BQDM QUARTERLY EXPENDITURES & PROGRAM REPORT

Q3-2016

Contents

1.0 Background

On December 12, 2014, the New York Public Service Commission ("Commission") issued its *Order Establishing Brooklyn/Queens Demand Management Program* ("Order").[1] The Order requires Consolidated Edison Company of New York, Inc. ("Con Edison" or the "Company") to submit quarterly reports to the Commission on its "expenditures and program activity" that include project costs, project in-service dates, Monthly Adjustment Clause ("MAC") recoveries, incremental costs incurred, operational savings, and other benefits. This is the seventh Brooklyn Queens Demand Management ("BQDM") quarterly report ("Report") and primarily covers expenditures and program activity for the third quarter of 2016.

2.0 Executive Summary

2.1 Costs and Recovery

The Company spent $5.9 million on the BQDM Program during the third quarter 2016, and has spent $38.2 million to date (see Figure 1 and Table 1).[2]

[1] Case 14-E-0302, *Petition of Consolidated Edison Company of New York, Inc. for Approval of Brooklyn Queens Demand Management Program,* Order Establishing Brooklyn/Queens Demand Management Program, issued and effective December 12, 2014.

[2] Approximately $0.4 Million of expenses related to Utility-side Distributed Energy Storage System and Voltage Optimization were reconciled during the preparation of the second quarter report and were included in that report. Because the accounting entries were done in July 2016, future quarterly reports, starting with this Report, will consider these expenses to be a part of third quarter expenses rather than a part of second quarter expenses.

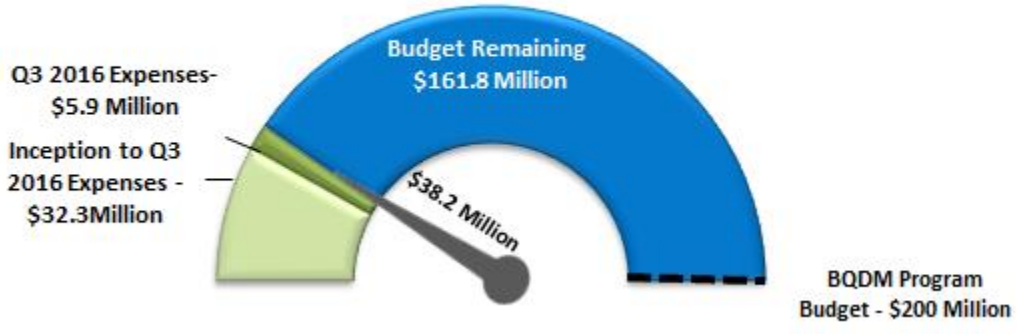

Figure 1: BQDM Program Budget and Expenditures[3]

The costs incurred during the quarter are being amortized over a period of 10 years and recovered through the MAC in accordance with the Order. The Company incurred expenses related to efforts undertaken to address reliability needs in the BQDM target area ("BQDM Area" or "BQDM Target Area" or "Target Area")[4] prior to the issuance of the Order. Those efforts were pursued through the then existing Targeted Demand Side Management ("TDSM") program.[5] In order to accurately reflect all costs incurred to address the projected overload in the BQDM target area and to maintain a single set of accounting rules on all expenses related to the BQDM Program, charges incurred under the TDSM program that are related to the BQDM target area have been reclassified to the BQDM program, so that the Company can

[3] Note that the costs incurred during the quarter may include expenses related to services rendered prior to the quarter if the invoices were processed during the quarter. Similarly, the costs incurred during the quarter may not include all expenses related to services rendered during the quarter, if the invoices related to such services were not processed during the quarter. In addition, the inception to 2016 second quarter expenses were reduced by the $0.4 Million reconciliation as described in footnote 2.

[4] References to Brooklyn-Queens Area in this filing refer to north central and eastern Brooklyn neighborhoods, including parts of Greenpoint, East Williamsburg, Bushwick, Bedford-Stuyvesant, Crown Heights, East Flatbush, Brownsville, and East New York, and southwestern Queens neighborhoods, including parts of Richmond Hill, Howard Beach, Broad Channel, Ozone Park, South Ozone Park, Woodhaven and Kew Gardens.

[5] Case 09-E-0115, *Proceeding on Motion of the Commission to Consider Demand Response Initiatives*, Order Adopting with Modifications a New Targeted Demand Side Management Program for Consolidated Edison Company of New York, Inc., issued and effective June 1, 2011.

collect all BQDM Program related charges incurred before or after the issuance of the Order as BQDM Program costs.[6]

Table 1: BQDM Program Third Quarter 2016 Expenditures

Program Expenditures ($Million)	Jul-16	Aug-16	Sep-16	Q3-2016 Total	BQDM Total
Customer-Side Solutions					
Incentives	$1.40	$1.30	$0.87	$3.56	$18.49
Program Implementation & Administration	$0.03	$0.03	$0.03	$0.09	$1.03
Sales, Marketing, & Training	$0.01	$0.01	$0.02	$0.03	$0.27
Technology, Evaluation Measurement and Verification	$0.08	$0.11	$0.14	$0.33	$5.70
Third-Party Oversight	-	-	-	-	-
Non-traditional Utility-Side Solutions					
Program Implementation, Administration & Operations	$0.37	$1.38	$0.12	$1.87	$12.61
Technology, Evaluation Measurement and Verification	$0.01	-	-	$0.01	$0.04
Total	**$1.9**	**$2.8**	**$1.2**	**$5.9**	**$38.2**

The work to implement the load relief programs (described in more detail in Section 3 of this Report), research new technologies, manage RFI, RFP and other acquisition activities, and develop foundational elements of the BQDM Program (i.e., accounting protocols, regulatory reporting, marketing approaches and outreach) was primarily conducted by Con Edison employees. The Company developed a General Accounting Procedure ("GAP")[7] for treatment of costs and collections associated with the BQDM program and established internal billing accounts to properly manage program expenses. The Company commenced collections of expenses related to the BQDM program, through the MAC, in the third quarter of 2015. The

[6] *See* http://www.coned.com/documents/elecPSC10/GR25-Forms.pdf, Leaf 343.1, Section 26.1.1 (43).
[7] The Company filed the GAP with the Commission on February 10, 2015. *See* http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={59F25E6A-7ABA-4D95-BBD2-F6142F90C798}

Company recovered $728,850 in BQDM program charges in the third quarter of 2016 adding up to $1,976,331 program inception to date.

2.2 Projects Summary

During the first quarter of 2016, the Company achieved its annual goal for customer-side solutions ahead of schedule through successful implementation of over 9 MW of peak hour customer-side solutions, primarily energy efficiency measures, before the target completion date of June 1, 2016. By the end of the third quarter, over 20 MW of peak hour non-traditional utility side and customer-side solutions were installed and operational based on the Company's current estimates.

The Company continued to make progress in contracting and installation of energy efficiency measures through incentive adders to two existing Energy Efficiency Transition Plan ("ETIP") programs - the Small Business Direct Install ("SBDI") and Multi-Family Energy Efficiency ("MFEE") programs. In addition to the success of these programs, the Company made significant headway in contracting for various energy efficiency upgrades in the residential, commercial and public building sectors. Through the third quarter, the Company has contracted for an additional 2.1 MW of customer-side load relief at the peak hour (between 9-10 pm for the constrained sub-transmission feeders in the BQDM area) based on current best estimates of hourly load relief patterns. By the end of the third quarter, the load relief commitments reached approximately 14.9 MW of which 13.8 MW of load relief measures were operational (Section 3.1 presents a detailed account of activities on various customer-side solutions). Figure 2 provides an illustration of customer-side solutions, both contracted and

operational. Solutions illustrated as operational are a subset of contracted solutions and the difference between contracted and operational amounts is indicative of the quantity of load relief solutions currently in the implementation pipeline for the end of 2016. The Company expects to achieve this load relief through installation of efficiency measures at over 5,000 small business and 1,400 multi-family buildings, which include more than 9,300 apartments.

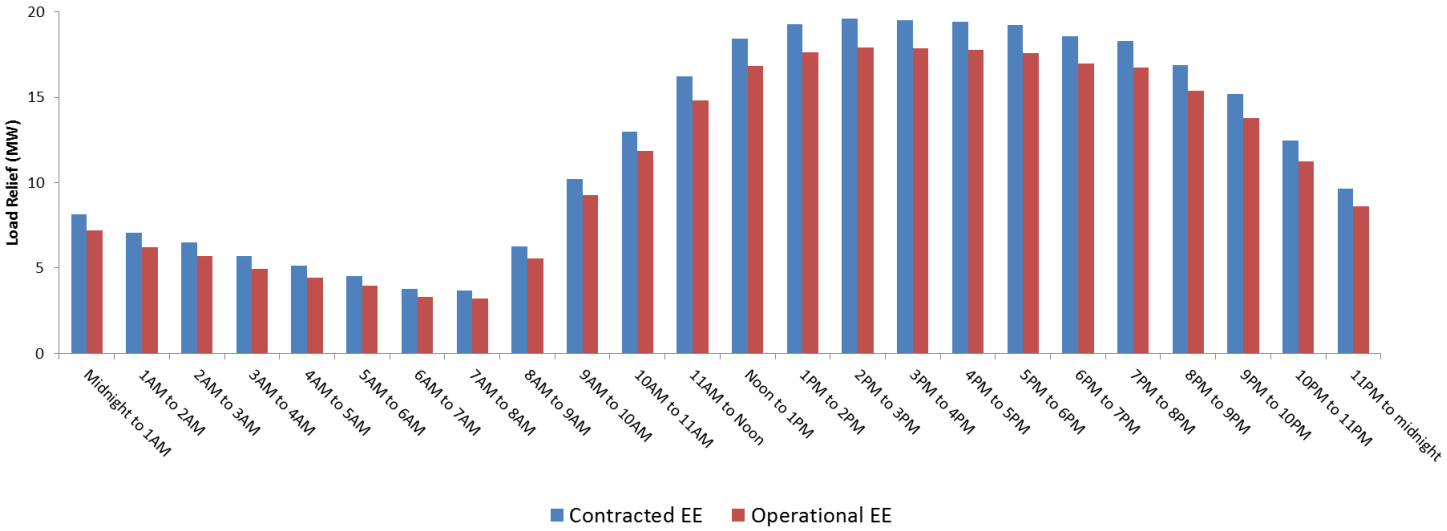

Figure 2: Contracted vs. Operational Energy Efficiency

During the third quarter, the BQDM Program initiated an innovative distributed energy resource procurement approach by holding its first-ever auction to obtain commitments for dynamic load management resources in the Target Area. The resources cleared in the auction are expected to provide 22 MW of load relief on aggregate by 2018 on afternoons and

evenings[8] when the Company asks participating customers to cut back on their consumption of energy from the grid.

Additionally, the Company is in the process of acquiring and installing non-traditional utility-side solutions as scheduled with some measures already operational during the summer of 2016. The Company was able to meet all the reliability needs for the projected overload in 2016 for a design peak day using a combination of customer-side solutions[9] and non-traditional utility-side solutions.

Beginning with the quarterly report for the second quarter of 2015, the Company has provided charts showing current best estimates of load relief solutions' contribution, both already acquired as well as anticipated for the next summer period, on an hourly basis in relation to the non-traditional load relief need for each hour of the design peak day including the twelve hours in the BQDM overload period (approximately noon to midnight).[10] The Company believes this provides a better illustration of the diverse nature of non-traditional solutions that are not all available during the entire forecasted overload period and that are thus insufficiently defined by use of either a singular peak demand MW metric or the maximum load relief provided by

[8] 22 MW load relief is the aggregate value of auction awards throughout various call windows, also referred to as "products." The hourly load relief will vary during the individual hours of the event call window. Hourly event performance will be monitored through Company-installed interval revenue meters and reported in future program reports.

[9] The Company also activated its Direct Load Control ("DLC") and Commercial System Relief Program ("CSRP") resources territory-wide, including the resources in the BQDM networks, per the rules of these demand response programs. In addition, Distribution Load Relief Program ("DLRP") resources were activated in the BQDM networks during the third quarter of 2016 as a precautionary heat wave measure.

[10] The Company has completed initial data collection of energy consumption data from representative samples of customers who have participated in energy efficiency programs in the BQDM target area and applied the newly-established load curves to the expected load relief from energy efficiency improvement at small businesses and multi-family dwellings in the BQDM Program area.

each of the solutions during the overload period. Figure 3 below illustrates the anticipated hourly load relief provided by solutions that have already been implemented and are operational by the end of the third quarter along with the hourly goals of the BQDM Program for 2016.

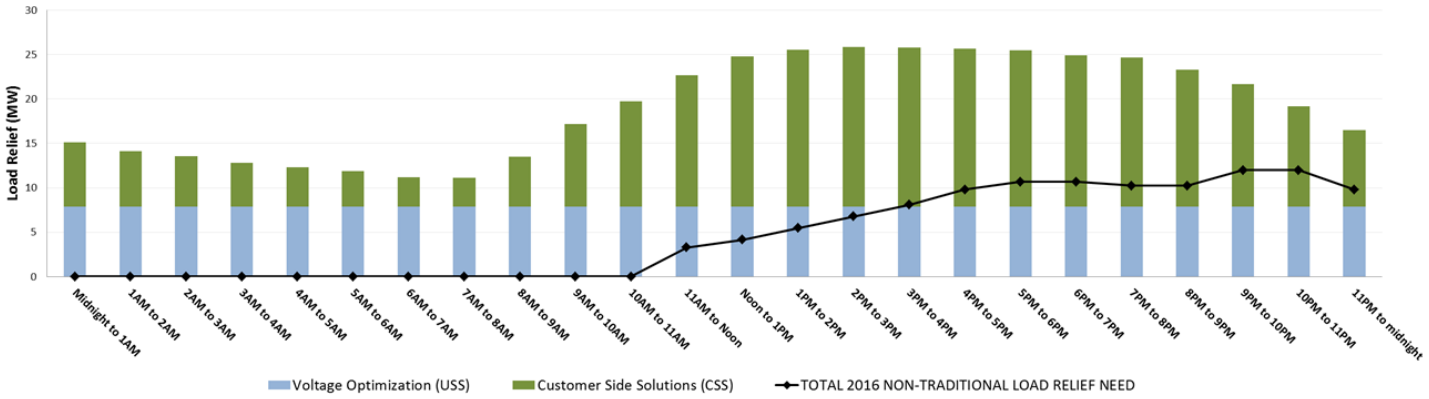

Figure 3: BQDM Load Relief Progress

The Company began and/or continued to pursue other load relief opportunities on both the customer-side and utility side as shown in Table 2. The Company efforts during the quarter are described in greater detail in Section 3 of this Report.

Table 2: BQDM Program Activity

	Design Stage*	Deployment Stage*
Customer-side Solutions		
Small Business Direct Install		√
Multi-family Energy Efficiency		√
Residential Energy Efficiency Program(s)		√
Bring Your Own Thermostat Adder ("BYOT")		√
Virtual Building Audits		√
New York City Housing Authority		√
Direct Customer Activity		√
Dynamic Resource Auction**		√

	Design Stage*	Deployment Stage*
Fuel Cells		√
Queens Resiliency Microgrid	NP	NP
City Agency Solutions		√
Commercial Refrigeration		√
Combined Heat and Power ("CHP")		√
Battery Storage		√
Utility-side Solutions		
Distributed Energy Storage System		√
Distributed Generation (DC-Link)	√	
Voltage Optimization		√
Solar Photovoltaic (PV) Pilot	√	
Fuel Cell	√	
Foundational Elements		
Distributed Energy Resource Evaluation Tool		√
Solutions Technology Validation		√
Community Engagement and Outreach		√
Measurement & Verification Activities		√
Demand Management Tracking System		√

*- "Design Stage" refers to early efforts initiated by the Company to determine whether, and if yes, how to proceed to implementation in a manner consistent with the objectives of the BQDM program. "Deployment Stage" refers to implementation efforts either substantially complete or well underway to meet the objectives of the BQDM program. "NP" refers to efforts the Company is no longer pursuing and does not expect to be a part of the BQDM program portfolio of solutions.

** - "Dynamic Resource Auction" refers to market-driven approaches to procure demand response type resources with specific performance attributes.

2.3 Operational Savings and Other Benefits

The Company defines "operational savings" as reductions in costs incurred or expected to be incurred by the Company for the operation of the electric sub-transmission and distribution system supporting the BQDM target area as a result of BQDM solutions. No quantifiable operational savings in electric sub-transmission and distribution operations have yet been

identified as a direct result of activities of the BQDM Program conducted in the third quarter of 2016.

A portion of the load relief the Company acquired during the second quarter of 2016 came from the SBDI adder initiative (Section 3.1 presents a detailed account of activities of the SBDI adder initiative). Under the SBDI adder initiative, more than 5,200 small businesses in the BQDM Area have installed or agreed to install efficiency measures that will reduce electricity bills for these customers by an average $3,455 per year.[11] These efficiency measures have resulted in approximately 103 GWh of annual energy reduction per ETIP rules[12] since the inception of the adder initiative. The outreach to these businesses, in an area that continues to undergo considerable change, has been a positive development for the BQDM Program. Participation by these small businesses will deliver direct benefits to an important segment of the community, and contributes to establishing a positive experience in the wider community as the SBDI Adder initiative progresses. Additionally, the SBDI Adder initiative outcomes are anticipated to displace peaking generation and reduce wholesale capacity needs.

A portion of load relief was also secured during the third quarter of 2016 through an adder to the ETIP MFEE program (Section 3.1 presents a detailed account of activities of the MFEE adder initiative). Since the MFEE Adder initiative commenced in December 2014, over 1,400 multi-

[11] The Company is using the 2015 typical commercial service class (also known as SC9) customer bill calculations as the basis of the average bill savings estimates.

[12] ETIP (referred to as EEPS in previous BQDM quarterly reports) rules are based on the New York State Technical Reference Manual, which has a standard set of deemed hours of operation for various businesses in order to estimate annual energy savings. The Company is pursuing M&V efforts to provide region-specific hours of use for the upgraded equipment at the local businesses within the program area. Preliminary results are expected in early 2017.

family buildings with more than 9,300 individual apartments have participated or agreed to participate in the MFEE Adder initiative. Collectively, the efficiency measures installed at the participants' premises are expected to result in an estimated 19 GWh of reduction in annual energy consumption per ETIP rules since the inception of the adder initiative. Given that multifamily buildings vary in size from five units and above per building and the MFEE program includes a varying mix of common area and in-unit measures, the annual savings per building varies widely. However, on average, reductions in energy use by participating multi-family buildings are expected to result in savings of $3,200 per year per building.[13] The MFEE program executed a competitive procurement vendor selection process at the beginning of this year and has selected a new implementation contractor to oversee the program under the new ETIP filing. The program will remain largely the same in 2016 and the Company anticipates future results and energy savings that are similar to those achieved in the past.

3.0 Program Activity

3.1 Customer-Side Solutions

In the third quarter of 2016, the Company's SBDI Program and the MFEE Program, both direct installation programs that have been augmented with adders through the BQDM program, continued to offer an implementation vehicle with proven technologies, which the Company is using with high confidence to reduce load. The programs continue to enable the Company to positively engage important members of the targeted community as the Company looks to develop additional resources that can provide critical load relief in the BQDM Target Area.

[13] The Company is using the 2015 average residential service class (also known as SC1) customer bill calculations as the basis of the average bill savings estimates.

Thanks to the effectiveness of these two programs, the Company has successfully met the first customer-side solutions milestone of 9 MW of peak load relief to become operational by June 1, 2016. During the third quarter, additional initiatives began field operations in the residential, large commercial and public building segments. Third quarter program activities are detailed in the following sections.

Small Business Direct Install Program

The Company initiated the "SBDI Adder" initiative on August 1, 2014. The SBDI Adder initiative is open to commercial customers with a peak demand of 300 kW or less.[14] Participating customers receive a walk-through survey identifying cost-effective electric efficiency measures. Customers may elect to have all or any of the recommended measures installed. The basic ETIP SBDI Program provides a payment of up to 70 percent of costs for the selected measures and the customer is responsible for the remaining amount. Under the SBDI Adder initiative, customers in the covered networks receive incentives to match 100 percent of costs, so eligible measures are effectively installed at no direct cost to the customers. The Company delivers this program through an implementation contractor responsible for the sales and installation of measures.

The geographical distribution of the participants in the SBDI Adder initiative as of September 30, 2016 is graphically portrayed in Figure 4. [15]

[14] Beginning with the first quarter of 2016, the Company has offered the SBDI adder program to all commercial customers in the BQDM Target Area that have a peak demand of less than 300 kW, up from the 110 kW threshold that was used through the end of 2015.

[15] The graphical representation of the network boundaries reflects approximate geographical boundaries. Some customers that seem to be outside of the boundaries are within the electrical circuits of the BQDM networks.

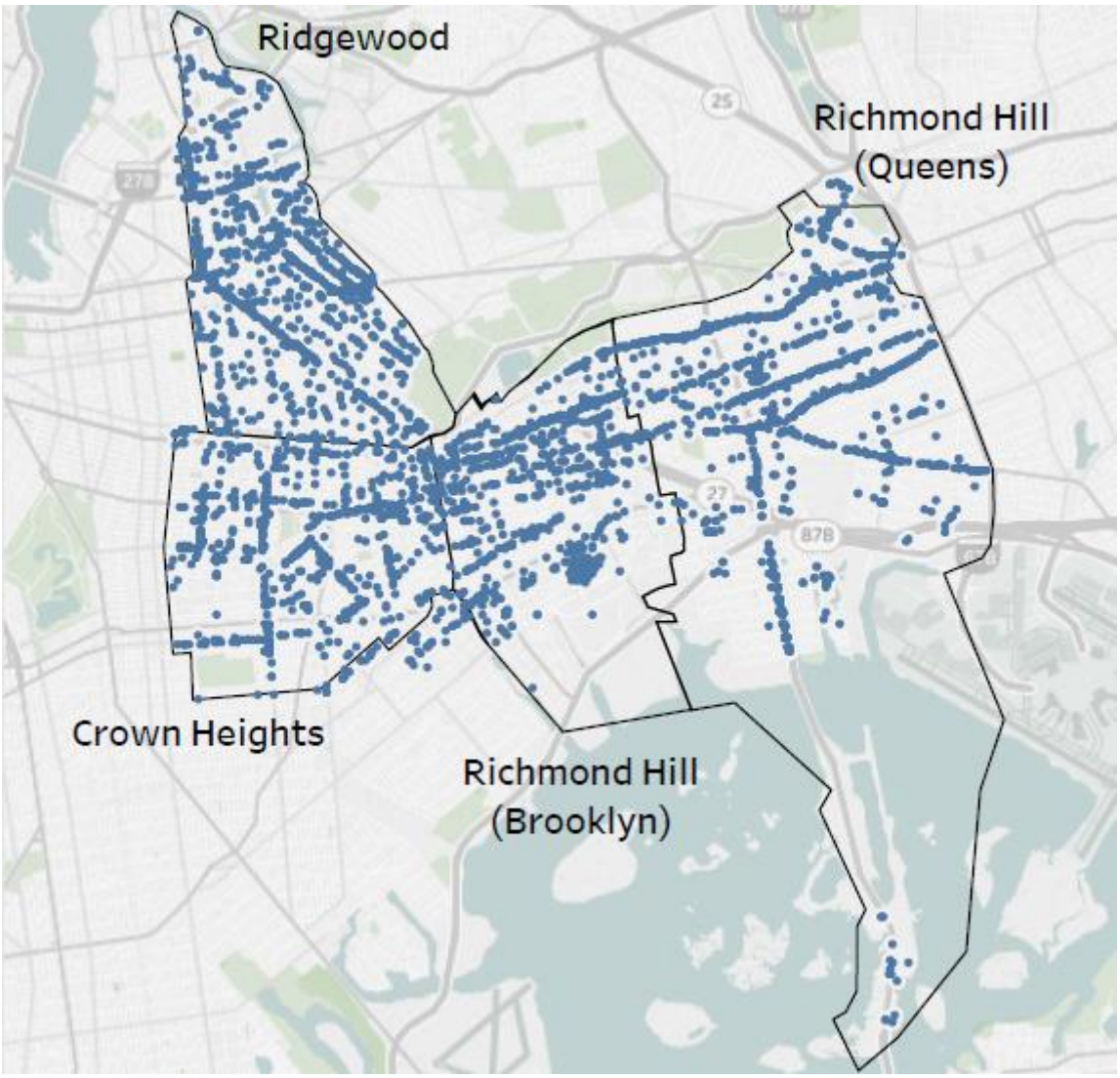

Figure 4: BQDM Small Business Project Locations

Customer response in the second quarter continued to be strongly driven by a focused outreach to small businesses in the community. As of September 30, 2016, 13.0 MW of peak hour load reduction projects, which are equivalent to approximately 24.9 MW as measured

under the ETIP guidelines,[16] with maximum load relief of 18.3 MW during the 2 pm to 3 pm period based on current best estimates, involving 5,704 major lighting upgrade projects [17] at approximately 5,000 small business customer locations, have been contracted. A total of 12.2 MW load relief at the peak hour, which is equivalent to approximately 23.3 MW load relief as measured under the ETIP guidelines, with maximum load relief of 17.2MW during the 2 pm to 3 pm period based on current best estimates, is operational as of September 30, 2016 provided by 5,295 major projects in over 4,000 customer locations. Estimated hourly load relief from SBDI program activities is presented in Figure 5.

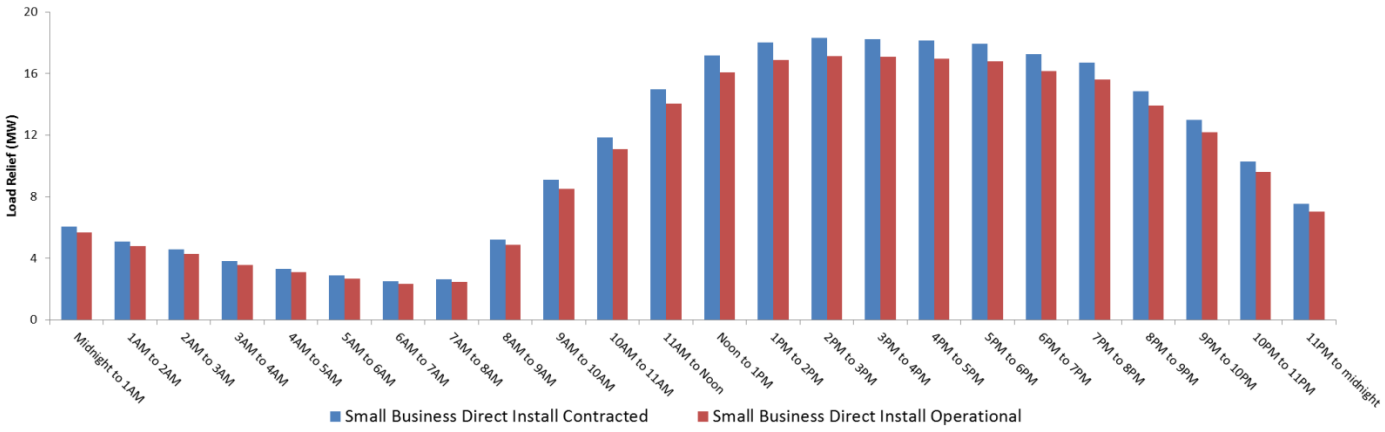

Figure 5: Small Business Direct Install Contracted vs. Operational Hourly Load Relief

[16] The Company is reporting expected load relief provided by energy efficiency resource during the peak hour of the BQDM sub-transmission constraint. For the purposes of reporting on ETIP programs, previously called Energy Efficiency Portfolio Standard or EEPS programs, the Company only reported load relief quantities for SBDI and MFEE on the basis of a system (or New York Control Area ("NYCA")) coincidence measurement as calculated using the New York Technical Resource Manual ("TRM"). Because the TRM assumes that external lighting would be off during afternoon hours, ETIP programs cannot claim any demand reduction benefits from external lighting upgrades. In contrast, the BQDM program benefits greatly from external lighting upgrades, which provide load relief coincident with the BQDM needs in late evening hours. For external lighting upgrades, the Company has, since the first BQDM quarterly report, included their contribution on a delta-Watt basis in the gross demand reduction value when reporting figures attributed to the ETIP methodology.

[17] In previous BQDM Quarterly reports, the number of project work orders were assumed to be the number of the unique customers receiving incentives. As the program offerings increased in scope and variety over the last two years, previous customers that have participated in the SBDI Adder initiative applied for newly-offered measures. Starting with this Report, the Company will distinguish the number of major projects and number of customers separately for purposes of clarity.

Multi-Family Energy Efficiency Program

The Company developed an adder initiative for the existing ETIP MFEE Program, which offers multi-family dwellings of five units or higher,[18] a survey identifying potential load-reduction measures. The MFEE Program includes both measures installed within the dwelling units and measures installed within the indoor and outdoor common areas. Under the ETIP program, 100 percent of the cost of measures installed within the dwelling units is covered, but the program requires a landlord or building manager contribution for a percentage of the cost of measures installed in the common areas. Under the BQDM MFEE Adder initiative, eligible buildings within the BQDM networks will continue to have no out-of-pocket costs for measures installed in dwelling units, and will also receive the measures in common areas at no cost to the landlord or the building manager. The MFEE Adder initiative is delivered through a central implementation contractor that in-turn is utilizing multiple independent subcontractors within the BQDM Area.

The MFEE Adder initiative commenced on December 10, 2014. Results for contracted load relief through September 30, 2016 include contracted in-dwelling and common area measures in 1,473 buildings, representing 1.8 MW of peak hour load relief,[19] which is equivalent to approximately 2.7 MW as measured under the ETIP guidelines, with maximum load relief of 1.8 MW at 10 – 11 pm based on current best estimates. A total of 1.6 MW load relief at the 9 – 10

[18] Beginning with the first quarter of 2016, the Company has offered the MFEE adder program to all multi-family buildings in the BQDM Target Area that have five units or higher, without the restriction that the building must have less than or equal to 75 units; that restriction was in effect through the end of 2015.

[19] In the previous quarterly report, the Company reported 2 MW of peak load relief was contracted under the MFEE adder initiative. During the third quarter, some projects were disqualified from the program as the subcontractors could not perform the upgrades within required timelines. These projects will be assigned to different subcontractors in the following quarter.

pm peak hour in approximately 984 buildings, which is equivalent to approximately 2.3 MW load relief as measured under the ETIP guidelines, with maximum load relief of 1.6 MW at 10 – 11 pm based on current best estimates, is operational as of September 30, 2016. The MFEE Adder initiative delivers approximately 80 percent of its load reduction contribution through the common area measures. The MFEE Adder initiative provides valuable load relief that typically extends into late evenings, and is thus coincident with the peak of the networks targeted by the BQDM program. Estimated hourly load relief from MFEE activities is presented in Figure 6.

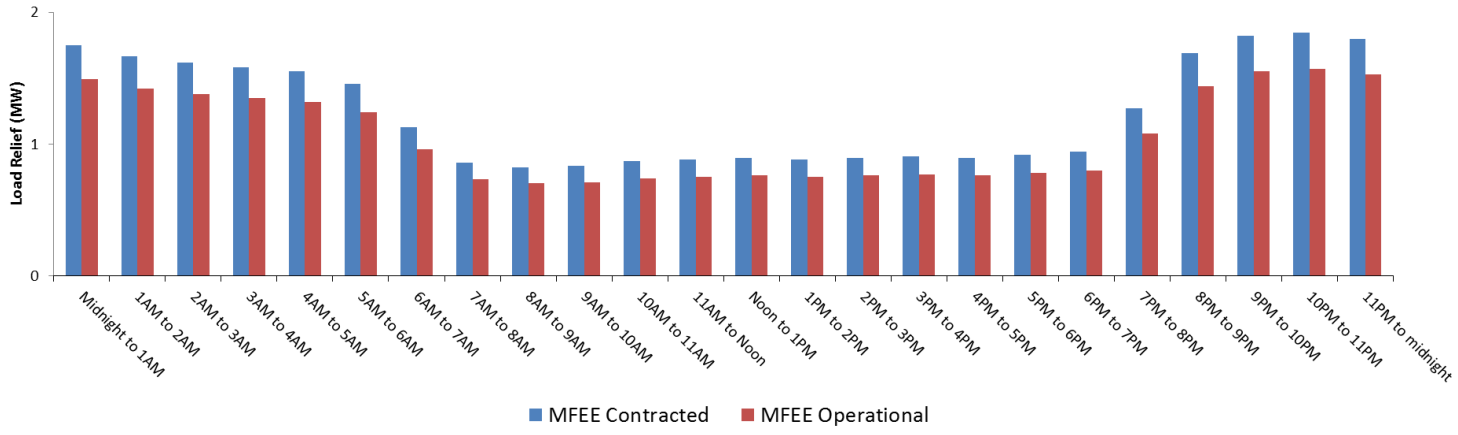

Figure 6: Multifamily Energy Efficiency Program Contracted vs. Operational Hourly Load Relief

The geographical distribution of the participants in the MFEE Adder initiative as of September 30, 2016 is graphically portrayed Figure 7. [20]

[20] The graphical representation of the network boundaries reflects approximate geographical boundaries. Some customers that seem to be outside of the boundaries are within the electrical circuits of the BQDM networks.

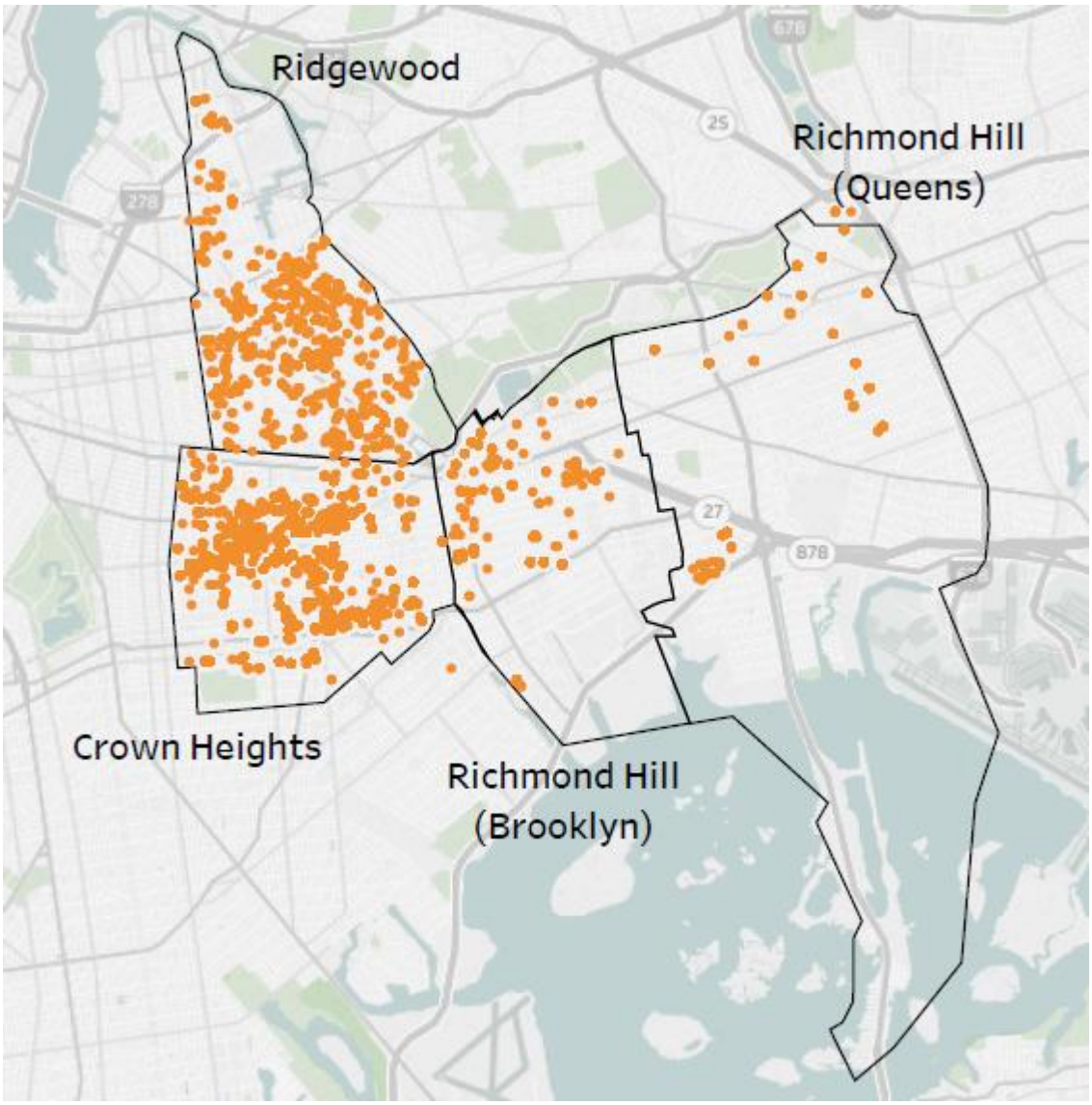

Figure 7: BQDM MFEE Project Locations

Residential Energy Efficiency Programs

Residential (1-4 family buildings) properties make up roughly 60 percent of all customer accounts, which represent approximately 30 percent of total peak demand in the BQDM area. The Company is targeting this customer segment, even though it poses unique challenges in achieving significant load relief. Because practical solutions at a single residential customer location only provide a small amount of load relief, a large number of customers need to be engaged to obtain noteworthy load relief. Such an undertaking, in addition to providing critical

load relief to the Company, is expected to positively impact customer satisfaction at a large customer segment in BQDM Target Area.

After the discussions between the Company and a firm with longstanding expertise in residential energy efficiency programs faltered in late 2015 due to the vendor's inability to offer load relief measures appropriate to the BQDM program needs at an appropriate price, the Company issued a Request for Clarification ("RFC") to hone in on a Residential Direct Install Lighting program. The RFC was issued to eight RFI respondents whose original RFI response included components of residential energy efficiency programs. The Company finalized the vendor selection process by the end of the second quarter. During the third quarter, the contract with the implementation contractor was negotiated and finalized for the BQDM Residential Lighting Direct Install program, with a 2 MW peak load reduction goal over a 12-month implementation timeframe. The program expects to install nearly 250,000 LED lightbulbs in over 20,000 residential properties by the end of 2017.

As soon as the contract was finalized, the implementation contractor had staff trained and ready to begin the field work. The first day in the field was August 31, 2016. Through the end of third quarter, over 300 households participated in the program resulting in approximately 18 kW of load relief during the 9 to 10pm peak hour based on the Company's current best estimates.

As a separate initiative, the BQDM Program worked with the Company's Residential Direct Load Control ("DLC") and Bring Your Own Thermostat ("BYOT") programs to develop an additional incentive mechanism to spur participation in these programs within the BQDM networks by providing an additional benefit for customers who have the ability to control central AC in their homes using thermostats. An incentive mechanism was established during the second quarter providing an adder-incentive to the BYOT and ETIP residential program. These adders were announced with an e-blast (mass electronic mail marketing), and were available to qualifying residential customers beginning in June 2016. By the end of the third quarter, over 10 kW load relief was procured through the adder programs based on the Company's current best estimates for the 9 to 10pm period. Verification of the measure savings is currently underway and results are expected to be finalized in early 2017.

Direct Customer Activity

In addition to talking with firms that can provide potential load relief, as discussed in this Report, the Company has also engaged in discussions with customers in the BQDM Target Area who have expressed interest in pursuing load relief solutions at their locations. The Company has been encouraged by the active engagement of such customers who have the ability and willingness to implement load relief projects that would both benefit the customers as well as address BQDM program goals. The Company is evaluating potential specific project opportunities at those locations for their feasibility, efficacy, cost-effectiveness, and appropriateness consideration in the BQDM solution portfolio on an ongoing basis.

The BQDM program leverages existing ETIP funding channels when a customer's project is deemed beneficial for the BQDM program. Several commercial customers, who have applied for the Company's ETIP Commercial and Industrial program for various energy efficiency projects, also applied for additional funding from the BQDM Program to increase the scope of their projects to deliver higher level of load relief in BQDM Target Area. By the end of the third quarter, one project that is expected to deliver 25 kW of load relief[21] has received incentives from the BQDM Program and the Company's ETIP Commercial and Industrial program. There are three additional projects worth approximately 160 kW of load relief potential being installed and four prospective projects at early design stages with an estimated 40 kW of load relief potential.

Customer-Side Solutions Pipeline Activities

CHP Solutions

The Company has worked closely with NYSERDA's combined heat and power ("CHP") program administrators as well as the natural gas provider in the area, National Grid ("NG"), and its CHP team to investigate the potential for CHP development. The Company, working in collaboration with NYSERDA, is offering additional funds up to the base incentive level that NYSERDA offers under its CHP Acceleration Program, covered by Program Opportunity Notice ("PON") 2568,[22] for eligible installations in the BQDM area. The NYSERDA CHP Acceleration Program provides incentives for the installation of pre-qualified and conditionally qualified CHP systems by approved CHP system vendors. The Company's incentive is additionally contingent upon

[21] Load-relief estimates will be finalized after post-installation M&V activities by mid-2017.
[22] Information about NYSERDA's CHP Acceleration Program can be found at http://www.nyserda.ny.gov/PON2568; URL last accessed 10/28/2016

measurement and verification ("M&V) of each CHP system's summer performance. By providing incentives in addition to those offered by NYSERDA, the Company expects to increase adoption of rapidly deployable CHP technology to reduce baseload electric demand throughout the year, especially during the 2017 and 2018 summer peak hours. By the end of the third quarter, approximately 900 kW of load relief from CHP systems was contracted with an expected in-service date during 2017.

New York City Housing Authority

The Company identified publicly administered housing buildings within the BQDM program Target Area, including over 60 complexes and over 29,000 housing units, which account for over 46 MW of load supplied by the Company's Brownsville Substation. During the first half of 2015, the Company worked with the New York City Housing Authority ("NYCHA") and a contracted partner to prepare a report identifying energy and demand savings opportunities in these facilities, and existing funding opportunities that may be available but may not as yet be fully leveraged. Following the evaluation of this report, during the second half of 2015, the Company and NYCHA reached to an agreement to pursue 2.4 MW of load relief measures, centered around in-unit and common area lighting, as well as an in-unit window air conditioner swap pilot in a development where NYCHA already had a capital improvement project planned.

During the first quarter of 2016, the Company and NYCHA successfully negotiated the terms of that agreement. The agreement became effective in the first week of the third quarter after the NYCHA Board approved the procedure to effectuate the BQDM program agreement. NYCHA will be responsible for the project management of the energy efficiency upgrades.

Working with the Company on a parallel path, NYCHA completed the RFP process to select an Energy Performance Contract contractor that will perform the field work to provide the 2.4 MW load relief during the 9 to 10 pm period, ahead of a formally signed agreement between NYCHA and the Company, so that the project can meet implementation milestones. Investment grade energy audits ("IGEAs"), which are required by NYCHA rules and procedures, were completed during the third quarter to begin the installation of the energy efficiency measures. Installation work is anticipated to begin before the end of the year, with a goal to complete the installation work ahead of the June 1, 2017 milestone.

As noted in its previous BQDM quarterly reports, the Company had engaged with NYCHA on a smaller initiative to support its Weatherization Assistance Program. This program targets smaller buildings and includes energy efficiency opportunities funded by the State. With a fixed budget, NYCHA is able to complete weatherization upgrades in a set number of apartments. The Company intends to incent lighting measures, as it has done through the MFEE Adder initiative, and expects that it can achieve approximately 20 kW in peak hour demand reduction prior to the June 1, 2017 milestone.

Other Opportunities with City Agencies

In addition to the work with NYCHA described earlier in this Report, the Company is continuing to work with other City agencies to identify a range of viable demand reduction solutions. During the fourth quarter of 2015, the City presented the projects it vetted through a project solicitation it previously conducted. These projects included interior and exterior lighting at

several City agency facilities, and have been evaluated by the City for technical and implementation feasibility.

During the first quarter of 2016, the Company and the City agreed to a funding level for the proposed projects. The Company will provide incentives for lighting retrofits that are expected to provide load relief during the 9-10 pm peak hour (primarily exterior lighting). The Company will also incentivize projects that primarily provide load relief during hours before the peak hour but during the forecasted overload period, *i.e.*, projects at facilities that close earlier in the day but can provide load relief during the afternoon. The Company anticipates it will realize 132 kW of load relief through "on-peak" projects and 215 kW of load relief through "off peak" projects during the forecasted overload period. The funding levels established through this effort may also be used for other City agency projects, though the City has not identified any such additional projects as of the end of the third quarter.

The first project, which is led by the Department of Citywide Administrative Services ("DCAS"), began during the third quarter of 2016 with a thorough pre-inspection by the Company's M&V contractor, and lighting upgrades commencing shortly thereafter. Incentive payments are expected to begin in the fourth quarter of 2016.

Dynamic Resource Auction

The customer-side solutions described above, together with non-traditional utility-side solutions, provided sufficient load relief to alleviate potential overloads during the summer of 2016. In addition, in order to meet the reliability need around the peak hours in the targeted

area in subsequent years as well as any other deficiencies identified as the BQDM portfolio evolves, the Company developed and hosted a descending clock auction to procure resources with specific performance attributes as described below.

In this auction, the Company sought resources that are dynamic, *i.e*., callable, and are expected to be dispatched for up to four hours at a time during the BQDM Target Area peak period. The Company has obtained such dynamic resources through a competitive market acquisition process, a descending clock auction, which has attracted demand response ("DR") type solutions to meet the Company's program objectives. Throughout 2016, the Company designed the attributes of the auction, including qualification criteria, event performance requirements, incentive structure, financial arrangements for underperformance penalties, program agreement, and successfully hosted the descending clock auction in the third quarter of 2016.

To simplify Company operations and avoid market confusion, the Company decided to seek Commission approval to offer peak-shaving demand response products through the BQDM DR auction in lieu of the CSRP in BQDM Target Area. A notice was issued in the New York State Register on May 11, 2016. The Commission approved the Company's petition to offer peak-shaving demand response products through the BQDM DR auction in lieu of the CSRP in the BQDM networks on July 14, 2016. [23]

[23]Case 16-E-0236, *Tariff filing by Consolidated Edison Company of New York, Inc. to Make Revisions to Rider T - Commercial Demand Response Programs*, Order Approving Tariff Amendment (issued July 14, 2016).

The Company established a detailed timeline balancing expediency and the time bidders would need to prepare for the auction process. This schedule was publicized through outreach presentations with potential bidders. The Company gave a detailed presentation of the auction rules during a forum event at the Company's 4 Irving Place facility and broadcasted online through a webinar on June 6, 2016. The Company hosted a follow-up informational webinar on June 22, 2016 incorporating some program modifications per the feedback received from the previous event. In addition, the Company and its consultants held multiple follow-up clarification meetings as well as one-on-one training sessions to educate DR service-providers about the fundamentals of the auction mechanism, the logistics of the auction platform as well as the technical requirements for participating in BQDM DR events.

Eligible Demand Response Products consist of a set of contracted hours, also known as call windows, during the summer capability period when resources would provide load relief. There are four Demand Response Products in the BQDM DR offering:

- 8PM — 12AM for the 2017 capability period,
- 4PM — 8PM for the 2017 capability period,
- 8PM — 12AM for the 2018 capability period, and
- 4PM — 8PM for the 2018 capability period.

An auction was conducted by the Company on July 27-28, 2016 for each of these four Demand Response Products in the BQDM DR offerings. The results of the auction provided sufficient capacity to meet the Company's need, however execution risk remains.

This auction exceeded expectations on supplier diversity, new entrants, and technological diversity of solutions. Six of the ten awarded bidders had never before participated in a Con Edison DR program. More than half of awardees proposed new technologies such as battery energy storage as their primary means of attaining DR, which in the past has traditionally been provided through curtailment or onsite generation technologies in the Company's service territory. The auction produced a total of 782 bids and demonstrated both a competitive pricing outcome and a proof of concept of a forward market for non-wire alternatives for reliability.

Innovative Distributed Generation

The Company has investigated innovative solutions that could provide reliable load relief during the entire period of more than 12 hours of potential overload. In particular, the Company studied the use of efficient fuel cells or other similar resources that generate electricity through non-combustion chemical mechanisms and determined that they are able to provide long periods of load relief efficiently and reliably, with minimal operational overhead. These resources can be built with minimal lead time, while using a relatively small footprint in the land-constrained targeted area. The Company investigated business arrangements that would incent adoption of such technologies such that third-party capital can be leveraged in a manner that is both beneficial to the customer and cost effective to the Company. The Company identified and engaged customers who have the potential to realize savings and gain additional benefits by implementing these solutions. The engaged customers have allowed site visits and additional analyses to help customers determine if fuel cells are feasible and beneficial to their

operations. During the third quarter, the Company continued to successfully engage with customers who expressed interest in actively managing their energy consumption. These customers are in different stages of negotiation, contracting, and implementation phases with tailored solutions that include fuel cells, as well as solar, battery, and CHP components. The Company continues to work with other customers who are undertaking the process to move forward with fuel cells, are still determining whether to pursue the fuel cells, to explore other or additional load relief options, or to undertake any initiatives at all, with an awareness of Con Edison's ability to incentivize adoption of appropriate load relief measures. The Company anticipates significant progress in the fourth quarter as contracting discussions advance toward implementation.

The BQDM program also helps customers with the interconnection process for various distributed energy resources in the target area. In one instance, the BQDM program agreed to cover the cost of the Supervisory Control Data Acquisition ("SCADA") system upgrade required to interconnect the applicant's solar photovoltaic project to the electric grid. The project is expected to have a rated nameplate capacity of approximately 750 kW and anticipated to be operational by May 1, 2017. Actual hourly load relief will be monitored through the Company's M&V efforts once the project is operational.

Commercial Refrigeration

In the first quarter of 2016, the Company continued to explore additional innovative refrigeration measures to provide demand reduction around the BQDM peak hour. As such, the Company entered into discussions with a respondent to the Commercial Refrigeration RFP,

who offered an innovative thermal storage solution. The thermal storage system is designed to offset process cooling load for a predetermined period, callable upon Con Edison's request. A salt water solution is frozen during off-peak hours that can then be used to provide for at least four hours of load relief during periods of reliability need by displacing refrigeration compressor load.

The majority of the first quarter involved contract negotiations that went on for multiple rounds. The Company also created a comprehensive M&V plan for the thermal storage solution. A contract with the technology vendor was executed during the second quarter. The Company established a goal for 1,500 kW of load reduction to be installed and operational by May 31, 2018. The vendor is currently working with Con Edison personnel and also conducting its own targeted research to identify potential customers for this technology.

Customer-Side Solutions Program Management Activities

Request for Information ("RFI")

On July 15, 2014, the Company issued a broad RFI which drew 78 responses initially followed by an additional eleven by the end of September 2016 as a result of the Company's decision in 2015 to keep the RFI open indefinitely so that innovative solution providers can submit their newest solutions to the Company for consideration. An RFI, by its nature, allows for broader responses than an RFP but requires a greater level of scrutiny and validation of the information provided. The proposals presented via the RFI have provided the Company with valuable insight into potential solutions, including indicative pricing, operational needs and reliability, potential environmental impacts and, in a few cases, potential customer partners. As the

quality of the RFI responses varied significantly, the ability of the Company to gain confidence and insight into viable solutions has taken considerable work. Developing a comparative analysis among the solutions presented has been a complex undertaking.

The Company recognizes that the solutions presented in the RFI responses do not represent the complete universe of potential solutions for the BQDM Program. The Company has remained open to other solutions, either via solution providers or customers. The Company will continue to use both RFI submissions and other available solutions to inform purchasing actions for the BQDM Program.

Distributed Energy Resource Evaluation Tool

The Company has built a tool, using both internal and external expertise, to evaluate on a comparable basis a diverse range of distributed energy resources ("DER") while accounting for the duration of their availability (*e.g.*, four-hour battery, eight-plus-hour energy efficiency, two-hour demand response), their risk, their maturity, their flexibility, and their ability to otherwise meet the needs in the BQDM Target Area. The Company also developed a portfolio approach to identify a mix of resources that can meet the reliability need over the 12 hours on a design peak day. Using the evaluation tool, the Company is evaluating DER solutions using a combination of multiple criteria. Con Edison is using the tool to inform some of the solutions that the Company is considering for inclusion in the BQDM portfolio. Throughout the BQDM Program timeline, the Company intends to supplement results from the evaluation with additional qualitative assessments of the solutions' ability to meet the BQDM program timing and reliability needs while fostering engagement with the community.

Solutions Technology Validation

The Company has validated potential DER solutions for both the quantity of load reduction and the length of the resource's availability (or duration) based on technical judgment provided by internal and external subject matter experts. These assessments of the validated solutions have been incorporated into the evaluation tool criteria.

Community Engagement and Outreach

The Company has continued to be proactive in engaging with community stakeholders to understand the priorities in the diverse and rapidly changing communities across Brooklyn and Queens. Community engagement is critical to the success of the BQDM Program, which is marketed as the "Neighborhood Program" to customers living in the Targeted Area. The Company continues to actively reach out to existing community partners and develop new relationships.

In the third quarter of 2016, Con Edison conducted a range of community meetings with local community boards and elected officials and civic groups throughout Brooklyn and Queens to provide program updates on the SBDI and MFEE adder initiatives and discuss the additional residential incentives being offered. The Company made individual presentations in Brooklyn and Queens, including meetings with Brooklyn Community Boards 3, 16, and 17, and the Ozone Tudor Civic Association, to summarize the diverse offerings such as mini-split air conditioning units and LED lighting incentives available for customers. A presentation to Queens Community Board 10 also provided updates on utility-side fuel cell and battery storage unit projects in the community. Company staff presented the BQDM program initiatives at the Brooklyn Borough

Presidents Renewable and Sustainable Energy Task force ("ReSET"), with attendees including a diverse set of stakeholders from the citywide energy arena. Con Edison also attended a Community Engagement Committee meeting held by the Brooklyn Alliance for Sustainable Energy ("BASE") on August 3, 2016 at the Brownsville Heritage House and Con Edison presented an update on its BQDM Program initiative. The Company additionally hosted a follow-up meeting with BASE members, which consist of local community organizations, at Con Edison's Brooklyn offices on September 28, 2016. The Company plans to continue these meetings on a regular basis to keep the community abreast of its plans and actions, and to ensure the effectiveness of its outreach strategies.

Outreach to the business community has continued as planned. The Company also addressed inquiries from organizations to speak about the Company's energy efficiency initiatives and The Neighborhood Program at the Jamaica Business Improvement District ("BID"), Grand Street BID, East New York BID, Evergreen North Brooklyn Business Exchange and the Brooklyn Chamber of Commerce's Building Brooklyn Awards. Program materials were distributed and provided to Assemblywoman Latrice Walker and partnering community groups in order to promote the Company's programs at various community events.

Customer Engagement

During the third quarter, the implementation contractor for BQDM's residential direct install program commenced planning marketing efforts in collaboration with the BQDM program staff. The aim for this residential initiative is to distribute LED lights to eligible 1-4 residential households within the BQDM Target Area. The Company estimates that it will need to provide

this offer to 27,000 households to achieve its goal of a minimum 2 MW load reduction over a 12-month implementation timeframe; this may require targeting up to 175,000 Con Edison accounts within the BQDM Target Area.

The Company developed postcards that were initially sent to 9,000 accounts within the program area. The contractor's field staff was outfitted with Con Edison branded attire, and the vehicles are being wrapped with Con Edison branded decals, to help customers with brand recognition and to build trust with the residents of the targeted neighborhoods.

In addition, throughout the third quarter, the BQDM program sent two emails introducing "The Neighborhood Program," and announcing other incentives such the mini-split heat pumps and thermostats. The residential email campaign took place in July, targeting 135,000 residential customers. The effort provided customer awareness thus making it easier for the program implementation staff to enter customers' premises. The field staff reports that customers are receptive, and several customers have even approached the staff to discuss the mailer and their interest in the LED lamps offered at no-cost to the customers by the BQDM Program. While at a household, the field staff, in addition to installing the LED lamps, also distributes flyers informing residents of the benefits of an LED retrofit and informing them about various other rebate offerings for energy efficiency measures. The collective effort has provided a neighborhood presence for the BQDM program that informs and assures residents that Con Edison is leading the community effort.

Measurement & Verification Pilot

The primary objective of the BQDM M&V pilot is to estimate load reductions with 90/10 confidence/precision level for all measures installed in the BQDM Target Area. While on track to successfully accomplish this task, the Company continues to collect data and lessons learned from these BQDM programs which can be leveraged to supplement future targeted demand management efforts.

The Brooklyn-Queens Market Characterization Study, which is a part of the M&V pilot, reached one of its milestones by completing Phase II of this effort during the third quarter. While Phase I focused on metering end-use inventories for a representative sample of SBDI facilities whose average peak demand is lower than 110 kW, multifamily common areas and multifamily in-units during the summer peak period, Phase II mirrored this effort for the shoulder seasons to capture the energy usage of BQDM customers year round. Phase III, which began following the introduction of medium-sized businesses in early 2016 with an average peak demand between 110 and 500 kW into the SBDI program, is nearly complete as all 48 sample sites have been inspected and the data is being analyzed.

The Company has been working closely with BQDM program stakeholders to verify the magnitude of demand reduction from various projects. Verification inspections and metering efforts are underway for several C&I adder, NYCHA, and DCAS projects, while keeping abreast with key stakeholders by providing engineering support in the implementation of the remaining projects. Verification of the load relief expected from the residential direct install program is

also underway; as the implementation contractor is knocking on doors and acquiring peak demand reduction in the residential sector. The Company is in close communication with the implementation contractor to verify the demand reduction acquired from its efforts. Additionally, the Company continues to provide guidance to solution providers as to how M&V will be executed for DG technologies as well as other DER technologies.

Demand Management Tracking System

The Company is continuing to develop and expand the Demand Management Tracking System ("DMTS") with capabilities to manage customer relationships, project management activities, and to serve as the system of record for the Company's energy efficiency and demand management programs. This system is used to process, monitor, and store customer leads and project information for the purposes of program reporting.

DMTS is intended to become the primary source of information for internal and external reporting, including regulatory reporting, once all the programs have been fully implemented. DMTS includes project and measure details associated with SBDI and MFEE adder installations for the BQDM program. DMTS also tracks energy savings calculations and load relief impacts that are used to validate payments to contractors. Contractors from both the MFEE and SBDI programs are uploading project data to the system for tracking, validation, and reporting. The DMTS is being expanded to provide additional functionality and tracking for various other efforts under the BQDM program.

3.2 Non-traditional Utility-Side Solutions

Distributed Energy Storage System

The Distributed Energy Storage System ("DESS") will provide Con Edison with 12 MWh of battery energy and can be configured to deliver this power at 1 MW for twelve hours or 2 MW for six hours.

Con Edison signed the contract with the vendor on August 18, 2015. Site studies, surveys, and design drawings have been completed. Construction drawings reached 90 percent completion in mid-May. After some required revisions to structural elements due to complexities in the storm hardening wall and container foundations during the third quarter, the 100 percent construction drawing set is currently under review by the NYC Department of Buildings ("DOB") for permitting. Battery factory witness testing was completed successfully in March. All major and minor battery and auxiliary electrical components were delivered to a Company storage location in Astoria during June and July 2016. Temporary power for HVAC, lights, and computers within the battery containers was energized at the end of August 2016. Pre-functional commissioning of data communication and remote supervisory control and data acquisition ("SCADA") accessibility to the battery system is expected to begin in first quarter 2017 while the containers are in Astoria.

There have been some unanticipated delays in the construction permits due to delays obtaining the NYC Board of Standards & Appeals special permit, and its relationship with the DOB permitting process. Additional engineering drawings, artist renderings, and technical documents have been prepared for the Board of Standards & Appeals.

Feasibility studies and conceptual design phase for a backup site in Queens are in process. Engineering drawings, DOB permit applications, and final decision on this alternative location will occur in the fourth quarter of 2016. Construction is expected to begin in January 2017 at the selected site to meet the June 1, 2017 operational deadline.

Distributed Generation (DC-Link)

This solution considers the deployment of the Company's existing Mobile Power Interface ("MPI" or "DC Link") combined with a Mobile Electric Generator ("MEG"). Previously considered for the 2016 goal, this initiative is now on hold to meet the 2017 goal as the Company evaluates diversified generation solutions, including fuel cells, additional batteries, and solar.

Voltage Optimization

This project is to optimize the voltage on the 27kV primary system, including the 4kV overhead system, by implementing enhanced, efficient voltage control. The Company estimates that approximately 7 MW of demand reduction can be achieved. Based on the M&V calculations, Conservation Voltage Optimization ("CVO") reduced peak load by 4.1 MW in Brownsville No. 1 and 3.8MW in Brownsville No. 2, yielding a total peak load reduction of 7.9MW for 2016. M&V analysis has commenced for the reactive power benefits. System analysis for any potential low voltage complaints linked to CVO is currently being analyzed. Additional load flow studies will be performed to identify areas of relative low voltage compared to surrounding areas. Reinforcement work continues for previously identified areas that time did not allow for construction prior to summer 2016.

Utility Side Solar Photovoltaic ("PV") Pilot

This project attempts to investigate the possibility of generating an aggregate of up to 1 MW by means of PV systems installed on the grounds of three Company-owned buildings located in the BQDM Target Area. The sites include Brownsville 1 and 2 substations as well as Cleveland Street reporting location. Bid submissions were reviewed for completeness and technical presentations were completed in the first half of April 2016. The Company is currently reviewing the most cost-effective option for the Company and its customers. The Company has set an in-service target of June 1, 2017.

Utility Side Fuel Cell

Similar to storage solutions, the Company believes there are many benefits to using fuel cell technology on the Company's system. The Company issued an RFP to solicit solutions of up to a 1 MW fuel cell at a Company-owned location within the BQDM Target Area. The Fuel Cell RFP was competitively issued in June 2015 and the solicitation closed on July 17, 2015. Technical presentations were completed on September 9, 2015. Design review indicates that limited reinforcement will allow the fuel cell capability to increase from 1 MW to 3MW. The Company, through a procurement process tailored to the BQDM program, has been reviewing the proposals submitted to understand the pricing proposals and determine the most cost-effective option. The top vendor and business model have been chosen. The contract is currently in negotiation. The project has an anticipated in-service date of June 1, 2017.

Non-traditional Utility-side Solutions Pipeline Activities

Con Edison is investigating additional projects that fall under the non-traditional utility-side solutions category. As these projects evolve, more details will be provided in future reports.

4.0 Synergies

During the summer of 2016, the Company dispatched the demand response resources enrolled in the DLRP, CSRP, and DLC programs in the BQDM networks. Twenty-five customers enrolled in the CSRP program provided 4.7 MW on average during the events on July 25, July 26, August 12 and August 15, honoring 115 percent of their 4.1 MW pledge. Twenty-nine customers, who collectively enrolled 4.9 MW of DLRP resources, provided an average of 1.7 MW load relief during the extended heat-wave from August 11 to August 16 during 2016. Table 3 provides a detailed summary of the commercial DR program performance during the third quarter of 2016. DLC program performance evaluation is underway and an estimated impact to the BQDM networks will be provided in future quarterly reports.

Table 3: Summer 2016 CSRP and DLRP program performance in BQDM networks

Program	Event Date	Event Hours	Average MW Reduction	Performance Factor
CSRP	July 25	4 PM – 8 PM	2.1	83%
CSRP	July 25	7 PM – 11 PM	5.1	315%
CSRP	July 26	4 PM – 8 PM	2.6	106%
CSRP	July 26	7 PM – 11 PM	0.9	56%
CSRP	August 12	4 PM – 8 PM	2.8	111%
CSRP	August 12	7 PM – 11 PM	1.4	86%
CSRP	August 15	4 PM – 8 PM	2.8	113%
CSRP	August 15	7 PM – 11 PM	1.1	70%
DLRP	August 11	2 PM – 8 PM	2.6	53%
DLRP	August 12	2 PM – 8 PM	3.0	61%
DLRP	August 13	3 PM – 9 PM	0.9	19%
DLRP	August 14	4 PM – 10 PM	0.4	9%
DLRP	August 15	3 PM – 9 PM	1.8	37%
DLRP	August 16	4 PM – 10 PM	1.7	35%

In addition to load relief projects being pursued under the BQDM program, the Company is assessing other load relief solutions being developed in the BQDM Target Area. In particular, Company personnel responsible for the BQDM program have worked closely with personnel managing the Demand Management Program ("DMP"). DMP was instituted to incentivize development of load relief solutions, which would serve as part of the solution to a potential supply constraint resulting from retirement of the Indian Point Energy Center - to identify synergies and benefit from mutual load relief efforts. The Company estimates that DMP solutions currently being pursued in the BQDM Area, once fully implemented, will provide over 400 kW of load relief at the peak hour and over 1 MW of maximum load relief between 2 pm and 6 pm.

In addition to various demand management and energy efficiency programs, the Company is also seeking opportunities to create synergies with the wider Company efforts such as the Company's REV Demonstration projects. The Company intends to leverage innovative demonstration projects in the constrained networks to defer traditional utility investment whenever the demonstration project possesses any benefit for the load relief efforts.