and level of penetration DLRP has achieved to date. The aggregators surveyed stated a variety of sources when asked how they first heard of DLRP. 22% of the aggregators reported hearing of DLRP through NYISO staff while 11% reported hearing of DLRP through tradeshow. Although 22% aggregators reported receiving DLRP information through CECONY seminars, it appears that CECONY’s marketing and outreach efforts has not effective in reaching aggregators. Only one of the nine aggregators attended the DLRP information session hosted by CECONY in 2007, and over 50% of the

aggregators stated that they feel that they are not properly educated about DLRP rules and offerings.

### Customer Recruitment Efforts

Marketing, education and awareness are the most important tools for achieving high levels of penetration. Only 56% of the aggregators surveyed had visited the DLRP website, and only 22% identified the website as being somewhat or very useful. Aggregator education is vital for program outreach because aggregators play an important role in clarifying rules and procedures to customers. Survey results show that the overall customer understanding of demand response program characteristics like baseline load calculations, NYSDEC permitting issues, enabling technologies, load curtailment estimation and M&V methods is low and is greatly improved by aggregators. Aggregators assessed customer’s awareness on several program-related topics, as shown in Figure 8, with the average results between 1.5 and 2.5, on a scale from 1 to 5, for almost every category.

Figure 8: Aggregator Assessment of Customer Understanding



Customers typically prefer to enroll through aggregators because they will handle the enrollment procedures, will provide auditing services at the customer’s facility, and aggregators will keep up with the program rules. 89% of the aggregators provide customers assistance in auditing their facilities and estimating the available curtailment potential, with 50-100% of customers utilizing their auditing services (three aggregators noted that 100% of their customers use their auditing service).

The primary customer concerns about demand response programs that aggregators have observed from their interactions with customers are: the financial penalties for non-compliance, they do not understand program details, and they do not have an interval meter. Therefore, in order to serve potential customers in the best possible manner aggregators need to have a strong understanding of DLRP.

## Provisions of Rider U

In general, aggregators feel that Rider U had added substantial benefits to DLRP program to entice customers to participate. Following are aggregators' views on the provisions of Rider U:

- 89% of aggregators feel that inclusion of the summer reservation payment is useful
- 33% of aggregators stated that the summer reservation payment of \$3/kW/month for Tier 1 and \$4.5/kW/month for Tier 2 should be increased
- 89% of aggregators said the 150% penalty for non-compliance is high and is an important barrier to participation
- 89% aggregators said the 30-minute notification window is the biggest barrier to participation.
- 33% of the aggregators surveyed prefer the current DLRP baseline calculation system, using the APMD method for capacity reduction and the CBL method for energy savings calculations. Only 11% of aggregators prefer the use of CBL for all calculations.

## Barriers and Recommendations

56% of the aggregators cited the high penalty for non-compliance and the short notification window are the primary barriers keeping them from participating in DLRP. 44% of aggregators also felt that they did not have enough program information to make an informed decision about participating in DLRP. Additional barriers identified by aggregators include 33% of aggregators were not aware of the tariff change, and 33% of aggregators stated that the incentives were too low. Table 14 lists aggregators' responses when asked about the likelihood that potential program modifications would entice them to participate:

Table 14: Aggregator Interest in Potential Program Modifications

Potential Modification	Average Rank (scale from 1 to 5)
Increase in summer reservation payment	4.44
Increase in energy payment	4.56
Reservation payment in the first year for voluntary program	4.22
30-minute notification period increased to 2-hours	4.56
Day-ahead preliminary notice that an event MAY be called (actual notification would still be 30-minute)	4.11
Reduction in the severity of penalty for non-compliance	4.56
Smaller limit to the number of annual events that require mandatory participation (currently 6 events per year)	3.11
Reduction of the required minimum 100 kW of load reduction to participate	2.22

All aggregators surveyed recommended that DLRP procedures and offerings should be documented and published in a manual. This recommendation concurs with the concerns expressed by participating aggregators. Aggregators feel that CECONY should dedicate efforts

to reducing customer confusion by efficiently marketing the program with clarity and with an aim to increase concurrence in the DR market.

#### 4.2.5 Non-participating large commercial customer interviews

Currently Nexant has only completed eighteen surveys with non-participating large commercial customers. Therefore, no statistical conclusions can be drawn from the results; however, based on the information provided by the eighteen customers, the following anecdotal observations about the program can be made:

- 8 of the 18 customers indicated that they review their hourly load data, and 13 of the 18 customers track their peak monthly demand in the summer, which is roughly equivalent to the percentage of participating customers that closely follow their energy consumption and demand.
- Only 3 of the 18 customers stated that they currently have an interval meter. These three customers are all currently participating in other demand response programs. 6 of the 9 customers not enrolled in any DR programs stated that they do not have an interval meter, and the other three stated that they do not know if their facility has one.
- 7 of the 9 customers not enrolled in any DR programs stated they are familiar with ways to temporarily curtail load at their facility.
- 5 of the 9 customers not enrolled in any DR programs said they would be interested in auditing assistance to identify load curtailment opportunities.
- 9 of the 18 customers stated that they have been approached by a load aggregator to participate in a demand response program.
- 11 of the 18 customers have not heard of DLRP. Seven of the customers that have not heard of DLRP stated that they do not have a CECONY Account Executive, and the remaining customer not familiar with DLRP said they do not recall their Account Executive discussing any DSM programs with them.
- The nine customers who have CECONY Account Executives all stated that they do not remember their Account Executive discussing DLRP with them.
- 3 of the 18 customers recall receiving a direct mailing about DLRP from CECONY.
- Only 2 of the 18 customers have visited the DLRP website.
- 5 of the 18 customers have considered participating in DLRP. The primary reasons these customers cited as barriers to participation include: not knowing enough about the program to make an informed decision, don't have 50 kW of load that is curtailable, don't have the staff to identify how to curtail load or calculate load reduction amount, the 30-minute notification period, and the program's financial penalties for non-compliance.
- The program modifications that are most likely to entice them to participate in DLRP include: reducing or eliminating the penalty for non-performance, more detailed program information from CECONY, day-ahead alert that an event may occur, and an increase in the energy incentive for participation in an event.

- 16 of the 18 customers indicated interest in attending a DLRP information session sponsored by CECONY.

The object of a best practice benchmarking review is to seek out exemplary like programs, identify the program elements that are keys to success, and compare them to those in DLRP.

### 5.1 SUMMARY OF BEST PRACTICES AND OVERVIEW OF BEST PRACTICES REVIEW

Based on our reviews, the most important best practices for emergency demand response programs are as follows:

1. **Clear goals and objectives:** Setting clear goals and objectives at the beginning of the design process provides for a meaningful performance purpose, allows for a quantifiable assessment of performance and improves program design process.
2. **Well documented program design and procedures:** It is widely understood and accepted that good documentation is an attribute strongly associated with mature and successful DSM programs. The inclusion of stakeholders in the design process is also deemed a best practice and is important for the success of these types of programs.
3. **Select rules that highlight program goals:** Rules for programs should be put in place only to the extent that they further specific program goals. Setting rules for program participation should be clearly thought through and developed with the goals and objectives of the program in mind.
4. **M&V using 10-day adjusted baseline method:** The 10-Day Adjusted Baseline multiplies the 10-Day baseline by a scalar adjustment ratio, which shifts the 10-Day baseline up or down to align it with the customer's recent operating level, based on a series of calibration hours from the most recent similar day. This methodology has been found to be the most accurate, least-biased method for M&V of DR programs.
5. **Appropriate pricing:** Incentives for demand response programs need to be based on a clear understanding of the current market and be set in a manner which will 'move the market' to participate.
6. **Regular evaluation of programs:** Regular process and impact evaluations help ensure that a program is operating correctly and at the highest possible efficiency. Impact evaluations ensure that short-term goals are being achieved and the program is operating with the long-term goals as its primary focus. Process evaluations use customer satisfaction surveys to ensure that program procedures are meeting customer expectations. Evaluations should be conducted approximately every three years and recommendations made as a result of the evaluation should be addressed accordingly.

The best practices review included the following three elements, all of which are discussed in more detail in the remaining sections:

- Research of publications

- Research of similar programs offered throughout the country
- Review of evaluations conducted for similar programs

## 5.2 RESEARCH OF PUBLICATIONS

Based on a review of the publications relating to reliability demand response (DR) programs, along with experience in the evaluation and design of DR programs and DSM programs in general, a list of best practices for DR programs has been compiled. These best practices are categorized by type and include program design, program implementation, program management, and program evaluation. Our findings for each of these categories are presented in the following sub-sections.

Section 5.5 includes a bibliography listing the publications that were reviewed. These documents generally provide broad perspectives of DR programs and, as such, do not normally review details of specific programs.

In this section (5.2), tables are presented that list best practices applicable to DLRP, sources for these best practices (the source number corresponds to the numbered documents listed in the reference list), and an assessment of the degree of implementation by DLRP. The degree of implementation is divided into three categories:

- 'F' signifying full implementation of the best practice,
- 'P' signifying partial implementation of the best practice, indicating that some aspects of the best practice have been implemented or the framework for the best practice has been developed, and
- 'N' signifying that the best practice has not implemented by the program.

### 5.2.1 Program Design

Program design involves setting goals, developing program materials and marketing strategies, determining pricing and incentive levels, and outlining a performance measurement process. Prior to program implementation, thorough planning and design to get the program off to an effective start is crucial for establishing an effective DR program. Table 15 lists program development and design best practices applicable to DLRP, sources for these best practices (the source number corresponds to the numbered documents listed in the bibliography, Section 5.5), and Nexant's assessment of the degree of implementation by DLRP.

**Table 15: Program Design Best Practices**

No.	Best Practice	Source(s)	DLRP Implementation
<i>Design Process and Program Structure</i>			
1	Customers and other stakeholders involved in program design	2	P

No.	Best Practice	Source(s)	DLRP Implementation
2	Rules clearly defined	7	F
3	Have a well-defined program theory and logic model	Nexant <sup>14</sup>	N
4	Develop a process plan and program manual	Nexant	N
5	Program feature options or menus provided	2, 4, 8	F
6	Voluntary option available	5	F
7	Event duration four hours or less	4, 5	F
8	Customers control equipment	5, 8	F
9	Customers allowed to participate in multiple programs	1, 2, 8	F
10	Opt-in and opt-out load reduction windows option available	4	N
11	Participation does not result in additional regulatory burden	7	P
12	Use of back-up generation not limited by environmental regulations	3, 4	P
13	Minimum load reduction allows small end-users to participate	2, 7, 8	F
<i>Pricing/Incentive Options</i>			
14	Offer a basic payment, even if no curtailments are called	2	P
15	Payment options provided, including utility bill credits and direct payment	4	P
16	Penalties equitably assessed and designed	7	F
17	Compensate for full value of savings	2, 8	F
18	Incentives should reflect locational value	2	F
19	Quality of DR recognized in the compensation	7	F
20	Leverage existing customer infrastructure	2	P
21	Rebate programs/discounts on DR-enabling equipment purchases	1, 2, 4	P
<i>Performance Measurement and Settlement Process</i>			
22	Baseline determination accurate	9, 10, 12	P
23	Baseline determination addresses weather	1, 9, 12	P
24	Baseline determination deviations allowed	2, 9, 12	P
25	Baseline determination simple	1, 2, 9	P
26	Baseline determination unbiased	1, 9, 12	F
27	Baseline determination verifiable	1, 9	F

The best practices outlined in Table 15 are discussed in more detail throughout the remainder of this section. A summary of the best practice is provided along with a description of how CECONY is or is not following the best practice.

<sup>14</sup> These best practices result from Nexant's familiarity with other DSM and DR programs based on over 20 years of program design, implementation, and evaluation experience.

## **Design Process and Program Structure**

Customers and other stakeholders involved in program design. According to source 2<sup>15</sup>, end-use customers and key stakeholders bring unique and valuable perspectives useful in program design and implementation. Participation rates have improved with their involvement. CECONY contacted several load aggregators when developing the program modifications and updates to Rider U that were enacted in 2007. The aggregators did not agree on all details of the changes, in particular the amount of the summer reservation payment, but, according to CECONY, they were generally happy to be included in the program.

Rules clearly defined. According to source 7, DR program rules must be clear and easily understandable to ensure successful implementation. The DLRP rules are clearly listed in the tariff for Rider U, which is available on CECONY's web site. Although the DLRP web page ([http://www.coned.com/sales/business/dist\\_load\\_relief.asp](http://www.coned.com/sales/business/dist_load_relief.asp)) contains a basic summary of the rules, it does not mention or contain a link to the rider.

Have a well-defined program theory and logic model. It is widely accepted that program logic models improve program understanding and performance. Such models help to identify key performance indicators to be considered in management and evaluation processes and identify any gaps in program focus or effort, assuring that everyone involved understands the program objectives. CECONY has not developed a program logic model to date for DLRP.

Develop a process plan and program manual. Stakeholders benefit when program rules and processes are clearly stated and disseminated. Typical documents include those associated with enrollment, event notification, payment calculations and processing, and penalty assessment. Although CECONY has developed some marketing literature with program details and has included basic program information on the DLRP website, there is room for more formal documentation. At an aggregator information session held last summer, CECONY distributed a document with a summary of program information.

Program feature options or menus provided. According to sources 2, 4, and 8, offering choices that accommodate the needs of different customer segments, such as options for participation, notification timeframe, and flexibility in the number of required events per year, can stimulate greater DR program participation. DLRP participants can select two paths: (1) a voluntary option, with the flexibility during each called event to participate or not without financial penalties, and (2) a mandatory option, which offers additional financial incentives that are paid regardless of an event being called, but that carries financial penalties for non-participation. Additionally, DLRP participants currently are able to select the methodology used to calculate their baseline for energy savings. The DLRP application includes the choice of using weather-adjusted baseline data, or using the average of the previous 10 days to calculate the facility's baseline load.

Voluntary option available. According to source 5, giving customers more options for participation is an effective strategy for increasing participation, particularly at a voluntary level for customers who may be skeptical about their ability to perform. DLRP was originally

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<sup>15</sup> The source number corresponds to the numbered documents listed in the bibliography, Section 5.5

developed with only a voluntary participation level, and CECONY has continued to use the voluntary level as a way to entice customers to enroll initially without concern of penalties.

Event duration four hours or less. Customer participation can be dependent on the ease of participation, and longer events may contribute to customer fatigue. Source 5 notes that a sample of CECONY customers indicated that four hour event durations are acceptable. Focus group research described in source 4 suggested that six hour event durations are acceptable. DLRP procedures are based on event durations of four hours, as well as a maximum number of six mandatory events per capability period. If an event lasts longer than four hours or more than six annual events are called, participation is voluntary for all customers and additional incentives are offered for customers that participate in these longer or more frequent events.

Customers control equipment. Sources 5 and 8 indicate that customers overwhelmingly prefer to control how they respond to events. Load curtailment in DLRP is done by the customers or aggregators, rather than in a direct load control setup. This gives customers the flexibility to respond or not, or use different mechanisms for response depending on site needs and conditions. It should be noted that while customers prefer controlling their equipment, automatic DR technologies, such as direct load control of air-conditioning or water heating systems, are very valuable for utility planning purposes and ensuring participation. Some customers will accept load control if appropriate incentives are provided.

Customers allowed to participate in multiple programs. Participants already in DR programs are familiar with DR and have procedures and systems in place to curtail load. Sources 1, 2, and 8 all note the value of allowing customers to participate in multiple programs. Although there are participation limitations between the NYISO programs, DLRP is open to all commercial customers, regardless of their participation in other programs. CECONY uses cross-participation as a marketing tool. Streamlined application processes can be used to allow customers to enroll in multiple programs with the same application form.

Opt-in and opt-out load reduction windows option available. The customer focus groups cited in source 4 expressed interest in specifying opt-in and opt-out windows - time periods when they are capable of shedding load, or not. With adequate participation levels on each network (i.e. more enrolled load than would be needed to respond to a particular event), such windows allow for uninterrupted operation during critical periods. DLRP does not currently offer this option.

Participation does not result in additional regulatory burden, use of back-up generation not limited by environmental regulations. Source 7 notes that, in some areas, environmental regulations limit the number of annual hours for generator operation, creating barriers for DR participation. DLRP participants must comply with environmental regulations enforced by the New York State Department of Environmental Conservation (NYSDEC). Over the last few years, there has been confusion regarding the use of emergency generators for DR in New York State. In late 2007, NYSDEC issued regulations<sup>16</sup> that allow generators to operate during electric grid reliability emergencies certified by the New York State Department of Public Service. These new regulations address how generators may be used for curtailment, although they appear to require an additional periodic emissions test if generators are used in this manner.

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<sup>16</sup> Subpart 222.1, General Provisions, Part 222, Distributed Generation Sources, October 25, 2007.

Minimum load reduction allows small end-users to participate. A minimum load reduction of 100 kW is a common requirement for reliability DR program participants. Source 2 suggests that lower minimums can increase participation. Chain operations such as retail stores and restaurants, or school districts, often have multiple locations in the same community and can collectively supply large load reductions. DLRP requires a minimum reduction of 50 kW for direct customers and 100 kW for aggregators. Since aggregators can potentially enlist the small end-users noted above, the program is well positioned to attract a broad range of participants. The current program minimum participation levels and the inclusion of aggregators in the program appear appropriate and should be continued.

### **Pricing/Incentive Options**

Offer a basic payment, even if no curtailments are called. Source 2 states that customers are more likely to participate in DR programs if a minimum payment is assured, even when no events are called. DLRP has established this payment type with the summer reservation payment, created as part of the program modifications in 2007 for customers in the mandatory program.

Payment options provided, including utility bill credits and direct payment. The end-user focus groups cited in source 4 expressed interest in a variety of payment options, ranging from direct payments (bill credits and checks) to indirect options (specialized rebate programs, DR system financing mechanisms, and lower year-round tariffs). DLRP originally only offered one option for incentive payments, as a bill credit for direct customers. As part of the program modifications in 2007, DLRP now provides bill credits to direct customers, wire transfers to aggregators, and checks to government customers. While there are three payment methods that the program currently uses, customers and aggregators still do not have options to choose their preferred payment method.

Penalties equitably assessed and designed. In DLRP, penalties only apply to customers and aggregators who are enrolled in the mandatory program. The penalty is 150% of the monthly summer reservation payment amount for the greatest portion of the participant's load commitment that was not achieved during a called event. The penalty design was originally proposed by CECONY as part of the tariff filing, received comments from aggregators, and was reviewed by DPS staff. It therefore appears to be appropriately designed and reviewed.

Compensate for full value of savings. Sources 2 and 8 state that, ideally, program incentives should compensate DR providers for short-term energy cost savings and long-term generation capacity savings. Also, incentives should reflect the magnitude and timing of the customer response. However, meeting these objectives may be difficult for some entities that purchase DR due to the fragmentation of electricity markets.

The incentives for energy (kWh) savings for DLRP are calculated using the NYISO market price less the energy component of the company's applicable Market Supply Charge (MSC) with a minimum payment rate of 50 cents/kWh. The same formula is used to calculate the energy incentive payment for both of NYISO's DR programs.

The summer reservation payment is based on the load capacity (kW) committed to the program, and is available to mandatory participants. This incentive was originally designed by CECONY

based on the incremental cost of renting a mobile generator, accounting for the probability and frequency of events. The incentive rate was reviewed and modified by DPS staff after receiving comments from aggregators. Therefore, both payment types were designed based on actual energy prices or equipment costs, and were thoroughly reviewed by multiple stakeholders prior to implementation. The incentive rates appear to be appropriate and consistent with other DR programs.

Incentives should reflect locational value. According to source 2, incentives should be increased in areas of zonal congestion. In DLRP, energy (kWh) incentives reflect the locational-based marginal price (LBMP). Additionally, the summer reservation payment has two tiers: Tier 1 for the majority of CECONY's networks, and Tier 2, with a higher reservation payment, for customers in networks identified to be of a higher priority. Currently only one Tier 2 network exists, the Long Island City network, and was designated as such by the DPS.

Quality of DR recognized in the compensation. Source 7 stresses that DR program incentives should be structured so the response magnitude and duration are recognized. The revised tariff that outlines DLRP rules includes a provision that provides additional incentives for participants that respond to events longer than four hours, and for customers that respond to more than six events per year.

Leverage existing customer infrastructure, rebate programs/discounts on DR-enabling equipment purchases. Because many end-users have made considerable investments in controls, communications, and information systems, source 2 recommends that DR programs utilize these systems to the maximum possible extent. DLRP participants are required to have an interval meter compliant with CECONY standards and an associated telephone line. All large customers over 1,500 kW are required to have an interval meter regardless of program participation, therefore, they have the appropriate metering equipment to enroll in the program. For customers less than 1,500 kW who may not currently have an interval meter, CECONY does not directly provide any rebates or discounts for interval meters. However, customers are referred to the New York State Energy Research and Development Authority (NYSERDA), which provides incentives for interval meters, DR equipment, and controls via their Peak Load Reduction Program (PLRP).

## **Performance Measurement and Settlement Process**

Baseline determination is accurate, addresses weather, allows deviations, is simple, unbiased, and verifiable. Sources 1, 2, 9, 10, and 12 all touch on the importance of establishing credible baselines. A variety of procedures are currently used. According to a 2004 DR program evaluation in California (source 14), the most accurate and least biased method (among those analyzed) was the 10-Day Adjusted Baseline Method<sup>17</sup>. A recently published baseline load model evaluation (source 13) found that, in some cases, weather and building load variability can have significant impacts on model accuracy.

As discussed in Section 3, DLRP uses two different methods for savings calculations:

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<sup>17</sup> This method involves selecting the 10 most recent similar days prior to an event and multiplying the 10-day baseline by a scalar adjustment ratio, which shifts the 10-day baseline up or down to align it with the customer's recent operating level, based on a series of calibration hours from the most recent similar day.

- The average peak monthly demand (APMD) method is used to calculate demand (kW) savings during an event. The baseline, which is not recommended, is the average peak demand over the 4 months of the previous summer.
- The customer base load (CBL) method is used to calculate the energy reduction during an event. The consumption (kWh) from the previous 10 days establish the baseline. Currently customers have the option to use weather-adjusted data or a simple average.

CECONY selected the current methods for consistency with NYISO programs.

## 5.2.2 Program Implementation

Table 16 lists program implementation best practices that are applicable to DLRP, sources for these best practices, and an assessment of the degree of implementation by DLRP.

**Table 16: Program Implementation Best Practices**

No.	Best Practice	Source(s)	DLRP Implementation
28	On-site training and technical assistance available and/or provided	1, 4, 5	N
29	Provide facility specific audits to identify opportunities	2	N
30	Employ multiple event notification methods	2	F
31	Nature of emergency stated	5	N
32	Assign probabilities that customers will need to shed load on consecutive days	4	N
33	Limitation on maximum number of events	5	F
34	Conduct a minimum number of curtailments or test events each year	2	P
35	Annual tests of notification system performed	4	P
36	Communicate with customers regularly about expected needs and actual system performance	2	P
37	Provide feedback on performance and compensation the day after event	2, 3	N
38	Provide access to near real-time load data	3, 4, 7, 11	N
39	Deploy a comprehensive marketing and communications program	2, 5	P
40	Clear and concise program information provided	5	P
41	Segment-specific marketing available and/or provided	5	N
42	Marketing materials allow for comparison/contrast of available programs	2, 5	P
43	Develop customer testimonials and/or case studies	Nexant	N
44	Participants are publicly recognized	4	N

The best practices outlined in Table 16 are discussed in more detail below. The summaries include a description of the best practice and a short description of how CECONY is or is not following the best practice.

On-site training and technical assistance available. Prospective DR customers can be characterized by variations in facility type, equipment configurations,

management/organizational structures, and engineering expertise. The focus groups cited in sources 4 and 5 indicated that many facilities require training and technical assistance before committing to program participation. Smaller customers (less than 1 MW) would be most likely to need auditing assistance as these customers typically do not have the engineering staff to address DR issues. Currently, CECONY does not offer these services.

Employ multiple notification methods. According to source 2, commercial and industrial customers prefer multiple communication methods (e.g., telephone, e-mail, fax, and pager) for event notifications. Currently DLRP notifies customers through either a direct telephone call or an e-mail. CECONY is currently enhancing their notification system, and beginning with the 2008 capability period, will be able to notify customers through a telephone call, e-mail, text message, or fax, depending on the customer's preference.

Nature of emergency stated. Some CECONY customers cited in source 5 stated that they prefer to be informed about the nature of emergency events. In some cases, this information is used to facilitate staff compliance during the event. Currently DLRP event notification only consists of informing customers that a DLRP event has been called and the hours of the event.

Assign probabilities that customers will need to shed load on consecutive days. Some focus groups cited in source 4 requested that, when receiving an event notification, they be informed about the probabilities of consecutive events. DLRP event notification only includes notification that an event has been called and the duration of the event.

Limitation on maximum number of events per year. CECONY customers cited in source 5 prefer limitations on the maximum number of events per year. The need for limiting events per year is a widely know and accepted DR program requirement. DLRP has implemented a rule that mandatory customers are only required to participate in a maximum of six events per year. If additional events are called, participation is voluntary for both mandatory and voluntary customers, and additional incentives are offered for participation in these events. CECONY has effectively implemented this best practice while also maintaining the ability, to call additional events.

Conduct a minimum number of curtailments or test events each season. Source 2 notes that customer participation in DR programs is higher when events are called on a regular basis, or when some minimum payment is assured. DLRP historically has not called events or test events each year, with events called in only four out of the seven years the program has been in existence. Additionally, CECONY has only called one test event to date, which occurred in 2007. The event was limited to mandatory customers and had limited participation. CECONY has preliminary plans to call test events every year going forward.

Annual tests of notification system performed. The focus groups cited in source 4 recommended annual tests of event notification systems as part of or in addition to the test event. This activity is important to ensure that the contact information for participants is accurate, and that the methods currently used to contact customers are effective. CECONY contacts all voluntary customers prior to the start of the summer capability period, and mandatory customers are required to re-enroll every year.

Communicate with customers regularly about expected needs and actual system performance. According to source 2, regular communication is vitally important to establish long-term relationships with DR program participants. Informational reports can be distributed within organizations to convey the benefits of participation. CECONY's Account Executives maintain strong relationships with customers and communicate regularly with them, and DLRP program staff contacts customers prior to the start of the summer capability period.

Provide feedback on performance and compensation the day after event. Customers prefer prompt feedback on their performance during DR events, and sources 2 and 3 recommend that feedback be provided on the following day. CECONY does not currently follow this practice, but notifies mandatory customers at the end of each month of their incentive amount for that month.

Provide access to near real-time load data. Numerous sources (3, 4, 7, and 11) point out the advantages of advanced metering, and stress that all parties (utilities, aggregators, and customers) need access to metered data during events to assess responses. Near real-time data provides opportunities for customers to take corrective actions. CECONY is currently investigating installing an advanced metering infrastructure (AMI) that would provide near real-time data to customers. However, currently the interval meter data is downloaded by CECONY from customers on a weekly basis.

Deploy a comprehensive marketing and communications program, provide clear and concise program information, and provide segment-specific marketing. Sources 2 and 5 note that multiple marketing strategies are necessary to reach potential DR participants. Common strategies for commercial and industrial customers include in-person, web, newsletter, bill insert, and direct mail.

As described in source 5, CECONY funded a series of customer focus groups in 2001. Among the recommendations were that CECONY should:

- Develop materials covering both technical and financial aspects that clearly and concisely describe program features, benefits and registration information.
- Develop marketing and analysis tools that provide customers with resources to understand needs, capabilities and economic factors.

DLRP has utilized a variety of marketing and communication techniques to increase participation and keep customers informed of program updates. These techniques include direct mailings, a program web site, regular communication about the program by CECONY Account Executives, and advertisements in industry publications. In May 2007, CECONY developed a program marketing plan to increase participation in their DR programs.

Marketing materials allow for comparison/contrast of available programs. Sources 2 and 5 note the importance of providing marketing materials that clarify the similarities and differences between available DR programs to better educate customers and eliminate confusion about the various program offerings. CECONY's web site currently lists six distinct DR programs available to their business customers, however, each program is described individually and there is no side-by-side comparison listed of all programs. At least one CECONY Account Executive has developed a matrix comparison of the programs that he uses for marketing to customers.

Develop customer testimonials and/or case studies. Customer testimonials and case studies have been successfully used to promote a variety DSM programs. To date, CECONY has not developed either testimonials or case studies of program successes, however this has been identified in the May 2007 Marketing Plan.

Participants are publicly recognized. Customer focus groups cited in source 4 noted that receiving recognition of their efforts from utilities would motivate them to participate in subsequent DR events and programs. To date, CECONY has not provided public recognition events.

### 5.2.3 Program Management

Program management includes day-to-day activities of the program manager, making payments to the participant as applicable, providing training to staff, and program reporting, among others. Table 17 lists program management best practices as applicable to DLRP, sources for these best practices, and an assessment of the degree of implementation by DLRP.

**Table 17: Program Management Best Practices**

No.	Best Practice	Source(s)	DLRP Implementation
45	Assign baseline calculations to trusted third parties	2	F
46	Make payments within the next billing cycle or at the end of season	2	P
47	Provide staff with relevant training	Nexant	F
48	Define and identify the key information for program reporting and tracking	Nexant	P

The best practices outlined in Table 17 are presented below along with a description of whether CECONY is or is not following the best practice.

Assign baseline calculations to trusted third parties. Itron performs the baseline calculations for DLRP, using the method stipulated by CECONY. Therefore, CECONY has implemented this best practice; however, to date Itron has periodically been late in delivering performance results after events and CECONY has had difficulty obtaining the necessary data from aggregators for Itron to calculate savings.

Make payments within the next billing cycle or at the end of season. Source 2 notes that customers expect timely payments for their actions. DLRP procedures call for CECONY to provide payments at the end of each capability period. In 2007, the summer reservation payments were issued in November, however, as previously mentioned, due to delays in calculating savings and incentive amounts, the annual energy savings payments have been delayed well past the end of the capability period.

Provide staff with relevant training. CECONY has provided internal training for key staff, including Account Executives, Energy Services staff, and Sales and Business Response Center personnel on program details and updates. Staff interviewed by Nexant were familiar with the

majority of details on the program; however, there was some confusion from Account Executives about the use of on-site generators in the program. The training does not appear to be well documented.

#### 5.2.4 Program Evaluation

Program evaluation includes supporting the program review, checking that evaluation metrics are in-line with goals, reviewing and updating program metrics, and conducting cost-effectiveness and customer satisfaction analyses. Table 18 lists program evaluation best practices that are applicable to DLRP, sources for these best practices, and an assessment of the degree of implementation by DLRP.

**Table 18: Program Evaluation Best Practices**

No.	Best Practice	Source(s)	DLRP Implementation
49	Support program review and assessment at the most comprehensive level possible	Nexant	P
50	Ensure that evaluation metrics are in line with program goals	Nexant	P
51	Periodically review and update algorithms for calculating program savings	Nexant	P
52	Conduct cost-effectiveness analyses	6	P
53	Conduct customer satisfaction surveys	Nexant	N

The best practices outlined in Table 18 are discussed in more detail below.

Support program review and assessment at the most comprehensive level possible.

Understanding a program's causes and effects will help ensure the long-term success of the program. Maintaining the flexibility to make adjustments to program rules and procedures based on the reviews and assessments allows the program to respond to changing market conditions. The program was reviewed and changes made to the tariff in 2007, and current process evaluation is ongoing.

Ensure that evaluation metrics are in line with program goals. CECONY defined a program goal of a 20% increase in participation based on the program changes made in 2007. This process evaluation is focused on assessing whether the program changes were adequate to meet this goal, and if additional changes are required.

Periodically review and update algorithms for calculating program savings. As previously mentioned, multiple methodologies exist for calculating baseline demand, which is necessary to determine the capacity and energy savings in DR programs. CECONY has selected the current methods used based on a variety of considerations, including transparency and ease of understanding for customers, consistency with other DR programs, and accuracy.

Conduct cost-effectiveness analyses. Cost-effectiveness analyses are commonly used to assess the financial performance of all types of demand side management programs. In developing the summer reservation payment amount, CECONY used the estimated costs of renting a mobile

generator, accounting for the probability and frequency of events, to identify a cost-effective incentive level to alleviate the cost of deploying a generator to address a network contingency. The PSC found this methodology to be a reasonable test of cost-effectiveness, although they adjusted the final incentive amount. Additionally, DLRP has an established marketing budget in 2007; however, according DLRP staff, no performance metrics have been established to determine the cost-effectiveness of the program.

Conduct customer satisfaction surveys. Customer satisfaction surveys provide useful insight into program procedures that can be applied to maximize future participation and customer retention. Prior to Nexant's evaluation, CECONY has not conducted any DLRP customer satisfaction surveys; however, the May 2007 Marketing Plan included customer satisfaction surveys as part of the action items. Ongoing evaluations being undertaken by CECONY include customer surveys to assess interest in DR and satisfaction with the program.

### 5.3 RESEARCH OF SIMILAR PROGRAM OFFERINGS

In addition to reviewing publications and evaluations of similar programs, Nexant has performed primary research of similar programs offerings. This research consists of review of information available on administrator websites as well as telephone interviews with program management staff from programs around the country.

There are a large number demand response (DR) programs offered throughout the U.S. by entities such as electric utilities, Independent System Operators (ISOs), regional transmission organizations (RTOs), and power marketing authorities. Many of these programs are designed to provide resources when the marginal cost of electricity is high, however, we have identified several programs that are similar to DLRP in that they are reliability, emergency demand response based programs. Table 19 lists programs we have researched and that are used primarily for emergency response. Some of the programs we reviewed were designed with the focus of alleviating bulk transmission overloading. While these may also be emergency demand response programs, the program criteria is different than for programs such as DLRP that are designed as distribution network contingency programs.

**Table 19: Reliability DR Programs Reviewed for this study**

Program	Entity	State
Emergency Demand Response Program	NYISO	New York
Installed Capacity Program/Special Case Resources	NYISO	New York
Real Time Demand Response Program	ISO-NE	New England
Emergency Load Management Program	Oncor	Texas
Energy Share Load Management Standard Offer Program	Centerpoint Energy	Texas
Voluntary Emergency Curtailment Program	Sacramento Municipal Utility District	California
Base Interruptible Program	SCE	California
Base Interruptible Program	PG&E	California
Voluntary Load Response Program	Commonwealth Edison	Illinois
Voluntary Energy Reduction Program	Wisconsin Public Service	Wisconsin

Table 20 summarizes the programs researched and the key metrics that were evaluated.

Table 20: Reliability Demand Response Program Summary

Utility/ Administra- tor	CECONY	NY-ISO	NY-ISO	ISO-NE	Oncor	Centerpoint	SMUD	SCE	PG&E	Common wealth Edison	Wisc. Public Service
Program Name	Distribution Load Relief Program	Emergency Demand Response Program	Installed Capacity Program/ Special Case Resources	Real Time Demand Response Program	Emergency Load Management Program	Energy Share Load Management Standard Offer Program	Voluntary Emergency Curtailment Program	Base Interruptible Programs - both large power and time of use	Base Interrupt- ible Program	Voluntary Load Response Program	Voluntary Energy Reduction Program
Abbreviation	DLRP	EDRP	ICAP/SCR		ELMP	ESLMSOP	VECP	I-6/TOU BIP	BIP	VLR7	
Location	NY	NY	NY	New England	TX	TX	CA	CA	CA	IL	WI
Program Start Date	2001	2001	2001	2003	2004	2008	2000-2001	2001	2001		
Demand Response Goal (MW)	None				20 MW	12.5 MW for 2008	45 MW for 2007	Based on % of total system peak. 476 MW for 2008	Based on % of total system peak. 318 MW for 2008	Unknown	Unknown
Demand Response Achieve/Enrolled (MW)	141 (2007)	118 (2007)	450 (2007)	36.9 MW enrolled as of 12/31/07	~20 MW	NA	44.68 MW signed up In 2007	476 MW already enrolled for 2008	318 MW already enrolled for 2008	Unknown	Unknown
Min kW reduction available to participate	50 for direct customers, 100 kW for aggregators	100	100	100	100	100	none	100 or 15% of baseline, whichever is greater	100 or 15% of baseline, whichever is greater	10	50
Respondent Option	voluntary and mandatory	voluntary	Mandatory	mandatory	mandatory	mandatory	voluntary	mandatory	mandatory	voluntary	voluntary
Response Period	30 minutes	2 hours	21 or 24 hrs day before plus 2 hour notice on event day	30 minutes or 2 hours (Option on enrollment)	1 hour	1 hour	Not stated	Option A: 15 min Option B: 30 min	Option A: 30 min Option B: 4- hours	1 hour	30 minutes
Duration	4 hours mandatory participation	Typically less than 4 hours	Minimum of 4 hours	Minimum of 2 hours	1 hour to 4 hours	1 hour to 4 hours	Not stated	up to 4 hours	up to 4 hours	2 to 8 hours	2 to 7 hours

Utility/ Administra- tor	CECONY	NY-ISO	NY-ISO	ISO-NE	Oncor	Centerpoint	SMUD	SCE	PG&E	Common wealth Edison	Wisc. Public Service
Program Name	Distribution Load Relief Program	Emergency Demand Response Program	Installed Capacity Program/ Special Case Resources	Real Time Demand Response Program	Emergency Load Management Program	Energy Share Load Management Standard Offer Program	Voluntary Emergency Curtailment Program	Base Interruptible Programs - both large power and time of use	Base Interrupt- ible Program	Voluntary Load Response Program	Voluntary Energy Reduction Program
Compensation	Energy: \$0.50/kWh curtailed or real- time zonal LBMP(whichever is greater) Capacity: \$3/kW /month Tier I or \$4.50/kW/month Tier II (mandatory only)	\$0.50/kWh curtailed or real- time zonal locational-based marginal price (whichever is greater)	\$0.50/kWh curtailed or real- time zonal locational-based marginal price (whichever is greater)	Greater of real-time price or guaranteed min \$50/kWh for 30-min & \$0.35/kWh for 2-hr response, plus monthly ICAP credits	\$10 to \$13/kW performance payment	Up to \$40/kW for verified curtailment load over a program year	NA	\$1.93/kW to \$16.45/kW/month based on Option and secondary service	\$8 to \$9/kW/month or \$0.60/kWh	Energy = \$0.25 kWh/for each hour of voluntarily reduced usage. Plus transmission and distribution compensation based on current system conditions.	\$0.10 to \$5/kWh based on bidding system
Penalty for non- performance	150% of reservation payment for greatest portion of load reduction not provided	None	Penalty assessed - not outlined	ICAP credits will be reduced going forward			None	Yes – based on kWh consumed above firm service level over entire interruption event.	Yes - equal to \$6/kWh consumed over the committed level of reduction	None	None
Manuals and Documentation	Website information	Detailed manual on website	Detailed manual on website	FAQ list on website	Detailed manual on website	Detailed manual on website	Website information	Website information, downloadable manual	Website information, downloadable manual	Website information, downloadable pamphlet	Website information, difficult to find
Customer Enrollment	Application form available on website	Registration form available on website	Registration form available on website	Thru local utility, electricity supplier, or DR providers	Application process and 10- year std. contract	Application process and 1- year commitment	Application process	Through acct rep or customer service center	Through acct rep or customer service center	Through acct rep or customer service center	Through acct rep or customer service center

Utility/ Administra- tor	CECONY	NY-ISO	NY-ISO	ISO-NE	Oncor	Centerpoint	SMUD	SCE	PG&E	Common wealth Edison	Wisc. Public Service
Program Name	Distribution Load Relief Program	Emergency Demand Response Program	Installed Capacity Program/ Special Case Resources	Real Time Demand Response Program	Emergency Load Management Program	Energy Share Load Management Standard Offer Program	Voluntary Emergency Curtailment Program	Base Interruptible Programs - both large power and time of use	Base Interrupt- ible Program	Voluntary Load Response Program	Voluntary Energy Reduction Program
Marketing of program	Acct Execs, direct mailings, CECONY's website						Acct reps and 'thank-you' recognition	SCE's website, direct mailings, and through acct reps.	PG&E's website, direct mailings, and through PG&E acct reps.		
Demand Side Resources	Generation and curtailment	Generation and curtailment	Generation and curtailment	Generation and curtailment	Curtailment	Curtailment	Curtailment and generation	Curtailment	Curtailment	Generation and curtailment	Generation and curtailment
Metering Method	Hourly interval revenue-grade meters	Hourly interval revenue-grade meters or non- revenue meters with ±2% accuracy	Hourly interval revenue-grade meters or non- revenue meters with ±2% accuracy	5-min data via internet based communicatio n system	Interval data recorder (IDR) that is monitored by ONCOR Electric Delivery	Interval data recorder meter		Remote terminal unit (RTU)	Interval data meter	Interval recording meter	
Notification Method	Phone call from CECONY to customer or aggregator	Via burst e-mail AND thru automated phone call to each service provider	Notification method protocol between the Responsible Interface Party (RIP) & the customer is agreed to between the two	Internet based communicatio n system	Phone call from ONCOR Electric Delivery to the Service Provider			Signal sent to RTU by SCE, customer activates curtailment	Internet, e- mail, and text messages via alphanumeric pager		Pager (\$135 cost to customer) for event notification
Number of events in a program year (achieved or restrictions?)	3 events in 2007, maximum of 6 mandatory events per year	2 events called in 2005		Minimum of once per year for at least 2 hours	minimum of one scheduled and max of 4 unscheduled	minimum of one scheduled and max of 4 unscheduled	No events since 2002	No more than 10 events per calendar month	12 events called between 2002 ad 2006		
Does utility/administrat	One has been completed, but				yes - this is the minimum one	yes - this is the minimum one	No	Upon installation of RTU	No		

Utility/ Administra- tor	CECONY	NY-ISO	NY-ISO	ISO-NE	Oncor	Centerpoint	SMUD	SCE	PG&E	Common wealth Edison	Wisc. Public Service
Program Name	Distribution Load Relief Program	Emergency Demand Response Program	Installed Capacity Program/ Special Case Resources	Real Time Demand Response Program	Emergency Load Management Program	Energy Share Load Management Standard Offer Program	Voluntary Emergency Curtailment Program	Base Interruptible Programs - both large power and time of use	Base Interrupt- ible Program	Voluntary Load Response Program	Voluntary Energy Reduction Program
or complete a 'test event'?	have not established annual test procedure				scheduled event	scheduled event					
Payment schedule	One payment made at the end of the capability period	Monthly payment corresponding to monthly bill generated by the ISO.		Monthly payment based on the ECAP supply auction and/or supplemental capacity agreement	July and November	35 days after demand savings are calculated		monthly credit based on difference between their average peak period demand for each month and their selected firm service level	monthly payment based on the difference between the customers avg monthly seasonal demand and the designated firm service level		six price levels to chose from (\$0.10, \$0.25, \$0.75, \$1.5, \$3.0, or \$5.0 per kWh
Measurement and Verification activities	Determination of baseline usage and event savings	Load reduction data subject to an audit by the NYISO and its Market Monitoring unit.	NYISO retains right to audit any records kept by RIP, the Transmission Owner, or the customer		Determination of baseline usage and event savings	Determination of baseline usage and event savings	NA		Data is verified through each customer's interval meter.		
Cost effectiveness	None performed					TRC and Societal	None performed		PG&E is in process of conducting EM&V and CE studies		

Utility/ Administra- tor	CECONY	NY-ISO	NY-ISO	ISO-NE	Oncor	Centerpoint	SMUD	SCE	PG&E	Common wealth Edison	Wisc. Public Service
Program Name	Distribution Load Relief Program	Emergency Demand Response Program	Installed Capacity Program/ Special Case Resources	Real Time Demand Response Program	Emergency Load Management Program	Energy Share Load Management Standard Offer Program	Voluntary Emergency Curtailment Program	Base Interruptible Programs - both large power and time of use	Base Interrupt- ible Program	Voluntary Load Response Program	Voluntary Energy Reduction Program
Air Permitting or Regulatory Restrictions?	Requires applicant to submit copy of air permit or permit application			Measures limited to those with no binding air permitting restrictions during Critical Peak Hours			NA		No		

As a result of our review of similar programs around the country, the following observations can be made:

- DR programs are fairly new, all having started during or after 2001. Because these programs are fairly new, there is not a great deal of maturity in the area and there are a lot of ongoing changes within the DR space.
- Many programs are operating without explicit goals; however this is not in keeping with good DSM program practice. We anticipate that as programs mature, goals will become more widely used and clearly defined.
- Programs are typically able to reach enrolled MW goals, although for several programs goals were retroactively set based on already enrolled MW.
- Except for smaller utilities, the minimum reduction is most commonly 100 kW.
- Program respondent option (voluntary or mandatory) varies across programs; most mandatory programs do assess a penalty if the customer fails to respond.
- Response period varies from 15 minutes to 24 hours. However, typical response periods appear to be at least 1 hour and duration of events spans from 1 hour up to 8 hours.
- Compensation for events is based on demand and/or kWh reduction. Compensation varies based on whether the program is voluntary or mandatory, response periods, and duration of events.
- All programs researched had program information available on a utility or ISO website, with the larger programs offering detailed, downloadable program manuals. For most programs, customer enrollment is available through applications available on the website. There is generally also the ability to register directly through an account representative or customer service center.
- Marketing is typically done through account representatives, direct mail pieces, and website information.
- Six of the ten programs researched allowed customers to participate through load curtailment and generation while the remaining programs only allowed load curtailment.
- Interval recording meters were used in almost all of the programs researched to determine usage during an 'event'. The measurement intervals varied from five minutes to one hour.
- Most programs researched had a maximum number of events that could be called in a given program year.
- The majority of programs researched had some kind of measurement and verification process in place for the determination of load reduction and payment process.

#### 5.4 REVIEW OF EVALUATIONS CONDUCTED FOR SIMILAR PROGRAMS

Nexant conducted a review of process and impact evaluations conducted for similar programs within the last few years. Because DR programs are quite new, the available literature on such programs is limited. One evaluation that was found particularly relevant for comparison with

DLRP is ‘An Evaluation of the Performance of the Demand Response Programs Implemented by ISO-NE in 2005,’ completed in December 30, 2005. This evaluation is discussed in some detail below.

#### 5.4.1 Impact Evaluation Results

The program year being evaluated included two demand response events – one ISO-NE Operating Procedure No. 4 (OP-4) which occurs when there is an expected shortfall in reserve resources on the wholesale electricity grid, and one ‘Audit’ event. Customers are unaware of the event type at the time it is called. The OP-4 event occurred on July 27, 2005 and the Audit event occurred on August 29, 2005.

Performance of the July 27<sup>th</sup> event (an OP-4 event) for all three demand response programs (30-minute response with emergency generation, 30-minute response without emergency generation, and 2-hr response) provided ISO-NE with nearly 80% of the expected (enrolled) load reductions, as outlined in Table 21.

Table 21: ISO-NE July 27<sup>th</sup> Demand Response Program Performance

<b>Program</b>	<b>Average performance (actual/enrolled MW)</b>
30-Min Demand Response with Emergency Generation	82%
30-Min Demand Response without Emergency Generation	71%
2-Hour Demand Response	90%
Total	79%

Performance of the August 29<sup>th</sup> event (an Audit event) and all four demand response programs (30-minute response with emergency generation, 30-minute response without emergency generation, 2-hr response, and profiled) provided ISO-NE with nearly 84% of the expected (enrolled) load reductions, with some programs elements performing significantly better than others, as outlined in Table 22. It is noteworthy that the emergency generation portion of the DR program performed poorly.

Table 22: ISO-NE August 29<sup>th</sup> Demand Response Program Performance

<b>Program</b>	<b>Average performance (actual/enrolled MW)</b>
30-Min Demand Response with Emergency Generation	7%
30-Min Demand Response without Emergency Generation	77%
2-Hour Demand Response	75%
Profiled	94%
Total	84%

#### 5.4.2 Process Evaluation and Customer Satisfaction Results

The process evaluation focused on the level of stakeholder satisfaction with the programs and with the processes used to improve the programs. There was also a brief customer survey

conducted with current and former program participants that investigated customer satisfaction with the program offerings. The overall comments and recommendations taken from the process evaluation that may be useful for the managers of DLRP include the following:

- Additional training for stakeholders on the use of the Customer and Asset Management System (CAMS) application<sup>18</sup> including an annual refresher session.
- A very positive comment was that the program management team is very customer focused.
- Marketing materials and customer tools should be updated regularly to reflect any recent changes
- Customers recommend that marketing materials should be easier to understand.

Customers were asked to rank the importance of various program features as related to their decision to participate in the program. The results of this survey, ranked in order from most important to least important, are as follows:

1. Payment for load curtailed
2. Advance notification of curtailment opportunities
3. Monthly ICAP credit and payment
4. Number of events per year
5. Supplemental payments from Utility/Demand Response Providers
6. Metering package and internet access to data

## 5.5 BIBLIOGRAPHY

1. *Demand Response: An Introduction, Overview of Programs, Technologies, and Lessons Learned*, Rocky Mountain Institute, April 30, 2006. This report examines challenges to using DR as a capacity resource, chronicles DR experiences, and illustrates how barriers to successful DR programs can be overcome.
2. *Demand Response: Design Principles for Creating Customer and Market Value*, Peak Load Management Alliance, November 2002. This report summarizes design principles for gaining customer participation, and creating customer and market value for DR programs.
3. *Demand Response: Design Principles for Regulatory Guidance*, Peak Load Management Alliance, February 2002. This report recommends principles for use by regulatory

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<sup>18</sup> The Customer and Asset Management System (CAMS) allows ISO-NE's customers the ability to directly manage certain aspects of their data electronically no longer requiring the submission of forms. CAMS allows authorized customers to manage, where applicable, such data as committee representation, contact information, user registration, and Load Response Asset registration.

authorities and others to promote the most cost-effective use of DR for energy management.

4. *Demand Response Program Design Preferences of Large Customers: Focus Group Results from Four States*, Fry and Hinkle (Nexant), and Engel (Freeman, Sullivan & Co.), Ernest Orlando Lawrence Berkeley National Laboratory, LBNL-60610, June 19, 2006. This report presents findings from focus groups conducted with customers from six electric utilities on how to make DR programs more "customer-friendly" and accessible for large commercial and industrial electricity users.
5. *Demand Response Program Workshops, Final Report*, ICF Consulting, June 2001. This report, prepared for CECONY, summarizes feedback on various DR programs received from large commercial and industrial customers of CECONY and NYPA.
6. *Evaluation of 2005 Statewide Large Nonresidential Day-Ahead and Reliability Demand Response Programs*, Final Report, Quantum Consulting and Summit Blue Consulting, April 28, 2006. This report present findings and results from an evaluation of day-ahead notification and reliability-triggered DR programs targeted at California's large non-residential customers.
7. *The Future is Now: Energy Efficiency, Demand Response and Advanced Metering*, Symposium Sponsored by the New York Independent System Operator, Albany, NY, June 27, 2007. This document contains various remarks and presentations from a NYISO-sponsored symposium.
8. *New Principles for Demand Response Planning*, Final Report, Levy, Abbott, and Hadden, Electric Power Research Institute, EP-P6035/C3047, March 2002. This report presents principles for designing long-term, self-policing, sustainable DR programs.
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10. *Prepare for Impact: Measuring Large C&I Customer Response to DR Programs*, Buege, Rufo, Ozog, Violette, and McNicoll, ACEEE Summer Study on Energy Efficiency in Buildings, 2006. This paper presents the results of an hourly load impact assessment of summer 2005 price responsive DR programs targeted to large non-residential customers in California. It discusses several methods used for calculating load reductions impacts for large commercial and industrial DR programs.
11. *The Summer of 2006: A Milestone in the Ongoing Maturation of Demand Response*, Hopper, Goldman, Bharvirkar, and Engel, Ernest Orlando Lawrence Berkeley National Laboratory, LBNL-62754, May 2007. This report summarizes the results of interviews with 16 utilities, 6 ISOs/RTOs, 3 load aggregators, and several regulatory staff and consultants. The report covers the status of DR programs as of 2006, and highlights future directions and challenges.

12. *Assessment of Demand Response & Advanced Metering*, Federal Energy Regulatory Commission, Staff Report, Docket Number: AD-06-2-000, August 2006. This report, published after the enactment of the Energy Policy Act of 2005, provides an assessment of DR resources. Topics include advanced metering and communication, existing DR programs, DR potential, and regulatory barriers.
13. *Estimating Demand Response Load Impacts: Evaluation of Baseline Load Models for Non-Residential Buildings in California*, Coughlin, Piette, Goldman, and Kiliccote, Ernest Orlando Lawrence Berkeley National Laboratory, LBNL-58939, January 2008. This study describes a statistical analysis of the performance of different models used to calculate the baseline electric load for commercial buildings participating in DR programs.
14. *Working Group 2 Demand Response Program Evaluation - Program Year 2004*, Final Report, Quantum and Summit Blue Consulting, December 2004.

## 6.1 INTRODUCTION

DLRP has been in existence for seven summer capability periods, and the program has reached a level of maturity that allows for identification and evaluation of key program issues, including the effectiveness of program procedures and modifications that have taken place, as well as customer barriers to participation. Nexant has reviewed program procedures, conducted interviews with CECONY staff that are involved with DLRP, and undertaken market research to assess perceptions of the program by aggregators and customers (both participating and non-participating). These investigations led to the identification of the key program issues that are discussed below.

## 6.2 PROGRAM DESIGN

DLRP was implemented by CECONY in 2001. At the time, the program only included voluntary customers enrolled directly through CECONY. According to CECONY staff, the program application, many of the program procedures including baseline load calculation and energy savings calculations, as well as the energy incentive rate were created to be similar to the NYISO programs which were developed at approximately the same time. These similar design attributes were done in an effort to limit customer confusion between programs, and make it easy for customers to participate in multiple programs. The framework of the NYISO demand response programs also assisted in developing some of the procedures and protocols used in DLRP. However, the DLRP program design did not include the development of program criteria or written documentation that is typically created during DSM or DR program development. Some of the typical program design considerations and materials include:

- No specific participation (MW) goals were established for the program. During the development of the 2007 changes to Rider U, a goal of increasing overall program participation by 20% over the 2006 enrollment was established, but the program has never created specific MW participation goals, either for the program in general, or broken down by network.
- The program did not create a program theory and logic model, or similar document, to outline the programs short-term and long-term goals and desired outcomes, and the activities to be undertaken to specifically achieve these goals.
- Program rules have been clearly defined in the original and modified Rider U. However, specific program procedures, such as enrollment procedures and timing, event notification, baseline and savings calculation methodologies, and payment procedures have not been written down in a format that could be distributed internally and externally. DLRP staff has a clear understanding of the procedures and documents from other programs (such as the baseline methods which are outlined in the NYISO ICAP and EDRP program manuals), however, program information is not listed in one place, such as a program manual. Program information obtained for Nexant's evaluation included the following sources, which provided varying levels of detail on particular aspects of DLRP:

- DLRP program website  
([http://www.coned.com/sales/business/dist\\_load\\_relief.asp](http://www.coned.com/sales/business/dist_load_relief.asp))
- CECONY Demand Response Communications Guidelines for Electric Load Curtailment (document is still in draft form)
- A document describing Itron Customer Curtailment Baseline (CBL)  
Description: 2002 NYISO CBL, which references the EDRP manual 2002 requirements.
- A document with meeting notes from the 6/29/07 meeting held with load aggregators to discuss the updates to Rider U and the new program procedures for mandatory customers and aggregators.
- NYISO EDRP Manual, which describes the customer base load (CBL) method for calculating baseline demand and savings
- NYISO ICAP SCR Manual, which describes the Average Peak Monthly Demand (APMD) method for calculation baseline demand and savings
- CECONY's May 2007 Marketing & Implementation Plan to Improve and Increase Participation in Demand Response Programs
- A matrix comparison of the available demand response programs developed by one of CECONY's Account Executives which he uses to market DLRP to customers
- DLRP informational brochure for customers, dated July 2007

### 6.3 PROGRAM MARKETING

CECONY has marketed the program through a variety of methods. One of the most effective methods is through the CECONY Account Executives, who have pre-existing relationships with larger commercial and industrial customers. DLRP staff has done an effective job of training the Account Executives so that they are well informed of the procedures of the DLRP and they make a strong effort to enroll their customers in the program each year prior to the summer capability period.

DLRP also developed a program marketing plan in May 2007, titled *Marketing & Implementation Plan to Improve and Increase Participation in Demand Response Programs*. The marketing plan's stated goal is to achieve a 20% increase in DLRP participation from the current (2006) levels, and included multiple detailed steps to take to increase customer participation. The majority of action items listed in the plan have been implemented or currently are under development. The plan and CECONY's action item implementation schedule are included in Appendix C.

As part of the marketing plan, CECONY updated the DLRP website with the modifications to the program based on the updated Rider U. The website currently provides accurate information, although the program description and rules and procedures are very brief, and there is no link to the updated Rider U. Additionally, while there is a quicklink from CECONY's home page to the Energy Management page, which lists available demand response programs, including DLRP, the quicklink is for "demand side management". The other links on the website that lead to the

DLRP page reference “products and programs” and “energy management”, and there is no mention of “demand response” until you reach the energy management page. The website does do a good job of including the available NYISO programs and providing a summary of each to inform customers of the availability of these programs, as well as describing the incentive available from NYSERDA to assist with the cost of installing an interval meter.

## 6.4 PROGRAM PARTICIPATION AND PROCEDURES

Customers typically participate in the demand response reliability programs for two primary reasons, one, because it is in their economic interest to do so, and two, because they want to be good corporate citizens and potentially avoid a disruption of network service. The desire and ability of customers to participate is influenced by several fundamental drivers that include the technical potential they have to reduce load without lost productivity, the balance of the potential financial costs and benefits of participation and the risks of entering into a contractual relationship that can have performance penalties. Underlying these fundamental drivers are several secondary enabling factors related to the customer’s understanding of these technical, economic and legal drivers.

### 6.4.1 Program Enrollment

DLRP enrollment for both direct customers and aggregators is done through completing the program application, available for download from the DLRP website. Online options for enrolling in the program, however, are not currently available. Additionally, the program has a minimum requirement of 50 kW of load curtailment for direct customers and 100 kW for an aggregator’s portfolio. The 50 kW minimum load is half of the required load for customers to participate in the NYISO DR programs. Additionally, there are no individual customer minimum load requirements for those participating through an aggregator. Therefore, the program has done an effective job of including a wide range of customers. By requiring a minimum amount of curtailment for direct customers, DLRP staff will only be processing applications with a sizeable curtailment. At the same time, only setting a minimum participation level for aggregators at the portfolio level allows smaller customers or customers with less flexibility in their base load to participate.

Nexant also reviewed the procedures for enrolling in the program from the customer’s perspective to determine if any issues exist with accessing program information and obtaining the application forms. The DLRP website has a link to a PDF version of the application. The first page of the application has instructions as well as the mailing address and fax number for sending in the completed application. The program website also has an email address and toll-free telephone number for customers to call with questions. Therefore, the enrollment process from the customer’s perspective appears to be functioning properly and providing customers with the necessary information and forms to enroll in the program.

### 6.4.2 Event Notification

#### 6.4.2.1 Notification Timeframe

Currently the program provides customers with a 30-minute notification period to initiate their load curtailment. The short activation period was established due to the emergency nature of the program, and when a DLRP event is called, the load relief is needed immediately. CECONY has

indicated that they now have better predictive tools than were available in the past, and the threshold for when to initiate the sequence of response procedures to a network contingency has also gone down in recent years. Therefore, CECONY has indicated they may consider extending the notification period to two hours. Aggregators cited the 30-minute notifications as the primary barrier to customer participation, stating that customers frequently do not have the appropriate staff on-hand and ready to initiate curtailment activities, such as starting up a standby generator or adjusting HVAC controls, to meet the 30-minute activation period.

#### *6.4.2.2 Customer Notification Procedures*

When a DLRP event is called, Energy Services and DLRP staff notify customers via phone calls and email of the event and the hours included in the event. No additional information about the nature of the event or the likelihood of subsequent events in the next day or two is provided to customers.

In order to maintain up to date customer contact information, and to verify participation for the upcoming summer, DLRP staff contacts all participants prior to each capability period. Additionally, mandatory customers must re-enroll each year to remain in the program, and they provide updated contact information at that time.

#### **6.4.3 Verification of Load Commitment**

The NYISO ICAP SCR program includes a detailed procedure, listed in the average peak monthly demand (APMD) method, for the following:

- Calculation of a customer's baseline load, based on the average peak monthly load from the previous summer,
- Verify and de-rate customer load commitments based on past performance.

DLRP uses the portion of the APMD method that calculates customer baseline loads, which are used to confirm capacity reductions during an event; however, DLRP does not utilize the APMD method for verification of load commitments or de-rating customers. The program has not fully developed a procedure for verifying a customer's enrolled load or de-rating customers for failing to meet their curtailment goals. The need for this verification is primarily for mandatory customers because summer reservation payments and penalties are assessed based on load commitment.

#### **6.4.4 Baseline Load and Savings Calculation Methodology**

Currently DLRP utilizes two different baseline calculation methodologies. CECONY chose to use these methods, APMD for calculating capacity reductions, and CBL for calculating energy savings, primarily so that DLRP methodologies are the same as those used by the NYISO DR programs to limit customer confusion. The average peak monthly demand (APMD) method is followed to calculate the baseline load for mandatory customers, and is used to verify that mandatory customers meet their demand reduction target during a called event. The APMD method is easily understood and calculated, as it is simply based on the facility's average peak hour demand in the 12:00 PM to 8:00 PM window in each of the four summer months from the previous year. Therefore, the APMD baseline is a single value, and does not account for the specific hour of the day that the peak occurred or include any weather adjustments.

Additionally, because the baseline is calculated using the four months from the previous summer, any load growth or load reduction at the facility, such as changes to equipment or controls, or occupancy changes occurring since the last summer will not be included, and the calculated baseline will not reflect the facility's current load profile. Verification of capacity (kW) reductions for mandatory customers are based on customer's load commitment subtracted from APMD-calculated baseline, which is referred to as the customer's firm service level. During each hour of an event, the actual facility load is compared to the customer's firm service level, and if the facility exceeds this firm service level, they are penalized by that amount. This methodology has the potential to overstate or understate the capacity reductions in all situations except when the facility is operating at their APMD baseline load. To illustrate some of the shortcomings of the APMD method, a few example scenarios are provided below:

- During periods of hot weather, typically in July and August, the facility may be operating at a higher load than the APMD load, and their typical load curtailment activities will not reduce their facility demand to their firm service level, resulting in a penalty.
- During periods of cooler weather, typically in May and October, the facility may be operating at a lower load than the APMD load, and potentially close to or even below their firm service level, so with very minimal to no curtailment activities, the facility will be able to meet their firm service level, which has the potential to overstate the demand savings, or encourage free ridership.
- If the summer used to calculate the APMD baseline is a cooler than typical year, and the following year is a warmer year, the APMD baseline may be lower than the facility's baseline in the performance year, and the facility's typical load curtailment activities may not reduce their facility demand to their firm service level, resulting in a penalty.
- If the summer used to calculate the APMD baseline is warmer than a typical year, and the following year is cooler, the facility may be operating at a lower baseline than their APMD baseline and the potential for overstating savings and free ridership exists.
- If the facility has increased load from the previous summer, either through adding or replacing equipment, or increasing occupancy, the APMD baseline may be understated and the facility's typical load curtailment activities may not reduce their facility demand to their firm service level, resulting in a penalty.
- If the facility has decreased load from the previous summer, through removing equipment, utilizing more efficient equipment or controls, or occupancy reductions, the facility may be operating at a lower baseline than their APMD baseline and the potential for overstating savings and free ridership exists.

DLRP uses the Customer Base Load (CBL) method to measure energy savings during an event. This method generates typical hourly load curves from the 10 qualifying pre-event days to generate a weekday profile, a Saturday profile and a Sunday/Holiday profile. Additionally, the loads for some facility types are more weather-dependent than others. The CBL method also includes the option, which is currently selected by the customer on their DLRP application, to weather-adjust the load profile or simply use the 10-day average. Therefore, while the CBL

method is much more complicated to calculate than the APMD, it provides greater accuracy for calculating the current facility load profile and determining what the facility's load would have been on the day the DLRP event occurred had the customer not taken any DR actions. CBL should be more attractive to administrators and participants because it clearly does not have the same risk of large inaccuracies seen in the APMD method.

#### 6.4.5 Incentive Payment

DLRP sends out incentive payments at the end of the summer capability period. No established timeframe or date for sending out payments has been developed internally at CECONY or relayed to customers and aggregators, other than notifying them that incentives are paid at the end of the capacity period. Summer reservation payment amounts are calculated by DLRP staff, and are sent out separately than energy incentives for event participation. In 2007, the summer reservation payments were sent out by CECONY in November. Itron calculates the energy savings and incentives for each event and sends the information back to CECONY to process the payments and send out the bill credits, wire transfers, and checks.

Payment of the 2007 energy incentives were not sent to participants until December due to delays at Itron in processing the event information and calculating the energy savings and incentive amounts. One CECONY Account Executive also stated that it has typically taken CECONY several months to make incentive payments to customers, or even inform them of the energy savings and incentive amount. Customer retention in DSM and DR programs is based on satisfaction with the program, and delays in sending incentive payments can lead to dissatisfaction from participants.

#### 6.4.6 On-Site Generation

On-site generation accounts for approximately 68% of the current MW enrolled in DLRP. The DLRP application includes a requirement that the applicant submit a copy of their NYSDEC permit for their generator, or if they do not yet have a permit, a copy of their permit application to NYSDEC. This verification helps to ensure that customers have the appropriate permit to operate their generator for load curtailment.

There are two primary issues related to the use of on-site generation in the program. The first is clarification of the permitting requirements for use of generators for load curtailment. The issue of using generators for load curtailment or peak shaving has been debated in New York and across the country for the past few years. In late 2007, NYSDEC developed and is currently reviewing draft regulations<sup>19</sup> that allow generators to operate during electric grid reliability emergencies certified by the DPS. These new draft regulations, in their current form, clearly state in what capacity generators can be used for curtailment and what specific restrictions and limitations apply. Additionally, these regulations include a requirement for periodic emissions testing if backup generators are used for curtailment, which may contribute to customer aversion to increased regulatory requirements for using generators for demand response. However, it is unclear if revisions will be made to the draft regulations prior their implementation, and the timeframe for the review, approval, and implementation of these draft regulations is also uncertain.

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<sup>19</sup> Subpart 222.1, General Provisions, Part 222, Distributed Generation Sources, October 25, 2007.

The second issue related to using on-site generators in DLRP is customer and internal CECONY confusion about permitting and the whether generators are allowed in the program. Customers who historically have used their generators for emergencies only and comply with the annual 500 hour limitation have been exempt from NYSDEC permitting, and therefore may not be familiar with permitting requirements or environmental regulations, and unclear on when they are allowed to use their generator except when they lose power. CECONY Account Executives expressed varying levels of understanding about the use of generators in DLRP. Some Account Executives were familiar with permitting requirements, however, one Account Executive thought that generators were only allowed in the 1<sup>st</sup> year of the program, another thought that the tariff did not allow generators, and another was unclear on what permitting issues existed.

## 6.5 PROGRAM EVALUATION

Currently DLRP does not have evaluation procedures or performance metrics that incorporate all program costs (i.e. program administrative and marketing costs) into the analysis of the cost-effectiveness of the program. DLRP does not appear to track information in a readily available format on annual program administrative costs or marketing costs that could be used for program evaluation. Nexant obtained program incentive information for 2007, including total energy incentive, summer reservation payment, and penalty amounts for the year. Table 23 includes a summary of the 2007 program incentives and penalties, as well as program performance, and a general comparison of program cost relative to performance:

Table 23: 2007 Program Costs and Performance

Program Incentives Paid and Penalties Assessed	
Energy Incentives	\$10,747
Summer Reservation Payments*	\$400,473
Penalties Assessed	\$302
Program Enrollment and Performance	
Total Program Enrollment	141.4 MW
Mandatory Program Enrollment	48.4 MW
Total energy savings from 2007 events	16,282 kWh
Total demand savings from 2007 events**	3,684 kW
Mandatory program energy savings from 2007 events	1,820 kWh
Mandatory program kW savings from 2007 events**	226 kW
Program Incentives per kW and kWh achieved	
Incentives Paid per mandatory kWh achieved during event	\$226 per mandatory kWh achieved
Incentives Paid per mandatory kW achieved during event	\$1,818 per mandatory kW achieved

\* Reservation payments only paid for 3 months beginning in August

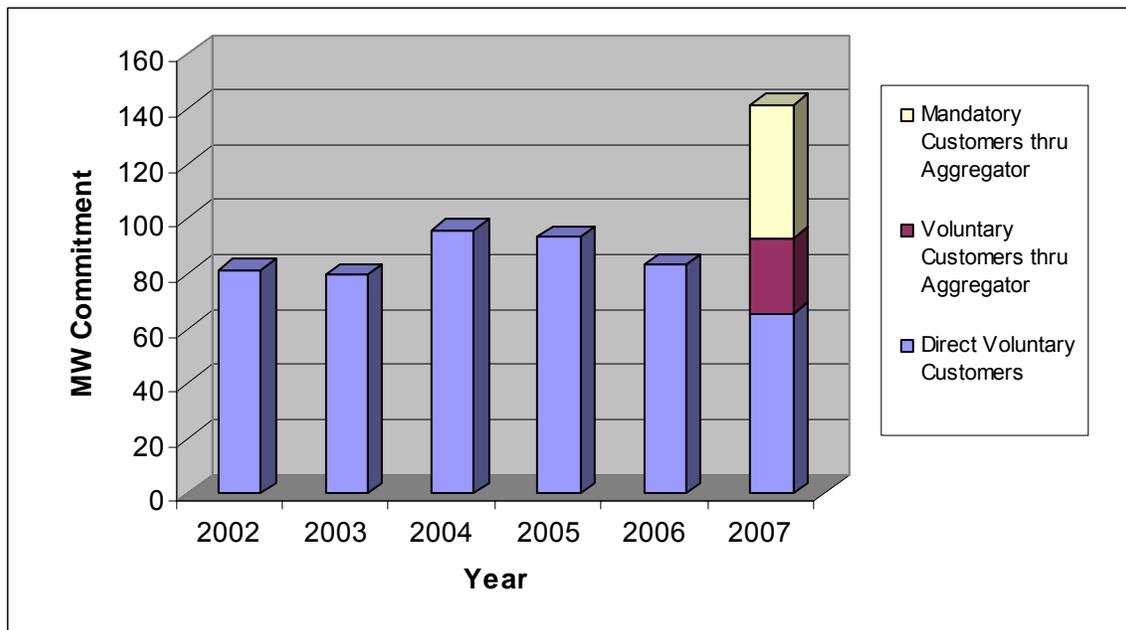
\*\* kW savings reflect average kW savings using CBL method

## 6.6 EFFECTS OF TARIFF CHANGES

Improvements in the Rider U tariff for 2007 driven by the initiatives of the DPS have dramatically changed DLRP. The inclusion of aggregators into DLRP program coupled with the development of a structure setting forth payments for the reservation of capacity are important improvements to the program that will increase market penetration in the coming years and make the level of customer participation more predictable. The full effect of these changes is only partially reflected in the 2007 enrollment data, however the program did exceed the stated goal

of a 20% participation increase from 2006 enrollment, and achieved a 70% increase over the 2006 level. Figure 1 illustrates the enrollment by year in the DRLP.

Figure 1: DLRP Enrollment by Year<sup>20</sup>

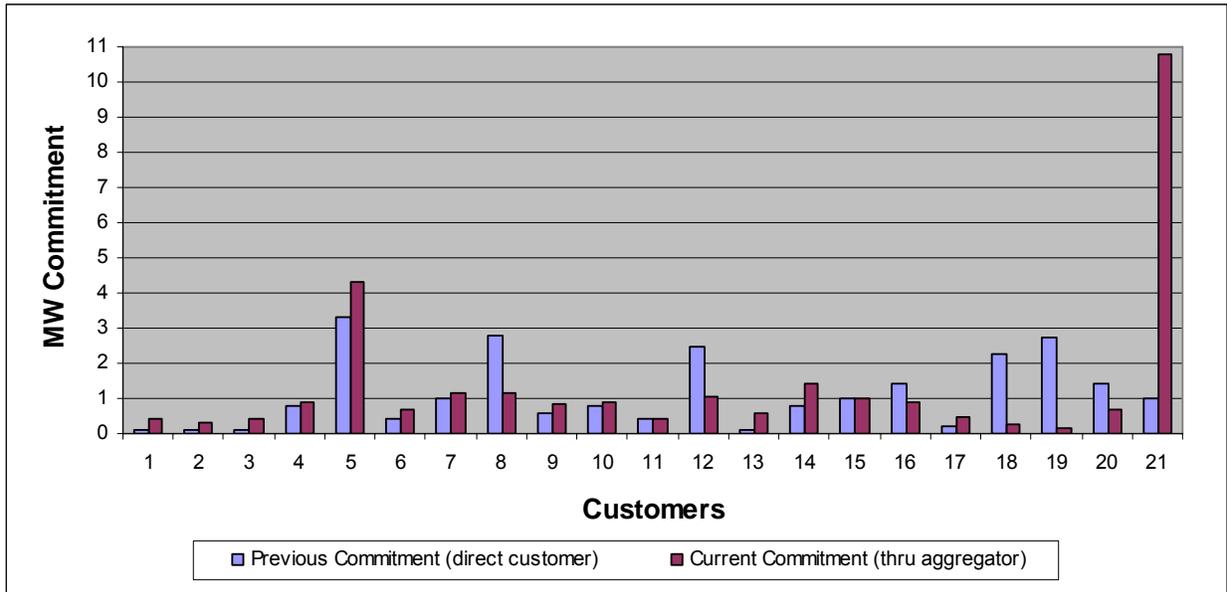


### 6.6.1 Load Aggregators

The tariff changes included allowing load aggregators to participate in DLRP. CECONY held an information session with aggregators on June 29, 2007 to inform them of program rules, procedures, and participation information, and their participation began on August 1, 2007. Despite only having approximately four months to recruit and enroll customers, aggregators enrolled 76 MW through October 2007. The aggregator enrollment total includes some customers that were previously enrolled in DLRP directly through CECONY but have switched to using an aggregator. Approximately 24 MW of direct customer enrollment switched their enrollment and are now participating through aggregators, and these same customers now account for almost 29 MW of load commitment in the program (with 13 of the 21 increasing their commitment, 2 with the same commitment, and 6 with decreased commitments). Figure 2 shows the changes in load commitment for the twenty-one direct customers who switched to aggregators.

<sup>20</sup> 2001 participation information was not available

Figure 2: MW Enrollment of Direct Customers Switching to Aggregators



The remaining 47 MW of aggregator enrollment came from customers not previously involved with DLRP. Additionally, the only participants in the mandatory program are customers enrolled through aggregators.

CECONY does not share customer information or marketing tools with aggregators, however, no restrictions have been placed on the aggregators’ marketing and outreach efforts; they are free to market the program to all customers. By allowing the aggregators this ability to market the program freely, CECONY has created another effective conduit for reaching customers and informing them about the program, which greatly expands the marketing reach of the program.

Based on interviews with CECONY Account Executives and other staff, no customer complaints have been heard by CECONY about aggregators marketing or participating in the program. Therefore, based on the dramatic increase in participation and the ability of the program to utilize another marketing method at no cost, the inclusion of aggregators appears to be a very positive modification for the program to increase participation.

### 6.6.2 Mandatory DLRP program

An additional tariff modification in 2007 was the creation of a mandatory participation level for DLRP. Previously all customers participated in events on a voluntary basis, but were only paid when they actually participated in an event. The mandatory participation level includes a summer reservation payment that is paid regardless of the number of events called. However, the mandatory program also includes a financial penalty if a participant does not meet their load curtailment goal.

Similar to the inclusion of aggregators in DLRP, the mandatory program was initiated in August 2007. By October 2007, the mandatory program had over 48 MW enrolled, indicating that there was significant interest in participating in this program option. For CECONY, the mandatory

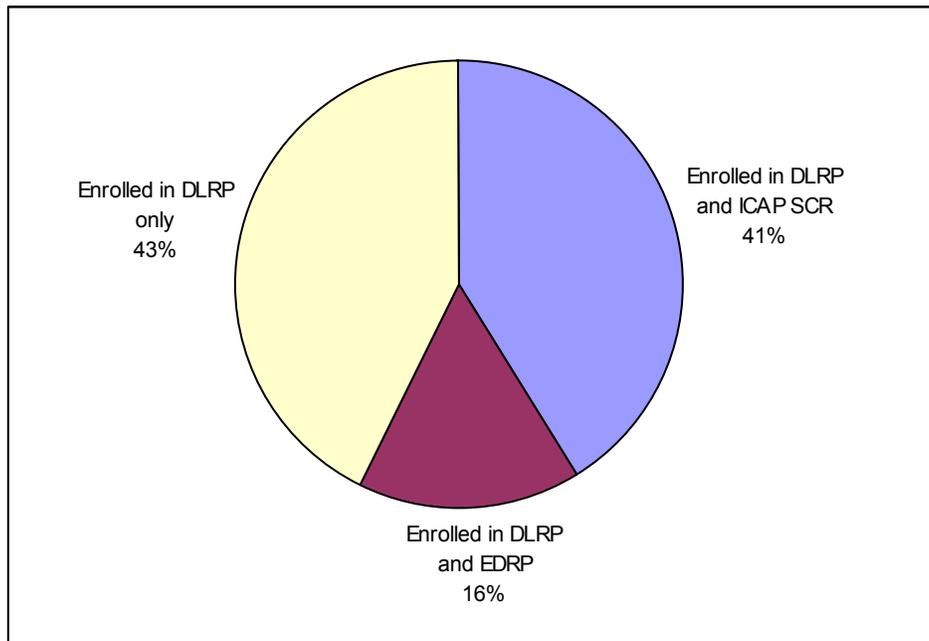
program should provide more reliability when calling events to depend on the participation levels that are enrolled in the program. Only one actual event has been called that included mandatory customers, and performance in the event was approximately 69% of the committed load, however, this event involved only two customers; therefore no conclusions about general performance from mandatory customers should be drawn from this single episode. One test event has been called for all mandatory customers. This test event resulted in approximately 21 MW of load reduction out of a total of 48 MW enrolled in the mandatory program, or 43%. As noted regarding the single called event, only one point of reference is not adequate to draw conclusions about general participation levels.

The mandatory program option has achieved significant participation levels, compared with the voluntary program, in a relatively short time period. By expanding the DLRP to include multiple participation options, with varying types of incentives and penalties (i.e. less incentives for the voluntary program, and more incentives but also a risk of penalty for the mandatory program), the program offers customers a range of choices to suit their desired participation level and risk level they are willing to accept. Additionally, the mandatory program should provide CECONY more reliable curtailment amounts when events are called due to the risk of penalty. For these reasons, the tariff modification to create a mandatory participation level for DLRP is an effective change.

### 6.6.3 Program Incentives

The program has two types of incentives, a summer reservation payment for mandatory customer capacity commitments, and an energy incentive for energy reductions during an event. Aggregators have made the assertion that the incentives are not sufficient to overcome the transaction costs and risk for customers to participate. They have stated that when bundled with the NYISO programs, the total financial incentive is enough to overcome the costs and risks, but that DLRP incentives are not sufficient as a stand-alone program, which therefore limits participation to customers already enrolled in the NYISO programs or willing to enroll in both CECONY and NYISO's programs. Based on the information available to Nexant, and as illustrated in Figure 3, there appears to be approximately 58 MW of load enrolled in DLRP that is also enrolled in the ICAP SCR program, and approximately 23 MW enrolled in EDRP.

Figure 3: Percent of DLRP Enrollment participating in other programs



#### 6.6.3.1 Summer Reservation Payment for Capacity Reductions

As part of the mandatory program development, a summer reservation payment for the load committed was also developed by CECONY. The original proposed incentive amount of \$1.50/kW was based on approximating the cost of renting a mobile generator, incorporating the probability and frequency of events across all the CECONY networks. Aggregators were allowed the opportunity to comment on the incentive amount and the final summer reservation payment amount was modified by the DPS staff to the current amount of \$3/kW/month. Aggregator comments typically were asking for a higher incentive rate, but based on the program enrollment of 48 MW of mandatory customers from August to October 2007, the reservation payment appears sufficient to encourage participation in the mandatory program.

#### 6.6.3.2 Energy Incentive

The program's energy incentive has been unchanged from the original Rider U tariff and is consistent with the NYISO DR programs. The same energy incentive is offered to participants in both the voluntary and mandatory programs.

#### 6.6.4 Program Tiers

The updated Rider U tariff established two program tiers, designed to specifically encourage participation in networks identified as specifically needing demand resource capabilities by offering an increased summer reservation payment for customers in Tier 2 networks. Tier 1 networks currently receive the \$3/kW/month described above; however customers in designated Tier 2 networks receive a summer reservation payment of 150% of the Tier 1 amount, or \$4.50/kW/month. Currently only one Tier 2 network has been designated to date, the Long Island City (LIC) network, and it was identified as such by the DPS in its June 21, 2007 Order.

The LIC network currently has five mandatory customers with 1.5 MW of total network enrollment.

Despite the fact that LIC network was selected as a Tier 2 network by the DPS, Rider U states that Tier 2 networks are “*networks that the Company identifies to be of a higher priority than Tier 1 networks*”<sup>21</sup>. However, CECONY staff stated that network reliability is a very complex issue and the appropriate and optimal demand response determination is accordingly necessarily complex and nuanced, i.e., there is no method for precisely determining which networks are necessarily “in need” of more demand response, making it difficult for the Company to provide customers with reasoned justifications as to why different levels of priority and, hence, different levels of incentives, have been assigned to specific networks. They stated that such assignments, if made, are likely to engender customer confusion and unwarranted concern over system reliability. Therefore, it does not appear likely to Nexant at this time that additional networks besides the LIC network would be designated by CECONY as Tier 2.

#### 6.6.5 Penalty

The penalty amount was originally proposed by CECONY and in addition to the 150% of the monthly summer reservation payment amount for the greatest portion of the participant’s load commitment that was not achieved during a called event, if the customer did not achieve their commitment they were not allowed to participate for the following year. After CECONY submitted their proposed tariff changes, aggregators had the opportunity to comment on the proposed changes, including the penalty amount. After receiving comments from aggregators and CECONY, DPS staff modified the penalty and kept the 150% provision, but eliminated the restrictions on future participation. This change appears to be appropriate, because the current structure of the penalty penalizes customers with a one-time fee for not participating in a single event, yet they have the opportunity to participate in future events, which is beneficial for them for the financial incentive, and beneficial for CECONY to keep that amount of load curtailment in the program when an event is called.

Because the program continues to offer the voluntary participation level, and because participation in the mandatory level offers the additional financial incentive of the summer reservation payment, the penalty appears to be appropriate to apply to mandatory customers. Additionally, the penalty is assessed solely on the portion of the committed load that was not achieved; therefore the participant still receives the reservation payment for the load achieved as well as the energy incentive for their energy savings during the called event.

#### 6.6.6 Interval Metering

In addition to the other program changes described above, the 2007 modifications to Rider U allowed the use of shadow, or pulse meters to verify load curtailment. Shadow meters are non-utility grade meters that record interval load data. Facilities that installed the shadow meters were customers that did not currently have an interval meter installed (therefore, these are customers less than 1,500 kW). The shadow meter is less expensive than a utility-grade interval meter, and typically does not require the same lead time as CECONY requires to install a new

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<sup>21</sup> Rider U (PSC Case 07-E-0392), Section (J)(1), issued June 21, 2007

interval meter (CECONY estimated that interval meter installation can take up to eight weeks, depending on if the meter is currently in stock and the customer pays promptly for the meter).

CECONY agreed to allow shadow meters in DLRP in 2007 for customers participating in the ICAP SCR program with shadow meters, up to their participation level in SCR. This allowance was made because the tariff changes allowing aggregators to join the program went into effect in August, and due to the installation time for interval meters, customers could join and immediately begin participating in the program with a shadow meter. However, CECONY is not in favor of using shadow meters for DLRP, primarily because they are unable to verify that the meter data is accurate. The data from the shadow meter is provided by the aggregator to Itron, who uses the meter data to calculate energy savings and verify demand reductions. Currently, the aggregator only provides data during the event and enough days prior to the event to calculate energy savings using the CBL Method, and do not provide interval data recorded by the shadow meter for the entire month. Because of the limited amount of data provided by the aggregator, CECONY is unable to use the data from their utility meter at the facility to verify the accuracy of the shadow meter.

Currently, approximately 15 MW, out of the 141 MW in the total program, are metered with a shadow meter. Therefore, this issue relates to slightly over 10% of the load in the program.

#### 6.6.7 Conditions to Activate a Load Relief Event

The tariff defines the criteria for designating a load relief period, stating that:

*“If the next contingency would result in a Condition Yellow, or if an eight percent voltage reduction has been ordered, the Company may designate such period as a Load Relief Period. The Company may designate specific networks, feeders or geographical areas in which load relief will be requested. A Condition Yellow exists when the next contingency (excluding breaker failure) either will result in an outage to more than 15,000 customers or will result in some equipment being loaded above emergency ratings<sup>22</sup>”.*

This definition of an emergency event was determined by CECONY’s Rate Design based on input from Systems Operations, RECC, and Distribution Engineering staff. However, DLRP is initiated after a sequence of other actions has been taken by CECONY to respond to network contingencies. Distribution Engineering staff have indicated that even if the network situation is alleviated prior to customers losing power, the damage incurred to the network and feeders can often result in equipment failure the next day or a few days later. Therefore, initiating load relief earlier in the sequence of actions taken may help to alleviate network problems that day as well as equipment damage that may cause failures in subsequent days. Currently, because of the specific tariff definition of when DLRP can be activated, CECONY is limited in its application.

### 6.7 CUSTOMER BARRIERS TO PARTICIPATION

Nexant is currently conducting surveys with a sample of DLRP participants, load aggregators, and CECONY’s large commercial customers who are not participating in DLRP, some of whom are currently enrolled in the NYISO DR programs, and some who are not enrolled in any DR program, to investigate and identify the primary customer barriers to DLRP participation as well

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<sup>22</sup> Rider U (PSC Case 07-E-0392), Section (D)(2), issued June 21, 2007

as the lack of stronger concurrence for customers in other DR programs. Additionally, from Nexant's interviews with DLRP staff and other CECONY staff, several perceived customer barriers have been recognized. The primary program barriers identified by customers, aggregators, and CECONY are addressed below.

### 6.7.1 Barriers to participation in demand response

#### *Customer Risk Aversion*

CECONY has a network of customers that are willing to curtail load when called directly, but do not want to sign up for the program. CECONY Energy Services staff and Account Executives have speculated that one reason for this is customer risk aversion to being connected to an official program. They are willing to help out every time they are asked, but do not want to officially be on the DLRP roster, or are concerned about the potential for financial penalties. In some cases this may also be related to the formal, written declaration of the intended use of an emergency generator which may not comply with the existing or pending NYSDEC air permitting regulations.

#### *Confusion among various demand response program offerings*

Based on survey results from participant customers, the three biggest areas of confusion between the various demand response offerings are: who is the sponsor of each program (CECONY, NYISO, etc); how the facility baseline is calculated in each program; and which programs require mandatory participation with a financial penalty for non-performance.

#### *30-minute notification*

The primary barrier to increasing customer participation in DLRP identified by aggregators is the 30-minute notification period for DLRP events. Aggregators stated that frequently customers do not have the appropriate staff on hand ready to respond within 30 minutes, and in some cases, implementing the curtailment activities, including adjusting controls and starting up generators, may take more than the required 30 minutes.

#### *Interval meter installation*

Customers who do not currently have an interval meter, which would include customers less than 1,500 kW, may be unwilling to pay the cost of installing an interval meter, even with the financial assistance that NYSERDA provides<sup>23</sup>. According to one CECONY Account Executive, some of his customers own many buildings, and the cost of installing multiple, even hundreds of interval meters is beyond their budget.

#### *Facilities do not know their curtailment opportunities or amounts*

Some facilities, particular smaller facilities without an engineering staff, may not have time or the resources to identify their load curtailment opportunities, including the equipment or controls needed, and calculate the reduction amount. Approximately 67% of customers enrolled through aggregators indicated that their aggregators assisted them in auditing their facilities, and over 90% stated that their aggregator helped them calculate the load amount their able to curtail.

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<sup>23</sup> NYSERDA's Peak Load Reduction Program will help pay for the installation of an interval meter for customers participating in a demand response program. The available incentive covers the lesser of 65% of eligible installation costs or \$1,500.

## 6.7.2 Lack of concurrence with NYISO DR Programs

The NYISO ICAP SCR program has approximately 450 MW of enrolled capacity, which is over three times the enrolled capacity in DLRP. Customers are eligible to enroll in both of these programs; however there are a large number of ICAP SCR participants who are not enrolled in DLRP. CECONY has speculated on the reasons for the lack of greater concurrence between programs, which include:

*Customers are not aware of DLRP*

The NYISO demand response programs are listed on NYISO's website, NYSERDA's website, and CECONY's website. However, neither the NYISO nor NYSERDA websites have any information about DLRP. Additionally, from the survey results obtained to date, while the majority of aggregators stated that they typically encourage customers to enroll in multiple DR programs, less than 50% of customers enrolled in DLRP through aggregators were aware of the program prior to their aggregator introducing it to them.

Customers do not *understand* that they can participate in multiple DR programs.

CECONY's Energy Management website lists DLRP and NYISO programs, however neither this page nor the descriptions of the individual program specifically state that customers are eligible to participate in multiple programs (the Installed Capacity Program description states that EDRP customers are not eligible for ICAP, but does not state that DLRP customers are eligible).

*Concern* about the number of called events.

Customers may be concerned about the number of events they would be required to participate in during a summer capability period if they are enrolled in multiple programs.

Time or *effort* required to enroll in multiple programs.

Customers may not be willing to take the time to enroll in multiple DR programs. As part of their 2007 marketing plan, CECONY contacted NYISO about including a check box on the NYISO DR application for customers to indicate if they may be interested in also participating in DLRP, since customers are eligible to enroll in multiple programs. The NYISO would then provide the list of customers that indicated interest in DLRP to CECONY. However, the NYISO did not want to include this option on their application.

## 6.8 SUMMARY OF FINDINGS

- The program design did not originally include specified enrollment or performance goals.
- Program documentation is scarce and aggregators and customer have indicated confusion with program rules and procedures, however CECONY staff involved with the program appears to be knowledgeable about the program and its rules and procedures.
- Program participation in 2007 exceeded the goal of a 20% increase over 2006 participation.

- The inclusion of aggregators, in general, appears to be successful in improving marketing and customer enrollment in both voluntary and mandatory options.
- Aggregators and CECONY Account Executives appear to be the most effective method of informing customers about DLRP.
- Although the program has a minimum load requirement of 50 kW for direct customers, the inclusion of aggregators also provides a participation option for smaller customers or those with more inflexible loads, allowing the program to penetrate a wide variety of customer types.
- Tariff changes to include a mandatory participation option with a reservation payment appear successful in stimulating customer enrollment.
- DLRP uses two settlement methodologies: the APMD method for capacity reductions and the CBL method for energy savings, which is similar to the methods used in the NYISO DR programs. CBL provides much more accurate calculation of the load reduction that is actually achieved during an event.
- There is confusion concerning the use of on-site generation for DLRP from both customers and CECONY Account Executives.
- Specific program barriers to participation exist and are being identified and addressed.

Based on a review of program procedures, discussions with DLRP and CECONY staff, market research on customer and aggregator opinions, and analysis of best practices employed by other demand response programs around the country, Nexant has developed a list of recommendations aimed at improving the performance of the program and increasing participation.

### 7.1 PROGRAM DESIGN

As previously noted, the DLRP program design was not fully documented and clear program goals were not originally established. Based on these observations, Nexant recommends that the program:

- Develop a focused program logic model with short term and long term goals. These goals should include MW enrollment goals for the overall program, for the voluntary and mandatory program options, and desired participation by network. An example of a program logic model, from NYSERDA’s Peak Load Management Program, is included in Appendix D.
- Develop a detailed program manual so that all program rules, procedures, and definitions are included in one place and CECONY staff, aggregators, and customers will have a source for program information. The development of this manual will also require formalizing and refining some program procedures and operations, including:
  - Establishing specific timeframe for DLRP staff to process applications
  - Specific event notification procedures
  - Clear description of baseline, capacity reduction, and energy savings calculation methodologies
  - Information describing the frequency, duration, and procedures involved in test events.
  - Procedure for using test data and DLRP event data to apply a “performance adjustment” to customer load commitment
  - Timeframe for customers to receive incentive payments at the end of the summer capability period

### 7.2 PROGRAM MARKETING

DLRP has developed a variety of marketing tools including a program website, program brochures, and direct mailings sent to large customers. The CECONY Account Executives also play a key role in informing their customers about the program and encouraging them to participate. Additionally, with the inclusion of aggregators in the program, they provide another

marketing channel to reach customers. Nexant recommends that DLRP implement the following to improve DLRP's marketing efforts and increase program participation:

- DLRP developed a marketing plan in 2007. Some of the action items in the plan have been accomplished already and others are under development. CECONY should update this marketing plan with progress to date on the previous action items, and should incorporate the short and long term goals developed as part of the program logic model into additional action items. CECONY should also continue to assess marketing performance and update the marketing plan annually.
- DLRP has been in place for seven years, and so the easiest to reach and most willing participants are most likely already enrolled. Marketing efforts going forward will therefore need to have more specific focus, including the following:
  - Development of industry-specific marketing materials, including case studies and information designed to address the needs and specific curtailment methods applicable to a particular type of facility.
  - Marketing materials and information that focuses on the specific methods used for curtailment, such as generation versus load shedding.
- Marketing efforts should also be developed that have a specific focus on each of the following: recruiting customers not currently in DLRP, recruiting DLRP voluntary customers into the mandatory program, and retaining existing DLRP participants.
- Along with setting program goals as part of the program logic model for participation in the voluntary and mandatory programs, formalize the strategy that is currently used by Account Executives to enroll new customers in the voluntary program, get them comfortable with their curtailment capabilities, then after a couple of years, try to get them to switch to the mandatory program.
- Minimize the confusion that currently exists for both CECONY staff and customers over the use of on-site generation in the DLRP. The first step is for DLRP staff to clearly inform Account Executives that generators can be used for load curtailment in DLRP, and for both DLRP staff and Account Executives to develop a general understanding of the NYSDEC permitting requirements. Once DLRP staff and Account Executives have a general understanding of the permitting issues for generators, they will be able to explain to customers that generators can be used in the program, inform them that environmental permitting requirements are currently applicable, and provide them with contact information for their regional NYSDEC permitting office.
- The 2007 marketing plan included updating the DLRP website, and the website currently has accurate information about the program. However, CECONY should expand the DLRP website to include the following:
  - More detailed description of program rules and procedures, including a link to program manual when it's developed, and a link to the Rider U tariff.

- The website should include a side-by-side comparison of DLRP and NYISO programs to clarify differences and similarities making sure to clearly state that customers are eligible to participate in multiple programs.
  - CECONY should develop the option of an online application that is accessible on the website to expedite customer enrollment.
  - Currently to get to the DLRP website from the CECONY homepage, the links to follow reference either “demand side management” or “energy management.” CECONY’s website should be modified to list “demand response” as a link to the DLRP website for customers more familiar with that terminology.
- While larger customers have CECONY Account Executives, and typically have an engineering staff or energy manager, smaller customers, such as those in the 300 kW to 800 kW range, may not have a designated Account Executive or the personnel to understand the rules of a demand response program or identify and quantify their load curtailment opportunities. CECONY should develop a marketing plan to address the needs of smaller customers and offer information sessions for customers to inform and answer questions about the program, facility auditing services, and assistance with load calculations and program enrollment.
  - More actively market the program in conjunction with the NYISO EDRP and ICAP SCR programs, recognizing that the aggregation of incentives drives participation most effectively. Demonstrate to customers the combined financial benefit of curtailing load for both network-related and distribution system-related events. The greater combined benefits have a better chance of overcoming initial transaction costs than either program alone. This is particularly notable with the summer capacity value for the ICAP SCR program in Zone J being approximately four times the DLRP Tier 1 summer reservation payment.
  - Continue to seek partnerships in marketing opportunities with NYSERDA and NYISO, including exploring options of links from their websites to the DLRP website. Neither website currently includes any information on DLRP.

### 7.3 PROCESSES

Based on a review of DLRP procedures and processes, Nexant recommends that the program implement the following recommendations:

- Develop a checklist for Account Executives and Energy Services to follow a customer’s enrollment process from start to finish, including; identification of demand response options at the facility, calculation of baseline load and curtailment amount and completing the DLRP application, guidance on contacting NYSDEC to obtain the appropriate permitting for their generators, assistance and follow-up with interval meter installation, including making sure it’s connected and running<sup>24</sup>.

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<sup>24</sup> CECONY Metering staff have said that if the dedicated phone line that is required for interval meters is not available when meter is installed, it is up to the customer to connect once the line is installed.

- Consider offering an incentive that would cover the remaining cost, after the NYSERDA incentive, of purchasing and installing an interval meter, with the requirement that the customer must remain in the program for two years. If the customer leaves before that time, the meter cost has to be paid for by the customer on a pro-rated basis. Several demand response programs in California offer this type of incentive, and it serves as an effective tool to increase participation from smaller customers (<1,500 kW) who may not be willing, or not able to get budgetary approval, to purchase the interval meter. Additionally, the program in 2007 allowed shadow meters, and CECONY speculated that some customers installed shadow meters rather than interval meters because they are less expensive. By implementing this recommendation, the interval meter will be the less expensive alternative for customers, and DLRP would receive a two-year commitment from customers.
- Simplify the process for mandatory customers to re-enroll in the program after their first year of participation. Currently, mandatory customers are required to re-enroll each year, which includes completing an entirely new program application. The program should develop a simplified procedure for re-enrolling, particularly if the load commitment is unchanged. In these cases, the only new information the program currently would need is the most recent year's baseline peak monthly data for calculating the APMD baseline.
- Develop a procedure for conducting annual test events. Nexant recommends that the test event be conducted at least once per year, at the beginning of the summer capability period. Similar to the ICAP SCR program, participation in the test event would be used to determine a "performance adjustment" for each customer that is applied to their load commitment when calculating the summer reservation payment. The performance adjustment would be calculated by dividing the actual performance during the test event by the customer's load commitment, with a maximum value of 1.0. The summer reservation payment is then calculated by multiplying the load commitment by the performance adjustment by the incentive rate (\$3/kW for Tier 1 networks and \$4.50/kW for Tier 2 networks). This test protocol and performance adjustment will accurately assess the magnitude of the DLRP mandatory resource and protect rate payers from reservation payments which are overvalued.
  - Test events should also include customer incentives for participation at the same rates as actual DLRP-called events, and CECONY should continue to seek cost recovery for incentives paid for test events. The incentive will provide additional motivation for customer participation and allow DLRP to effectively use test events for the dual purpose of determining the DLRP resource performance and maintaining customers' operational readiness.
  - Voluntary customers should be included in the test events. Based on the very small number of DLRP events called in the program to date, voluntary customers very rarely have the opportunity to implement their curtailment procedures. Conducting annual tests would allow voluntary customers to remain up to date on DLRP notification procedures, ensure that their curtailment methods are still viable, keep their staff aware of how to implement their curtailment activities, and if incentives are offered as previously recommended, provide at least one opportunity per year to earn a

financial incentive from the program. CECONY would benefit by analyzing the voluntary customer participation levels to develop general estimates of expected participation in future events.

- Expand the methods that DLRP uses to notify customers of an event and allow customer to choose the best notification method. Customers should also be informed that once the notification is sent via their preferred method, receipt of the notification and curtailing their committed load is their responsibility. CECONY indicated that they are currently developing more advanced notification procedures, which will include telephone calls as well as text messages that can be sent to email addresses, fax machines, phones, and pagers. CECONY should also target notification protocols and two-way communications media that confirm receipt of the notification message.
- As noted in the best practices review, customers prefer to be notified of energy and demand savings and incentive amount soon after an event. Additionally, several CECONY Account Executives indicated that the late incentives payments sent by the program in recent years frequently do not reach the customer until after the end of their fiscal year. Accordingly, DLRP should provide follow-up information, including savings and incentive amounts on events in a timely manner, such as by the end of the month of the event, or within 30 days.
- Consider using CBL method for all baseline calculations to more accurately determine energy savings and capacity reduction. The CBL method more accurately measures what the peak load reduction is in real time by estimating what the load would have been without the action of the customer. This more directly reflects the load reduction on the distribution system.

With the APMD method, if facility is not at its average peak load when the event is called, there is the potential for free ridership in the capacity reduction, i.e. they may reach their firm service level without having to meet their committed reduction amount. The potential also exists for the penalties to be assessed for non-performance when the facility actually implemented their curtailment activities and achieved their required load reduction, but because at the time of the event they were operating at a higher baseline load than their APMD baseline. Note that the APMD method does not account for changes to equipment or occupancy that may have occurred in the past year. Therefore, marketers may also select customers based on factors other than the potential to actually reduce load during an actual event. Although the APMD may be appropriate for annual system capacity planning by the NYISO, a distribution emergency requires real time changes in load.

Currently CECONY uses the CBL method to calculate energy savings, and reports both energy (kWh) reduction and capacity (kW) reductions, as shown previously in the test event data in Table 8 and 2007 DLRP event data in Table 5. Therefore the use of this method represents a change in program policy more than capability, with the exception of including a weather correlation calculation.

- Continue to offer the option for customers to weather adjust their CBL, however, this option should be a suggestion by the customer, with CECONY making the final determination. Some facilities have loads that are much more weather-dependent

than others. Therefore, it is more appropriate to weather adjust load data for some facilities than others. CECONY should verify the customer preference for weather adjustments by determining if the facility has a statistically significant correlation to weather data. Facilities that show a high correlation should be weather adjusted, and those without any correlation should be based simply on the 10-day average, as stated in the CBL method.

#### 7.4 PROGRAM EVALUATION

CECONY conducted a cost-effectiveness calculation in developing the incentive rate for the summer reservation payment that was approved by the PSC, although the incentive rate was adjusted prior to approval. However, DLRP currently does not have procedures or metrics used to evaluate program performance that incorporate all program costs (i.e. administrative and marketing costs). Nexant recommends that DLRP develop a protocol for evaluating performance and cost effectiveness of the program, and conduct cost an annual evaluation of the program's cost effectiveness. Due to the emergency nature of the program, and its use as a procedure for addressing network contingencies and to mitigate power outages and alleviate equipment failure, the program should not be held to the same economic requirements as a typical DSM program. However, without some kind of evaluation of program performance, proper allocation of resources and evaluation of the correlation between program activities and program goals outlined in the program design is extremely difficult. We note that other states are grappling with similar issues; California, for example, is in the midst of a rulemaking proceeding to assess, among other things, policies and protocols for demand response load impact estimates and cost-effectiveness methodologies.<sup>25</sup>

#### 7.5 PROGRAMMATIC AND TARIFF RECOMMENDATIONS

The 2007 Rider U tariff modifications created dramatic changes in the design and applicability of DLRP. The most significant changes included the creation of a mandatory program option with a summer reservation payment, a penalty for non-performance, and the inclusion of aggregators in the program. Based on our review of the program and the 2007 Rider U, Nexant makes the following recommendations for DLRP:

- CECONY should continue to offer the mandatory program option. The mandatory option has been good for the program, both to the customer by providing a summer reservation payment for their load commitment, and to CECONY by providing a more reliable and cost-effective load resource than voluntary participation provides.
- The summer reservation payment, based on the committed load for mandatory customers is currently \$3/kW/month for Tier 1 networks and \$4.50/kW/month for Tier 2 networks. Based on the 48 MW of mandatory participation that enrolled in the program in just four months, the reservation payment amount appears sufficient to entice customers to enroll in the mandatory program.

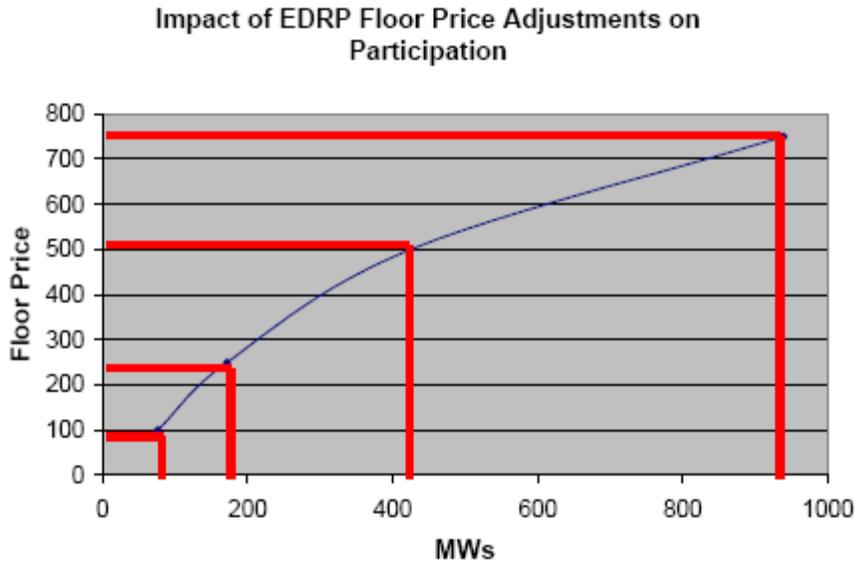
In the future, if participation levels do not continue to increase annually despite improved marketing, outreach, and program support efforts, CECONY may consider increasing the reservation payment to drive greater participation, subject to cost-effectiveness

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<sup>25</sup> California Public Utilities Commission Order Instituting Rulemaking (R.07-01-041), initiated January 25, 2007.

considerations (see recommendations in Section 7.4 above). Figure 4 lists the estimated penetration curve calculated for the NYISO EDRP Program based on price. However, as shown in the figure, when determining the appropriate increase in incentives, the rates of participation are not directly proportional to the price increase.

Figure 4: Price Penetration Elasticity Curve<sup>26</sup>



- Under the current program structure, the summer reservation payment is still subject to free ridership. Currently, the summer reservation payment is made based on the customer’s enrolled load, without regard for performance during the test event and, while a penalty is assessed for actual performance during a DLRP called event, the customer or aggregator continues to receive the full summer reservation based on the original load commitment in subsequent months. To address the issue of free ridership, Nexant recommends that DLRP implement the test event procedure described above, with a test event occurring at the beginning of each summer capability period, and the customer’s performance will be used to calculate a “performance adjustment” which is applied to the calculation of the summer reservation payment. This performance adjustment would be updated based on the customer’s performance in subsequent called events and test events.
- The tariff modification includes a penalty that is assessed to mandatory customers for non-performance during a called event. The penalty is 150% of the maximum demand reduction not achieved during the first four hours of the event. Aggregators and customers cited the penalty as one of the primary barriers to participation in the mandatory program. Nexant recommends that CECONY eliminate the penalty from DLRP. However, the program needs to have a way to ensure mandatory customers participate in called events. Therefore, similar to the procedure described for test

<sup>26</sup> 2001 NYISO Price-Responsive Load Program Evaluation, Neenan Associates

events, mandatory customers' participation in DLRP-called events will be used to calculate a "performance adjustment" of their load commitment.

The performance adjustment is the ratio of load reduced to the load committed, with a maximum value of 1.0, and the summer reservation payment is calculated by multiplying the load commitment by the performance adjustment by the reservation payment amount. Customers that do not participate in an event would receive a performance adjustment of 0.0, which would mean they would not receive any reservation payments until the next event or test event in which they did participate (which would be equivalent to being a voluntary customer in the program). Under this methodology, the program would not continue to pay customers who do not perform or do not achieve their load commitment, but there is no actual "penalty" that is assessed to customers, just an adjustment, from 0% to 100%, of their reservation payment. Therefore, there is motivation to participate in events. While it is not a penalty; the performance adjustment has a larger potential effect on the summer reservation payments than a one-time penalty, as the customer's performance adjustment would remain in effect until either the next called event that year, or the test event at the beginning of the capability period in the following year. Additionally, the ICAP SCR uses a similar system to calculate the ratio of actual performance to the customers Contract Minimum Demand (CMD).

- Aggregators were included in the program as a provision in the updated Rider U, and they have enrolled 48 MW of load in just four months. They also provide an additional marketing channel for the program that is at no cost to CECONY. This change appears good for the program and Nexant recommends DLRP continue to include aggregators.
- The updated Rider U also created program tiers that provide increased incentives for networks that have been identified as of critical importance. Currently, the summer reservation payment in Tier 1 networks is \$3/kW/month, and in Tier 2 networks is \$4.50/kW/month. The DPS designated the LIC network as Tier 2, and it is the only network in that tier to date. The tariff states that it is up to CECONY to determine which networks should be designated as Tier 2. According to CECONY, Distribution Engineering staff are continually monitoring the reliability of their networks to ensure consistent reliability across all 58 networks, and employ specific engineering solutions during the winter, or off-peak season, to address reliability issues. However, CECONY staff stated that network reliability is a very complex issue and the appropriate and optimal demand response determination is accordingly necessarily complex and nuanced, i.e., there is no method for precisely determining which networks are necessarily "in need" of more demand response, making it difficult for the Company to provide customers with reasoned justifications as to why different levels of priority and, hence, different levels of incentives, have been assigned to specific networks. They stated that such assignments, if made, are likely to engender customer confusion and unwarranted concern over system reliability.

However, the definition of Tier 2 networks in Rider U states that they are "*networks that the Company identifies to be of a higher priority than Tier 1 networks*"<sup>27</sup>. Therefore, the higher priority may not be due solely to network reliability, but a variety of issues. If

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<sup>27</sup> Rider U (PSC Case 07-E-0392), Section (J)(1), issued June 21, 2007

CECONY establishes specific MW enrollment goals for each network, then networks that are the farthest from achieving their goal could be deemed as having a “higher priority for demand response resources,” or considered to primarily include hard to reach customers who need extra financial incentive to participate. Even if enrollment goals are not set by network, analysis of the DR resources in each network compared with the network’s peak loading would provide a percentage of DR in each network. The networks with the lowest demand response resources could be designated as Tier 2.

CECONY should establish an upper limit on the number of Tier 2 networks, which could either be determined by networks that have achieved less than a pre-determined percentage of their MW goal, or the lowest 5% or 10% of networks by participation. Tier 2 networks may also change from year to year, so if a network responds to the additional financial incentive and participation increases, that network would go back to Tier 1, making the extra incentive of the Tier 2 network similar to a ‘sign-up bonus’ in the first year or years for customers who enroll from those networks.

- The program states that interval meters are required for enrollment. However, the tariff allowed facilities with shadow meters to participate during the 2007 capability period. CECONY is not in favor of allowing shadow meters in the program because they are currently unable to independently verify the data to verify that the meter is functioning correctly. The primary reason they are not able to verify the data is that aggregators are only required to provide enough data to calculate the CBL baseline (from the 10 previous days) and data from the DLRP event. Therefore, Nexant recommends that the program only allow metering from which CECONY is able to independently verify the accuracy. This would include either interval meters or shadow meters, however aggregators would be required to submit complete monthly data from the shadow meter, and CECONY can verify the consumption with their monthly kWh usage from their own meter.
- The tariff states that DLRP may be activated when a network reaches a condition Yellow and after an 8% voltage drop, which means that DLRP is near the end of the sequence of responses that CECONY implements to a network emergency. Nexant recommends that greater flexibility be given to CECONY in determining the appropriate conditions for calling a DLRP event. In some situations, activating load relief earlier could help mitigate latent damage to equipment that accrues during a heat emergency prior to a DLRP event. In 2007 there were three DLRP events and more may be advisable in order to reduce the statistical likelihood of equipment fatigue that often appears after a heat event. This may include the utilization of existing predictive tools that, based on weather data and network load data, could select at risk networks for advance activation of DLRP outside of the current definition of the pending loss of 15,000 customers.
- Aggregators have cited DLRP’s 30-minute notification period as a primary barrier limiting participation, as both of the NYISO reliability DR programs offer a 2-hour notification. Additionally, CECONY personnel have stated that they currently have more precise predictive tools that are used to determine when load relief will be needed, and they begin taking actions earlier in the sequence of emergency events than in previous years. Therefore, in coordination with the implementation of the

previous recommendation, that CECONY have the flexibility to decide when to activate load relief, Nexant recommends that the program change its notification timeframe from 30 minutes to 2 hours. This recommendation is also based on CECONY being able to effectively utilize the advanced predictive tools to identify when load relief is needed so that customer activation within two hours would be adequate to alleviate the emergency situation.

If CECONY would prefer to continue having at least a portion of participants available to respond within 30 minutes, Nexant recommends that a tier systems, similar the existing system for networks with a specific need for demand response, be established for 30-minute responders. Customers that sign up to respond to a 30-minute notification would receive an additional reservation payment under the same structure that is currently in place those that respond to more than six events per year or to events of greater than four hours, i.e. customers would receive an additional \$1.00/kW/month in their reservation payment. Because the incentive is offered as part of the reservation payment, voluntary customers would not be eligible for the additional bonus. However, from the program's perspective, having mandatory customers as the primary 30-minute responders should provide greater reliability in the participation levels that will be attained during the initial critical response period when the event is called.

If this tiered system for response times is established, the program application should include an indication of which response time the customer selects, and when the event notifications are made the customer should be reminded of their committed response time.

## CALCULATION OF ENERGY SAVINGS USING APMD METHOD

The following equation is used by the NYISO ICAP SCR program for calculating capacity reductions based on the customer's committed load and event performance:

$$UCAP_{gm}^Q = (APMD_{gm} - CMD_{gm}) \times \frac{\sum_{h \in LRH_{gbe}} \min\left(\frac{APMD_{gh} - AMD_{gh}}{APMD_{gh} - CMD_{gh}}, 1\right)}{NLRH_{gbe}} \times (1 + TLF_g)$$

where:

$UCAP_{gm}^Q$  is the Unforced Capacity that Resource  $g$  is qualified to provide in month  $m$ ;

$APMD_{gm}$  is the Average of Peak Monthly Demands for Resource  $g$  applicable to month  $m$ , using data submitted in accordance with Attachment K, Special Case Resource Certification; if month  $m$  is in the Summer Capability Period, the Average of Peak Monthly Demands is calculated using the peak monthly demands for that supplier for the most recent consecutive months of June, July, August and September that had occurred as of the beginning of month  $m$  (e.g., if month  $m$  is August 2001, then the peak monthly demands to be counted would be for the months of June, July, August and September of 2000); and if month  $m$  is in the Winter Capability Period, the Average of Peak Monthly Demands is calculated using the peak monthly demands for that supplier for the most recent consecutive months of December, January, February and March that had occurred as of the beginning of month  $m$ ;

$CMD_{gm}$  is the Contract Minimum Demand for Resource  $g$  applicable to month  $m$ , using data submitted in accordance with Attachment K, Special Case Resource Certification;

$LRH_{gbe}$  is the set of hours (each an hour  $h$ ) in the period beginning at time  $b$  and ending at time  $e$  in which Resource  $g$  was requested to reduce load;

$APMD_{gh}$  is the applicable Average of Peak Monthly Demands for Resource  $g$  applicable to hour  $h$ , using data submitted in accordance with Attachment K, Special Case Resource Certification; if hour  $h$  is in the Summer Capability Period, the Average of Peak Monthly Demands is calculated using the peak monthly demands for that supplier for the most recent consecutive months of June, July, August and September that had occurred as of time  $e$ ; and if hour  $h$  is in the Winter Capability Period, the Average of Peak Monthly Demands is calculated using the peak monthly demands for that supplier for the most recent consecutive months of December, January, February and March that had occurred as of time  $e$ ;

$AMD_{gh}$  is the Average Minimum Demand for Resource  $g$  for hour  $h$ , using data submitted in accordance with Attachment K, Figure 2, Special Case Resource Minimum Load Demonstration;

$CMD_{gh}$  is the Contract Minimum Demand for Resource  $g$  applicable to hour  $h$ , using data submitted in accordance with Attachment K, Special Case Resource Certification;

$NLRH_{gbe}$  is the number of hours during the period beginning at time  $b$  and ending at time  $e$  in which Resource  $g$  was required to reduce load (including any hour in which Resource  $g$  was required to reduce load by the ISO as part of a test);

$b$  is the beginning of the month occurring 14 months before month  $m$ , unless Resource  $g$  had not begun at that time to serve as a Special Case Resource available to reduce load, in which case  $b$  is the earlier of time  $e$  or the time at which Resource  $g$  began to serve as a Special Case Resource available to reduce load;

$e$  is the end of the month occurring three months before month  $m$  (e.g., if month  $m$  is September 2001, then  $e$  is the end of June 2001); and

## CALCULATION OF ENERGY SAVINGS USING CBL METHOD<sup>28</sup>

### Itron Customer Curtailment Baseline (CBL) Description: 2002 NYISO CBL Based upon the EDRP manual 2002 requirements

Reference: "3.1 MR3 - NYISO CBL Baseline Spec(2.1.2a).xls", Itron specification algorithm developed and approved 3/28/2002. For each step described below, the applicable reference paragraph to the EDRP manual is listed in parentheses (as in "a.1.b", or " Part I, Average Day CBL. A.1.a, a.1.b, and a.1.b.1", etc)

**Note 1:** This NYISO CBL was developed to replace earlier versions of NYISO CBL and NYISO CBL 2 baselines and is used for ConEd's DLRP, EDRP and SCR programs. It was originally developed for EEM version 3.1 and migrated to the current EEM version.

**Note 2:** Other explanatory comments are included as notes in the discussion below.

#### Step by step description of the "2002 NYISO CBL" calculation:

Of the first 3 sections, choose the one depending on whether the event is for a Weekday, a Saturday or a Sunday.

#### Weekday Events (includes Weekday Holidays):

1. Use "n-2" (ie, day before yesterday) as the starting point, look back in time and find the 10 weekdays.
  - a. (Part I, Average Day CBL. A.1.a, a.1.b, and a.1.b.1)
2. Exclude holidays and weekends. Exclude all event days (days on which there was a curtailment event) with the same baseline (EDRP, DLRP, SCR)
  - a. (a.1.b.1, a.1.b.2, a.1.b.3)
  - b. Note: A "holiday weekday" event was not explicitly considered in the EDRP manual. We defined a weekday holiday as a weekday, in accordance with conversation between ISO and Cecony.
3. If you now have fewer than 10 days remaining in the list to be considered, then continue looking back for weekdays until there are 10 eligible weekdays. (a.1.d)
  - a. Note: Effectively no look-back limit was specified by NYISO; however we established a practical look-back limit of 365 days, to be used.
4. Calculate the **total** kWh usage during the **event hours** for each of the 10 eligible days (defined as "*daily event period usage*"). In other words, calculate one value summing the total kWh over the event period for **each** of the 10 days. Then, calculate a **single average** kWh usage value (defined as "*average event period usage*") from these 10 totalized values. (a.1.b.4)
5. Check for "Shut-down" or "low usage" days: exclude any day in which the **day's daily event period usage** is < 25% of the *average event period usage*. (a.1.b.5)
6. If any days were excluded (due to the shutdown or low-usage rule) such that there are now less than 10 eligible weekdays, then continue going back and add extra weekdays until total = 10; and go back to step 2 above. (a.1.b.6, a.1.c, a.1.d)
7. For each of the 10 eligible days, calculate the event hour kWh totals (*daily event period usage*). Note: these values were calculated above at Step 4.
8. Sort the 10 event-hour kWh totals (*daily event period usage* values) and eliminate the bottom 5 figures so that top 5 remain. (a.2.a)
9. For these top five days you are left with, calculate an **initial** 24-hr baseline (which will be used for either the event period CBL or the 24-hour CBL) by averaging these five days' values on an interval-by-interval basis. (a.2.b).
10. Determine the weather adjustment factor in the section below.

<sup>28</sup> Itron information provided to Nexant in document titled "Itron Con Edison Curtailment Baseline Description.doc"

### Saturday Events

11. For a Saturday event, "select" the three previous Saturdays (b.1.a). **Do not** exclude event days or holidays (b.2.a). For each of the 3 eligible days, calculate the event hour kWh totals (*daily event period usage*). **Do not** check for shutdown days. Sort the 3 event hour kWh totals and eliminate the lowest day (b.2.b, b.2.c).
  - a. The top two days you are left with are then used to calculate an initial 24-hr baseline (which will be used for either the event period CBL or the 24-hour CBL) by averaging the two days' values on an interval-by-interval basis. (b.2.d, 3.a)
12. Determine the weather adjustment factor in the section below.

### Sunday Events

13. For a Sunday event, "select" the three previous Sundays (b.1.a). **Do not** exclude event days or holidays (b.2.a). For each of the 3 eligible days, calculate the event hour kWh totals (*daily event period usage*). **Do not** check for shutdown days. Sort the 3 event hour kWh totals and eliminate the lowest day (b.2.b, b.2.c).
  - a. The top two days you are left with are then used to calculate an initial 24-hr baseline (which will be used for either the event period CBL or the 24-hour CBL) by averaging the two days' values on an interval-by-interval basis. (b.2.d, 3.a)
14. Determine the weather adjustment factor in the section below.

### Weather-sensitive adjustment (applies to Weekday, Saturday and Sunday event cases)

15. If the customer has elected to not use the weather adjustment factor, then use the default value of 1.00 and go to the last step of this section.
16. Grab baseline data to use as basis to adjust -- look at 24 hr time series baseline data and grab values between the hours Start Time - 4 to Start Time - 2. For example, if an event begins at 12:00, take the values for 08:00-09:00 and 09:00-10:00 hours. (Part II, 2.a.1)
17. Calculate "**Baseline Adjustment Basis**" - calculate the "Baseline Adjustment Basis" by averaging all kWh values during the defined range. (ie, this will be a single value) (2.a.2)
18. Calculate "**Actual Usage Adjustment Basis**" - Calculate the "Actual Usage Adjustment Basis" by averaging all the actual kWh values during the defined range. (2.b.1. )
  - a. This will be done "As soon as data arrives", ie, the displayed baseline will continue to be the unadjusted one (effectively, adjustment factor=1 until updated) until the data upload for the actual day, is complete, and the day's data arrives in the database. This typically is the day following the event.
19. Calculate the Weather Adjustment Factor:
  - a. The "**Initial Weather Adjustment Factor**" -- calculate the "Initial Weather Adjustment Factor" by dividing  
(Actual Usage Adjustment Basis) / (Baseline Adjustment Basis) (2.c.1)
  - b. The "**Final Weather Adjustment Factor**" will be the results of this but limited to the range of  
 $1.20 \leq \text{Initial Weather Adjustment Factor} \leq 0.80$ . (2.d.1 - 2.d.3)
20. Apply the Weather Adjustment Factor -- multiply each of the initial baseline values by the "Final Weather Adjustment Factor" during the event hours. (3)
21. The customer selects whether they wish to use this Weather Adjustment Factor at the time of sign-up for the program. The customer election may be changed by the System Administrator consistent with NYISO rules concerning customer CBL-switching. Such a change to the facility in the EEM Suite Database will be effective for events issued subsequent to the Administrative change. This change will not affect previous event calculations for that facility (unless the event is recalculated at a later date). (a.4)

- List of CECONY personnel interviewed
- Summary of survey results on key program issues from:
  - Participant customer surveys
  - Participant aggregator surveys
  - Non-participant aggregator surveys

Table 24: CECONY Personnel Interviewed for Program Evaluation

<b>CECONY Personnel</b>	<b>Title/Department</b>
Elena Futoryan	DLRP Program Manager
Joe Murphy	Department Manager, Energy Services
Joseph Zillitto	Energy Services Bronx/Westchester
Rebecca Craft	Director, Energy Efficiency
Lou Cedrone	Manager, Energy Efficiency
Steve Pertusiello	Former Manager, DSM programs
John Spivak	Manager, Systems Operations
Anita Ma	Manager, Manhattan Control Center
Larry Nardo	Manager, Customer Operations, Metering
Sondi Johnson	Communications
Denise Levine	Rate Engineering
Damian Sciano	Distribution Engineering
Peter Meloro	Account Executive Manager
Ron Guilbeault	Account Executive
Don Thompson	Account Executive
Vicenta Guerin	Account Executive
Jason Prue	Account Executive
David Barko	Account Executive
Susan Gunn	Account Executive

Table 25: Summary of participating customers' responses to key issues<sup>29</sup>

<b>Subject</b>	<b>Distribution of Participant Customer Responses</b>		
	<b>% of responses</b>		
<b>Questions for all participating customers</b>			
<b>1. How did you first hear of DLRP?</b>	20%	CECONY Account Executive	
	23%	Aggregator	
	3%	Trade/Industry Group	
	17%	Facility was already participating when I joined	
	33%	Other	
<b>2. Have you received any direct mailings from CECONY about DLRP?</b>	30%	Yes	
	57%	No	
	13%	Don't recall	
<b>3. Has your CECONY Account Executive discussed DLRP with you?</b>	37%	Yes	
	58%	No	
	5%	Don't recall	
<b>4. Have you visited the DLRP website?</b>	40%	Yes	
	60%	No	
<b>5. Have useful have you found the DLRP website (scale from 1 to 5)?</b>	<b>Average Rating</b>	<b>Low</b>	<b>High</b>
	3.5	2	5
<b>6. What source provided you with the most useful program information, or the information that convinced you to participate in DLRP?</b>	19%	CECONY Account Executive	
	44%	Aggregator	
	6%	NYSERDA	
	6%	Participation in another demand response program	

<sup>29</sup> The table presents a summary of the participating customers' responses to key issues. The list of questions presented is summary and does not cover all questions listed on the survey instruments.

	19%	Other
<b>7. What was your top reason for enrolling in DLRP?</b>	70%	Financial (participation incentive)
	10%	Environmental (concerned about reducing energy consumption)
	7%	Good citizen (willing to help to keep system running)
	13%	Mutual interest (reduce load when asked so that my facility
<b>8. When was your interval meter installed?</b>	37%	In place prior to enrolling in DLRP
	13%	Installed as part of enrollment process
	20%	Don't recall
	30%	Do not have interval meter, use shadow meter
<b>9. Did NYSERDA provide financial assistance for installing the meter?</b>	19%	Yes
	48%	No
	33%	Unsure
<b>10. How do you review your facility's hourly load data?</b>	13%	Energy Management System (EMS)
	7%	Data provided directly from Con Edison interval meter
	10%	Shadow (pulse) meter installed on utility meter
	10%	Meter on generator/equipment
	50%	Do not review hourly load data
<b>11. Do you track your peak monthly demand in the summer?</b>	67%	Yes
	33%	No
<b>12. Do you have on-site generation at your facility?</b>	77%	Yes
	23%	No
<b>13. Do you use your generators for demand response?</b>	57%	Yes
	43%	No
<b>14. Have you participated in a DLRP event?</b>	83%	Yes
	17%	No
<b>15. Did you meet your load reduction target in the</b>	100%	Yes

event?	0%	No	
16. How satisfied were you with the notification procedures for the event? (scale from 1 to 5)	<b>Average Rating</b>	<b>Low</b>	<b>High</b>
	4.29	2	5
17. Do you track your energy consumption during a DLRP event and calculate your energy savings prior to being notified by CECONY?	13%	Yes	
	83%	No	
	3%	Don't recall	
18. Have you ever received notification of an event and not participated?	10%	Yes	
	87%	No	
	3%	Don't recall	
19. Why did you not participate?	33%	Critical operations were running	
	33%	Notification period was too short	
	33%	Don't know	
20. Have you received incentive payments in a timely fashion?	73%	Yes	
	20%	No	
	7%	Don't recall	
21. Has CECONY ever called and asked you to voluntarily reduce load in a non-DLRP situation?	43%	Yes	
	57%	No	
22. Did you assist CECONY with the voluntary reduction?	85%	Yes	
	15%	No	
23. Overall, how satisfied are you with DLRP?	<b>Average Rating</b>	<b>Low</b>	<b>High</b>
	3.9	3	5
24. Do you plan on continuing to participate in the program in the future?	57%	Yes, at the same load commitment level	
	37%	Yes, and anticipate increasing load commitment in the future	
	3%	Yes, but anticipate decreasing load commitment in the future	
	3%	Yes, but unsure about load commitment changes in the future	

	0%	No	
25. Which of the following program modifications would entice you to increase your load commitment in the future?	Average Rating	Low	High
a. Increase in summer reservation payment	3.5	1	5
b. 30-min notification period increased to 2-hours	3.5	1	5
c. Day-ahead preliminary notice that an event MAY be called (actual notification would still be 30-min)	3.6	1	5
e. Fewer events per year that require mandatory participation	3.0	1	5
d. Gradual increase in incentive rate after the first called event (payment amounts increase for 2nd event, and again for 3rd event, etc.)	4.0	1	5
g. Additional financial bonus for adding more facilities to the program	3.9	1	5
f. Auditing assistance from a utility representative/energy consultant/aggregator to more accurately quantify your load management capabilities	3.7	1	5
i. Low cost financing for generation equipment	3.5	1	5
<b>Questions for customers enrolled in DLRP directly with CECONY</b>			
26. Are you aware the program has two participation levels, mandatory and voluntary?	67%	Yes	
	33%	No	
27. What is the primary reason you are not participating in the mandatory program?	33%	Not aware of it	
	44%	Unsure if I can always meet our load target when an event is called	
	22%	Other	
28. Are you aware you can participate in the program with an aggregator?	89%	Yes	
	11%	No	
29. Would you be interested in participating through	44%	Yes	

an aggregator in the future?	44%	No	
	11%	Unsure	
<b>Questions for customers enrolled in DLRP through an aggregator</b>			
30. What is the primary reason you did not enroll in the program prior to participating through your aggregator?	43%	Was not aware of the program	
	5%	Needed assistance to recognize load reduction opportunities	
	5%	Concern over penalty for non-compliance	
	5%	Did not have enough program information to make informed decision	
	10%	Too much paperwork/time commitment involved in enrolling in	
	14%	Don't know	
	19%	Other	
31. Did your aggregator assist you in auditing your facility?	71%	Yes	
	14%	No	
	14%	Don't know	
32. Did your aggregator assist you in calculating your load curtailment amount?	90%	Yes	
	5%	No	
	5%	Don't know	
33. What is the primary benefit to you of participating in the program through an aggregator?	10%	Aggregator calculated load reduction capability	
	48%	Ease of enrollment/aggregator handles paperwork	
	24%	Aggregator keeps up with program rules & updates	
	10%	Able to enroll at a lower commitment level (less than 50 kW)	
	5%	Aggregator assumes risk of penalty for non-compliance	
34. On a scale of 1 to 5, how satisfied are you with your aggregator?	<b>Average Rating</b>	<b>Low</b>	<b>High</b>
	4.1	1	5

Table 26: Summary of participating aggregators' responses to key issues<sup>30</sup>

<i>Subject</i>	<i>Aggregator #1</i>	<i>Aggregator #2</i>	<i>Aggregator #3</i>	<i>Aggregator #4</i>	<i>Aggregator #5</i>
<b>1. How did aggregators hear of DLRP?</b>	Consultant	From involvement in market development activity	NYISO staff	Tradeshows, market development activity	Con Ed account executive
<b>2. How informative was the summer information session?</b>	somewhat informative	somewhat informative	somewhat uninformative	neutral	neutral
<b>3. Is the Con Ed website useful for aggregator marketing?</b>	Yes	Yes	Yes	Yes	Yes
<b>4. What are the primary reasons for aggregators to participate?</b>	incentives	incentives and role of DR in protecting distribution networks	incentives	incentives	incentives
<b>5. Did aggregators have prior relationships with DLRP customers?</b>	Yes	Yes	Yes	Yes	Yes
<b>6. What percentage of customers had heard of DLRP prior to introduction by aggregators?</b>	0%	0-5%	0%	0%	10%
<b>7. What was customers understanding of DLRP prior to introduction by aggregators?</b>	No understanding	No understanding	No understanding	Basic understanding	Basic understanding
<b>8. What level of confusion is observed amongst customers?</b>	Does not have substantial information	High - customers not aware of DLRP	High - customers not aware of DLRP	Minor	None
<b>9. What are the top three reasons customers were not enrolled in DLRP previously?</b>	NA	Program benefits insufficient to warrant risk	1. Short notification windows 2. Confusion, lack of awareness 3. NYSDEC permitting issues	1. Customers not aware 2. Low incentives, high penalty 3. NYSDEC permitting issues	can not answer

<sup>30</sup> The table presents a summary of the aggregators' responses to key issues. The list of questions presented is summary and does not cover all questions listed on the survey instruments.

	<b>Aggregator #1</b>	<b>Aggregator #2</b>	<b>Aggregator #3</b>	<b>Aggregator #4</b>	<b>Aggregator #5</b>
<b>10. Do aggregators utilize any Con Ed resources for marketing?</b>	No	No	No	No	No
<b>11. Do aggregators provide auditing services to their customers?</b>	Yes	Yes	Yes	Yes	Yes
<b>12. What are primary concerns of customer when they enroll in DLRP?</b>	Penalties, insufficient benefits, permitting issues, notification window	Too much paperwork, insufficient benefits, curtailment potential not enough	High penalty, insufficient benefits, permitting issues, short notification window	Short notification window, low curtailment potential	Short notification window, too much paperwork, low curtailment potential
<b>13. What are the primary reasons for a customer to enroll through an aggregator?</b>	1. Aggregator audits facility 2. Aggregator calculates load reduction capacity 3. Aggregator keeps up with program rules	1. Ease of enrollment 2. Aggregator calculates load reduction capacity 3. Aggregator assumes risk of non compliance	1. Able to enroll at lower commitment level 2. Aggregator keeps up with program rules 3. Aggregator assists with NYSDEC permitting	1. Ease of enrollment 2. Aggregator audits facility 3. Aggregator assumes risk of penalty	1. Ease of enrollment 2. Aggregator audits facility 3. Aggregator assist with NYSDEC permitting
<b>14. Does the increased incentive for Long Island City attract aggregators?</b>	Yes	Yes	No	Yes	Yes
<b>15. What do aggregators think about the use of shadow meters?</b>	Shadow meters should be allowed	Shadow meters should be allowed	Shadow meters should be allowed	No opinion	Only utility grade interval meters should be allowed
<b>16. What curtailment strategies are employed by customer to shed load?</b>	1. On site generation 2. HVAC resets 3. Shut downs	1. On site generation 2. Shut downs 3. HVAC resets	1. On site generation 2. HVAC resets		
<b>17. Are customers confused over NYSDEC air permitting regulations?</b>	Yes	Yes	Yes	No	No
<b>18. What is aggregators' opinion on the following provisions of Rider U?</b>					
<b>a. Summer reservation payment</b>	Good	Very good	Good	Good	Good

	<b>Aggregator #1</b>	<b>Aggregator #2</b>	<b>Aggregator #3</b>	<b>Aggregator #4</b>	<b>Aggregator #5</b>
<b>b. Value of summer reservation payment</b>	Drives Program	Appropriate	No meaningful difference	Reasonable	Reasonable
<b>c. The 150% penalty for non compliance</b>	Doable	Too high - important barrier	Too high - important barrier	Too high - important barrier	High
<b>d. The 30 minute event notification window</b>	Too short - most important barrier	Short	Too short - most important barrier	Manageable	Too short - most important barrier
<b>e. APMD v/s CBL calculation method</b>	APMD good for all calculations	CBL good for all calculations	CBL good for capacity, APMD good for energy calculations		APMD good for capacity, CBL good for energy calculations
<b>19. Are aggregators satisfied with the current notification window and procedures, what do they recommend?</b>	No - recommend 2 hours	No - recommend 2 hours	No - recommend 2 hours. Clearly define protocols in a manual	No - recommend 2 hours. Clearly define protocols in a manual	No - recommend 2 hours
<b>20. Have aggregators received payment in a timely fashion?</b>	No	No	Yes	No	No
<b>21. Did aggregators participate in test event? How much did they perform?</b>	Yes - 100%	Yes - could not reach target	Yes - 100%	Yes - could not reach target	No
<b>22 What are the primary program modifications recommended by aggregators?</b>  <b>(Note: if aggregator's responded with the same ranking for two modifications, those rankings are shown by the same order number)</b>	<ul style="list-style-type: none"> <li>1. Day ahead notification</li> <li>2. Increase summer reservation payment</li> <li>2. Gradual increase in incentive rate after first event</li> <li>4. Increase notification window to two hours</li> <li>4. Reduce penalty for non-compliance</li> </ul>	<ul style="list-style-type: none"> <li>1. Increase summer reservation payment</li> <li>1. Offer summer reservation payment for first year to voluntary customers</li> <li>3. Reduce penalty</li> <li>3. Day ahead notification</li> <li>3. Gradual increase in incentive rate after first event</li> <li>6. Increase notification window to two hours</li> <li>6. Limits number of events called</li> </ul>	<ul style="list-style-type: none"> <li>1. Increase summer reservation payment</li> <li>1. Increase notification window to two hours</li> <li>1. Day ahead notification</li> <li>1. Reduce penalty</li> <li>1. Limits duration of events called</li> </ul>	<ul style="list-style-type: none"> <li>1. Increase summer reservation payment</li> <li>1. Increase notification window to two hours</li> <li>1. Day ahead notification after first event</li> <li>1. Limits number of events called</li> </ul>	<ul style="list-style-type: none"> <li>1. Increase summer reservation payment</li> <li>2. Offer summer reservation payment for first year to voluntary customers</li> <li>3. Reduce penalty</li> <li>4. Day ahead notification</li> </ul>

	<b>Aggregator #1</b>	<b>Aggregator #2</b>	<b>Aggregator #3</b>	<b>Aggregator #4</b>	<b>Aggregator #5</b>
<b>23. What are aggregators' recommendations for overall program improvement?</b>	Better cooperation with Con Ed	1. Use CBL not APMD 2. Penalties for non compliance cannot be by network 3. Audit requirements should be clarified 4. More lead time is needed to sell the program 5. Increase Incentive 6. Define network resources		1. Clarify & simplify program rules 2. Confirm program needs; make sure they are simple and straightforward 3. Improve communications with aggregators 4. Improve marketing to help aggregators 5. Increase reservation payments 6. Reduce time for both (event & notification required) 7. Articulate rules clearly in a clean document	1. Notification procedure should be formalized 2. Payment procedure should be formalized 3. Split events. 4. Calculations of energy & penalty by Itron should be clarified and made public. "Itron method is too black box" 5. Develop an operations manual that explains how program works. 6. Use APMD. 7. Notification window is the biggest barrier, increase to two hours
<b>23. Do you plan to continue participating in the program in the future?</b>	Yes	Yes	Yes	Yes	Yes

Table 27: Summary of non-participating aggregators' responses to key issues<sup>31</sup>

<b>Subject</b>	<b>Distribution of non-participant aggregator survey responses</b>		
	<b>% responses</b>		
<b>1. How did aggregators hear of DLRP?</b>	22%	Internally	
	11%	Tradeshows	
	22%	NYISO	
	22%	Con Ed Seminar	
	22%	Not sure	
<b>2. Have aggregators received any DLRP mailing from Con Ed?</b>	11%	Yes	
	78%	No	
	11%	Unsure	
<b>3. Is the Con Ed website useful for aggregator marketing?</b>	22%	Useful	
	22%	Neutral	
	56%	Unsure/Have not visited website	
<b>4. Did aggregators attend the 2007 DLRP information session?</b>	11%	Yes	
	89%	No	
<b>5. Do aggregators feel properly educated about DLRP program rules and offerings?</b>	33%	Yes	
	56%	No	
	11%	Unsure	
<b>6. How well do customers understand the following characteristics of demand response programs (scale 1 to 5)?</b>	<b>Average Rating</b>	<b>Low</b>	<b>High</b>
	Baseline load calculation	1	3
	NYSDEC Permitting	1	4
	Enabling technologies	1	5
	Load curtailment estimation	1	4

<sup>31</sup> The table presents a summary of the aggregators' responses to key issues. The list of questions presented is summary and does not cover all questions listed on the survey instruments.

<b>APMD v/s CBL methods</b>	<b>1.6</b>	<b>1</b>	<b>3</b>
<b>7. What are marketing methods used by aggregators?</b>	56%	Face to face meeting	
	11%	Direct mailing	
	11%	Networking	
	11%	Trade shows	
	11%	No answer	
<b>8. What are the primary concerns of potential participants?</b>	56%	Too much paperwork	
	89%	High financial penalties	
	33%	Do not track load closely	
	67%	Do not understand program details	
	22%	APMD v/s CBL confusion	
	56%	Program benefits are insufficient	
	56%	NYSDEC permitting issues	
	67%	Do not have interval meter	
	44%	Concern over too many events	
	33%	Load curtailment not possible	
	<b>9. Do aggregators provide auditing services to their customers?</b>	89%	Yes
11%		No	
<b>10. What are the primary reasons for a customer to enroll through an aggregator?</b>	67%	Ease of enrollment	
	44%	Aggregator audits facility	
	33%	Aggregator calculates load	
	22%	Lower commitment level	
	44%	Aggregator keeps up with program rules	
	67%	Aggregator assumes risk of non compliance	
<b>11. What do aggregators think about the use of shadow meters?</b>	44%	Shadow meters should be allowed	
	11%	Shadow meters should not be allowed	
	44%	No answer	

<b>12. What curtailment strategies are employed by customers to shed load (Scale 1 to 5)?</b>	<b>% response</b>	<b>Percent of total load reduction</b>	
Temporarily shut down major processes	44%	10%-50%	
Temporarily shut down facility	22%	5%	
Change thermostat setpoints	11%	10%	
Changes to HVAC system operations	33%	15%-20%	
Utilize hybrid gas units	11%	10%	
Turn off or limit use of elevator banks	22%	5%	
On site generation	56%	65%	High
<b>13. Are customers confused over NYSDEC air permitting regulations?</b>			
	67%	Yes	
	33%	No	
<b>14. What is aggregators' opinion on the following provisions of Rider U?</b>			
<b>a. Summer reservation payment</b>	89%	Good	
	11%	Unsure	
<b>b. Value of summer reservation payment</b>	56%	Sufficient	
	33%	Should be increased	
	11%	Unsure	
<b>c. The 150% penalty for non compliance</b>	89%	High	
	11%	Reasonable	
<b>d. The 30 minute event notification window</b>	89%	Low	
	11%	Reasonable	
<b>e. APMD v/s CBL calculation method</b>	33%	APMD good for capacity and CBL for energy	
	11%		
	44%	APMD for all	
	11%	CBL for all	

15. What are the primary reasons for aggregator non participation?	% response	Rank	
Not aware of program	44%	2nd	
Not aware of tariff change	33%		
Do not have enough information	44%	3rd	
Could not gather enough load to participate	11%		
Minimum load of 100 kW is high	0%		
Enrollment is cumbersome	11%		
Reservation payment is too low	33%		
Participation payment is too low	33%		
30 min notification is too short	56%	1st	
Penalty is too high	56%	1st	
16. What are the primary program modifications recommended by aggregators?	Average Rating	Low High	
Summer reservation payment increased	4.444	3	5
Energy payment increased	4.556	3	5
Reservation payment in the first year for voluntary program	4.222	2	5
30 min notification increased to two hours	4.556	2	5
Day ahead notification that an event may be called	4.111	2	5
Reduction in the severity of penalty for non compliance	4.556	3	5
Smaller limit to number of events that require mandatory participation	3.111	2	5
Reduction of the required minimum 100 kW for participation	2.222	1	3

**17. What are aggregators recommendations for overall program improvement?**

1. Develop and publish program procedures manual
2. Reduce confusion and increase concurrence with ISO programs
3. Increase incentive levels
4. Increase notification window to 2 hours
5. Reduce penalties
6. More education should be provided



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**RESPONSE TO  
DEPARTMENT OF PUBLIC SERVICE STAFF REPORT ON ITS  
INVESTIGATION OF THE JULY 2006 EQUIPMENT FAILURES  
AND POWER OUTAGES IN CON EDISON'S LONG ISLAND  
CITY NETWORK IN QUEENS COUNTY, NEW YORK**

**Recommendation #66**

May 2007

Marketing & Implementation Plan to Improve and Increase  
Participation in Demand Response Programs

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## **Purpose**

In the Department of Public Service Staff Report on its investigation of the July 2006 Equipment Failures and Power Outages in Con Edison's Long Island City Network in Queens County, New York dated February 2007, DPS staff issued recommendations for Con Edison's Demand Response Programs<sup>32</sup> (DRP). Specifically, Con Edison was directed to identify and implement measures to improve and increase participation in the various demand reduction programs available throughout its service territory.

## **Goals & Objective**

The objective of the marketing and implementation plan (Plan) is to increase by 20% current levels of participation in DRP as registered through Con Edison.

## **Overview**

Con Edison continues to market DRP to customers who can potentially benefit from these programs while providing peak load reduction in Con Edison's service area. These marketing efforts include: direct mail; person-to-person contact; web site promotion and trade association partnerships. Con Edison will enhance its marketing efforts by further targeting specific groups of customers to meet the goals and objectives of this Plan. Customer recruitment will be supported full time by Con Edison's Account Executives who will meet with customers throughout the application process. Sales representatives and Business Response Center personnel will also increase demand response awareness as part of their daily interaction with customers. Included as Appendix A is the implementation schedule for this Plan.

## **Plan Components**

The Plan components include:

- Additional market research activities
- Broader existing internal and external communications
- Advanced web applications

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<sup>32</sup> For the purpose of this Plan Demand Response Programs are defined as the Con Edison Distribution Load Relief Program (DLRP); Emergency Demand Response Program (EDRP) and Installed Capacity Program (ICAP)

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- Tariff modifications
  - Continued relationship building with partners and allies
  - Program monitoring
  - Additional training
  - Implementation schedule

### **Market Research**

Market research will support Con Edison as it further develops and implements the Plan to increase participation in DRP. Market research activities will include market segmentation (building types, demographics and load data) and further understanding of customer attitudes and behaviors.

Con Edison will commence to undertake surveys and conduct focus groups to identify key industry segments and customer groups to better understand the issues faced by customers in their decision making processes. Candidate commercial and industrial segments will be narrowed down through analysis of economics and load profiles. These customer segments will then be assessed according to reliability requirements, risk profiles, supply security needs, power supply diversity, and, where possible, environmental standards or limits. Con Edison plans to conduct primary and secondary research with industry experts, manufacturers and other information providers to better understand customer needs and decision making.

These activities will be used to obtain information on such issues as: barriers to entry, economic competitiveness and customer business drivers. For example, many Con Edison customers who voluntarily provide load reduction when called upon have not signed-up for DRP. Con Edison will also conduct focus groups for both participants and non-participants of DRP to compare the decision making process of each.

Con Edison will conduct a technical study to determine the level of existing demand response technology in its service area and more importantly new technologies

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available. Con Edison will also research incentives to encourage additional installation of steam chillers to further increase DRP participation. Steam driven chillers (steam turbine and absorption) can supply cooling to buildings and displace the use of electric chillers thereby reducing demand.

Con Edison will conduct a post summer assessment of the DLRP (Rider U) program which will include an evaluation of the implementation of tariff changes as approved. Con Edison will survey and include aggregator feedback.

### **Communications**

Con Edison will develop market segment specific materials for DRP. These materials will include brochures with up-dated graphics, presentations, case studies and testimonials. Materials will include information on current NYSERDA program opportunities and will highlight the NYSERDA interval meter incentive. Customer attitudes and behaviors obtained through market research will provide the basis for the more targeted communications.

Sales support literature including customer specific information will be developed for Account Executives, Sales and Business Response Center employees to promote DRP. Con Edison currently has more general program materials and fliers available for all customers and also will up-date this material as needed.

Additional communication materials will be developed and distributed at various industry trade shows and conferences where Con Edison routinely participates. Con Edison will use direct mail campaigns to raise general awareness of demand response programs. The effectiveness of the Plan will be determined by monitoring DRP participation.

Attached are examples of existing DRP materials.

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## **Web Applications**

Con Edison will modify several of its web based applications used for DRP including: the Corporate web site; Customer Relationship Management (CRM) system Salesforce.com®; and Itron demand response management system EEM Suite.

### **Corporate Web Site**

Within 15 days of PSC approval of the expanded DLRP-Rider U tariff Con Edison will up-date its corporate web site to reflect the changes to the program. Con Edison will refresh program content and up-grade graphics for all DRP.

Con Edison has developed a new application for DLRP-Rider U to expedite load relief and settlement calculations. The DLRP application was designed similar to existing NYISO DRP application using a data spreadsheet format. Con Edison expects this to be completed and in production within 30 days of Rider U approval from the PSC.

### **Salesforce.com®**

Con Edison has been using the customer relationship management system Salesforce.com® since 2006 to monitor a variety of marketing activities including its gas sales programs. Customer specific data developed through market research efforts under the Plan will be integrated into Salesforce. Salesforce will be modified to incorporate DRP. Con Edison expects these modifications to be completed within 30 days.

These modifications will enable Con Edison to:

- Create and manage customer leads for use by Account Executives, Sales and Business Response Center employees in promoting DRP
- Develop protocols for timely follow-up to customer inquiries and Con Edison recruitment efforts
- Enable on-line enrollment in DRP via link from Corporate web site.
- Establish cross referencing of multiple program opportunities for customers

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- Design referral protocol to partners (i.e. NYSERDA) that will be automated and tracked
  - Create customer email and direct mail solicitations that will be programmed and delivered as needed.
  - Develop report, event and task tracking for DRP analysis, evaluation and monitoring.

### **EEM Suite**

Con Edison uses a licensed version of an Itron, Inc. Web-based software suite called "EEM Suite™" to identify, monitor and track Con Edison's Curtailment customer performances. This application suite was first installed in 2001 pursuant to a Con Edison initiative in response to a PSC directive and the application has been maintained since that time.

Each customer who signs up for one or more demand response program, is registered into the appropriate Curtailment Program or Programs within EEM Suite™. Settlements and performance reports are then prepared in compliance with program requirements and any applicable NYISO/ PSC rules and/or tariffs.

Itron has up-graded this system to an open software architecture system. The new Enterprise Edition (EE) Customer Care offers unified data presentation on a flexible, scalable software platform which includes the up-graded EE Curtailment Manager. Curtailment Manager offers instant customer notification for curtailment, demand bid, demand response and peak load management programs. Enhanced features promote customer participation with near real-time monitoring options, rapid settlement and performance feedback. Itron is recommending that Con Edison proceed with the EE Customer Care up-grade. Itron also recommends that this change be made after the capability period 2007 to ensure continuity for summer.

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## **Tariff Modifications**

On March 29, 2007 Con Edison filed proposed revisions to Rider U – Distribution Load Relief Program (DLRP) as a means to accelerate participation for summer 2007.

### **Distribution Load Relief Program (DLRP)**

Con Edison met with several market participants, mainly load aggregators who participate in the New York Independent System Operator (NYISO) demand response programs. Aggregators shared ideas for increasing participation in demand response programs in the Con Edison service area some of which were incorporated in tariff changes filed with DPS.

Con Edison proposed enhancements to the tariff include: (a) adding a Summer Period Reservation Payment for customers who commit to provide load relief for the period June 1 through September 30 and (b) permitting aggregation of customer loads having a load reduction potential of 100 kW or greater. (Presently, a customer can only participate if it has a load reduction potential of 50 kW or greater.) Additionally, provisions were added to pay aggregators directly.

Con Edison will continue to work with aggregators to facilitate customer participation to meet the goals and objectives of the Plan. Within 10 days of tariff approval Con Edison will arrange a meeting with the aggregators to expedite the kick-off of the expanded DLRP. Con Edison will discuss the process in detail and provide applications for immediate use. Con Edison has assigned an Account Executive as a specific point of contact for aggregators to handle questions or concerns during start-up and going forward.

## **Strategic Partnerships and Industry Alliances**

Con Edison is currently working with the NYISO and market participants on several initiatives to promote demand response programs. In addition to establishing a sub-

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zonal dispatch program with the NYISO and market participants, Con Edison has worked directly with aggregators on changes to Rider U as described in the Plan.

Additionally, Con Edison is working with the NYISO to include an option for enrollment in the DLRP on NYISO demand response applications. Con Edison will continue to work directly with the NYISO to develop and implement this enrollment process.

Con Edison will also rely on the extensive network of contacts it has developed in its Economic Development Program to target potential participants for DRP. Utilizing an established infrastructure, Con Edison will design email solicitations; direct mail lists; develop informational editorials and articles for local and regional publications encouraging awareness and participation in demand response programs. Con Edison will seek opportunities to make presentations to Chambers of Commerce, Industry Associations and other special interest groups. Presentation materials will be developed for this purpose.

### **Program Monitoring**

Con Edison has assigned DLRP-Rider U participants to Account Executives. Each spring in preparation for summer capability Account Executives will contact participants to confirm application data, including summer reservation enrollment and will advise customers how to proceed if there are any changes. This task has been completed for 2007. As previously noted in the Plan (Strategic Partnerships and Industry Alliances) an Account Executive will be assigned as a single point of contact for aggregator's and will provide information and assistance as requested.

Con Edison will use the Sales Force CRM system to monitor DRP activities as stated in the Plan.

### **Training**

Con Edison will train Account Executives, Sales and Business Response Center employees on the enhanced DLRP and all DRP programs. Training will also be

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conducted as web technology changes are implemented as described in this marketing plan.

**Estimated Budget**

<b>Demand Response Programs*</b>		
	<b>Incremental Costs</b>	
	<b>P-T-D**</b>	<b>Plan</b>
	<b>\$000</b>	
<b>Market Research</b>	35	300
<b>Communications</b>	5,000	60
<b>Web</b>	415	120
<b>Strategic Partnerships</b>	200	25
<b>Training</b>	N/A	5
<b>Total</b>	<b>\$5,650</b>	<b>\$510</b>

\* Excludes Con Edison labor

\*\*Program to date costs through 4/2007

N/A prior to 2007 those costs were internal & therefore borne by Con Edison

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## Attachment A Implementation Schedule

### Attachments

- DRP brochures
- DRP applications
- DRP presentation
- Corporate Web page
- Salesforce.com®

### Draft Materials

- DLRP
  - Participant Notification letter
  - Application
  - Brochure
- Draft Procedure EOP-5023

**Demand Response Programs  
Implementation Schedule  
Marketing Plan Components**

Component	Task	% Comp	Est. Start Date	Est. Comp. Date	Remarks
<b>Market Research</b>	Develop marketing contact list for direct mail solicitation (see Tariff Modifications)	100%	04/07		<b>List developed with existing NAICS codes</b>
	Market potential study <ul style="list-style-type: none"> <li>• Segmentation</li> <li>• Surveys</li> <li>• Focus Groups</li> </ul>	0%	07/07	03/08	
	Technical evaluation	0%	07/07	03/08	
	Evaluation of Rider U (post summer period)	0%	06/07	01/08	
<b>Communications</b>	Current marketing materials up-dated	60%	04/07	07/07	<ul style="list-style-type: none"> <li>• RFP prepared and processed to evaluation contractors</li> <li>• Survey November 2007</li> <li>• <b>Draft changes to DLRP brochure completed</b></li> <li>• <b>Up-dated graphics and text changes to all DRP program flyers under review.</b></li> <li>• <b>Estimated completion June 2007</b></li> </ul>

**Demand Response Programs  
Implementation Schedule  
Marketing Plan Components**

<b>Web Applications</b>	Up-date collateral materials (DLRP)	50%	05/07	08/07	<ul style="list-style-type: none"> <li>• <b>Program change notification letter drafted</b></li> <li>• <b>Draft Application completed</b></li> <li>• <b>Estimated completion of collateral July/August 2007</b></li>   <li>• <b>Contingent on Market Research results</b></li>   <li>• <b>Edits under review for DLRP changes.</b></li> <li>• <b>Changes complete w/in 15 days of Rider U approval</b></li> <li>• <b>Up-dated for EDRP/ICAP under review</b></li>   <li>• <b>Draft DLRP application complete/pending Rider U approval</b></li> </ul>
	<ul style="list-style-type: none"> <li>• Acknowledgement letter</li> <li>• Application materials</li> <li>• Various customer communications</li> </ul>				
	New market segment specific materials	0%	10/07	05/08	
	<ul style="list-style-type: none"> <li>• New content developed</li> <li>• Testimonials/Case studies</li> <li>• Presentations</li> </ul>				
	Up-date	0%	10/07	08/07	
	<ul style="list-style-type: none"> <li>• Trade Show/conference materials</li> </ul>				
	<b>Corporate web site</b>	75%	05/07	07/07	
	<ul style="list-style-type: none"> <li>• Content</li> </ul>				

**Demand Response Programs  
Implementation Schedule  
Marketing Plan Components**

	<ul style="list-style-type: none"> <li>• Application Link</li> </ul>	20%	05/07	08/07	<ul style="list-style-type: none"> <li>• <b>No changes to ICAP/EDRP applications</b></li> <li>• <b>Assessment completed for design change to current program</b></li> </ul>
	<p><b>Salesforce.com®</b></p> <ul style="list-style-type: none"> <li>• On-line enrollment process via link from Corporate web site</li> <li>• Custom data fields can be created for DRP</li> <li>• Custom report feature</li> </ul>	30%	05/07	07/07	<ul style="list-style-type: none"> <li>• <b>Assessment completed for design change to current program</b></li> <li>• <b>Modifications completed within 30 days</b></li> </ul>
	<p><b>EEM Suite (Curtailment Manager)</b></p> <ul style="list-style-type: none"> <li>• Upgrade to Itron Enterprise Edition Customer Care</li> </ul>	0%	10/07	04/08	<ul style="list-style-type: none"> <li>• <b>Not recommended before end of summer capability period</b></li> <li>• <b>Conversion and testing will take approx. 6 months</b></li> </ul>
<b>Tariff Modifications</b>	<p><b>Expanded Distribution Load Relief Program Rider U Tariff</b></p> <ul style="list-style-type: none"> <li>• Direct payment to aggregators</li> <li>• 100kW minimum for aggregators</li> </ul>	100%	03/07	06/07	<p><b>Tariff filed on 3/29/07</b></p> <p><b>Pending approval</b></p>



**Demand Response Programs  
Implementation Schedule  
Marketing Plan Components**

<b>Strategic Allies &amp; Partners</b>	<p><b>NYISO Referral for DLRP</b></p> <ul style="list-style-type: none"> <li>• NYISO application to include optional enrollment for DLRP</li> </ul>	50%	05/07	07/07	<ul style="list-style-type: none"> <li>• <b>Referral process pending (NYISO/Con Edison)</b></li> <li>• <b>Expected completion June 2007</b></li> </ul>
	<p><b>Revise Internal Procedures</b></p> <ul style="list-style-type: none"> <li>• Draft EOP-5023 edited for DLRP protocols</li> <li>• Establish criteria for calling DLRP</li> </ul>	95%	05/07	07/07	<ul style="list-style-type: none"> <li>• <b>Approval pending</b></li> <li>• <b>Can be triggered by, among other conditions: declaration of condition yellow as described in specification EOP-5023 or following an 8% voltage reduction.</b></li> <li>• <b>Expected completion June 2007</b></li> </ul>
	<ul style="list-style-type: none"> <li>• Summer preparation <ul style="list-style-type: none"> <li>○ Up-date DLRP participant list</li> </ul> </li> </ul>	100%	05/07	05/07	<ul style="list-style-type: none"> <li>• <b>DLRP participants assigned to an Account Executive</b></li> <li>• <b>All participants have been contacted</b></li> <li>• <b>Information up-dated</b></li> </ul>
	<p><b>NYISO</b></p> <ul style="list-style-type: none"> <li>• Sub-zonal Zone J Program</li> </ul>	75%	04/07	07/07	<ul style="list-style-type: none"> <li>• <b>Revised NYISO tariff pending with FERC</b></li> <li>• <b>Estimated approval by FERC 7/1/07</b></li> </ul>

**Demand Response Programs  
Implementation Schedule  
Marketing Plan Components**

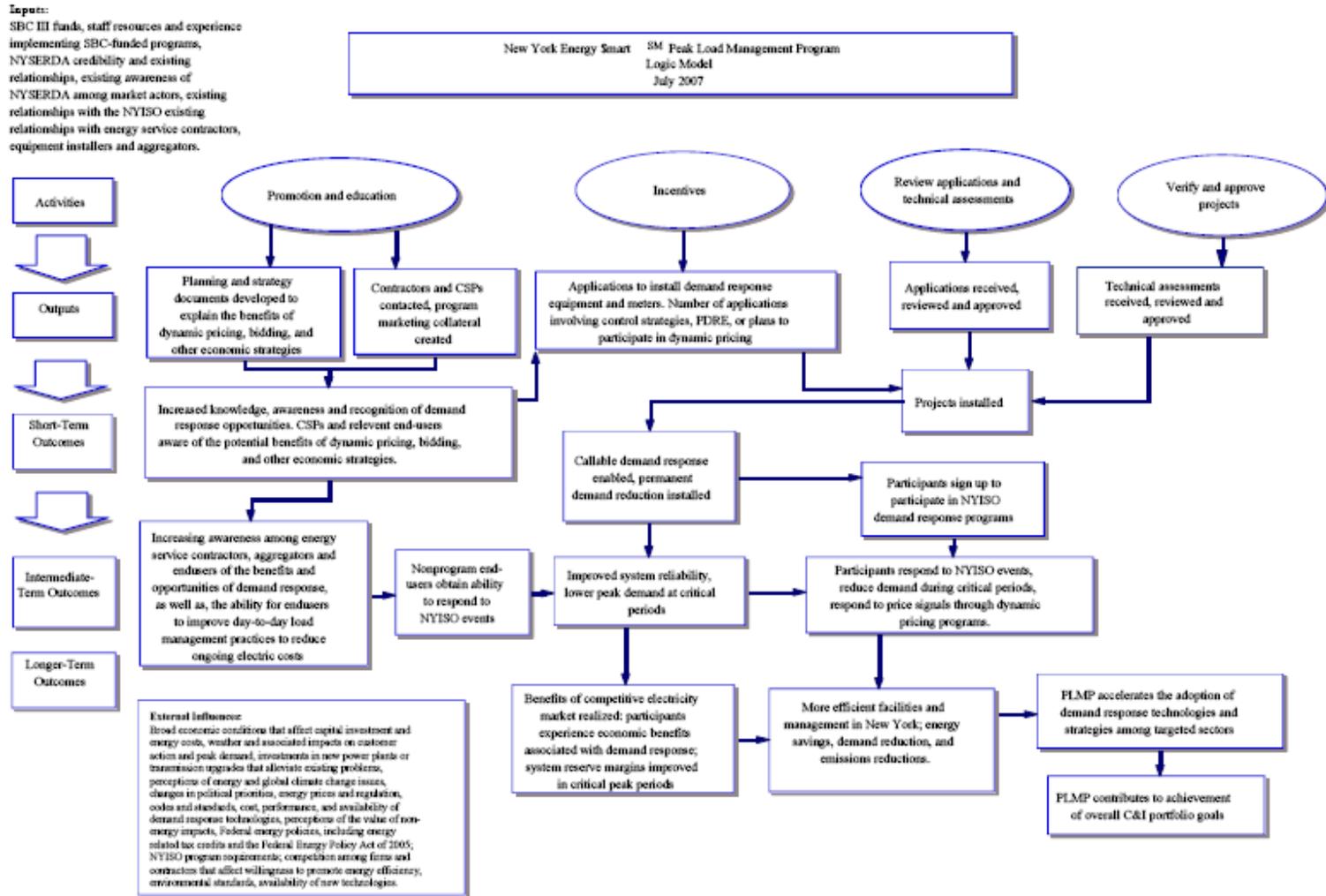
	<ul style="list-style-type: none"> <li>• Revise NYISO Demand Response Program application for optional enrollment in Con Edison DLRP program</li> </ul> <p><b>Aggregators</b></p> <ul style="list-style-type: none"> <li>• Con Edison meetings to discuss changes to DLRP</li> </ul> <ul style="list-style-type: none"> <li>• Kick-off meeting for expanded DLRP</li> </ul>	<p>80%</p> <p>On-going</p> <p>On-going</p>	<p>05/07</p> <p>03/07</p> <p>06/07</p>	<p>07/07</p> <p>On-going</p> <p>06/07</p>	<ul style="list-style-type: none"> <li>• <b>Process pending</b></li> <li>• <b>Estimated completion June 2007</b></li> </ul> <ul style="list-style-type: none"> <li>• <b>Consumer Power Line (3/1/07 conf call; 3/19/07)</b></li> <li>• <b>ECubed (3/14/07)</b></li> <li>• <b>Verizon/Innoventive (3/21/07)</b></li> <li>• <b>Enernoc (conf call)</b></li> </ul> <ul style="list-style-type: none"> <li>• <b>Program process</b></li> <li>• <b>Application</b></li> <li>• <b>Introduce Aggregator Account Executive</b></li> <li>• <b>Open forum discussion</b></li> <li>• <b>Scheduled within 10-days of tariff approval</b></li> </ul>
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**Demand Response Programs  
Implementation Schedule  
Marketing Plan Components**

<b>Training</b>	<b>Other Partners/Industry Allies</b>	On-going	07/07	On-going	<ul style="list-style-type: none"> <li>• <b>DRP included in client meetings and presentations by Economic Development and Account Executives</b></li> <li>• <b>Notification of changes to DLRP (Rider U)</b></li> <li>• <b>Pending tariff approval</b></li> <li>• <b>Estimated completion July 2007</b></li> </ul>
	<b>Account Executives, Sales and Business Response Center personnel</b> <ul style="list-style-type: none"> <li>• <b>Program changes</b></li> <li>• <b>Web applications</b></li> </ul>	On-going	06/07	07/07	<ul style="list-style-type: none"> <li>• <b>Information session on tariff changes</b></li> <li>• <b>Training for enhancements to web applications</b></li> </ul>



Figure 5: Example Program Logic Model<sup>33</sup>



<sup>33</sup> From NYISERDA New York Energy Smart<sup>SM</sup> Peak Load Management Program Updated Program Logic Model Report, by GDS Associates, Inc., July 19, 2007

The following survey instruments are included:

- Participating Customer enrolled directly through CECONY
- Participating Customer enrolled through an aggregator
- Participating Aggregator
- Non-Participating Aggregator
- Non-Participating Customer enrolled in another demand response program
- Non-Participating Customer not enrolled in any demand response program

**Con Edison Distribution Load Relief Program  
Direct Participant Customer Survey**

Interviewer \_\_\_\_\_

Date \_\_\_\_\_

Hello, my name is \_\_\_\_\_ and I'm calling on behalf of Con Edison, and their Distribution Load Relief Program. I'd like to speak with \_\_\_\_\_.

We're conducting short interviews with customers who are participating in the DLRP to gather feedback on the program and to help improve it. Your answers will be treated in the strictest confidence. We will only report summary results; responses to individual questions will not be divulged, and we will not release information about individuals participating in this survey.

Are you knowledgeable about your firm's involvement in the program, and are you responsible for energy matters for your firm? *(If no, get correct contact and phone number, thank, and terminate.)*

Could I interview you now or could I call you back at a more convenient time? The interview will take about 20 minutes.

NOTES: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contact & Company Information

*(When correct person is on phone – fill in as much information as possible from records; ask about any gaps below)*

Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

Company SIC Code or NAIC Code: \_\_\_\_\_ (SIC) \_\_\_\_\_ (NAIC)  
Industry Type: \_\_\_\_\_

Customer/Facility Information

1. To verify, are you currently enrolled in the DLRP directly with Con Edison?
  1. Yes *(continue interview)*
  2. No *(thank and terminate interview - complete interview for participants enrolled through an aggregator or non-participant interview)*
  
2. Which of the following best describes your level of overall responsibility for your company's energy management/operations activities? You are...
  1. The employee most responsible for energy management
  2. Part of a team that has energy management responsibility
  3. Do not have responsibility for energy management *(get correct contact and phone number, thank, and terminate.)*

4. Don't know/refused (*Do not read*) (*get correct contact and phone number, thank, and terminate.*)
  
3. What is your title in the organization? Is it...
  1. Facility Manager
  2. Energy Manager
  3. General Manager of organization
  4. CEO/CFO
  5. VP (of \_\_\_\_\_)
  6. Other (specify: \_\_\_\_\_)
  
4. How many facilities are you responsible for managing/operating?
  1. One building/facility
  2. 2-5
  3. 6-10
  4. 11-15
  5. 16-20
  6. 21-25
  7. 26-30
  8. More than 30
  
5. To verify, your company's primary business activity is \_\_\_\_\_ (*obtain from customer list prior to interview*)?
  1. Yes
  2. No (specify: \_\_\_\_\_)
  
6. Did your facility have an interval meter in place prior to your participation in the DLRP, or was it installed as part of your enrollment into the program?
  1. In place prior to enrolling in the DLRP
  2. Installed as part of enrollment process
  3. Don't recall
  
7. Did NYSERDA help pay for the installation of the interval meter?
  1. Yes
  2. No
  3. Unsure/don't recall
  
8. Do you regularly review your hourly energy load data?
  1. Yes
    - 8a. What technology do you use?
      1. EMS
      2. Shadow (pulse) meter installed on utility meter
      3. Data provided directly from Con Edison interval meter
      4. Other (Specify: \_\_\_\_\_)
  2. No
  
9. Do you track your peak monthly demand during the summer?
  1. Yes
  2. No

Marketing & Recruitment

10. How did you **first** hear of the DLRP? (*Do not read from list below. Record response and categorize*) \_\_\_\_\_

- 
1. Direct mailing from Con Edison
  2. Newsletter from Con Edison
  3. Con Edison website
  4. Other website (specify: \_\_\_\_\_)
  5. Con Edison account executive
  6. Other Con Edison employee
  7. from NYISO
  8. from NYSERDA
  9. through participation in another demand response program
  10. Aggregator
  11. Trade/Industry groups such as BOMA (Building Owners and Managers Association), REBNY (Real Estate Board of NY), GNYHA (Greater New York Hospital Association)
  12. Other (specify: \_\_\_\_\_)

11. Have you received any mailings from Con Edison about the DLRP?

1. Yes
2. No
3. Don't recall

12. Have you received mailings or other DLRP information from NYISO or NYSERDA?

1. Yes
2. No
3. Don't recall

13. Do you have a Con Edison account executive?

1. Yes (*continue to Question 14*)
2. No (*skip to Question 16*)

14. Has your Con Edison account executive discussed the DLRP with you?

1. Yes

14a. How many times did your account executive discuss the DLRP with you prior to you enrolling in the program?

1. Never
2. Once
3. Approximately two to five times
4. More than five times
5. Don't recall

2. No (*skip to Question 16*)

3. Don't recall (*skip to Question 16*)

15. How adequately would you say your Con Edison account executive provided information and details about the program? Please use a scale from 1 to 5, with 5 being 'very adequate information' and 1 being 'very inadequate information'? (*Do not read options below*)

1. Very inadequate information & details about the program
  2. Somewhat inadequate information & details
  3. Adequate information & details
  4. Slightly more than adequate information & details
  5. Very adequate information & details
16. Have you visited the Con Edison website to get information on the DLRP or other demand response programs?
1. Yes (*continue to Question 17*)
  2. No (*skip to Question 18*)
  3. Don't recall (*skip to Question 18*)
17. On a scale of 1 to 5, how useful did you find the DLRP information included on Con Edison's website, with 5 being 'very useful' and 1 being 'not at all useful'? (*Do not read options below*)
1. Not at all useful
  2. Somewhat not useful
  3. Neutral
  4. Somewhat useful
  5. Very useful
18. Which of the following ways have you heard about the program? Which one of these sources provided you with the most useful information and/or the information that convinced you to participate in the program? (*Read through choices and first identify all sources in 1<sup>st</sup> column, which may include multiple responses, then identify most important in 2<sup>nd</sup> column, which will be a single response*)

All Sources	Most Important	
		1. Received direct mailing from Con Edison
		2. Program information included in newsletter from Con Edison
		3. Con Edison website
		4. Other website (specify: _____)
		5. Con Edison account executive
		6. Other Con Edison employee
		7. NYISO
		8. NYSERDA
		9. participation in another demand response program
		10. Aggregator
		11. Trade/Industry groups such as BOMA (Building Owners and Managers Association), REBNY (Real Estate Board of NY), GNYHA (Greater New York Hospital Association)
		12. Other (specify: _____)

19. Which of the following were your top two reasons for joining the DLRP? (*Indicate 1<sup>st</sup> and 2<sup>nd</sup> choices*)

Rank	
	1. Financial (participation incentive)
	2. Environmental (concerned about reducing energy consumption)

	3. Good citizen (willing to help to keep system running)
	4. Mutual interest (reduce load when asked so that my facility will not lose power later)
	5. Interval meter installation
	6. Other (specify: _____)

20. Are you aware that the program has two different levels of participation, voluntary and mandatory, with additional incentives for participation in the mandatory program?

1. Yes
2. No (*skip to Question 24*)

21. What is the primary reason you are not currently participating in the mandatory program?

1. Was not aware of it
2. Did not have enough information to make informed decision
3. Monetary penalty for non-compliance
4. Unsure if I can always meet our load target when a DLRP event is called
5. Reservation payment is not enough to justify the risks
6. Concern that too many DLRP events (with mandatory participation) will be called
7. Other (specify: \_\_\_\_\_)

22. How interested are you in potentially participating in the mandatory program? Please use a scale from 1 to 5, with 5 being 'very interested' and 1 being 'not at all interested'? (*Do not read options below*)

1. Not at all interested
2. Somewhat not interested
3. Neutral
4. Somewhat interested
5. Very interested

*If answer to Question 22 is 1 or 2, skip to Question 24,*

*If answer to Question 22 is 3, 4, or 5, continue to 23*

23. Please rate on a scale of 1 to 5, with 5 being 'very likely' and 1 being 'very unlikely', how likely are the following potential program modifications to entice you to participate in the mandatory program:

- |   |   |   |   |   |   |    |
|---|---|---|---|---|---|----|
| 1. Increase in summer reservation payment (currently \$3/kW/month)  | 1 | 2 | 3 | 4 | 5 | DK |
| 2. 30-min notification period increased to 2-hours  | 1 | 2 | 3 | 4 | 5 | DK |
| 3. Day-ahead preliminary notice that a DLRP event MAY be called (actual notification would still be 30-min)   | 1 | 2 | 3 | 4 | 5 | DK |
| 4. Smaller limit to the number of annual DLRP events that require mandatory participation (currently 6 events per year)   | 1 | 2 | 3 | 4 | 5 | DK |
| 5. Gradual increase in incentive rate after the first called DLRP event (payment amounts increase for 2 <sup>nd</sup> event, and again for 3 <sup>rd</sup> event, etc.) | 1 | 2 | 3 | 4 | 5 | DK |
| 6. Auditing assistance from a utility representative/energy consultant/aggregator to more accurately quantify your load management capabilities                         | 1 | 2 | 3 | 4 | 5 | DK |
| 7. Low cost financing for generation equipment  | 1 | 2 | 3 | 4 | 5 | DK |
| 8. Other (specify: _____)   | 1 | 2 | 3 | 4 | 5 | DK |

24. Are you aware of other available demand response programs?
1. Yes
    - 24a. Which programs? (*do not read options, select all that apply*)
      1. NYISO ICAP (SCR)
      2. NYISO EDRP
      3. Aware of NYISO programs but not familiar with specific program names
      4. Other (specify: \_\_\_\_\_)
  2. No
25. How would you rate your understanding of the details of the various demand response programs? Please rank your understanding on a scale from 1 to 5, with 1 being 'very unclear' and 5 being 'very clear'. (*Do not read options below*)
1. Very unclear
  2. Somewhat unclear
  3. Neutral
  4. Somewhat clear
  5. Very clear (*if response is 5, skip to Question 27*)
26. Which of the following specific program elements contributes to confusion between programs? (*Read choices and select yes or no for each*)

<i>(Select Yes or No)</i>		Is there confusion over:
Yes	No	1. Who is the sponsor of a particular program (Con Edison, NYISO, NYPA, etc)
Yes	No	2. Which programs require mandatory participation (with a financial penalty) and which allow voluntary participation
Yes	No	3. Which programs have a reservation payment and which only pay when you participate in an event
Yes	No	4. Event notification procedures of DLRP vs. other programs (time period of notification)
Yes	No	5. How your facility baseline load is calculated in each program
Yes	No	6. How energy savings are calculated

27. Are you participating in any other demand response programs?
1. Yes (*continue to Question 28*)
  2. No (*skip to Question 31*)
28. Which program(s) (*select all that apply*)
1. NYISO Installed Capacity Program (ICAP)
  2. NYISO Emergency Demand Response Program (EDRP)
  3. Other (specify: \_\_\_\_\_)
29. What enticed you to enroll in multiple programs?
1. Additional financial incentive
  2. Ease of meeting load requirements because curtailment systems already in place
  3. Environmental
  4. Good citizen
  5. Mutual benefit

- 6. Other (specify: \_\_\_\_\_)
- 30. Did you have any concerns or reservations about participating in multiple programs?
  - 1. None
  - 2. Potential for too many events (too much disruption of normal operation)
  - 3. Exceeding NYSDEC permit requirements for on-site generator
  - 4. Other (specify: \_\_\_\_\_)
- 31. Are you aware of the option to participate in the DLRP through an aggregator?
  - 1. Yes
  - 2. No
- 32. Would you be interested in the future in participating in the DLRP through an aggregator?
  - 1. Yes
  - 2. No
  - 3. Unsure

Program Participation

- 33. How much load (kW) do you have enrolled in the DLRP?  
 \_\_\_\_\_ kW
- 34. Do your participating facility/facilities have on-site generation?
  - 1. Yes
    - Number of units: \_\_\_\_\_
    - Total Capacity: \_\_\_\_\_ kW
    - Fuel Type: \_\_\_\_\_
  - 2. No (*skip to Question 36*)
- 35. Do you use your generator for load curtailment during a DLRP event?
  - 1. Yes
    - 35a. What percentage of your load curtailment is achieved through on-site generation? \_\_\_\_\_%
  - 2. No
    - 35b. Why not?
      - 1. Do not want to use generator unless power actually goes out (don't want to lose the failsafe for critical operations that the generator provides)
      - 2. Unclear on whether our NYSDEC air permit allows us to use the generator for DLRP or other demand response events
      - 3. Air permit may have to be modified
      - 4. Neighbors complain about noise or emissions when generator is run during the day
      - 5. Do not always have staff on-site to start-up and operate the generator, so we are unable to respond to a 30-minute notification
      - 6. Other (specify: \_\_\_\_\_)
- 36. Please describe all the methods you use to meet your load curtailment goals, and the approximate percentage of your total load reduction that each method provides (for example 20% of the curtailed load is from turning off lights and 80% is from on-site generation) (*include all that apply – do not read list initially, but may prompt for answers after getting initial response*)

Curtailement Method	Percent of Total Load Reduction	
		1. Ask employees to conserve
		2. Turn off or dim lights
		3. Reduce plug loads
		4. Temporarily shut down major processes
		5. Temporarily shut down facility
		6. Change thermostat set points
		7. Change set points on facility EMS
		8. Changes to HVAC equipment operations
		9. Utilize hybrid gas A/C units
		10. Turn off or limit use of elevator banks
		11. Start on-site generation
		12. Other (specify: _____)

37. Did participation in the DLRP require any changes to the configuration of energy control systems (such as your HVAC EMS or lighting controls)?

1. Yes
  - 37a. Did the changes increase expenses?
    1. Yes
    2. No
2. No

38. Do you know how much it costs you to reduce your load each kW-hour?

1. Yes (Specify: \_\_\_\_\_\$/kWh)
2. No

39. Have you participated in a DLRP-called event to curtail load?

1. Yes
2. No (*skip to Question 42*)

40. Did you meet your load reduction target in the most recently called DLRP event?

1. Yes
2. No
  - 40a. What percentage of your target did you achieve? \_\_\_\_\_%

41. On a scale of 1 to 5, how satisfied were you with the notification procedures for the DLRP event, with 5 being 'very satisfied' and 1 being 'very dissatisfied'? (*Do not read options below*)

1. Very dissatisfied
2. Somewhat dissatisfied
3. Neutral
4. Somewhat satisfied
5. Very satisfied

42. Did Con Edison follow up with you after the DLRP event to discuss your participation and your incentive amount?

1. Yes

42a. How long after the DLRP event did Con Edison contact you?

- 1. Next day
- 2. Within one week
- 3. Within one month
- 4. At the end of the summer capability period

2. No

43. Do you track your energy reduction during a DLRP event and calculate your potential energy payment prior to being informed by Con Edison of your incentive amount?

1. Yes

43a. How do you calculate your reduction?

- 1. Real-time load data (from interval meter or EMS) during event compared with average summer baseline load
- 2. Real-time load data (from interval meter or EMS) during event compared with previous day or week baseline load
- 3. Real-time load data (from interval meter or EMS) during event compared with previous month baseline load
- 4. Shadow meter installed on generation equipment
- 5. Other (specify: \_\_\_\_\_)

2. No

44. Have you ever received notification of a called DLRP event and not participated?

- 1. Yes (continue to Question 45)
- 2. No (skip to Question 47)

45. What was the reason for not participating?

- 1. Critical operations were running that did not allow for load curtailment
- 2. Notification period was too short
- 3. Did not have correct staff on-site at the time of event
- 4. Other (specify: \_\_\_\_\_)

46. For the DLRP event you did not participate in, or for DLRP events where you did not meet the program curtailment goal, please rate, on a scale from 1 to 5, how important the following potential program modifications would be to increasing your participation, with 5 being 'very important' and 1 being 'very unimportant'?

1. Preliminary notification the day before that a DLRP event may be called	1	2	3	4	5	DK
2. 2-hr event notification, rather than the current 30-min notification	1	2	3	4	5	DK
3. Increased participation incentive	1	2	3	4	5	DK

47. To date, have you received incentive payments in a timely fashion?

- 1. Yes
- 2. No
- 3. Don't recall

48. On a scale of 1 to 5, how satisfied you have been with the DLRP payment procedures, with 5 being 'very satisfied' and 1 being 'very dissatisfied'? (Do not read options below)?

- 1. Very dissatisfied
- 2. Somewhat dissatisfied

3. Neutral
4. Somewhat satisfied
5. Very satisfied

49. Have you ever been called directly by your Con Edison account executive or other Con Edison staff with a request to voluntarily reduce load in a non-DLRP situation (to alleviate a specific problem on the network that may adversely affect your facility later in the day)?

1. Yes
2. No (*skip to Question 52*)

50. Did you assist Con Edison with the voluntary reduction?

1. Yes
2. No

51. Did you utilize the same load curtailment activities that you undertake during a DLRP event?

1. Yes
2. No

51a. What methods did you use to curtail load?

1. Ask employees to conserve
2. Turn off or dim lights
3. Reduce plug loads
4. Temporarily shut down major processes
5. Temporarily shut down facility
6. Change HVAC set points on thermostat
7. Change set points on facility EMS
8. Utilize hybrid gas A/C units
9. Turn off or limit use of elevator banks
10. Start on-site generation
11. Other (specify: \_\_\_\_\_)

#### Customer Satisfaction

52. If you have questions about the DLRP, where do you go for answers?

1. Call DLRP staff
2. Call Con Edison account executive
3. Call program's 800 number
4. Program website
5. Other (specify: \_\_\_\_\_)

53. Have your questions or concerns been satisfactorily answered in a timely fashion?

1. Yes
2. No
3. N/A (Have not had questions on the program)
4. Don't recall

54. Do you feel you have been properly informed/educated about DLRP rules, procedures, and alert protocols?

1. Yes
2. No
3. Unsure

55. Considering the program as a whole, on a scale of 1 to 5, how satisfied are you with the DLRP, with 5 being ‘very satisfied’ and 1 being ‘very dissatisfied’? (*Do not read options below*)?
1. Very dissatisfied
  2. Somewhat dissatisfied
  3. Neutral
  4. Somewhat satisfied
  5. Very satisfied
56. Do you plan to continue participating in the DLRP in the future?
1. Yes (*continue to Question 57*)
  2. No (*skip to Question 60*)
  3. Unsure (*skip to Question 60*)
57. Do you anticipate any changes to your load participation in the future?
1. Increase in load commitment
  2. Decrease in load commitment
  3. Load commitment will remain the same
  4. Unsure
  5. Other (specify: \_\_\_\_\_)
58. Previously we asked you about potential program changes that may affect whether you participate in the mandatory or voluntary program, now we would like to get your opinion on which potential modifications may entice you to increase your load commitment in the program? Please rank, from 1 to 5, the importance of these potential program modifications to increasing your load commitment, with 5 being ‘very important’ and 1 being ‘very unimportant’.
1. No more load is available for curtailment beyond my current commitment
  2. No program modifications would cause me to increase my load commitment.
  3. Summer reservation payment increased (currently \$3/kW/month) 1 2 3 4 5 DK
  4. 30-min notification period increased to 2-hours 1 2 3 4 5 DK
  5. Day-ahead preliminary notice that an event MAY be called (actual notification would still be 30-min) 1 2 3 4 5 DK
  6. Smaller limit to the number of annual events that require mandatory participation (currently 6 events per year) 1 2 3 4 5 DK
  7. Gradual increase in incentive rate after the first called event (payment amounts increase for 2<sup>nd</sup> event, and again for 3<sup>rd</sup> event, etc.) 1 2 3 4 5 DK
  8. Additional financial bonus for adding more facilities to the program 1 2 3 4 5 DK
  9. Auditing assistance from a utility representative/energy consultant/aggregator to more accurately quantify your load management capabilities 1 2 3 4 5 DK
  10. Low cost financing for generation equipment 1 2 3 4 5 DK
  11. Other (specify: \_\_\_\_\_) 1 2 3 4 5 DK
59. As part of our evaluation, we are also planning to conduct site visits of representative facilities to assess the technical opportunities and financial benefits that may be available from participation in peak load management programs. If your facility is chosen, you would

receive a brief report at no cost to you. These site visits should only take 2 hours and should occur before March 15, 2008.

Would you be willing to talk to one of our engineers and allow us to conduct a site visit at your facility?

1. Yes
2. No

*(If Yes, ask the facility representative to provide a contact name, phone number and convenient time to call to arrange the appointment.)*

60. Do you have any recommendations for how the program could be improved in the future?

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**Thank you for your help.**

**Con Edison Distribution Load Relief Program  
Participant Customer (Enrolled through an Aggregator) Survey**

Interviewer \_\_\_\_\_

Date \_\_\_\_\_

Hello, my name is \_\_\_\_\_ and I'm calling on behalf of Con Edison, and their Distribution Load Relief Program. I'd like to speak with \_\_\_\_\_.

We're conducting short interviews with customers who are participating in the DLRP to gather feedback on the program and to help improve it. Your answers will be treated in the strictest confidence. We will only report summary results; responses to individual questions will not be divulged, and we will not release information about individuals participating in this survey.

Are you knowledgeable about your firm's involvement in the program, and are you responsible for energy matters for your firm? *(If no, get correct contact and phone number, thank, and terminate.)*

Could I interview you now or could I call you back at a more convenient time? The interview will take about 20 minutes.

NOTES: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contact & Company Information

*(When correct person is on phone – fill in as much information as possible from records; ask about any gaps below)*

Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

Company SIC Code or NAIC Code: \_\_\_\_\_ (SIC) \_\_\_\_\_ (NAIC)

Industry Type: \_\_\_\_\_

Facility Meter Type *(from 'Source of Data' column)*: \_\_\_\_\_

Customer/Facility Information

61. To verify, are you currently enrolled in the DLRP through an aggregator?
1. Yes *(continue interview)*
  2. No *(thanks and terminate interview - complete direct participant interview or non-participant interview)*
62. Which of the following best describes your level of overall responsibility for your company's energy management/operations activities? You are...
1. The employee most responsible for energy management
  2. Part of a team that has energy management responsibility

3. Do not have responsibility for energy management (*get correct contact and phone number, thank, and terminate.*)
4. Don't know/refused (*Do not read*) (*get correct contact and phone number, thank, and terminate.*)

63. What is your title in the organization? Is it...

1. Facility Manager
2. Energy Manager
3. General Manager of organization
4. CEO/CFO
5. VP (of \_\_\_\_\_)
6. Other (specify: \_\_\_\_\_)

64. How many facilities are you responsible for managing/operating?

1. One building/facility
2. 2-5
3. 6-10
4. 11-15
5. 16-20
6. 21-25
7. 26-30
8. More than 30

65. To verify, your company's primary business activity is \_\_\_\_\_ (*obtain from customer list prior to interview*)?

1. Yes
2. No (specify: \_\_\_\_\_)

66. Do you regularly review your hourly energy load data?

1. Yes
  - 8a. What technology do you use?
    5. EMS
    6. Shadow (pulse) meter installed on utility meter
    7. Data provided directly from Con Edison interval meter
    8. Other (Specify: \_\_\_\_\_)
2. No

67. Do you track your peak monthly demand during the summer?

1. Yes
2. No

*If the facility has a shadow meter (see 'Source of Data' column in sampling spreadsheet), skip to Question 70.*

*For facilities with interval meters (labeled as either 'Interval' or 'Participants' in the 'Source of Data' column), continue to Question 6.*

68. Did your facility have an interval meter in place prior to your participation in the DLRP, or was it installed as part of your enrollment into the program?

1. In place prior to enrolling in the DLRP

2. Installed as part of enrollment process
3. Don't recall

69. Did NYSERDA help pay for the installation of the interval meter?

1. Yes
2. No
3. Unsure/don't recall

*For facilities with interval meters, skip to Question 72*

70. Did the aggregator install a shadow (pulse) meter on your utility meter to record load for the DLRP?

1. Yes
2. No
3. Unsure
4. Don't recall

71. Did the aggregator provide you with information on how to get an interval meter installed and the financial assistance available from NYSERDA to offset the installation cost?

1. Yes
2. No
3. Unsure
4. Don't recall

Marketing & Recruitment

72. How did you **first** hear of the DLRP? (*Do not read from list below. Record response and categorize*) \_\_\_\_\_

- 
1. Direct mailing from Con Edison
  2. Newsletter from Con Edison
  3. Con Edison website
  4. Other website (specify: \_\_\_\_\_)
  5. Con Edison account executive
  6. Other Con Edison employee
  7. from NYISO
  8. from NYSERDA
  9. through participation in another demand response program
  10. Aggregator
  11. Trade/Industry groups such as BOMA (Building Owners and Managers Association), REBNY (Real Estate Board of NY), GNYHA (Greater New York Hospital Association)
  12. Other (specify: \_\_\_\_\_)

73. Have you received any mailings from Con Edison about the DLRP?

1. Yes
2. No
3. Don't recall

74. Have you received mailings or other DLRP information from NYISO or NYSERDA?

1. Yes
2. No

3. Don't recall
75. Do you have a Con Edison account executive?
  1. Yes (*continue to Question 76*)
  2. No (*skip to Question 16*)
76. Has your Con Edison account executive discussed the DLRP with you?
  1. Yes
    - 76a. How many times did your account executive discuss the DLRP with you prior to you enrolling in the program?
      6. Never
      7. Once
      8. Approximately two to five times
      9. More than five times
      10. Don't recall
    2. No (*skip to Question 16*)
    3. Don't recall (*skip to Question 16*)
77. How adequately would you say your Con Edison account executive provided information and details about the program? Please use a scale from 1 to 5, with 5 being 'very adequate information' and 1 being 'very inadequate information'? (*Do not read options below*)
  1. Very inadequate information & details about the program
  2. Somewhat inadequate information & details
  3. Adequate information & details
  4. Slightly more than adequate information & details
  5. Very adequate information & details
78. Have you visited the Con Edison website to get information on the DLRP or other demand response programs?
  1. Yes (*continue to Question 17*)
  2. No (*skip to Question 80*)
  3. Don't recall (*skip to Question 80*)
79. On a scale of 1 to 5, how useful did you find the DLRP information included on Con Edison's website, with 5 being 'very useful' and 1 being 'not at all useful'? (*Do not read options below*)
  1. Not at all useful
  2. Somewhat not useful
  3. Neutral
  4. Somewhat useful
  5. Very useful
80. Which of the following ways have you heard about the program? Which one of these sources provided you with the most useful information and/or the information that convinced you to participate in the program? (*Read through choices and first identify all sources in 1<sup>st</sup> column, which may include multiple responses, then identify most important in 2<sup>nd</sup> column, which will be a single response*)

All Sources	Most Important	
		13. Received direct mailing from Con Edison
		14. Program information included in newsletter from Con Edison
		15. Con Edison website
		16. Other website (specify: _____)
		17. Con Edison account executive
		18. Other Con Edison employee
		19. NYISO
		20. NYSERDA
		21. participation in another demand response program
		22. Aggregator
		23. Trade/Industry groups such as BOMA (Building Owners and Managers Association), REBNY (Real Estate Board of NY), GNYHA (Greater New York Hospital Association)
		24. Other (specify: _____)

81. How did your aggregator initially approach you about participation in the program?

1. Phone call
2. Email
3. Mailing
4. Face to face meeting
5. At tradeshow/conference/industry event
6. Other (specify: \_\_\_\_\_)

82. Did you have a prior relationship with your aggregator?

1. Yes
2. No

83. Which of the following were your top two reasons for joining the DLRP? (*Indicate 1<sup>st</sup> and 2<sup>nd</sup> choices*)

Rank	
	1. Financial (participation incentive)
	2. Environmental (concerned about reducing energy consumption)
	3. Good citizen (willing to help to keep system running)
	4. Mutual interest (reduce load when asked so that my facility will not lose power later)
	5. Interval meter installation
	6. Other (specify: _____)

84. Are you aware that the program has two different levels of participation, voluntary and mandatory, with additional incentives for participation in the mandatory program?

1. Yes
2. No

85. Do you know which program level your aggregator is currently enrolled in?

1. Yes – mandatory
2. Yes – voluntary
3. No

86. Does your arrangement with your aggregator require participation during a called DLRP event or do you have the option to participate or not without penalty?
1. Participation required, no financial penalty for non-performance
  2. Participation required, financial penalty for non performance
  3. Voluntary participation
  4. Unsure
87. Did you consider enrolling in the program prior to your current participation through an aggregator?
1. Yes
  2. No
  3. Don't recall
88. What is the primary reason you did not enroll in the DLRP prior to participating with your aggregator? (*do not read list initially, but may use to prompt for response*)
1. Was not aware of the program
  2. Did not have enough program information to make informed decision
  3. Too much paperwork/time commitment involved in enrolling in the program
  4. Needed assistance to recognize load reduction opportunities at my facility (auditing or load calculation)
  5. Minimum load requirement of 50 kW was more than I was able to commit
  6. Did not have an interval meter at my facility
  7. Concern over penalty for non-compliance
  8. Concern that too many events will be called
  9. Other (specify: \_\_\_\_\_)
89. Did your aggregator require a minimum level of load curtailment for you to participate?
1. Yes (Specify: \_\_\_\_\_ kW)
  2. No
  3. Unsure
  4. Don't recall
90. Has your aggregator provided training and instruction on participation in the DLRP?
1. Yes
  2. No
91. Did your aggregator assist in auditing your facility and/or identifying potential load curtailment opportunities prior to enrolling in the program?
1. Yes
  2. No
92. Did your aggregator assist in calculating the total load that you are able to curtail?
1. Yes
  2. No
93. Has your aggregator offered additional incentives or financial bonuses for increasing your load commitment or adding additional facilities to the DLRP beyond your current commitment?
1. Yes
  2. No

94. What are the two or three most important benefits to you of using an aggregator to participate in the program (*probe for top two or three benefits and indicate ranking*)

Rank	
	1. Ease of enrollment/aggregator handles paperwork
	2. Aggregator audited facility and identified ways to curtail load
	3. Aggregator calculated load reduction capability
	4. Able to enroll at a lower commitment level (less than 50 kW) than individual participation level.
	5. Aggregator keeps up with program rules/procedures/updates
	6. Aggregator assumes risk of penalty for non-compliance
	7. Other (specify: _____)

95. On a scale of 1 to 5, how satisfied are you with your aggregator, with 5 being ‘very satisfied’ and 1 being ‘very dissatisfied’? (*Do not read options below*)

1. Very dissatisfied
2. Somewhat dissatisfied
3. Neutral
4. Somewhat satisfied
5. Very satisfied

96. Are you aware of other available demand response programs?

1. Yes  
Which programs are you aware of? (*do not read options, select all that apply*)
  5. NYISO ICAP (SCR)
  6. NYISO EDRP
  7. Aware NYISO programs are available but not familiar with specific program names
  8. Other (specify: \_\_\_\_\_)
2. No

97. How would you rate your understanding of the details of the various demand response programs? Please rank your understanding on a scale from 1 to 5, with 1 being ‘very unclear’ and 5 being ‘very clear’. (*Do not read options below*)

1. Very unclear
2. Somewhat unclear
3. Neutral
4. Somewhat clear
5. Very clear (*if response is 5, skip to Question 99*)

98. Which of the following specific program elements contributes to confusion between programs? (*Read choices and select all that apply*)

<i>(Select Yes or No)</i>		Is there confusion over:
Yes	No	1. Who is the sponsor of a particular program (Con Edison, NYISO, NYPA, etc)
Yes	No	2. Which programs require mandatory participation (with a financial penalty) and which allow voluntary participation
Yes	No	3. Which programs have a reservation payment and which only pay

		when you participate in an event
Yes	No	4. Event notification procedures of DLRP vs. other programs (time period of notification)
Yes	No	5. How your facility baseline load is calculated in each program
Yes	No	6. How energy savings are calculated

99. Are you participating in any other demand response programs?

1. Yes (*continue to Question 28*)
2. No (*skip to Question 103*)

100. Which program(s) (*select all that apply*)

1. NYISO Installed Capacity Program (ICAP)
2. NYISO Emergency Demand Response Program (EDRP)
3. Unsure (aggregator handles program enrollment)
4. Other (specify: \_\_\_\_\_)

101. What enticed you to enroll in multiple programs?

1. Additional financial incentive
2. Ease of meeting load requirements because curtailment systems already in place
3. Environmental
4. Good citizen
5. Mutual benefit
6. Aggregator handles specific program enrollment
7. Other (specify: \_\_\_\_\_)

102. Did you have any concerns or reservations about participating in multiple programs?

1. None
2. Potential for too many events (too much disruption of normal operation)
3. Exceeding NYSDEC permit requirements for on-site generator
4. Other (specify: \_\_\_\_\_)

#### Program Participation

103. How much load (kW) do you have enrolled in the DLRP?

\_\_\_\_\_ kW

104. Do your participating facility/facilities have on-site generation?

1. Yes  
 Number of units: \_\_\_\_\_  
 Total Capacity: \_\_\_\_\_ kW  
 Fuel Type: \_\_\_\_\_
2. No (*skip to Question 36*)

105. Do you use your generator for load curtailment during a DLRP event?

1. Yes  
 35a. What percentage of your load curtailment is achieved through on-site generation? \_\_\_\_\_%
2. No  
 35b. Why not?  
 7. Do not want to use generator unless power actually goes out (don't want to lose the failsafe for critical operations that the generator provides)

8. Unclear on whether our NYSDEC air permit allows us to use the generator for DLRP or other demand response events
9. Air permit may have to be modified
10. Neighbors complain about noise or emissions when generator is run during the day
11. Do not always have staff on-site to start-up and operate the generator, so we are unable to respond to a 30-minute notification
12. Other (specify: \_\_\_\_\_)

106. Please describe all the methods you use to meet your load curtailment goals, and the approximate percentage of your total load reduction that each method provides (for example 20% of the curtailed load is from turning off lights and 80% is from on-site generation) (include all that apply – do not read list initially, but may prompt for answers after getting initial response)

Curtailment Method	Percent of Total Load Reduction	
		1. Ask employees to conserve
		2. Turn off or dim lights
		3. Reduce plug loads
		4. Temporarily shut down major processes
		5. Temporarily shut down facility
		6. Change thermostat set points
		7. Change set points on facility EMS
		8. Changes to HVAC equipment operations
		9. Utilize hybrid gas A/C units
		10. Turn off or limit use of elevator banks
		11. Start on-site generation
		12. Other (specify: _____)

107. Did participation in the DLRP require any changes to the configuration of energy control systems (such as your HVAC EMS or lighting controls)?

1. Yes
  - 37a. Did the changes increase expenses?
    3. Yes
    4. No
2. No

108. Do you know how much it costs you to reduce your load each kW hour

1. Yes (Specify: \_\_\_\_\_\$/kWh)
2. No

109. Have you participated in a DLRP-called event to curtail load?

1. Yes
2. No (skip to Question 113)

110. Did you meet your load reduction target in the most recently called DLRP event?

1. Yes
2. No

40a. What percentage of your target did you achieve? \_\_\_\_\_%

111. On a scale of 1 to 5, how satisfied were you with the notification procedures for the DLRP event, with 5 being 'very satisfied' and 1 being 'very dissatisfied'? (*Do not read options below*)
1. Very dissatisfied
  2. Somewhat dissatisfied
  3. Neutral
  4. Somewhat satisfied
  5. Very satisfied
112. How is your aggregator involved during a DLRP event? (*select all that apply*)
1. Provides initial notification of the event
  2. Assists in load curtailment activities
  3. Makes contact after the event to verify participation
  4. Other (specify: \_\_\_\_\_)
113. Do you track your energy reduction during a DLRP event and calculate your potential energy payment prior to being informed by Con Edison of your incentive amount?
1. Yes

43a. How do you calculate your reduction?

    6. Real-time load data (from interval meter or EMS) during event compared with average summer baseline load
    7. Real-time load data (from interval meter or EMS) during event compared with previous day or week baseline load
    8. Real-time load data (from interval meter or EMS) during event compared with previous month baseline load
    9. Shadow meter installed on generation equipment
    10. Other (specify: \_\_\_\_\_)
  2. No
114. To date, have you received incentive payments in a timely fashion?
1. Yes
  2. No
  3. Don't recall
115. On a scale of 1 to 5, how satisfied are you with the DLRP payment procedures, with 5 being 'very satisfied' and 1 being 'very dissatisfied'? (*Do not read options below*)?
1. Very dissatisfied
  2. Somewhat dissatisfied
  3. Neutral
  4. Somewhat satisfied
  5. Very satisfied

*For mandatory customers, continue to Question 116.*

*For voluntary customers, skip to Question 117.*

116. Have you participated in any DLRP test events?
1. Yes

116a. Did you meet your load curtailment goal in the test event?

    1. Yes

- 2. No
- 116b. Were any problems/issues discovered as a result of the test event and what were they?
  - 1. No problems or issues
  - 2. Not able to achieve curtailment goal
  - 3. Was not able to respond to 30-minute notification
  - 4. On-site generation equipment did not perform as expected
- 2. No
- 116c. Why did you not participate?
  - 1. Did not receive notification
  - 2. Critical operations were running that did not allow for load curtailment
  - 3. Notification period was too short
  - 4. Did not have correct staff on-site at the time of test event
  - 5. Other (specify: \_\_\_\_\_)
- 117. Have you ever been called directly by your Con Edison account executive or other Con Edison staff with a request to voluntarily reduce load in a non-DLRP situation (without payment by Con Ed, to alleviate a specific problem on the network that may adversely affect your facility later in the day)?
  - 1. Yes
  - 2. No (*skip to Question 120*)
- 118. Did you assist Con Edison with the voluntary reduction?
  - 1. Yes
  - 2. No
- 119. Did you utilize the same load curtailment activities that you undertake during a DLRP event?
  - 1. Yes
  - 2. No
  - 51a. What methods did you use to curtail load?
    - 1. Ask employees to conserve
    - 2. Turn off or dim lights
    - 3. Reduce plug loads
    - 4. Temporarily shut down major processes
    - 5. Temporarily shut down facility
    - 6. Change HVAC set points on thermostat
    - 7. Change set points on facility EMS
    - 8. Utilize hybrid gas A/C units
    - 9. Turn off or limit use of elevator banks
    - 10. Start on-site generation
    - 11. Other (specify: \_\_\_\_\_)

Customer Satisfaction

- 120. If you have questions about the DLRP, where do you go for answers?
  - 1. Aggregator
  - 2. Call DLRP staff
  - 3. Call Con Edison account executive
  - 4. Call program's 800 number
  - 5. Program website

6. Other (specify: \_\_\_\_\_)
121. Have your questions or concerns been satisfactorily answered in a timely fashion?
1. Yes
  2. No
  3. N/A (Have not had questions on the program)
  4. Don't recall
122. Do you feel you have been properly informed/educated about DLRP rules, procedures, and alert protocols?
1. Yes
  2. No
  3. Unsure
123. Considering the program as a whole, on a scale of 1 to 5, how satisfied are you with the DLRP, with 5 being 'very satisfied' and 1 being 'very dissatisfied'? (*Do not read options below*)?
1. Very dissatisfied
  2. Somewhat dissatisfied
  3. Neutral
  4. Somewhat satisfied
  5. Very satisfied
124. Do you plan to continue participating in the DLRP in the future?
1. Yes (*continue to Question 57*)
  2. No (*skip to Question 60*)
  3. Unsure (*skip to Question 60*)
125. Do you anticipate any changes to your load participation in the future?
1. Increase in load commitment
  2. Decrease in load commitment
  3. Load commitment will remain the same
  4. Unsure
  5. Other (specify: \_\_\_\_\_)
126. Would any program modifications entice you to increase your load commitment in the program? If so, please rank, from 1 to 5, the importance of these potential program modifications to increasing your load commitment, with 5 being 'very important' and 1 being 'very unimportant'.
1. No more load is available for curtailment beyond my current commitment
  2. No program modifications would cause me to increase my load commitment.
  3. Summer reservation payment (based on total participating kW) increased 1 2 3 4 5 DK
  4. 30-min notification period increased to 2-hours 1 2 3 4 5 DK
  5. Day-ahead preliminary notice that an event MAY be called (actual notification would still be 30-min) 1 2 3 4 5 DK
  6. Smaller limit to the number of annual events that require mandatory participation (currently 6 events per year) 1 2 3 4 5 DK
  7. Gradual increase in incentive rate after the first called event

- (payment amounts increase for 2<sup>nd</sup> event, and again for 3<sup>rd</sup> event, etc.)
- |   |              |
|---|--------------|
|   | 1 2 3 4 5 DK |
| 8. Additional financial bonus for adding more facilities to the program   | 1 2 3 4 5 DK |
| 9. Auditing assistance from a utility representative/energy consultant/aggregator to more accurately quantify your load management capabilities | 1 2 3 4 5 DK |
| 10. Low cost financing for generation equipment   | 1 2 3 4 5 DK |
| 11. Other (specify: _____)  | 1 2 3 4 5 DK |

127. As part of our evaluation, we are also planning to conduct site visits of representative facilities to assess the technical opportunities and financial benefits that may be available from participation in peak load management programs. If your facility is chosen, you would receive a brief report at no cost to you. These site visits should only take 2 hours and should occur before March 15, 2008.

Would you be willing to talk to one of our engineers and allow us to conduct a site visit at your facility?

- 3. Yes
- 4. No

*(If Yes, ask the facility representative to provide a contact name, phone number and convenient time to call to arrange the appointment.)*

128. Do you have any recommendations for how the program could be improved in the future?

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**Thank you for your help.**

**Con Edison Distribution Load Relief Program  
Participant Customer (Enrolled through an Aggregator) Survey**

Interviewer \_\_\_\_\_

Date \_\_\_\_\_

Hello, my name is \_\_\_\_\_ and I'm calling on behalf of Con Edison, and their Distribution Load Relief Program. I'd like to speak with \_\_\_\_\_.

We're conducting short interviews with customers who are participating in the DLRP to gather feedback on the program and to help improve it. Your answers will be treated in the strictest confidence. We will only report summary results; responses to individual questions will not be divulged, and we will not release information about individuals participating in this survey.

Are you knowledgeable about your firm's involvement in the program, and are you responsible for energy matters for your firm? *(If no, get correct contact and phone number, thank, and terminate.)*

Could I interview you now or could I call you back at a more convenient time? The interview will take about 20 minutes.

NOTES: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contact & Company Information

*(When correct person is on phone – fill in as much information as possible from records; ask about any gaps below)*

Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

Company SIC Code or NAIC Code: \_\_\_\_\_ (SIC) \_\_\_\_\_ (NAIC)

Industry Type: \_\_\_\_\_

Facility Meter Type *(from 'Source of Data' column)*: \_\_\_\_\_

Customer/Facility Information

129. To verify, are you currently enrolled in the DLRP through an aggregator?
1. Yes *(continue interview)*
  2. No *(thanks and terminate interview - complete direct participant interview or non-participant interview)*
130. Which of the following best describes your level of overall responsibility for your company's energy management/operations activities? You are...
1. The employee most responsible for energy management
  2. Part of a team that has energy management responsibility

3. Do not have responsibility for energy management (*get correct contact and phone number, thank, and terminate.*)
  4. Don't know/refused (*Do not read*) (*get correct contact and phone number, thank, and terminate.*)
131. What is your title in the organization? Is it...
1. Facility Manager
  2. Energy Manager
  3. General Manager of organization
  4. CEO/CFO
  5. VP (of \_\_\_\_\_)
  6. Other (specify: \_\_\_\_\_)
132. How many facilities are you responsible for managing/operating?
1. One building/facility
  2. 2-5
  3. 6-10
  4. 11-15
  5. 16-20
  6. 21-25
  7. 26-30
  8. More than 30
133. To verify, your company's primary business activity is \_\_\_\_\_ (*obtain from customer list prior to interview*)?
1. Yes
  2. No (specify: \_\_\_\_\_)
134. Do you regularly review your hourly energy load data?
1. Yes
    - 8a. What technology do you use?
      9. EMS
      10. Shadow (pulse) meter installed on utility meter
      11. Data provided directly from Con Edison interval meter
      12. Other (Specify: \_\_\_\_\_)
  2. No
135. Do you track your peak monthly demand during the summer?
1. Yes
  2. No

*If the facility has a shadow meter (see 'Source of Data' column in sampling spreadsheet), skip to Question 70.*

*For facilities with interval meters (labeled as either 'Interval' or 'Participants' in the 'Source of Data' column), continue to Question 6.*

136. Did your facility have an interval meter in place prior to your participation in the DLRP, or was it installed as part of your enrollment into the program?
1. In place prior to enrolling in the DLRP

- 2. Installed as part of enrollment process
  - 3. Don't recall
137. Did NYSERDA help pay for the installation of the interval meter?
- 1. Yes
  - 2. No
  - 3. Unsure/don't recall

*For facilities with interval meters, skip to Question 72*

138. Did the aggregator install a shadow (pulse) meter on your utility meter to record load for the DLRP?
- 1. Yes
  - 2. No
  - 3. Unsure
  - 4. Don't recall
139. Did the aggregator provide you with information on how to get an interval meter installed and the financial assistance available from NYSERDA to offset the installation cost?
- 1. Yes
  - 2. No
  - 3. Unsure
  - 4. Don't recall

Marketing & Recruitment

140. How did you **first** hear of the DLRP? (*Do not read from list below. Record response and categorize*) \_\_\_\_\_

- 
- 1. Direct mailing from Con Edison
  - 2. Newsletter from Con Edison
  - 3. Con Edison website
  - 4. Other website (specify: \_\_\_\_\_)
  - 5. Con Edison account executive
  - 6. Other Con Edison employee
  - 7. from NYISO
  - 8. from NYSERDA
  - 9. through participation in another demand response program
  - 10. Aggregator
  - 11. Trade/Industry groups such as BOMA (Building Owners and Managers Association), REBNY (Real Estate Board of NY), GNYHA (Greater New York Hospital Association)
  - 12. Other (specify: \_\_\_\_\_)

141. Have you received any mailings from Con Edison about the DLRP?

- 1. Yes
- 2. No
- 3. Don't recall

142. Have you received mailings or other DLRP information from NYISO or NYSERDA?

- 1. Yes
- 2. No

3. Don't recall
143. Do you have a Con Edison account executive?
    1. Yes (*continue to Question 76*)
    2. No (*skip to Question 16*)
  144. Has your Con Edison account executive discussed the DLRP with you?
    1. Yes
      - 76a. How many times did your account executive discuss the DLRP with you prior to you enrolling in the program?
        11. Never
        12. Once
        13. Approximately two to five times
        14. More than five times
        15. Don't recall
      2. No (*skip to Question 16*)
      3. Don't recall (*skip to Question 16*)
  145. How adequately would you say your Con Edison account executive provided information and details about the program? Please use a scale from 1 to 5, with 5 being 'very adequate information' and 1 being 'very inadequate information'? (*Do not read options below*)
    1. Very inadequate information & details about the program
    2. Somewhat inadequate information & details
    3. Adequate information & details
    4. Slightly more than adequate information & details
    5. Very adequate information & details
  146. Have you visited the Con Edison website to get information on the DLRP or other demand response programs?
    1. Yes (*continue to Question 17*)
    2. No (*skip to Question 80*)
    3. Don't recall (*skip to Question 80*)
  147. On a scale of 1 to 5, how useful did you find the DLRP information included on Con Edison's website, with 5 being 'very useful' and 1 being 'not at all useful'? (*Do not read options below*)
    1. Not at all useful
    2. Somewhat not useful
    3. Neutral
    4. Somewhat useful
    5. Very useful
  148. Which of the following ways have you heard about the program? Which one of these sources provided you with the most useful information and/or the information that convinced you to participate in the program? (*Read through choices and first identify all sources in 1<sup>st</sup> column, which may include multiple responses, then identify most important in 2<sup>nd</sup> column, which will be a single response*)

All Sources	Most Important	
		25. Received direct mailing from Con Edison
		26. Program information included in newsletter from Con Edison
		27. Con Edison website
		28. Other website (specify: _____)
		29. Con Edison account executive
		30. Other Con Edison employee
		31. NYISO
		32. NYSERDA
		33. participation in another demand response program
		34. Aggregator
		35. Trade/Industry groups such as BOMA (Building Owners and Managers Association), REBNY (Real Estate Board of NY), GNYHA (Greater New York Hospital Association)
		36. Other (specify: _____)

149. How did your aggregator initially approach you about participation in the program?

1. Phone call
2. Email
3. Mailing
4. Face to face meeting
5. At tradeshow/conference/industry event
6. Other (specify: \_\_\_\_\_)

150. Did you have a prior relationship with your aggregator?

1. Yes
2. No

151. Which of the following were your top two reasons for joining the DLRP? (*Indicate 1<sup>st</sup> and 2<sup>nd</sup> choices*)

Rank	
	1. Financial (participation incentive)
	2. Environmental (concerned about reducing energy consumption)
	3. Good citizen (willing to help to keep system running)
	4. Mutual interest (reduce load when asked so that my facility will not lose power later)
	5. Interval meter installation
	6. Other (specify: _____)

152. Are you aware that the program has two different levels of participation, voluntary and mandatory, with additional incentives for participation in the mandatory program?

1. Yes
2. No

153. Do you know which program level your aggregator is currently enrolled in?

1. Yes – mandatory
2. Yes – voluntary
3. No

154. Does your arrangement with your aggregator require participation during a called DLRP event or do you have the option to participate or not without penalty?
1. Participation required, no financial penalty for non-performance
  2. Participation required, financial penalty for non performance
  3. Voluntary participation
  4. Unsure
155. Did you consider enrolling in the program prior to your current participation through an aggregator?
1. Yes
  2. No
  3. Don't recall
156. What is the primary reason you did not enroll in the DLRP prior to participating with your aggregator? (*do not read list initially, but may use to prompt for response*)
1. Was not aware of the program
  2. Did not have enough program information to make informed decision
  3. Too much paperwork/time commitment involved in enrolling in the program
  4. Needed assistance to recognize load reduction opportunities at my facility (auditing or load calculation)
  5. Minimum load requirement of 50 kW was more than I was able to commit
  6. Did not have an interval meter at my facility
  7. Concern over penalty for non-compliance
  8. Concern that too many events will be called
  9. Other (specify: \_\_\_\_\_)
157. Did your aggregator require a minimum level of load curtailment for you to participate?
1. Yes (Specify: \_\_\_\_\_ kW)
  2. No
  3. Unsure
  4. Don't recall
158. Has your aggregator provided training and instruction on participation in the DLRP?
1. Yes
  2. No
159. Did your aggregator assist in auditing your facility and/or identifying potential load curtailment opportunities prior to enrolling in the program?
1. Yes
  2. No
160. Did your aggregator assist in calculating the total load that you are able to curtail?
1. Yes
  2. No
161. Has your aggregator offered additional incentives or financial bonuses for increasing your load commitment or adding additional facilities to the DLRP beyond your current commitment?
1. Yes
  2. No

162. What are the two or three most important benefits to you of using an aggregator to participate in the program (*probe for top two or three benefits and indicate ranking*)

Rank	
	8. Ease of enrollment/aggregator handles paperwork
	9. Aggregator audited facility and identified ways to curtail load
	10. Aggregator calculated load reduction capability
	11. Able to enroll at a lower commitment level (less than 50 kW) than individual participation level.
	12. Aggregator keeps up with program rules/procedures/updates
	13. Aggregator assumes risk of penalty for non-compliance
	14. Other (specify: _____)

163. On a scale of 1 to 5, how satisfied are you with your aggregator, with 5 being ‘very satisfied’ and 1 being ‘very dissatisfied’? (*Do not read options below*)

1. Very dissatisfied
2. Somewhat dissatisfied
3. Neutral
4. Somewhat satisfied
5. Very satisfied

164. Are you aware of other available demand response programs?

1. Yes

Which programs are you aware of? (*do not read options, select all that apply*)

9. NYISO ICAP (SCR)
10. NYISO EDRP
11. Aware NYISO programs are available but not familiar with specific program names
12. Other (specify: \_\_\_\_\_)

2. No

165. How would you rate your understanding of the details of the various demand response programs? Please rank your understanding on a scale from 1 to 5, with 1 being ‘very unclear’ and 5 being ‘very clear’. (*Do not read options below*)

1. Very unclear
2. Somewhat unclear
3. Neutral
4. Somewhat clear
5. Very clear (*if response is 5, skip to Question 99*)

166. Which of the following specific program elements contributes to confusion between programs? (*Read choices and select all that apply*)

<i>(Select Yes or No)</i>		Is there confusion over:
Yes	No	1. Who is the sponsor of a particular program (Con Edison, NYISO, NYPA, etc)
Yes	No	2. Which programs require mandatory participation (with a financial penalty) and which allow voluntary participation
Yes	No	3. Which programs have a reservation payment and which only pay

		when you participate in an event
Yes	No	4. Event notification procedures of DLRP vs. other programs (time period of notification)
Yes	No	5. How your facility baseline load is calculated in each program
Yes	No	6. How energy savings are calculated

167. Are you participating in any other demand response programs?
1. Yes (*continue to Question 28*)
  2. No (*skip to Question 103*)
168. Which program(s) (*select all that apply*)
1. NYISO Installed Capacity Program (ICAP)
  2. NYISO Emergency Demand Response Program (EDRP)
  3. Unsure (aggregator handles program enrollment)
  4. Other (specify: \_\_\_\_\_)
169. What enticed you to enroll in multiple programs?
1. Additional financial incentive
  2. Ease of meeting load requirements because curtailment systems already in place
  3. Environmental
  4. Good citizen
  5. Mutual benefit
  6. Aggregator handles specific program enrollment
  7. Other (specify: \_\_\_\_\_)
170. Did you have any concerns or reservations about participating in multiple programs?
1. None
  2. Potential for too many events (too much disruption of normal operation)
  3. Exceeding NYSDEC permit requirements for on-site generator
  4. Other (specify: \_\_\_\_\_)

Program Participation

171. How much load (kW) do you have enrolled in the DLRP?  
 \_\_\_\_\_ kW
172. Do your participating facility/facilities have on-site generation?
1. Yes
    - Number of units: \_\_\_\_\_
    - Total Capacity: \_\_\_\_\_ kW
    - Fuel Type: \_\_\_\_\_
  2. No (*skip to Question 36*)
173. Do you use your generator for load curtailment during a DLRP event?
1. Yes
    - 35a. What percentage of your load curtailment is achieved through on-site generation? \_\_\_\_\_%
  2. No
    - 35b. Why not?
      13. Do not want to use generator unless power actually goes out (don't want to lose the failsafe for critical operations that the generator provides)

- 14. Unclear on whether our NYSDEC air permit allows us to use the generator for DLRP or other demand response events
- 15. Air permit may have to be modified
- 16. Neighbors complain about noise or emissions when generator is run during the day
- 17. Do not always have staff on-site to start-up and operate the generator, so we are unable to respond to a 30-minute notification
- 18. Other (specify: \_\_\_\_\_)

174. Please describe all the methods you use to meet your load curtailment goals, and the approximate percentage of your total load reduction that each method provides (for example 20% of the curtailed load is from turning off lights and 80% is from on-site generation) (include all that apply – do not read list initially, but may prompt for answers after getting initial response)

Curtailment Method	Percent of Total Load Reduction	
		1. Ask employees to conserve
		2. Turn off or dim lights
		3. Reduce plug loads
		4. Temporarily shut down major processes
		5. Temporarily shut down facility
		6. Change thermostat set points
		7. Change set points on facility EMS
		8. Changes to HVAC equipment operations
		9. Utilize hybrid gas A/C units
		10. Turn off or limit use of elevator banks
		11. Start on-site generation
		12. Other (specify: _____)

175. Did participation in the DLRP require any changes to the configuration of energy control systems (such as your HVAC EMS or lighting controls)?

- 1. Yes
  - 37a. Did the changes increase expenses?
    - 5. Yes
    - 6. No
- 2. No

176. Do you know how much it costs you to reduce your load each kW hour

- 1. Yes (Specify: \_\_\_\_\_\$/kWh)
- 2. No

177. Have you participated in a DLRP-called event to curtail load?

- 1. Yes
- 2. No (skip to Question 113)

178. Did you meet your load reduction target in the most recently called DLRP event?

- 1. Yes
- 2. No

40a. What percentage of your target did you achieve? \_\_\_\_\_%

179. On a scale of 1 to 5, how satisfied were you with the notification procedures for the DLRP event, with 5 being 'very satisfied' and 1 being 'very dissatisfied'? (*Do not read options below*)
1. Very dissatisfied
  2. Somewhat dissatisfied
  3. Neutral
  4. Somewhat satisfied
  5. Very satisfied
180. How is your aggregator involved during a DLRP event? (*select all that apply*)
1. Provides initial notification of the event
  2. Assists in load curtailment activities
  3. Makes contact after the event to verify participation
  4. Other (specify: \_\_\_\_\_)
181. Do you track your energy reduction during a DLRP event and calculate your potential energy payment prior to being informed by Con Edison of your incentive amount?
1. Yes

43a. How do you calculate your reduction?

    11. Real-time load data (from interval meter or EMS) during event compared with average summer baseline load
    12. Real-time load data (from interval meter or EMS) during event compared with previous day or week baseline load
    13. Real-time load data (from interval meter or EMS) during event compared with previous month baseline load
    14. Shadow meter installed on generation equipment
    15. Other (specify: \_\_\_\_\_)
  2. No
182. To date, have you received incentive payments in a timely fashion?
1. Yes
  2. No
  3. Don't recall
183. On a scale of 1 to 5, how satisfied are you with the DLRP payment procedures, with 5 being 'very satisfied' and 1 being 'very dissatisfied'? (*Do not read options below*)?
1. Very dissatisfied
  2. Somewhat dissatisfied
  3. Neutral
  4. Somewhat satisfied
  5. Very satisfied

*For mandatory customers, continue to Question 116.*

*For voluntary customers, skip to Question 117.*

184. Have you participated in any DLRP test events?
1. Yes

116a. Did you meet your load curtailment goal in the test event?

    1. Yes

- 2. No
- 116b. Were any problems/issues discovered as a result of the test event and what were they?
  - 5. No problems or issues
  - 6. Not able to achieve curtailment goal
  - 7. Was not able to respond to 30-minute notification
  - 8. On-site generation equipment did not perform as expected
- 2. No
- 116c. Why did you not participate?
  - 6. Did not receive notification
  - 7. Critical operations were running that did not allow for load curtailment
  - 8. Notification period was too short
  - 9. Did not have correct staff on-site at the time of test event
  - 10. Other (specify: \_\_\_\_\_)
- 185. Have you ever been called directly by your Con Edison account executive or other Con Edison staff with a request to voluntarily reduce load in a non-DLRP situation (without payment by Con Ed, to alleviate a specific problem on the network that may adversely affect your facility later in the day)?
  - 1. Yes
  - 2. No (*skip to Question 120*)
- 186. Did you assist Con Edison with the voluntary reduction?
  - 1. Yes
  - 2. No
- 187. Did you utilize the same load curtailment activities that you undertake during a DLRP event?
  - 1. Yes
  - 2. No
  - 51a. What methods did you use to curtail load?
    - 1. Ask employees to conserve
    - 2. Turn off or dim lights
    - 3. Reduce plug loads
    - 4. Temporarily shut down major processes
    - 5. Temporarily shut down facility
    - 6. Change HVAC set points on thermostat
    - 7. Change set points on facility EMS
    - 8. Utilize hybrid gas A/C units
    - 9. Turn off or limit use of elevator banks
    - 10. Start on-site generation
    - 11. Other (specify: \_\_\_\_\_)

Customer Satisfaction

- 188. If you have questions about the DLRP, where do you go for answers?
  - 1. Aggregator
  - 2. Call DLRP staff
  - 3. Call Con Edison account executive
  - 4. Call program's 800 number
  - 5. Program website

6. Other (specify: \_\_\_\_\_)
189. Have your questions or concerns been satisfactorily answered in a timely fashion?
1. Yes
  2. No
  3. N/A (Have not had questions on the program)
  4. Don't recall
190. Do you feel you have been properly informed/educated about DLRP rules, procedures, and alert protocols?
1. Yes
  2. No
  3. Unsure
191. Considering the program as a whole, on a scale of 1 to 5, how satisfied are you with the DLRP, with 5 being 'very satisfied' and 1 being 'very dissatisfied'? (*Do not read options below*)?
1. Very dissatisfied
  2. Somewhat dissatisfied
  3. Neutral
  4. Somewhat satisfied
  5. Very satisfied
192. Do you plan to continue participating in the DLRP in the future?
1. Yes (*continue to Question 57*)
  2. No (*skip to Question 60*)
  3. Unsure (*skip to Question 60*)
193. Do you anticipate any changes to your load participation in the future?
1. Increase in load commitment
  2. Decrease in load commitment
  3. Load commitment will remain the same
  4. Unsure
  5. Other (specify: \_\_\_\_\_)
194. Would any program modifications entice you to increase your load commitment in the program? If so, please rank, from 1 to 5, the importance of these potential program modifications to increasing your load commitment, with 5 being 'very important' and 1 being 'very unimportant'.
1. No more load is available for curtailment beyond my current commitment
  2. No program modifications would cause me to increase my load commitment.
  3. Summer reservation payment (based on total participating kW) increased 1 2 3 4 5 DK
  4. 30-min notification period increased to 2-hours 1 2 3 4 5 DK
  5. Day-ahead preliminary notice that an event MAY be called (actual notification would still be 30-min) 1 2 3 4 5 DK
  6. Smaller limit to the number of annual events that require mandatory participation (currently 6 events per year) 1 2 3 4 5 DK
  7. Gradual increase in incentive rate after the first called event

- (payment amounts increase for 2<sup>nd</sup> event, and again for 3<sup>rd</sup> event, etc.)
- |   |   |   |   |   |   |    |
|---|---|---|---|---|---|----|
|   | 1 | 2 | 3 | 4 | 5 | DK |
| 8. Additional financial bonus for adding more facilities to the program   | 1 | 2 | 3 | 4 | 5 | DK |
| 9. Auditing assistance from a utility representative/energy consultant/aggregator to more accurately quantify your load management capabilities | 1 | 2 | 3 | 4 | 5 | DK |
| 10. Low cost financing for generation equipment   | 1 | 2 | 3 | 4 | 5 | DK |
| 11. Other (specify: _____)  | 1 | 2 | 3 | 4 | 5 | DK |

195. As part of our evaluation, we are also planning to conduct site visits of representative facilities to assess the technical opportunities and financial benefits that may be available from participation in peak load management programs. If your facility is chosen, you would receive a brief report at no cost to you. These site visits should only take 2 hours and should occur before March 15, 2008.

Would you be willing to talk to one of our engineers and allow us to conduct a site visit at your facility?

- 5. Yes
- 6. No

*(If Yes, ask the facility representative to provide a contact name, phone number and convenient time to call to arrange the appointment.)*

196. Do you have any recommendations for how the program could be improved in the future?

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**Thank you for your help.**

**Con Edison Distribution Load Relief Program  
Non-Participant Aggregator Survey**

Interviewer \_\_\_\_\_

Date \_\_\_\_\_

Hello, my name is \_\_\_\_\_ and I'm calling on behalf of Con Edison, and their Distribution Load Relief Program. I'd like to speak with \_\_\_\_\_.

Con Edison has been requested by the New York Public Service Commission to conduct surveys among aggregators who are not currently participating in Con Edison's Distribution Load Relief Program to better assess market conditions and to help improve the program. Your answers will be treated in the strictest confidence. We will only report summary results; responses to individual questions will not be divulged, and we will not release information about individuals participating in this survey.

Are you knowledgeable about your firm's involvement in demand response programs in New York? *(If no, get correct contact and phone number, thank, and terminate.)*

Could I interview you now or could I call you back at a more convenient time? The interview will take about 20 minutes.

NOTES: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contact & Company Information

*(When correct person is on phone – fill in as much information as possible from records; ask about any gaps below)*

Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

Aggregator Information

197. I want to verify that you do not currently have load enrolled in Con Edison's Distribution Load Reduction Program?

1. Correct *(continue interview)*
2. Incorrect – I am participating in the DRLP *(terminate interview and complete participant aggregator interview)*

198. Where is your local office located? \_\_\_\_\_

199. Where is your company's headquarters? \_\_\_\_\_

200. Which of the following best describes your work in New York State?

1. You work primarily in New York State, but also do work in other states
2. You work exclusively in New York State
3. You work primarily in another state, but also do work in New York State (specify state: \_\_\_\_\_)

4. You work primarily in another state and currently do very little to no work in New York State (*if response is that they do very little to no work in NY, skip Question 201, ask Questions 202, 203, 204, then thank and terminate interview*)
201. Which of the following best describes the work your company does in Con Edison's service territory (New York City and Westchester County)?
    1. You work in the Con Edison service territory
    2. You work primarily in upstate New York, with very little to no business in Con Edison's territory (*if response is that they do very little to no work in Con Edison's territory, ask Questions 202, 203, 204, thank and terminate interview*)
    3. You work primarily in the western parts of New York State, with very little to no business in Con Edison's territory (*if response is that they do very little to no work in Con Edison's territory, ask Questions 202, 203, 204, thank and terminate interview*)
  202. What would you say is your primary business activity?
    1. Load aggregation
    2. Energy commodity sales
    3. Energy project development
    4. Other (specify: \_\_\_\_\_)
  203. What is your title in the organization? \_\_\_\_\_
  204. What are your primary responsibilities?
    1. Sales
    2. Marketing
    3. Engineering or information technology infrastructure
    4. Other (specify: \_\_\_\_\_)

Demand Response Participation

205. Do you have load participating in demand response programs in New York State?
  1. Yes
  2. No (*skip to Question 210*)
206. How much total load? \_\_\_\_\_ kW or MW (*note correct units*)
207. Which programs are you participating in?
  1. NYISO Installed Capacity Program Special Case Resources (ICAP SCR)
  2. NYISO Emergency Demand Response Program (EDRP)
  3. Other (specify: \_\_\_\_\_)
208. Do you have customers who are simultaneously participating in multiple demand response (DR) programs?
  1. Yes
  2. No
209. Do you encourage customers to participate in multiple DR programs, if available?
  1. Yes
  2. No
  3. Depends on the program characteristics (incentive, number of events, mandatory or voluntary participation, etc)

210. Do you have load participating in DR programs outside of NY?
1. Yes (Specify location(s): \_\_\_\_\_)
  2. No
211. How much total load? \_\_\_\_\_ kW or MW (*note correct units*)
212. In which of the following type of DR programs do you typically prefer participating?
1. Program with voluntary participation, but incentive is only paid when you participate in a called event
  2. Program with mandatory participation and a reservation payment that is paid at regular intervals, regardless of whether any load curtailment requests are made
  3. No preference
213. If your portfolio of customers is enrolled in a mandatory program, do you contractually require your customers to participate in all called events, with or without risk of penalty, or do you allow voluntary participation?
1. Mandatory participation for customers (with financial penalty)
  2. Mandatory participation for customers (but no financial penalty)
  3. Voluntary participation for customers
214. Do you typically follow up with customers after a called event to verify participation?
1. Yes
  2. No
215. Do you monitor the load reduction during or after the called event and calculate the energy and capacity savings?
1. Yes
  2. No

DLRP Program

216. How did you **first** hear of the DLRP? (*Do not read from list below. Record response and categorize*)

- 
- 
1. Direct mailing from Con Edison
  2. Newsletter from Con Edison
  3. NY Public Service Commission
  4. Con Edison website
  5. Other website (specify: \_\_\_\_\_)
  6. Con Edison staff
  7. NYISO staff
  8. NYSERDA
  9. Customer
  10. Tradeshow/conference
  11. Trade/Industry groups such as BOMA (Building Owners and Managers Association), REBNY (Real Estate Board of NY), GNYHA (Greater New York Hospital Association)
  12. Other (specify: \_\_\_\_\_)
  13. Have not heard of the DLRP

217. Have you received any of the program mailings from Con Edison about the DLRP?

1. Yes
  2. No
  3. Don't recall
218. Did you attend Con Edison's DLRP information session for aggregators last summer?
1. Yes
  2. No (*skip to Question 16*)
219. How informative was the information session in describing the program, including enrollment procedures, event notification, savings calculations, incentives, etc, using a scale from 1 to 5, with 5 being 'very informative' and 1 being 'not at all informative'? (*Do not read options below*)
1. Not at all informative
  2. Somewhat uninformative
  3. Neutral
  4. Somewhat informative
  5. Very informative
220. Have you visited the Con Edison website to get information on the DLRP or other demand response programs?
1. Yes
  2. No (*skip to Question 222*)
221. On a scale of 1 to 5, how useful did you find the DLRP information included on Con Edison's website, with 5 being 'very useful' and 1 being 'not useful at all'? (*Do not read options below*)
1. Not useful at all
  2. Somewhat not useful
  3. Neutral
  4. Somewhat useful
  5. Very useful
222. Do you feel you have been properly informed/educated about DLRP program rules, procedures, and alert protocols?
1. Yes
  2. No
  3. Unsure
223. Please provide your opinion on the following provisions of Rider U (which defines the DLRP program). Do you think each of the following provisions is a positive or negative aspect of the program, and please provide any additional comments you may have about each provision.
1. The program including a summer reservation payment (which is paid regardless of whether an event is called).
   

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  2. The reservation payment amounts of \$3/kW-month for Tier 1 and \$4.50/kW-month for Tier 2.

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3. The penalty of 150% for non-performance for mandatory customers

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4. The 30-minute event notification period

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5. The use of previous year's average peak as the baseline for measuring kW performance during a DLRP event (APMD) versus a customer baseline based on the most recent ten day peak (CBL) (which is currently used to calculate energy savings). More specifically, do you prefer APMD or CBL for calculating capacity reduction? For calculating energy savings?

1. Prefer APMD for all calculations
2. Prefer APMD for baseline and capacity reduction calculations (kW), but CBL for energy savings calculations (kWh)
3. Prefer CBL for all calculations
4. Prefer CBL for baseline and capacity reduction calculations (kW), but APMD for energy savings calculation (kWh)

Please Elaborate \_\_\_\_\_

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224. What are the primary reasons you have not participated in the DLRP to date? (include all that apply and rank 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, etc)

Rank	
	1. Was not aware of the program
	2. Was not aware of tariff change to allow aggregators to participate
	3. Did not have enough program information to make informed decision
	4. Have not been able to locate customers willing to participate
	5. Minimum aggregated load reduction of 100 kW is too high
	6. Enrollment process in the program is too cumbersome
	7. Reservation payment (\$/kW) is too low to entice me to participate
	8. Participation payment (\$/kWh during event) is too low to entice me to participate
	9. 30-minute notification period is too short
	10. Penalty for non-compliance is too severe
	11. Other (specify: _____)

225. Do you plan on participating in the DLRP in the future?
1. Yes (*continue to Question 226*)
  2. No (*skip to Question 227*)
  3. Unsure (*skip to Question 227*)
226. Please estimate the potential load you anticipate participating in the DLRP:  
 \_\_\_\_\_ kW or MW (*note correct units*)
227. In considering potential program modifications, please rate the importance of the following in enticing you to participate in the DLRP, using a scale from 1 to 5, with 5 being 'very important', and 1 being 'very unimportant'.
- |   |   |   |   |   |   |    |
|---|---|---|---|---|---|----|
| 1. Increase in summer reservation payment   | 1 | 2 | 3 | 4 | 5 | DK |
| 2. Increase in energy payment   | 1 | 2 | 3 | 4 | 5 | DK |
| 3. Reservation payment in the first year for voluntary program  | 1 | 2 | 3 | 4 | 5 | DK |
| 4. 30-min notification period increased to 2-hours  | 1 | 2 | 3 | 4 | 5 | DK |
| 5. Day-ahead preliminary notice that an event MAY be called<br>(actual notification would still be 30-min)            | 1 | 2 | 3 | 4 | 5 | DK |
| 6. Reduction in the severity of penalty for non-compliance  | 1 | 2 | 3 | 4 | 5 | DK |
| 7. Smaller limit to the number of annual events that require<br>mandatory participation (currently 6 events per year) | 1 | 2 | 3 | 4 | 5 | DK |
| 8. Reduction of the required minimum 100 kW of load reduction to<br>participate                                       | 1 | 2 | 3 | 4 | 5 | DK |
| 9. Other (specify: _____)   | 1 | 2 | 3 | 4 | 5 | DK |
228. Considering the same potential program modifications as the previous questions, please rate the importance TO CUSTOMERS of the following, using a scale from 1 to 5, with 5 being 'very important', and 1 being 'very unimportant'.
- |   |   |   |   |   |   |    |
|---|---|---|---|---|---|----|
| 1. Increase in summer reservation payment   | 1 | 2 | 3 | 4 | 5 | DK |
| 2. Increase in energy payment   | 1 | 2 | 3 | 4 | 5 | DK |
| 3. Reservation payment in the first year for voluntary program  | 1 | 2 | 3 | 4 | 5 | DK |
| 4. 30-min notification period increased to 2-hours  | 1 | 2 | 3 | 4 | 5 | DK |
| 5. Day-ahead preliminary notice that an event MAY be called<br>(actual notification would still be 30-min)            | 1 | 2 | 3 | 4 | 5 | DK |
| 6. Reduction in the severity of penalty for non-compliance  | 1 | 2 | 3 | 4 | 5 | DK |
| 7. Smaller limit to the number of annual events that require<br>mandatory participation (currently 6 events per year) | 1 | 2 | 3 | 4 | 5 | DK |
| 8. Other (specify: _____)   | 1 | 2 | 3 | 4 | 5 | DK |

Marketing and Customer Recruitment

229. What have you found to be the most effective methods of reaching customers and recruiting them to participate in a DR program, including customers that:
1. You previously had a relationship with?
    1. Phone call
    2. Direct mailing
    3. Email
    4. Face to face meeting
    5. Tradeshow/conferences

- 6. Working with trade/Industry groups such as BOMA (Building Owners and Managers Association), REBNY (Real Estate Board of NY), GNYHA (Greater New York Hospital Association)
- 7. Other (specify: \_\_\_\_\_)

- 2. You did not have a prior relationship with?
  - 1. Phone call
  - 2. Direct mailing
  - 3. Email
  - 4. Face to face meeting
  - 5. Tradeshow/conferences
  - 6. Working with trade/Industry groups such as BOMA (Building Owners and Managers Association), REBNY (Real Estate Board of NY), GNYHA (Greater New York Hospital Association)
  - 7. Other (specify: \_\_\_\_\_)

230. How well do customers who are not currently enrolled in any DR programs understand the following characteristics of typical programs, using a scale from 1 to 5, with 5 being 'thorough understanding' and 1 being 'no understanding':

- 1. How to calculate their baseline load (kW) 1 2 3 4 5 DK
- 2. If their emergency generator air permit allows them to use it for DR programs 1 2 3 4 5 DK
- 3. How to achieve load reduction at their facility 1 2 3 4 5 DK
- 4. How to calculate their total load reduction (kW) 1 2 3 4 5 DK
- 5. The different methods of calculating load reduction (APMD and CBL)? 1 2 3 4 5 DK

231. Do you provide customers with any auditing services to identify potential load curtailment or on-site generation opportunities?

- 1. Yes
  - 231a. What percentage of customers utilizes your auditing services?  
\_\_\_\_\_ %
- 2. No

232. Do you provide customers with assistance in calculate specific load curtailment amounts?

- 1. Yes
  - 232a. What percentage of customers utilizes your help with calculating load curtailment? \_\_\_\_\_ %
- 2. No

233. What are the primary concerns you have heard from potential participants when marketing DR programs to them? (*select all that apply*)

- 1. Too much paperwork/time commitment involved in enrolling in the program
- 2. Financial penalties for non-compliance
- 3. Do not track their load closely enough to know what reduction is available
- 4. Do not understand all the program details
- 5. Do not understand the load calculation methodologies (APMD and CBL)
- 6. Program benefits (incentives) insufficient to warrant risk or transaction effort
- 7. Concern over NYSDEC permitting issues for generation resources
- 8. Do not have an interval meter at their facility

- 9. Too many events will be called
- 10. Other (specify: \_\_\_\_\_)

234. What have you done to alleviate the customer concerns?

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235. What, in your opinion, is customers' primary motivation to participate in demand response programs?

- 1. Financial (participation incentive)
- 2. Environmental (concerned about reducing energy consumption)
- 3. Good citizen (willing to help to keep system running)
- 4. Mutual interest (reduce load when asked so that their facility will not lose power later)
- 5. Interval meter installation
- 6. Other (specify: \_\_\_\_\_)

236. What, in your opinion, are the top three benefits for customers of using an aggregator to participate? (*Indicate 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> choices*)

Rank	
	1. Ease of enrollment/aggregator handles paperwork
	2. Aggregator audits facility and identifies ways to curtail load
	3. Aggregator calculates load reduction capability
	4. Able to enroll at a lower commitment level (less than 50 kW) than individual participation level.
	5. Aggregator keeps up with program rules/procedures/updates
	6. Aggregator assumes risk of penalty for non-compliance
	7. Other (specify: _____)

Elaborate, if necessary: \_\_\_\_\_

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237. Do you find that certain customer segments are more willing to participate in DR?

- 1. Yes
- 2. No (*skip to Question 239*)

238. If so, which industry segments?

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_
- 4. \_\_\_\_\_
- 5. \_\_\_\_\_

239. Do you find that certain customer segments are not willing to participate in DR?

- 1. Yes

2. No (*skip to Question 241*)
240. If so, which industry segments?
1. \_\_\_\_\_
  2. \_\_\_\_\_
  3. \_\_\_\_\_
  4. \_\_\_\_\_
  5. \_\_\_\_\_
241. Do you focus your marketing efforts on particular customer segments?
1. Yes
  2. No (*skip to Question 243*)
242. If so, which industry segments?
1. \_\_\_\_\_
  2. \_\_\_\_\_
  3. \_\_\_\_\_
  4. \_\_\_\_\_
  5. \_\_\_\_\_
243. Do your customers typically have a revenue-grade interval meter installed prior to participating in a demand response program?
1. Yes
  2. No
244. If they do not have an interval meter, do you encourage them to upgrade their existing meter to have interval meter capability?
1. Yes (*skip to Question 245*)
  2. No
    - 244a. What type of meter do you recommend they install to track load reduction?
      1. Non-revenue grade interval meter
      2. Shadow meter (pulse initiator) on non-interval revenue meter at service entrance
      3. Non-revenue grade meter on specific equipment/end uses (such as on-site generator)
      4. Other (specify: \_\_\_\_\_)
245. Do you inform customers of the NYSERDA assistance available to help pay for the installation of an interval meter?
1. Yes
  2. No
246. What is your opinion on the use of shadow meters in DLRP and other DR programs?
1. Shadow meters should be allowed as a way to calculate load reduction
  2. Utility grade interval meter should be the only accepted method of calculating load reduction
  3. No opinion

Please Elaborate: \_\_\_\_\_

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DR Program Procedures

247. How do you and your customers typically meet load curtailment goals? Please include the approximate percent reduction of the total load you have enrolled in the program (i.e. 30% through turning off lights, 20% through change in thermostat set points, and 50% through on-site generation) *(include all that apply)*

Curtailment Method Used	Percent of Total Load Reduction	
		1. Ask employees to conserve
		2. Manually turn off or dim lights
		3. Reduce plug loads
		4. Temporarily shut down major processes
		5. Temporarily shut down facility
		6. Change thermostat set points
		7. Change set points on facility EMS
		8. Changes to HVAC equipment operations
		9. Utilize hybrid gas A/C units
		10. Turn off or limit use of elevator banks
		11. Start on-site generation
		12. Real time direct load control system
		13. Other (specify: _____)

Please Elaborate on particular curtailment methods, if appropriate *(record specific methods discussed within each of the categories listed above)*: \_\_\_\_\_

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248. What percentage of customers utilize on-site generation to curtail load? *(Specify that the previous question was asking about the percent of their total load portfolio, and this question is asking about the percent of their customer count that uses on-site generation)*

\_\_\_\_\_ %

249. Do you find any customer confusion or uncertainty over NYSDEC air permitting for generators, including the use of emergency generators for load curtailment?

1. Yes
2. No

Please Elaborate: \_\_\_\_\_

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250. Do you provide assistance or guidance in customers obtaining or modifying air permits?
1. Yes
  2. No

Conclusion

251. Do you have any recommendations for how the DLRP could be improved in the future?

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**Thank you for your help.**

**Con Edison Distribution Load Relief Program  
Non-Participant Customer (enrolled in another DR program) Survey**

Interviewer \_\_\_\_\_

Date \_\_\_\_\_

Hello, my name is \_\_\_\_\_ and I'm calling on behalf of Con Edison, and their Distribution Load Relief Program. I'd like to speak with \_\_\_\_\_.

The Distribution Load Relief Program is a demand response program that Con Edison offers to commercial customers that provides a financial incentive for curtailing load during times of heavy demand. We're conducting short interviews to better assess market conditions and to help improve the program. Your answers will be treated in the strictest confidence.

Are you responsible for energy matters for your firm and knowledgeable about your firm's participation in demand response programs? *(If no, get correct contact and phone number, thank, and terminate.)*

Could I interview you now or could I call you back at a more convenient time? The interview will take about 20 minutes.

NOTES: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contact & Company Information

*(When correct person is on phone – fill in as much information as possible from records; ask about any gaps below)*

Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

Company SIC Code or NAIC Code: \_\_\_\_\_ (SIC) \_\_\_\_\_ (NAIC)

Industry Type: \_\_\_\_\_

Customer is currently enrolled in the following demand response programs:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Customer/Facility Information

252. To verify, you are not currently enrolled in the DLRP with Con Edison?

1. Correct *(continue interview)*
2. Incorrect *(terminate interview and complete interview for participants)*

253. However, you are currently enrolled in \_\_\_\_\_? *((obtain from customer list prior to interview), correct?*

1. Yes

2. No
  - 253a. Please specify which program or programs you are enrolled in:
    1. NYISO ICAP SCR
    2. NYISO EDRP
    3. Other (specify: \_\_\_\_\_)
    4. None (*terminate interview and complete non-participant interview for customers who are not enrolled in any demand response program*)
  
254. Are you enrolled in any additional demand response programs?
  1. Yes
    - 254a. Please specify which program or programs you are enrolled in:
      1. NYISO ICAP SCR
      2. NYISO EDRP
      3. Other (specify: \_\_\_\_\_)
  2. No
  
255. What is your title in the organization?
  1. Facility Manager
  2. Energy Manager
  3. General Manager of organization
  4. CEO/CFO
  5. VP (of \_\_\_\_\_)
  6. Other (specify: \_\_\_\_\_)
  
256. Which of the following best describes your level of overall responsibility for your company's energy management/operations activities?
  1. The employee most responsible for energy management
  2. Part of a team that has energy management responsibility
  3. Do not have responsibility for energy management (*get correct contact and phone number, thank, and terminate.*)
  4. Don't know/refused (*Do not read*) (*get correct contact and phone number, thank, and terminate.*)
  
257. How many buildings are you responsible for managing or operating?
  1. One building/facility
  2. 2-3
  3. 4-5
  4. 6-10
  5. 11-15
  6. 16-20
  7. 21-25
  8. 26-30
  9. More than 30
  
258. To verify, your company's primary business activity is \_\_\_\_\_ (*obtain from customer list prior to interview*)?
  1. Yes
  2. No (specify: \_\_\_\_\_)

259. Do you regularly review your hourly energy load data and track your facility's demand (kW) and energy consumption (kWh) in more detail than is provided on your monthly utility bills?
1. Yes
    - 8a. What technology do you use?
      13. EMS
      14. Shadow (pulse) meter installed on utility meter
      15. Data provided directly from Con Edison interval meter
      16. Other (Specify: \_\_\_\_\_)
  2. No
260. Do you track your peak monthly demand during the summer?
1. Yes
  2. No
261. Does your facility have a revenue-grade billing interval meter at the service entrance?
1. Yes (*continue to Question 262*)
  2. No (*skip to Question 263*)
262. Did NYSERDA help pay for the installation of the interval meter?
1. Yes
  2. No
  3. Unsure/don't recall

Demand response participation

263. How much load do you have enrolled in demand response?  
 \_\_\_\_\_ kW or MW (*note correct units*)
264. Does your facility/facilities have on-site generation?
1. Yes
    - Number of units: \_\_\_\_\_
    - Total Capacity: \_\_\_\_\_ kW
    - Fuel Type: \_\_\_\_\_
  2. No (*skip to Question 266*)
265. Do you use your generator for demand response in the program you are currently participating in?
1. Yes
    - 265a. What percentage of your load curtailment is achieved through on-site generation? \_\_\_\_\_%
  2. No
    - 265b. Why not? (*select all that apply*)
      19. Do not want to use generator unless power actually goes out (don't want to lose the failsafe for critical operations that the generator provides)
      20. Unclear on whether our NYSDEC air permit allows us to use the generator for demand response events
      21. Air permit may have to be modified
      22. Neighbors complain about noise or emissions when generator is run during the day

- 23. Do not always have staff on-site to start-up and operate the generator when the program calls for an event
- 24. Other (specify: \_\_\_\_\_)

266. Which of the following were your top two reasons for joining the demand response programs in which you are currently enrolled? (*Indicate 1<sup>st</sup> and 2<sup>nd</sup> choices*)

Rank	
	1. Financial (participation incentive)
	2. Environmental (concerned about reducing energy consumption)
	3. Good citizen (willing to help to keep system running)
	4. Mutual interest (reduce load when asked so that my facility will not lose power later)
	5. Interval meter installation
	6. Aggregator convinced me to enroll in demand response
	7. Other (specify: _____)

267. Please describe all the methods you use to meet your load curtailment goals in your demand response program, and the approximate percentage of your total load reduction that each method provides (for example 20% of the curtailed load is from turning off lights and 80% is from on-site generation) (*include all that apply – do not read list initially, but may prompt for answers after getting initial response*)  
*Note: If customer elaborates on specific methods within each category (such as what types of major processes or HVAC equipment is shut down) please record specific methods below the table)*

Curtailment Method	Percent of Total Load Reduction	
		1. Have employees turn off non-essential equipment
		2. Turn off or dim lights
		3. Reduce plug loads
		4. Temporarily shut down major processes
		5. Temporarily shut down facility
		6. Change thermostat set points
		7. Change set points on facility EMS
		8. Changes to HVAC equipment operations
		9. Utilize hybrid gas A/C units
		10. Turn off or limit use of elevator banks
		11. Start on-site generation
		12. Other (specify: _____)

Notes on specific methods of curtailment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

268. Are you familiar with the different calculation methods that demand response programs use to determine your load reduction (kW) and energy savings (kWh), specifically the Average Peak Monthly Demand (APMD) method and Customer Base Load (CBL) method?
1. Yes, familiar with both
  2. Familiar with APMD but not CBL
  3. Familiar with CBL but not APMD
  4. No, not familiar with either
269. During a demand response event, do you observe your demand reduction to verify that you are achieving your target reduction?
1. Yes
  2. No
270. When you curtail load as part of your demand response program, do you track your energy reduction and calculate your potential energy payment prior to being informed by the program sponsor of your incentive amount?
1. Yes
    - 268a. How do you calculate your reduction?
      16. Use APMD method and compare real-time load data (from interval meter or EMS) during the event with average peak monthly demand from previous summer
      17. Use CBL method and compare real-time load data (from interval meter or EMS) during the event with load curve developed from hourly demand over the previous 10 days
      18. Compare real-time load data (from interval meter or EMS) during the event with baseline load calculated differently than either the APMD or CBL method (please specify how baseline is calculated: \_\_\_\_\_)
      19. Use non-utility meter installed on generation equipment or end-use equipment
      20. Other (specify: \_\_\_\_\_)
  2. No
271. Are you aware that you are able to participate in multiple demand response programs simultaneously?
1. Yes
  2. No
272. Do you have any concerns or reservations about participating in multiple programs?
1. None
  2. Too much paperwork or administrative processes to deal with
  3. Potential for too many events (too much disruption of normal operation)
  4. Exceeding NYSDEC permit requirements for on-site generator
  5. Other (specify: \_\_\_\_\_)
273. How would you rate your understanding of the details of the various demand response programs that are available, including understanding the similarities and difference between programs? Please rank your understanding on a scale from 1 to 5, with 5 being 'very clear' and 1 being 'very unclear'. *(Do not read options below)*
1. Very unclear
  2. Somewhat unclear

3. Neutral
4. Somewhat clear
5. Very clear (*if response is 5, skip to Question 275*)

274. Which of the following specific program elements contributes to your confusion between programs? (*Read choices and select yes or no for each*)

<i>(Select Yes or No)</i>		Is there confusion over:
Yes	No	1. Who is the sponsor of a particular program (Con Edison, NYISO, NYPA, etc)
Yes	No	2. Which programs require mandatory participation and which allow voluntary participation
Yes	No	3. Which programs have a reservation payment and which only pay when you participate in an event
Yes	No	4. Event notification procedures of various programs (how much time you have to respond when called)
Yes	No	5. How your facility baseline load is calculated in each program (average peak monthly demand (APMD) method or consumer baseline (CBL) method)
Yes	No	6. How energy savings are calculated

275. Have you been approached by a load aggregator to participate in a demand response program or programs?

1. Yes
2. No
3. Don't recall

276. Are you enrolled in your current DR program or programs directly with the program sponsor (such as NYISO), or through a load aggregator?

1. Directly enrolled with program sponsor (*skip to Question 285*)
2. Enrolled through aggregator (*continue to Question 277*)
3. Varies by program (some directly, some through an aggregator) (*continue to Question 277*)

277. Did you have a prior professional relationship with your aggregator before participating in your current DR program with them?

1. Yes
 

277a. What was the nature of your previous professional relationship? (*select all that apply*)

  1. Previously participated in DR or DSM programs with my aggregator
  2. Purchased energy software or other products from my aggregator
  3. Aggregator assisted with load calculations or auditing at my facility
  4. Other (specify: \_\_\_\_\_)
  5. Refused (*do not read*)
2. No

278. How did your aggregator initially approach you about participation in DR?

1. Phone call
2. Email
3. Direct mailing

4. Face to face meeting
  5. Tradeshow/conference
  6. N/A - I initiated contact with aggregator
  7. Other (specify: \_\_\_\_\_)
279. Did your aggregator introduce several demand response programs that are available, or focused on a specific program?
1. Introduced multiple programs
  2. Only discussed one program
280. Did your aggregator encourage you to participate in multiple demand response programs?
1. Yes
  2. No
281. Did your aggregator assist in auditing your facility and/or identifying potential load curtailment opportunities prior to enrolling in the DR program?
1. Yes
  2. No
282. Did your aggregator assist in calculating the total load that you are able to curtail?
1. Yes
  2. No
283. Did your aggregator discuss Con Edison's DLRP with you?
1. Yes (*continue to Question 284*)
  2. No (*skip to Question 285*)
  3. Don't recall (*skip to Question 285*)
284. Which of the following choices best describes how your aggregator presented the DLRP to you: (*for customers who are asked this question, after asking and getting response, skip to Question 290*)
1. Introduced the program but did not provide many details
  2. Presented information and details about the program, and left the decision to enroll entirely up to me
  3. Presented information and details about the program, and encouraged me to enroll
  4. Presented information and details about the program, and discouraged me from enrolling
  5. Don't recall
  6. Refused (*do not read*)

Marketing & Recruitment

285. Prior to this interview, have you heard of Con Edison's Distributed Load Relief Program?
1. Yes (*skip to Question 290*)
  2. No (*continue to Question 286*)
  3. Don't recall (*continue to Question 286*)
  4. Refused (*continue to Question 286*)

*(As noted in the skip instructions in Question 285, the next four questions are only for customers who indicate that they have not heard of DLRP or don't recall hearing of DLRP)*

286. Do you have a Con Edison account executive?
1. Yes (*continue to Question 287*)
  2. No (*skip to Question 307*)
287. Has your Con Edison account executive discussed any of Con Edison's demand side management (DSM) programs with you?
1. Yes
  2. No
288. You do not recall them discussing the DLRP with you?
1. No (*skip to Question 307*)
  2. Yes, now I do recall that they discussed it with me (*continue to Question 289*)
289. After discussing the DLRP with your Con Edison account executive, how adequately would you say they provided information and details about the program? Please use a scale from 1 to 5, with 5 being 'very adequate information' and 1 being 'very inadequate information'. (*Do not read options below*) (*for customers who are asked this question, after asking and getting response, skip to Question 307*)
1. Very inadequate information & details about the program
  2. Somewhat inadequate information & details
  3. Adequate information & details
  4. Slightly more than adequate information & details
  5. Very adequate information & details

290. How did you **first** hear of the DLRP? (*Do not read from list below. Record response and categorize*) \_\_\_\_\_

1. Direct mailing from Con Edison
2. Newsletter from Con Edison
3. Con Edison website
4. Other website (specify: \_\_\_\_\_)
5. Con Edison account executive
6. Other Con Edison employee
7. from load aggregator
8. from NYISO
9. from NYSERDA
10. through participation in another demand response program
11. Aggregator

12. Trade/Industry groups such as BOMA (Building Owners and Managers Association), REBNY (Real Estate Board of NY), GNYHA (Greater New York Hospital Association)
13. Other (specify: \_\_\_\_\_)
291. Have you received any mailings from Con Edison about the DLRP?
1. Yes
  2. No
  3. Don't recall
292. Have you received any DLRP information from NYISO or NYSERDA?
1. Yes
    - 292a. What type of information?
      1. Newsletter or direct mailing with DLRP information
      2. Description of the DLRP from a NYISO representative
      3. Description of the DLRP from a NYSERDA representative
      4. Information on the DLRP on NYISO's website
      5. Information on the DLRP on NYSERDA's website
      6. Other (specify: \_\_\_\_\_)
      7. Don't recall specific type of information
  2. No
  3. Don't recall
293. Do you have a Con Edison account executive?
1. Yes (*continue to Question 14*)
  2. No (*skip to Question 16*)
294. Has your Con Edison account executive discussed the DLRP with you?
1. Yes
    - 14a. Approximately how many times has your account executive discussed the DLRP with you?
      16. Once
      17. Approximately two to five times
      18. More than five times
      19. Don't recall
  2. No (*skip to Question 16*)
  3. Don't recall (*skip to Question 16*)
295. Did your Con Edison account executive describe how the program has two levels of participation, a voluntary and mandatory level?
1. Yes
  2. No
  3. Don't recall
296. After discussing the DLRP with your Con Edison account executive, how adequately would you say they provided information and details about the program? Please use a scale from 1 to 5, with 5 being 'very adequate information' and 1 being 'very inadequate information'. (*Do not read options below*)

1. Very inadequate information & details about the program
2. Somewhat inadequate information & details
3. Adequate information & details
4. Slightly more than adequate information & details
5. Very adequate information & details

297. Have you visited the Con Edison website to get information on the DLRP or other demand response programs?

1. Yes (*continue to Question 17*)
2. No (*skip to Question 18*)
3. Don't recall (*skip to Question 18*)

298. How useful did you find the DLRP information included on Con Edison's website? Please use a scaled from 1 to 5, with 5 being 'very useful' and 1 being 'not at all useful'. (*Do not read options below*)

1. Not at all useful
2. Somewhat not useful
3. Neutral
4. Somewhat useful
5. Very useful

299. Please indicate any additional ways you have heard about the DLRP. (*select all that apply*)

Select	
	37. Program information included in newsletter from Con Edison
	38. Other (non-Con Edison) website (specify: _____)
	39. Con Edison employee besides account executive
	40. NYISO
	41. NYSERDA
	42. participation in another demand response program
	43. Aggregator
	44. Trade/Industry groups such as BOMA (Building Owners and Managers Association), REBNY (Real Estate Board of NY), GNYHA (Greater New York Hospital Association)
	45. Other (specify: _____)

300. Are you aware that the DLRP has two different levels of participation: 1.) voluntary, which does not require participation when an event is called, and 2.) mandatory, which requires participation with risk of financial penalty, but also has additional incentives for participation?

1. Yes
2. No
3. Unsure

301. Please rate how well overall, from all the ways you have learned about the DLRP, you feel you have been properly informed/educated about DLRP program rules, procedures, and alert protocols, using a scale from 1 to 5, with 5 being 'very informed' and 1 being 'very uninformed'. (*Do not read options below*)

1. Very uninformed
2. Somewhat uninformed
3. Neutral
4. Somewhat informed
5. Very informed

302. Have you considered participating in the DLRP?

1. Yes
2. No

303. How significant is each of the following as a potential reason why you haven't enrolled in the DLRP to date? Please use a scale from 1 to 5, with 5 being a 'very significant' reason for not participating and 1 being a 'very insignificant' reason for not participating: *(DK is if the customer doesn't know, but do not read as an option)*

1. Don't know enough about the program to make informed decision	1 2 3 4 5 DK
2. Don't have enough load to curtail to meet minimum program requirement of 50 kW	1 2 3 4 5 DK
3. Too much paperwork/time commitment involved in enrolling in the program	1 2 3 4 5 DK
4. Do not currently have an interval meter at my facility	1 2 3 4 5 DK
5. Incentive amounts are too low to entice me to participate/not enough to justify the risk	1 2 3 4 5 DK
6. Unsure if I can always comply with the 30-minute event notification period	1 2 3 4 5 DK
7. The program includes financial penalties for non-compliance	1 2 3 4 5 DK
8. The severity of the financial penalty for non-compliance versus the available incentive levels	1 2 3 4 5 DK
9. Concern about the number of annual DLRP events that will be called	1 2 3 4 5 DK
10. Concern about too many overall DR events from participating in multiple programs	1 2 3 4 5 DK
11. Other (specify: _____)	1 2 3 4 5 DK

304. Please indicate how likely the following potential program modifications are to entice you to participate in the DLRP, using a scale from 1 to 5, with 5 being 'very likely' and 1 being 'very unlikely'.

1. Assistance with completing enrollment paperwork	1 2 3 4 5 DK
2. More detailed program information presented by Con Edison to help me make an informed decision	1 2 3 4 5 DK
3. Increase in summer reservation payment (currently \$3/kW/month) for the mandatory program	1 2 3 4 5 DK
4. An enrollment incentive, similar to the \$3/kW/month reservation payment in the mandatory program, that is offered for the voluntary program in the first year you enroll. This type of incentive would be paid regardless of whether an event is called.	1 2 3 4 5 DK
5. Increase in incentive payment (\$/kWh) for participation in called events	1 2 3 4 5 DK

6. Reduction of penalty for non-compliance in mandatory program	1 2 3 4 5 DK
7. Elimination of penalty for non-compliance in mandatory program	1 2 3 4 5 DK
8. Simpler method or more clarity in how to calculate my baseline load and savings during a demand response event	1 2 3 4 5 DK
9. 30-min event notification period increased to 2-hours	1 2 3 4 5 DK
10. Day-ahead preliminary notice that a DLRP event MAY be called (actual notification would still be 30-min)	1 2 3 4 5 DK
11. Smaller limit to the number of annual DLRP events that require mandatory participation (currently 6 events per year)	1 2 3 4 5 DK
12. Gradual increase in incentive rate after the first called DLRP event (payment amounts increase for 2 <sup>nd</sup> event, and again for 3 <sup>rd</sup> event, etc.)	1 2 3 4 5 DK
13. Auditing assistance from a utility representative/energy consultant/aggregator to more accurately quantify your load management capabilities	1 2 3 4 5 DK
14. Low cost financing for generation equipment	1 2 3 4 5 DK
15. Other (specify: _____)	1 2 3 4 5 DK

305. Are you aware of the option to participate in the DLRP through a load aggregator?

1. Yes
2. No

306. Would you potentially be interested in participating in the DLRP through an aggregator?

1. Yes
2. No
3. Unsure

307. Would you be interested in attending a no-obligation information session sponsored by Con Edison to better understand DLRP details, including enrollment, event procedures, incentives, and penalties?

1. Yes
2. No
3. Unsure

308. Out of the following choices, please rank, in order, your top three preferences for effective ways Con Edison can provide you with DLRP information to increase your understanding of the program. (Indicate 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> choice)

Rank	
	1. Direct mailing with program details and updates
	2. Email with program details and updates
	3. Phone call from Con Edison account executive or DLRP representative
	4. Face to face meeting with Con Edison account executive or DLRP representative
	5. More detailed program information on Con Edison's DLRP website
	6. Information sessions sponsored by Con Edison
	7. Other (specify: _____)

309. Despite your not being in the DLRP, have you ever been called directly by your Con Edison account executive or other Con Edison staff with a request to voluntarily reduce load

to alleviate a specific problem on the network that may adversely affect your facility later in the day?

- 1. Yes
- 2. No (*skip to Question 312*)

310. Did you assist Con Edison with the voluntary reduction?

- 1. Yes
- 2. No

311. Did you utilize the same load curtailment activities that you undertake during a called event in your current demand response program?

- 1. Yes
- 2. No

51a. What methods did you use to curtail load?

- 1. Ask employees to conserve
- 2. Turn off or dim lights
- 3. Reduce plug loads
- 4. Temporarily shut down major processes
- 5. Temporarily shut down facility
- 6. Change HVAC set points on thermostat
- 7. Change set points on facility EMS
- 8. Utilize hybrid gas or steam A/C units
- 9. Turn off or limit use of elevator banks
- 10. Start on-site generation
- 11. Other (specify: \_\_\_\_\_)

312. As part of our evaluation, we are also planning to conduct site visits of representative facilities to assess the technical opportunities and financial benefits that may be available from participation in peak load management programs. If your facility is chosen, you would receive a brief report at no cost to you. These site visits should only take 2 hours and should occur sometime in March.

Would you be willing to talk to one of our engineers and allow us to conduct a site visit at your facility?

- 7. Yes
- 8. No

*(If Yes, ask the facility representative to provide a contact name, phone number and convenient time to call to arrange the appointment.)*

313. Do you have any final comments or recommendations for how the DLRP could be improved in the future?

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**Thank you for your help.**

**Con Edison Distribution Load Relief Program  
Non-Participant Customer (not enrolled in any DR program) Survey**

Interviewer \_\_\_\_\_

Date \_\_\_\_\_

Hello, my name is \_\_\_\_\_ and I'm calling on behalf of Con Edison, and their Distribution Load Relief Program. I'd like to speak with \_\_\_\_\_.

The Distribution Load Relief Program is a demand response program that Con Edison offers to commercial customers that provides a financial incentive for temporarily reducing their energy consumption during times of heavy demand on the utility grid. We're conducting short interviews to better assess market conditions and to help improve the program. Your answers will be treated in the strictest confidence.

Are you responsible for energy matters for your firm? *(If no, get correct contact and phone number, thank, and terminate.)*

Could I interview you now or could I call you back at a more convenient time? The interview will take about 20 minutes.

NOTES: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contact & Company Information

*(When correct person is on phone – fill in as much information as possible from records; ask about any gaps below)*

Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

Company SIC Code or NAIC Code: \_\_\_\_\_ (SIC) \_\_\_\_\_ (NAIC)

Industry Type: \_\_\_\_\_

Customer/Facility Information

314. To verify, you are not currently enrolled in the DLRP with Con Edison or any other demand response programs?

1. Correct *(continue interview)*
2. Incorrect, I am a DLRP participant *(terminate interview and complete interview for participants)*
3. Incorrect, I am participating in another demand response program *(terminate interview and complete interview for non-participants enrolled in another demand response program)*

315. What is your title in the organization?

1. Facility Manager
2. Energy Manager

3. General Manager of organization
  4. CEO/CFO
  5. VP (of \_\_\_\_\_)
  6. Other (specify: \_\_\_\_\_)
316. Which of the following best describes your level of overall responsibility for your company's energy management/operations activities?
1. The employee most responsible for energy management
  2. Part of a team that has energy management responsibility
  3. Do not have responsibility for energy management (*get correct contact and phone number, thank, and terminate.*)
  4. Don't know/refused (*Do not read*) (*get correct contact and phone number, thank, and terminate.*)
317. How many buildings are you responsible for managing or operating?
1. One building/facility
  2. 2-3
  3. 4-5
  4. 6-10
  5. 11-15
  6. 16-20
  7. 21-25
  8. 26-30
  9. More than 30
318. To verify, your company's primary business activity is \_\_\_\_\_ (*obtain from customer list prior to interview*)?
1. Yes
  2. No (specify: \_\_\_\_\_)
319. Do you regularly review your hourly energy load data and track your facility's demand (kW) and energy consumption (kWh) in more detail than is provided on your monthly utility bills?
1. Yes
    - 8a. What technology do you use?
      17. EMS
      18. Shadow (pulse) meter installed on utility meter
      19. Data provided directly from utility interval meter
      20. Other (Specify: \_\_\_\_\_)
  2. No
320. Do you track your peak monthly demand during the summer?
1. Yes
  2. No
321. Does your facility have a revenue-grade billing interval meter at the service entrance?
1. Yes (*continue to Question 262*)
  2. No (*skip to Question 263*)

322. Did NYSERDA help pay for the installation of the interval meter?
1. Yes
  2. No
  3. Unsure/don't recall
323. Does your facility/facilities have on-site generation?
1. Yes  
 Number of units: \_\_\_\_\_  
 Total Capacity: \_\_\_\_\_ kW  
 Fuel Type: \_\_\_\_\_
  2. No (*skip to Question 326*)
324. What are the generators used for?
1. Backup power source for general facility operations
  2. Backup power source for particular critical operations
  3. Reducing load on the utility grid during peak pricing periods, but not as part of any specific demand response program
  4. Powering particular process operations that are run occasionally or periodically
  5. Generating power that is sold back to the utility grid
  6. Other (specify: \_\_\_\_\_)
325. Do the generators have NYSDEC registrations or permits?
1. Yes  
 325a. Do the registration/permits include any restrictions?
    1. Permitted as an emergency generator
    2. Not limited to emergencies only, but restricted number of annual hours of operation
    3. No restrictions – they can be operated up to 8,760 hrs/yr
  2. No (*with no further explanation*)
  3. No, they are exempt
  4. Unsure
  5. Refused (*do not read*)
326. Does your facility have an energy management system (EMS)?
1. Yes
  2. No
327. Are you aware of ways you may be able to temporarily curtail load at your facility?
1. Yes (*continue to Question 328*)
  2. No (*skip to Question 329*)
328. If incentives were provided, how likely it is that your facility could utilize the following potential load curtailment activities on a weekday when requested the same day? Please rate the likelihood for each on a scale from 1 to 5, with 5 being 'very likely' and 1 being 'very unlikely':

Curtailment Method	Likelihood					
1. Require employees to turn off all non-essential equipment	1	2	3	4	5	N/A
2. Turn off or dim lights	1	2	3	4	5	N/A
3. Reduce plug loads	1	2	3	4	5	N/A

4. Temporarily shut down major processes	1	2	3	4	5	N/A
5. Temporarily shut down facility	1	2	3	4	5	N/A
6. Change thermostat set points	1	2	3	4	5	N/A
7. Change set points on facility EMS	1	2	3	4	5	N/A
8. Changes to HVAC equipment operations	1	2	3	4	5	N/A
9. Utilize hybrid gas A/C units	1	2	3	4	5	N/A
10. Turn off or limit use of elevator banks	1	2	3	4	5	N/A
11. Start on-site generation	1	2	3	4	5	N/A
12. Other (specify: _____)	1	2	3	4	5	N/A

329. Would you be interested in assistance in auditing your facility to help recognize load curtailment opportunities or in quantifying the load reduction that is available?
1. Yes
  2. No

DR Programs

330. Are you aware that several demand response programs are available in your service territory?
1. Yes (*continue to Question 331*)
  2. No (*skip to Question 275*)

331. Are you aware that you are able to participate in multiple demand response programs simultaneously?
1. Yes
  2. No

332. How would you rate your understanding of the details of the various demand response programs that are available, including understanding the similarities and difference between programs? Please rank your understanding on a scale from 1 to 5, with 5 being 'very clear' and 1 being 'very unclear'. (*Do not read options below*)
1. Very unclear
  2. Somewhat unclear
  3. Neutral
  4. Somewhat clear
  5. Very clear (*if response is 5, skip to Question 334*)

333. Which of the following specific program elements contributes to your confusion between programs? (*Read choices and select yes or no for each*)

<i>(Select Yes or No)</i>		Is there a lack of clarity of understanding over:
Yes	No	1. Who is the sponsor of a particular program (Con Edison, NYISO, NYPA, etc)
Yes	No	2. Which programs require mandatory participation and which allow voluntary participation
Yes	No	3. Which programs have a reservation payment and which only pay when you participate in an event
Yes	No	4. Event notification procedures of various programs (how much time you have to respond when called)
Yes	No	5. How your facility baseline load is calculated in each program (average peak monthly demand (APMD) method or consumer

		baseline (CBL) method)
Yes	No	6. How energy savings are calculated

334. What would you say is the primary reason you are not currently participating in any demand response programs? Are there any additional reasons? *(Do not read options below. Indicate initial response as 1<sup>st</sup>, then ask for any additional reasons and rank in order, 2<sup>nd</sup>, 3<sup>rd</sup>, etc.)*

Rank	
	1. Don't know enough about the available programs to make informed decision
	2. Confusion about the options in each of the available programs
	3. My facility does not have enough load that is able to be curtailed upon request
	4. Too expensive to modify equipment and put controls in place to curtail load
	5. I am not familiar enough with what types of demand response measures I could take to participate
	6. Too much paperwork/time commitment involved in enrolling in DR programs
	7. Do not currently have an interval meter at my facility
	8. Incentive amounts are too low to entice me to participate/not enough to justify the risk
	9. My facility does not always have the appropriate staff on-site to curtail load when provided a short notification period
	10. Concern about potential financial penalties for non-compliance
	11. Concern about the number of times I will be called to curtail load
	12. Do not think that my current NYSDEC registration or permit allows me to use our generator for demand response
	13. Confusion about how to calculate baseline load and savings during a demand response event/calculation method is too complicated
	14. Other (specify: _____)

335. Have you been approached by a load aggregator to participate in a demand response program or programs?

1. Yes
2. No
3. Don't recall

DLRP Marketing & Recruitment

336. Prior to this interview, have you heard of Con Edison's Distributed Load Relief Program?
1. Yes (*skip to Question 290*)
  2. No (*continue to Question 286*)
  3. Don't recall (*continue to Question 286*)
  4. Refused (*continue to Question 286*)

*(As noted in the skip instructions in Question 285, the next four questions are only for customers who indicate that they have not heard of DLRP or don't recall hearing of DLRP)*

337. Do you have a Con Edison account executive?
1. Yes (*continue to Question 287*)
  2. No (*skip to Question 358*)
338. Has your Con Edison account executive discussed any of Con Edison's demand side management (DSM) or efficiency programs with you?
1. Yes
  2. No
339. You do not recall them discussing the DLRP with you?
1. No (*skip to Question 358*)
  2. Yes, now I do recall that they discussed it with me (*continue to Question 289*)
340. After discussing the DLRP with your Con Edison account executive, on a scale of 1 to 5, how adequately would you say they provided information and details about the program? Please use a scale from 1 to 5, with 5 being 'very adequate information' and 1 being 'very inadequate information'. (*Do not read options below*) (*for customers who are asked this question, after asking and getting response, skip to Question 358*)
1. Very inadequate information & details about the program
  2. Somewhat inadequate information & details
  3. Adequate information & details
  4. Slightly more than adequate information & details
  5. Very adequate information & details

341. How did you **first** hear of the DLRP? (*Do not read from list below. Record response and categorize*) \_\_\_\_\_

1. Direct mailing from Con Edison
2. Newsletter from Con Edison
3. Con Edison website
4. Other website (specify: \_\_\_\_\_)
5. Con Edison account executive
6. Other Con Edison employee
7. from load aggregator
8. from NYISO
9. from NYSERDA
10. through participation in another demand response program
11. Aggregator
12. Trade/Industry groups such as BOMA (Building Owners and Managers Association), REBNY (Real Estate Board of NY), GNYHA (Greater New York Hospital Association)

13. Other (specify: \_\_\_\_\_)
342. Have you received any mailings from Con Edison about the DLRP?
1. Yes
  2. No
  3. Don't recall
343. Have you received any DLRP information from NYISO or NYSERDA?
1. Yes
    - 292a. What type of information?
      8. Newsletter or direct mailing with DLRP information
      9. Description of the DLRP from a NYISO representative
      10. Description of the DLRP from a NYSERDA representative
      11. Information on the DLRP on NYISO's website
      12. Information on the DLRP on NYSERDA's website
      13. Other (specify: \_\_\_\_\_)
      14. Don't recall specific type of information
  2. No
  3. Don't recall
344. Do you have a Con Edison account executive?
1. Yes (*continue to Question 14*)
  2. No (*skip to Question 16*)
345. Has your Con Edison account executive discussed the DLRP with you?
1. Yes
    - 14a. Approximately how many times has your account executive discussed the DLRP with you?
      20. Once
      21. Approximately two to five times
      22. More than five times
      23. Don't recall
  2. No (*skip to Question 16*)
  3. Don't recall (*skip to Question 16*)
346. Did your Con Edison account executive describe how the program has two levels of participation, a voluntary and mandatory level?
1. Yes
  2. No
  3. Don't recall
347. After discussing the DLRP with your Con Edison account executive, how adequately would you say they provided information and details about the program? Please use a scale from 1 to 5, with 5 being 'very adequate information' and 1 being 'very inadequate information'. (*Do not read options below*)
1. Very inadequate information & details about the program
  2. Somewhat inadequate information & details
  3. Adequate information & details

4. Slightly more than adequate information & details
5. Very adequate information & details

348. Have you visited the Con Edison website to get information on the DLRP or other demand response programs?
1. Yes (*continue to Question 17*)
  2. No (*skip to Question 18*)
  3. Don't recall (*skip to Question 18*)
349. How useful did you find the DLRP information included on Con Edison's website? Please use a scaled from 1 to 5, with 5 being 'very useful' and 1 being 'not at all useful'. (*Do not read options below*)
1. Not at all useful
  2. Somewhat not useful
  3. Neutral
  4. Somewhat useful
  5. Very useful

350. Please indicate any additional ways you have heard about the DLRP. (*select all that apply*)

Select	
	46. Program information included in newsletter from Con Edison
	47. Other (non-Con Edison) website (specify: _____)
	48. Con Edison employee besides account executive
	49. NYISO
	50. NYSERDA
	51. participation in another demand response program
	52. Aggregator
	53. Trade/Industry groups such as BOMA (Building Owners and Managers Association), REBNY (Real Estate Board of NY), GNYHA (Greater New York Hospital Association)
	54. Other (specify: _____)

351. Are you aware that the DLRP has two different levels of participation: 1.) voluntary, which does not require participation when an event is called, and 2.) mandatory, which requires participation with risk of financial penalty, but also has additional incentives for participation?
1. Yes
  2. No
  3. Unsure
352. Please rate how well overall, from all the ways you have learned about the DLRP, you feel you have been properly informed/educated about DLRP program rules, procedures, and alert protocols, using a scale from 1 to 5, with 5 being 'very informed' and 1 being 'very uninformed'. (*Do not read options below*)
1. Very uninformed
  2. Somewhat uninformed
  3. Neutral
  4. Somewhat informed

5. Very informed

353. Have you considered participating in the DLRP?

1. Yes
2. No

354. How significant is each of the following as a potential reason why you haven't enrolled in the DLRP to date? Please use a scale from 1 to 5, with 5 being a 'very significant' reason for not participating and 1 being a 'very insignificant' reason for not participating. (DK is if the customer doesn't know, but do not read as an option)

1. Don't know enough about the program to make informed decision	1 2 3 4 5 DK
2. Don't have enough curtailable load to meet minimum program requirement of 50 kW	1 2 3 4 5 DK
3. Don't have the internal engineering support or time to determine how to curtail load or quantify what is potentially available for curtailment	1 2 3 4 5 DK
4. Don't have the internal engineering support or time to determine if the program benefits are significant enough to enroll	1 2 3 4 5 DK
5. Too much paperwork/time commitment involved in enrolling in the program	1 2 3 4 5 DK
6. Do not currently have an interval meter at my facility	1 2 3 4 5 DK
7. Incentive amounts are too low to entice me to participate/not enough to justify the risk	1 2 3 4 5 DK
8. Unsure if I can always comply with the 30-minute event notification period	1 2 3 4 5 DK
9. The program includes financial penalties for non-compliance	1 2 3 4 5 DK
10. The severity of the financial penalty for non-compliance versus the available incentive levels	1 2 3 4 5 DK
11. Concern about the number of annual DLRP events that will be called	1 2 3 4 5 DK
12. Concern about too many overall DR events from participating in multiple programs	1 2 3 4 5 DK
13. Other (specify: _____)	1 2 3 4 5 DK

355. Please indicate how likely the following potential program modifications are to entice you to participate in the DLRP, using a scale from 1 to 5, with 5 being 'very likely' and 1 being 'very unlikely'.

1. Assistance with completing enrollment paperwork	1 2 3 4 5 DK
2. More detailed program information presented by Con Edison to help me make an informed decision	1 2 3 4 5 DK
3. Increase in summer reservation payment (currently \$3/kW/month) for the mandatory program	1 2 3 4 5 DK
4. An enrollment incentive, similar to the \$3/kW/month reservation payment in the mandatory program, that is offered for the voluntary program in the first year you enroll. This type of incentive would be paid regardless of whether an event is called.	1 2 3 4 5 DK
5. Increase in incentive payment (\$/kWh) for participation in called events	1 2 3 4 5 DK

6. Reduction of penalty for non-compliance in mandatory program	1 2 3 4 5 DK
7. Elimination of penalty for non-compliance in mandatory program	1 2 3 4 5 DK
8. Simpler method or more clarity in how to calculate my baseline load and savings during a demand response event	1 2 3 4 5 DK
9. 30-min event notification period increased to 2-hours	1 2 3 4 5 DK
10. Day-ahead preliminary notice that a DLRP event MAY be called (actual notification would still be 30-min)	1 2 3 4 5 DK
11. Smaller limit to the number of annual DLRP events that require mandatory participation (currently 6 events per year)	1 2 3 4 5 DK
12. Gradual increase in incentive rate after the first called DLRP event (payment amounts increase for 2 <sup>nd</sup> event, and again for 3 <sup>rd</sup> event, etc.)	1 2 3 4 5 DK
13. Auditing assistance from a utility representative/energy consultant/aggregator to more accurately quantify your load management capabilities and quantify the program's costs and benefits	1 2 3 4 5 DK
14. Low cost financing for generation equipment	1 2 3 4 5 DK
15. Other (specify: _____)	1 2 3 4 5 DK

356. Are you aware of the option to participate in the DLRP through a load aggregator?

1. Yes
2. No

357. Would you potentially be interested in participating in the DLRP through an aggregator?

1. Yes
2. No
3. Unsure

358. Would you be interested in attending a no-obligation information session sponsored by Con Edison to better understand DLRP details, including enrollment, event procedures, incentives, and penalties?

1. Yes
2. No
3. Unsure

359. Out of the following choices, please rank, in order, your top three preferences for effective ways Con Edison can provide you with DLRP information to increase your understanding of the program. (Indicate 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> choice)

Rank	
	1. Direct mailing with program details and updates
	2. Email with program details and updates
	3. Phone call from Con Edison account executive or DLRP representative
	4. Face to face meeting with Con Edison account executive or DLRP representative
	5. More detailed program information on Con Edison's DLRP website
	6. Information sessions sponsored by Con Edison
	7. Other (specify: _____)

360. Have you ever been called directly by your Con Edison account executive or other Con Edison staff with a request to voluntarily reduce load in a non-DLRP situation (to alleviate a specific problem on the network that may adversely affect your facility later in the day)?

1. Yes
2. No (*skip to Question 312*)

361. Did you assist Con Edison with the voluntary reduction?

1. Yes (*continue to Question 362*)
2. No (*skip to Question 312*)

362. What methods did you use to curtail load?

1. Ask employees to conserve
2. Turn off or dim lights
3. Reduce plug loads
4. Temporarily shut down major processes
5. Temporarily shut down facility
6. Change HVAC set points on thermostat
7. Change set points on facility EMS
8. Utilize hybrid gas or steam A/C units
9. Turn off or limit use of elevator banks
10. Start on-site generation
11. Other (specify: \_\_\_\_\_)

363. As part of our evaluation, we are also planning to conduct site visits of representative facilities to assess the technical opportunities and financial benefits that may be available from participation in peak load management programs. If your facility is chosen, you would receive a brief report at no cost to you. These site visits should only take 2 hours and should occur sometime in March.

Would you be willing to talk to one of our engineers and allow us to conduct a site visit at your facility?

9. Yes
10. No

*(If Yes, ask the facility representative to provide a contact name, phone number and convenient time to call to arrange the appointment.)*

364. Do you have any final comments or recommendations for how the DLRP could be improved in the future?

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**Thank you for your help.**