NEW YORK STATE
PUBLIC SERVICE COMMISSION

Proceeding on Motion of the Commission to Consider Demand Response Initiatives PSC Case No. 09-E-0115

PETITION OF
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FOR APPROVAL OF CHANGES TO DEMAND RESPONSE PROGRAMS

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OF NEW YORK, INC.

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INTRODUCTION

Consolidated Edison Company of New York, Inc. (“Con Edison” or the “Company”) hereby petitions the New York State Public Service Commission (“Commission”) for approval of changes to its Demand Response (“DR”) programs to improve the design of its Commercial System Relief Program (“CSRP” or “Rider S”), Distribution Load Relief Program (“DLRP” or “Rider U”), Direct Load Control Program (“DLC” or “Rider L”) and retire the Critical Peak Rebate Program (“CPRP” or “Rider T”). This petition also provides supplemental support for revised tariffs Rider S, Rider U and Rider L and the filing letter, dated November 17, 2011, describing the revised tariffs. In addition, this petition proposes changes to improve the economic and operational potential of the non-tariffed Network Relief Program (“NRP”) and the Residential Smart Appliance Program (“RSAP”).

Well designed DR programs, in particular “Peak Shaving” programs that can be called upon on the hottest days of the year, when demand for electricity is at its highest, provide the
Company with an excellent opportunity to assess how DR can be utilized in future utility planning. DR programs will be an increasingly important component of Con Edison’s efforts to cost-effectively reduce peak load related economic social and environmental costs. The changes proposed in this petition are necessary to make the programs more customer friendly, allow for greater innovation, and help increase enrollment.

The Company is sensitive to the need to effectively manage DR program costs as these new solutions are developed. In this context the Company believes it is critical to recognize and address opportunities to improve the customer value proposition of programs at the earliest possible time.

The Company looks forward to continuing its collaborative efforts with the Department of Public Service Staff (“Staff”) and other parties to implement these proposed DR program improvements.

**BACKGROUND**

In its February 17, 2009 order initiating the Demand Response Proceeding (“DR Order”), the Commission directed the Company to: (1) provide an assessment of the potential for cost-effective demand response through 2015; (2) propose cost-effective demand response programs; (3) assess how to integrate competitive providers into the proposed programs; (4) propose a funding source to recover costs associated with demand response programs; (5) assess whether and how demand response program delivery and customer recruitment can be integrated with energy efficiency programs (including programs not administered by the Company); (6) detail evaluation, measurement and verification methods; and (7) coordinate with the New York Power Authority (“NYPA”) and other energy service companies’ demand response programs to
increase opportunities for cost-effective demand response measures. The Company was required to focus its efforts on New York Independent System Operator (‘NYISO’) Zone J in response to this DR Order. In addition, the DR Order required the Company to provide the Commission with details of suggested programs intended to reduce: (1) system peaks; (2) network coincident peaks; and (3) emissions in environmental justice areas.

To develop a strategy for DR enrollment goals in Zone J, the Company considered its 2008 study assessing callable load opportunities, system design (including load pocket constraints), peaking unit emissions, and experience with its existing DLRP, DLC and Targeted DSM programs. Finally, the Company evaluated the cost-effectiveness of various DR programs.

On June 1, 2009, the Company proposed several new Peak Shaving programs (“June Filing”), specifically for Zone J, to pilot over a two-summer assessment period (“Assessment Period”). The proposed Peak Shaving programs were: CSRP, RSAP, CPRP and NRP.

On October 23, 2009, the Commission issued its Order Adopting in Part and Modifying in Part Con Edison’s Proposed Demand Response Programs in this proceeding (“October

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1 Case 09-E-0115, Proceeding on Motion of the Commission to Consider Demand Response Initiatives, Order Instituting Proceeding, issued and effective February 17, 2009, pp. 3-4.
2 The DR Order stated that “[t]his proceeding will focus demand response efforts in the New York Independent System Operator (NYISO) Zone J where demand response is expected to be the most cost-effective. NYISO Zone J, served by Consolidated Edison Company of New York, Inc. (the Company), experiences the greatest rate of peak load growth and the highest wholesale energy and capacity costs. NYISO Zone J also relies on numerous peaking generation units, some of which are relatively inefficient and produce high emissions. For these reasons, the initial scope of this proceeding will be limited to NYISO Zone J.” Id. p. 2. The Company notes that Westchester County is not part of Zone J.
3 Environmental justice areas are identified by the New York State Department of Environmental Conservation (“DEC”); a full description is available on DEC’s website.
4 As per the Commission’s Memorandum Order, dated April 24, 2008, in Case 08-E-0176, Con Edison engaged Summit Blue Consulting, LLC to perform a Callable Load Study, which was submitted to the Commission on May 15, 2008. This Study assessed callable load opportunities over a ten-year horizon and the market potential by customer segment, not by program.
5 The Assessment Period would cover a minimum of 24 months encompassing two summer periods. DR events may be called in each summer period (i.e. June through September), with measurement, verification and evaluation (“MV&E”) and reporting undertaken in the following fall and winter periods.
Order”). To comply with the October Order, the Company filed tariff revisions, Rider S for the CSRP and Rider T for the CPRP.\textsuperscript{6} The filed tariffs had an effective date of December 15, 2009.\textsuperscript{7}

Despite various marketing efforts, summer 2010 enrollment in CSRP and CPRP was small, with limited resources signed up in both programs. In addition, participant performance during the 2010 summer events was disappointing.

The Company carefully examined the Peak Shaving programs in order to improve both enrollment and response to called events. Based upon information the Company obtained through its 2009 and 2010 marketing efforts of the programs,\textsuperscript{8} customer interaction and further focus group discussions with interested parties, the Company determined that several key factors resulted in the low CSRP and CPRP customer enrollment. The most important factors were the duration and frequency of events, and enrollment in other capacity based programs.

The Company proposed revised CSRP and CPRP design changes, commencing 2011, intended to increase enrollment, improve response to events, leverage NYISO enrollment and make it easier for customers to participate in these programs. The Company also detailed changes to Con Edison’s DLRP, RSAP and NRP programs designed to streamline programs, make them more consistent and maximize DR program benefits.

In its January 20, 2011 Order Adopting Modifications to Demand Response Programs ("Modifications Order"), the Commission approved the majority of the proposed amendments. As set forth in the Modifications Order, the Commission modified or rejected certain of the proposed amendments and added certain new requirements, including a requirement that the

\textsuperscript{6} No tariff provisions were filed for the remaining programs, RSAP and the NRP, as RSAP does not pay for performance and NRP will be contracted via a Request for Proposal ("RFP").

\textsuperscript{7} The Company filed further revisions to the Metering Section of CSRP on April 13, 2010, effective April 14, 2010, to comply with the Commission’s Order issued March 25, 2010 in Case 09-E-0115, which both adopted the Company’s filing of December 14, 2009, and directed the Company to file the further revisions.

\textsuperscript{8} The Company held several discussions and gave presentations on the Peak Shaving programs with many potential participants including, NYISO registered DR service providers, the Real Estate Board of New York, Related Group, Grub and Ellis and industrial community organizations such as South Williamsburg and South West Brooklyn.
Company file a revised plan for Commission approval for customer access to real-time meter data during the DR event and notification periods. The Company filed its plan for providing commercial demand response participants with access to meter data in a manner that supports market requirements and customer needs on March 21, 2011. The Commission approved the plan on July 14, 2011. \(^9\)

**Program Goals**

Demand Response programs should be both cost-effective and operationally effective; both of these elements can only exist in an environment where there is strong customer engagement. In discussion with customers and other stakeholders it has become clear that the selection of programs and conditions within each of the programs can appear complex to our customers. In addition, the Company also recognizes that while the Commission has created a regulatory environment that enables the effective use of DR solutions at multiple points in the electricity supply chain, the operation of multiple DR programs by multiple entities (NYISO, utilities, NYPA) can cause confusion for stakeholders.

The Company also recognizes that while testing new potential solutions is important in developing the most effective supply design for the future, it is important to control costs and mitigate efforts that may be somewhat duplicative in nature at a time when our customers are experiencing considerable economic pressure.

The Company has given careful consideration to the above elements as it has considered possible improvements to the current portfolio of DR programs. Accordingly, the Company proposes the following program changes;

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\(^9\) Case 08-E-1463, Plan for Providing Rider U Data Access in a Manner that Supports Market Requirements and Customer Needs, *Approved as Recommended and so Ordered*, issued and effective July 14, 2011.
Rider L - Direct Load Control

The DLC program has grown substantially over the past decade and now includes approximately 25,000 customers, representing more than 34 MW of peak load across the Company’s service territory, whose central air conditioning can be remotely cycled in system critical situations. DLC customers receive a thermostat for their central air-conditioning that enables the Company to remotely cycle the air-conditioning on and off and also allows customers to preset and remotely control their air-conditioning from either a personal computer or smart phone. All DLC customers allow the Company to reduce the energy demand from their air-conditioning at times of system contingency; over the past year a small number of customers, approximately 1,200 in Zone J, have also allowed the Company to control their air-conditioning load at times of peak demand to enable the Company to shave the system peak. At all times, under all conditions, the customers have retained the ability to over-ride any control condition the Company has applied to their air-conditioning operation. Customers who participated in the peak shaving pilot received a payment of $25 for residential customers and $50 for commercial customers at the end of the season if they did not override during the events.

While the Company has been marketing and providing incentives to customers to garner additional enrollment in peak shaving events, the distinction between system critical situations, being driven by very specific network contingencies, and peak shaving situations, driven by the forecast of extreme demand on the electric distribution system, is not always clear to customers and has created some customer confusion. That confusion generates additional operational costs, which the Company believes could be better applied for customer benefit. The Company has spent approximately $50 per customer to educate and enroll the approximately 1,200 customers currently enrolled in peak shaving. This cost is in addition to the incentives paid. Assuming a
similar or higher cost to enroll the remaining DLC customers, there is potential for costs in excess of $1.2 million. These costs would have to be recovered from customers if the Company continues to be required to enroll DLC customers in peak shaving on a customer-by-customer basis. In order to maximize the peak shaving benefits while avoiding the imposition of unnecessary costs on customers, the Company proposes that all DLC customers be available for participating in both contingency and peak-shaving events, while retaining their complete event over-ride control.

**Rider U - Distribution Load Relief Program**

During the course of 2011, the Company recognized that the Rider U tariff language may have not been as clear as it could be with regard to the objective of the program. The program is designed to be a classic demand side solution that provides relief to the electric distribution system by reducing the demand for electricity which needs to be carried over the Company’s distribution system. The intent is that customers are incented to reduce their import requirement from the Company’s distribution system by curtailing some of their operations or by engaging on-site generation to temporally supply the electricity required or a combination of both.

The program was not intended or designed to be a supply side program incenting customers to export electricity from on-site generation, especially at a time when distribution infrastructure is under some constraint. The Company electric tariff includes other programs under which customers may be compensated for exporting electricity and defines the circumstances under which such exports are appropriate. The Company proposes tariff language changes to provide greater clarity of the purpose and operation of the program, so that there is less potential for confusion in the future.
Rider T - Critical Peak Rebate Program

CPRP was approved as a two-year pilot program for summer 2010 and 2011, but was then extended to summer 2012. The program is open to all customer classes and allows participants who reduce their usage by at least 1 kW during events to receive a kWh payment for reductions made during events. The program is clearly delineated between larger customers, those with demands of 250 kW or greater, and smaller customers, those with demands less than 250 kW.

1) Demands of 250 kW or Greater - The CPRP option for larger customers essentially acts in a nearly identical fashion as the CSRP program with the exception that none of the penalties or deratings associated with a load commitment are applied to CPRP. In this context the larger customer option of the CPRP essentially acts as the “voluntary” option of CSRP, just as DLRP has “voluntary” and “mandatory” options. In an effort to simplify the DR tariff for the benefit of stakeholders, the Company proposes that the over 250 kW option be removed from CPRP and that CSRP be expanded to include a voluntary option. This change would allow for consistency between the contingency and peak-shaving products, improve program simplicity, minimize stakeholder confusion and allow for a more streamlined program enrollment process.

2) Demands Under 250 kW - The CPRP option for smaller customers has faced challenges since its inception for several reasons. These reasons include: the high relative cost of the equipment required to enable customer participation; participation is limited to customers within Zone J; the requirement that the equipment interact with Automated Meter Reading (“AMR”) metering; and the relative lack of
enthusiasm from customers for an incentive of $1.50 per kWh of reduction during a peak-shaving event. The current equipment solution cost for this program is $600. Apart from having an AMR meter and residing in Zone J to participate in the program, a further requirement of the program is that the customer allow for communications to be conducted over their broadband internet service. After marketing the small customer component of the program over the past two years, the Company has enrolled only seven applicants. Such a low level of enrollment cannot provide for a statistically appropriate analysis of the lessons that were to be determined from the program. Further, even if enrollment were to greatly increase for 2012, and there is no reason to believe there would be an increase of a level to be statistically important (e.g., a 1000% increase would only be an additional 70 customers), the Company would not have the load volume for the period needed to be able to conduct an analysis for the two summers ending in 2012.

In addition, the program’s original goal was investigating customer response to price signals, which is duplicative with other, more comprehensive, investigations of customers’ price responsiveness (e.g., Mandatory Hourly Pricing and the large customer component of CPRP).

The Company proposes that the CPRP program for small customers be eliminated and that Rider T be retired. To continue to incur program costs is not a wise use of customer funds and not in the best interests of the Company’s customers since the program has not effectively tested price responsiveness and is burdened by high equipment costs, geographical constraint and an incentive that is too low to attract customer participation. There are no cost-effective “fixes” available at this time that
would eliminate the problems described above. The program has a budget of $2.2 million and while actual costs are considerably lower, approximately $370,000 due to low performance, such funding should be directed to other more immediately available opportunities to benefit customers.

Residential Smart Appliance Program

The Company proposes that the RSAP pilot be expanded to take advantage of the opportunity, described below, to enable customers to better manage their window air-conditioning units and to integrate those units into the Company’s demand response and peak shaving programs. The redirection of funding resulting from eliminating the smaller customer component of CPRP would provide for the costs associated with such expansion and mitigate the need to generate any further customer costs.

The RSAP was created to extend the ability to participate in demand response to a wide cross-section of residential customers in the New York City area. Currently enrolled customers receive a free home energy management system with installation and additional communications technology that allows them to reduce load. Like the DLC program, this program allows the Company to reduce a customer’s load during events while the customer retains the ability to over-ride the Company’s actions. The RSAP pilot is approved through 2012, when results will be analyzed. Currently RSAP has an approved budget of $2.2 million. The program currently has 112 customers enrolled and is capped at 300 customers.

A critical area of focus for RSAP is empowering customers to effectively manage their room air-conditioners. There are over six million room air-conditioners (including window, wall units and packaged terminal air-conditioners (“PTACs”)) in New York City representing approximately 2,500 MW of peak load. Company forecasts suggest that as many as another one
million window air-conditioning units will be deployed over the next five years. The Company believes that enabling customers to better manage these devices and allowing for integration of room air conditioners into demand response and peak shaving programs is a great opportunity.

Until the recent advent of Home Area Networks (“HAN”) and smart grid technologies, there were no cost-effective technologies available to control window air-conditioners for peak shaving and demand response purposes. Although HANs provide the means to control room air-conditioners on command, this is generally not a popular option with customers because the room temperature is not regulated when the window air-conditioners are turned off and the HAN technology remains relatively expensive and complex. An alternative to HANs is to have smart technology built directly into the room air-conditioner appliance, but this is still in development. Even with the expectation that these smarter appliances are coming to the market in the near future, the replacement rate on an installed base of six million window air conditioners means that the option will not be widely available in the short-term. As part of an initiative to manage the room air-conditioning load, the Company has filed a patent application covering a peak reduction and demand response technology that will allow the Company to remotely turn on or off room air-conditioning loads either on command or in response to an ambient room temperature sensor, and also allow residents to set modes of use based on their lifestyle and schedule. The ambient room temperature sensor would directly empower customers to intelligently manage their room air-conditioners remotely, using software such as mobile phone applications. The Company’s motivation behind this patent is to provide a significant added incentive to the customer to allow the Company to introduce a peak reduction and demand response technology into the customer’s private residence or business. Another benefit of the
technology is that it could reduce the peak load for master-metered buildings where residents do not pay their electric bills directly.

Working with NYC-based startup ThinkEco and building on top of its patent-pending smart-plug Modlet platform, the Company and ThinkEco jointly developed a prototype of this room air-conditioning demand response technology and conducted a proof-of-concept pilot in the summer of 2011. ThinkEco’s Modlet is a self-installable plug-load management solution with hardware and software; the addition of the room air-conditioning technology onto its platform now enables the Company to conduct real-time tracking and control of (a) room air-conditioning energy use and (b) ambient room temperature.

Approximately 400 room air-conditioners were enrolled in the Modlet pilot (branded as CoolNYC). During the pilot, a total of five demand response events were conducted, two of which were during the heat wave in late July 2011. Analysis of the events and other pilot findings is not yet complete, however, preliminary data shows the convenience offered by the product, such as smart phone applications coupled with the non-intrusive nature of the technology, led to active participation by customers. The relatively low price point and easy-to-install nature of ThinkEco’s product should enable the Company to deploy this technology to control 2012 summer peak load on a larger scale in a cost-effective manner.

A key area of focus for the Company in an expanded pilot using this device, targeted at 10,000 units, will be in the Greenwood load pocket. Unlike other options, the Modlet is not restricted by metering capabilities and communication, so the Company is able to focus on geographic areas of high priority. The expected cost associated with deploying 10,000 units is approximately $1.8 million. The expanded pilot is a better focus for customer funds than the
smaller customer option of CPRP and the Company requests that funds be re-directed to the Modlet initiative under RSAP.

With this in mind the Company proposes that the RSAP approved budget be increased from $2.2 million to $4 million with funds reallocated from CPRP.

**Network Relief Program**

The NRP was designed to target specific networks that have a particular need for system relief. As proposed, the program anticipates issuing Requests for Proposal (“RFPs”) for individual customers and aggregators to provide specified quantities of MW relief during certain hours, for an agreed number of years. The purpose of the program is to obtain long term commitments for load shedding during regular peak periods on specific system networks which would allow the Company to more efficiently incorporate DR resources into its planning and defer system capacity upgrades that would otherwise be required.

Currently NRP is approved as a pilot through 2012. The restricted time period for the pilot is in conflict with the objectives of the program. By design, the Company must contract for the required resources for multiple years and well in advance of the actual need so that assurance can be gained (as is true in the Company’s Targeted Demand Side Management Program). Engineering solutions quite often need a multiple year lead time to design and build for use prior to actual system constraint impact. Alternative solutions need to be implemented before the Company commits to an engineering solution.

For the above-stated reasons, the Company proposes that the NRP time limit be lifted.

**CONCLUSION**

Demand Response programs will be an increasingly important component of Con Edison’s efforts to cost-effectively reduce peak load related economic, social and environmental costs. Feedback from customers and interested parties drove the Company to reassess the design
of existing programs and to design and propose changes necessary to make the programs more customer friendly and to increase enrollment, while maintaining strong benefits and mitigating customer cost impact. For the reasons stated above, the Company requests that its proposed changes to its Demand Response programs, as described in this petition, be approved. Proposed tariff language has been submitted in a separate filing.

Dated: New York, NY
November 17, 2011

Respectfully submitted,

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