

April 3, 2017

VIA ELECTRONIC DELIVERY
secretary@dps.ny.gov

Hon. Kathleen H. Burgess
Secretary
New York State Public Service Commission Three Empire State Plaza
Albany, New York 12223-1350

Dear Secretary Burgess,

**Re: Case 14-E-0302, Brooklyn/Queens Demand Management Program.
Comments on Con Edison Petition for Extension of Time to Implement**

Peak Power LLC hereby submits for filing its comments on the Petition for Extension of Time to Implement Brooklyn Queens Demand Management Program.

Respectfully Submitted,

[s]

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I. Introduction

Con Edison’s Petition for Extension of Time to Implement (the “Petition”) highlights a longstanding concern we have with Consolidated Edison’s Brooklyn-Queens Demand Management Program (“BQDM”): that the plain-English public record regarding BQDM’s overall economics is extremely limited. This limited record has contributed to BQDM’s prominent—and essentially inaccurate—status as clear proof that non-wires alternatives (“NWA”) yield better value than conventional distribution infrastructure.¹ But “\$200 million vs. \$1 billion” are not the economics presented in the Commission’s Benefit-Cost Analysis; the actual economics are far different, and far less favorable than this (see part III, “Overall BQDM” below).

¹ “Con Ed’s plan for surging Brooklyn-Queens grid may lead the way to N.Y.’s ‘Restructuring 2.0.’” Colin Sullivan, E&E. 29 Oct 2014. <http://www.eenews.net/stories/1060008037>

This Petition seems to reinforce this inaccurate characterization of value, primarily by invoking an ambiguous distinction between (1) BQDM's customer-side and non-traditional utility-side solutions and (2) the massive traditional expenditures required by the same program, which it calls "Overall BQDM."

Which of BQDM's expenditures are being declared unnecessary, and which will continue as requested by this Petition, should be made clear.

We are also concerned by the Petition's lack of detail and critical analysis concerning changes to the demand forecast (Section II below) and BQDM's reallocation among customer side solutions ("CSS", Section IV below). In the spirit of hypothesis-testing espoused throughout the Reforming the Energy Vision ("REV") process, we would like to suggest further detail and critical analysis in these areas.

We believe this additional scrutiny would beneficially inform future projects, the future direction of REV, and indeed policymakers around the world who cite BQDM as evidence of a new paradigm in utility regulation.

We would like to note that these comments are not intended in any way to diminish the efforts of Con Edison staff, DER Providers, the Department of Public Service, or any other stakeholder, who in our limited experience have achieved Herculean progress in deploying BQDM's new methods under such tight time constraints.

II. Revised Peak Demand Forecast

A. More detail on the lower peak demand forecast for the BQDM networks' load area is needed.

The critical new information driving Con Edison's petition is "the change in its peak demand forecasts for the BQDM networks' load area... in excess of the reductions resulting from the BQDM Program," noted toward the end of the Petition, but repeated for emphasis in the latest Semi-Annual BCA Cover Letter.²

² *Petition for Extension of Time to Implement Brooklyn Queens Demand Management Program*; and *Letter Submitting Semi-Annual BCA 02-28-2017*, Consolidated Edison.

In the original 2014 analysis, Con Edison noted that the critical Brownsville Area feeders, at about 785 MW in 2013, had already breached their critical limit.³ Load was forecast to continue to grow at a 1.1% cumulative average growth rate (“CAGR”) over the next 5 years, to 831 MW in 2018, when 52 MW of nontraditional BQDM assets would supply three quarters of the projected capacity deficiency.

Per the Petition, we are told the load forecast is now more than 52 MW lower than the original 2013 estimate, that is below 780 MW in 2018. This seems to mean load is now forecast to shrink (from 785 MW in 2013 to <780 MW in 2018) even before factoring in the impacts of CSS, etc.

This load decline certainly seems possible; however it appears to run counter to available indicators.⁴ The non-coincident peaks of the three area networks (Richmond Hill, Crown Heights, Ridgewood) have a combined 3-year CAGR (2013-2016) of 1.1%. And last year, New York University’s Furman Center for Real Estate reported a remarkable spike in new building centered around 2015, with a significant shift into Brooklyn and apparent concentration in the BQDM networks.⁵

Sharing the old and new forecast inputs as part of the Petition and the BQDM Record would be invaluable in understanding the future viability of nonwires alternatives for similar area feeder overloads and potential NWA.

B. The Commission must consider the potential mismatch between network load forecasting variability and the scale of BQDM.

Sharing forecast detail would help answer the question: does this Petition suggest a fundamental mismatch between (1) the scale of a potential nonwires solution (for

³ *Re: Cases 13-E-0030, et al: Con Edison’s Electric, Gas, and Steam Rates Con Edison’s Brownsville Load Area Plan*, Consolidated Edison Company, 21 Aug 2014.

⁴ For example the non-area load served by the Brownsville feeders may have been diverted elsewhere; but this would be a leap from the language of the petition.

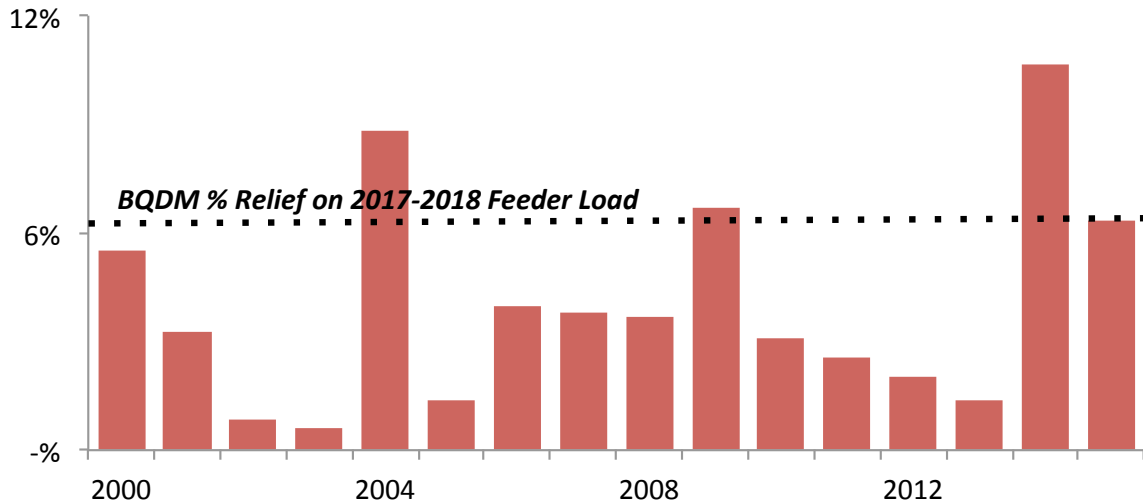
⁵ “New Units Planned for Construction in 2015 were Concentrated in Brooklyn and Manhattan”, NYU Furman Center, 4 April 2016.

<http://furmancenter.org/thestoop/entry/new-units-planned-for-construction-in-2015-were-concentrated-in-brooklyn-an>

BQDM, about 6% of combined area load) and (2) the precision of utility forecasting? What is a reasonable threshold?

Statewide, a given year's actual peak demand has deviated from its weather normalized peak demand by more than BQDM's 6% limit about once every 5 years since 2000 (see figure below).

**Deviation of Actual Peak Demand from Weather-Normalized Peak Demand
New York State 2000-2015**



Source: NYISO Goldbook 2016, Peak Power LLC Analysis.

The increased volatility associated with a smaller sample (*i.e.*, the local <800 MW BQDM Area vs. geographically diverse, 30,000+ MW NYCA), plus the many uncertainties involved in forecasting several years into the future, suggest BQDM's nontraditional solutions could fall below an advisable planning resolution.

As the Commission entertains this Petition to both obviate the immediate need for and perpetually extend BQDM's timeline, it seems crucial to address the likelihood of redundancy (or inadequacy) for a relatively small NWA in meeting an uncertain forecast overload several years into the future.

III. “Overall” BQDM

A. Con Edison and the Commission should make explicit what part of the “overall” BQDM program has been made redundant

The Petition appears to focus on the successes and market changes affecting BQDM’s \$200 million in nontraditional expenditures. But it also references the Glendale Project as a component of the “overall BQDM Program.”⁶ We interpret here that Consolidated Edison sees the traditional solutions portion of BQDM as necessary, but the non-traditional solutions portion, however successful their procurement, as no longer needed.

It seems imperative for the Commission to clarify with Con Edison the scope of the newfound redundancy.

It also seems useful for the Commission to clarify the scope of BQDM itself. The \$200 million in nontraditional expenditures are the overwhelming focus of the original approving Order, though they provide only 2 years’ infrastructure deferral. The significantly more material Traditional expenditures—yielding 8+ years’ substation deferral—are mentioned in a few scant paragraphs; their cost (\$305 million) is included in a single footnote.⁷

Even this pricetag for BQDM’s traditional component appears to understate the program’s actual costs. Per the periodically updated Benefit Cost Analysis spreadsheets, the “traditional” component of BQDM is \$680 million (incremental to the deferred \$880 million substation), including a 3.6% annual “escalator” on deferred capital expenditures. Whether this escalator, at 2-3 times then-forecast inflation, is (A) extreme conservatism, (B) a boilerplate assumption (it dwarfs assumed escalation in Con Edison’s 2016 rate case) or (C) pre-agreed compensation for the substation deferral, is not clear from the record.

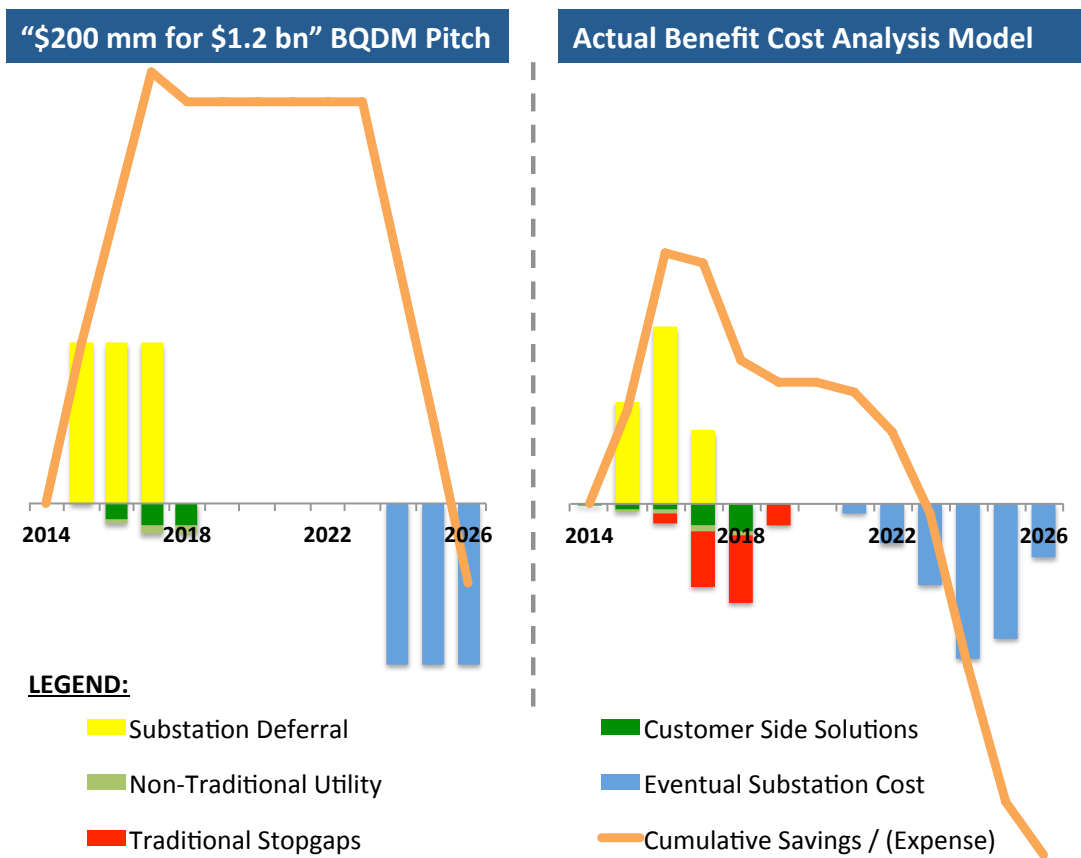
⁶ *Petition for Extension of Time to Implement [BQDM]*, Consolidated Edison Company 19 Jan 2017, p. 7.

⁷ *Order Establishing [BQDM]*, Public Service Commission, 12 Dec 2014, p. 4

B. Obviating the Immediate, Specific Need for BQDM’s Nontraditional Solutions Changes the Program’s Fundamental Character

Clarifying the overall cost of BQDM is critical because the Program’s stated economics fail on a common sense basis. Again, Con Edison’s ratepayers are not spending \$200 million innovatively to avoid \$1 billion, nor even to defer \$1.2 billion for ten years. The current BCA shows Con Edison spending an extra \$855 million—most of this traditional rate-based capital expenditure—to defer an \$877 million substation 10 years, with construction of the new substation beginning just 4 years from now (see figure below).

Brooklyn-Queens (BQDM) Program Capital Expenditures, 2014-2026F

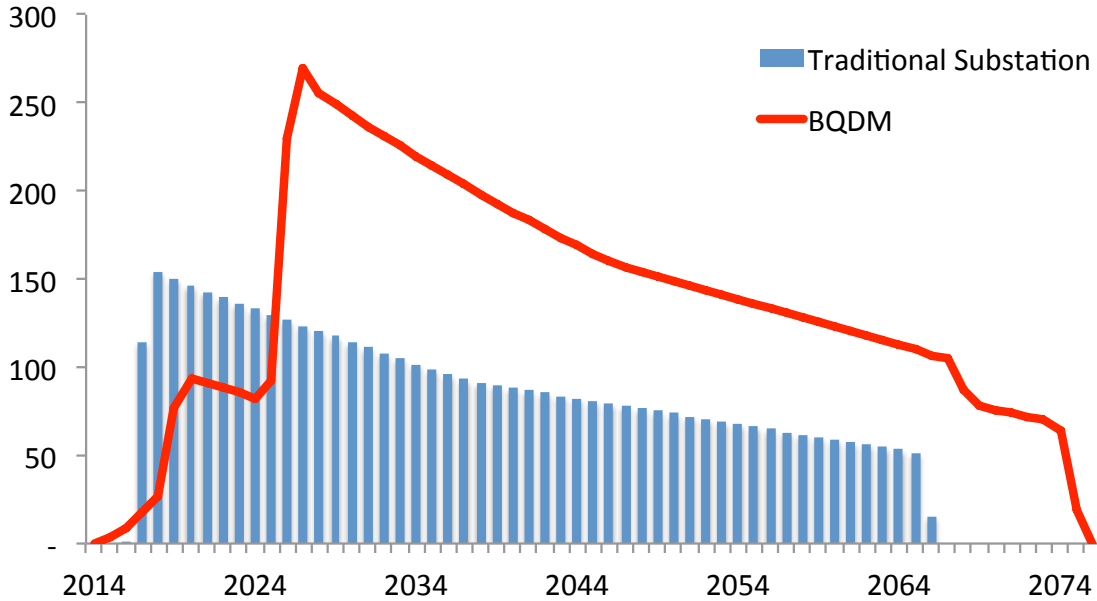


Source: Illustration based on press/speeches (L); BQDM Cost Benefit Model, 28 February 2017 (R); Peak Power LLC Analysis. <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={B060A266-B404-4302-9AE7-E95981CA4254}>

When BQDM’s capital costs and savings are translated into Con Edison’s revenue requirements—i.e. additions to customer rates (again per the BCA spreadsheet) we

find that the \$580 million BQDM purports to save ratepayers through 2025 will require additional payments of \$4,352 million through 2075 (see Figure below).⁸

Con Edison Revenue Requirements for BQDM & Traditional Alternative
Forecast Annual \$ Millions, 2014-2075



Source: "BQDM Program Cost Benefit Model (Filed 2.28.2017) - NPV to 2014; Pre-Tax WACC", Consolidated Edison. Peak Power LLC Analysis.

The net effect is that, in an era of unprecedentedly low interest rates, BQDM has Con Edison effectively charging its ratepayers an annual rate north of 11% to “borrow” (i.e. reproduce the benefits of while deferring) the seemingly affordable substation.

The broader economic picture is critically important to this Petition. *Prima facie*, it would seem unjust to force ratepayers to borrow short-term savings at an 11% interest rate. Two possible exceptions might be (1) a dire lack of alternatives, or (2) some unique and overwhelming value inextricably linked to this borrowing. The prominence of the nontraditional solutions in the original BQDM Order (and in subsequent messaging by the Commission, the State, and the press) would suggest the latter exception held here. Yet if we are now to understand that the nontraditional solutions are redundant to BQDM (while the traditional programs

⁸ This \$4,375 million estimate may be conservative as Con Edison’s analysis retires BQDM’s assets as “Closings to Plant,” which might in fact become a permanent part of rate base.

continue), it seems important to reconsider the Commission's unique benefit-cost justification for the program.

C. BQDM's BCA Methodology Unduly Incentivizes Uneconomic Infrastructure Deferrals

Specifically, BQDM's BCA methodology approves the very tenuous proposition of borrowing infrastructure at 11% through two features we believe are faulty, and should be addressed by the Commission in light of this Petition.

First, solely employing Con Edison's cost of capital as the discount rate artificially diminishes the impact of future liabilities. Per this BCA formula, borrowing at anything less than the utility's equity cost of capital (nearly ten percent) results in a net benefit, a result inconsistent with everyday fiscal sense (Con Edison itself would not borrow at these rates). If instead we apply a 5% discount rate, the project is a loser by more than \$600 million; at 3%, the loss exceeds \$1.3 billion.

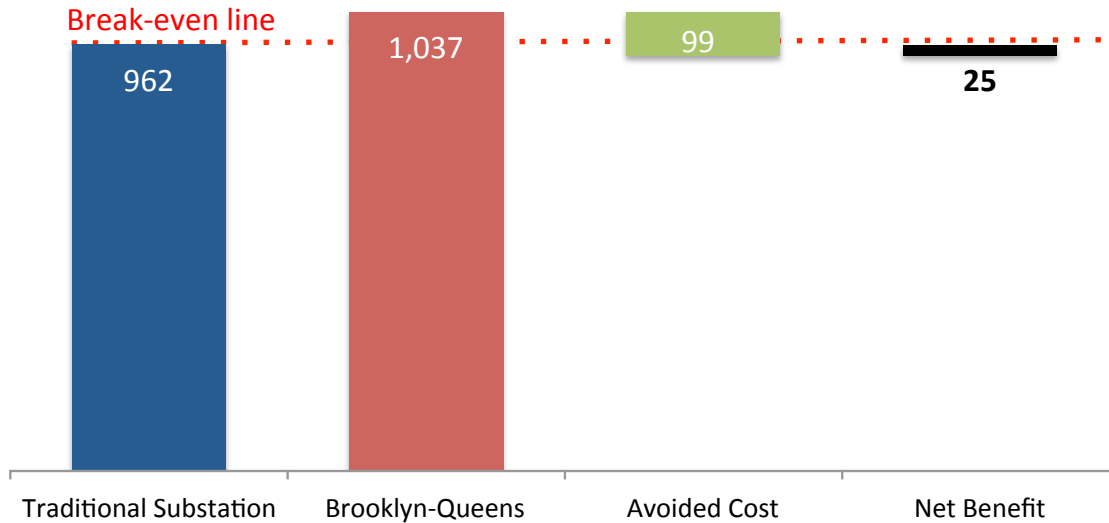
While previous discussions regarding the BCA's discount rate might have concerned themselves with a diminished value to long-term benefits (for example carbon), BQDM exposes an additional peril—a kind of hidden payday loan—that seems endemic to the deferral value proposition of nonwires alternatives in general.

Second, BQDM's margin of net benefit is made possible by the computation of "avoided costs" that include commodity rates and notional allocations for deferred infrastructure build. These "avoided costs" have lost more than a third of their value since the program's initial approval. In this latest BCA model, only the fortuitous elimination of two utility-sided nontraditional solutions (the PV Pilot and the Fuel Cell, whose peak capacity are made up costlessly through an increased Voltage Optimization assumption) allow the program to show a net present benefit.

Using Con Edison's same cost of capital, ratepayers are effectively forced to accept a margin of value of less than 3%—as compared to say Con Edison's 20%+ operating

margin—that essentially purports to compensate sure rate increases with uncertain and highly volatile “Avoided Costs”.⁹

Brooklyn-Queens Program Net Present Benefit Calculation, \$ Millions



Source: “BQDM Program Cost Benefit Model (Filed 2.28.2017) - NPV to 2014; Pre-Tax WACC”, Consolidated Edison. Peak Power LLC Analysis.

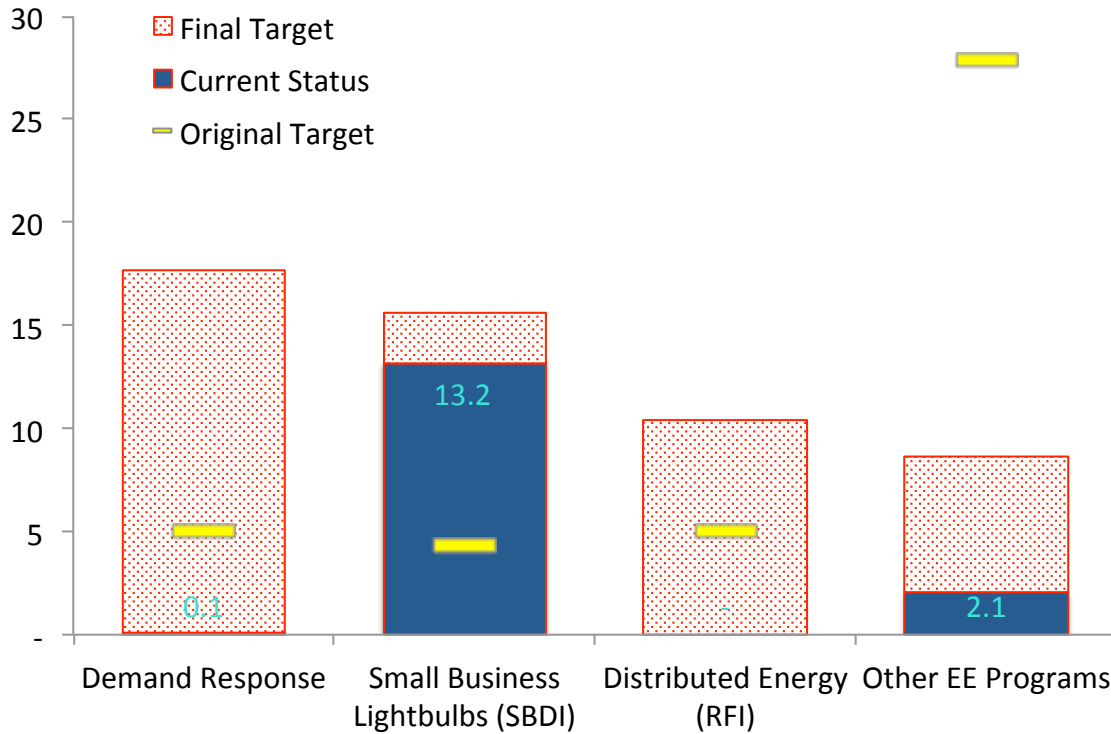
Again, these economics may be arguable if one attributes sufficient value to the innovative nature of the project. But, absent the innovative nontraditional portion—whose immediate necessity has been eliminated in Con Edison’s Petition—revisiting these economics seems important in the interest of just and reasonable rates.

IV. Customer-Side Solutions (CSS) Procurement

BQDM began with a laudable solution-agnostic approach; it was always understood that the final portfolio mix of CSS would be determined experimentally (or: “by the market”). As such, the portfolio has meaningfully shifted from its starting position into two major buckets, which together comprise 62% of the currently envisioned offset to the critical Summer 2018 peak: the small business direct install program (“SBDI”) and a special demand response program (“BQ-DR”).

⁹ These Avoided costs include volatile commodity savings, notional allocations for the potential to avoid future distribution plant, and avoided generation capacity (valued at the net Cost of New Entry rather than capacity market values).

BQDM Customer Side Solutions, Nighttime Peak MW for Summer 2018



Sources: Con Edison Brooklyn-Queens Demand Management Updates, Demand Response Annual Reports

BQDM (and specifically BQDM CSS) is frequently invoked as proof of concept for the core tenets of REV, namely: (1) the superiority of price signals to incentivize DER, and (2) the inferiority of one-time grants for resource acquisition.¹⁰ But the procurement “success” and early pre-operational indicators of SBDI and BQ-DR suggest a complication of the REV thesis, which we hope will be considered by the Commission in this and future NWA.

A. BQDM’s Small Business Direct Install (SBDI) Shows Grant-Based Resource Acquisition of Energy Efficiency is Highly Effective

SBDI—LED lightbulb swap-outs for small businesses—represents 86% of currently operational BQDM CSS. Con Edison plans to deploy additional free lightbulbs for

¹⁰ See “Kauffman on REV: Creating a 21st Century Grid with Clear Price Signals, Utility Incentives, and Collaboration” Kauffman, Richard L. Smart Electric Power Alliance, 23 February 2017. <https://sepapower.org/knowledge/kauffman-21-century-grid/>

small businesses and multifamily residents, driving nearly 40% (20 MW) of total CSS relief for the 2018 network peak.

SBDI lightbulbs are given free of charge to small businesses and tenants, and are fully paid for by BQDM and existing energy efficiency incentives. As such they are just as much, and potentially even more “resource acquisition” than the currently retiring NYSERDA energy efficiency incentives, which have been only partially replaced by utility programs.¹¹ By contrast, energy efficiency driven by customer investment, third party financing and risk-sharing arrangements—the new methods advocated by the State—seem patently less successful here.

The clear success of energy efficiency “resource acquisition” in BQDM to reduce the critical peak and quickly achieve conservation targets must be noted by the Commission, and should drive a reconsideration of these methods in meeting the state’s aggressive (and currently unmet) energy efficiency goals as suggested by the Clean Energy Standard and exacerbated by Indian Point’s pending retirement.

B. Brooklyn-Queens Demand Response (BQ-DR): the Commission should focus on resource delivery, not auction results.

The largest CSS component for the summer 2018 critical peak is BQ-DR (17 MW), based on the results of Con Edison’s “highly animated DR market”. The Petition’s language (and the Commission’s acceptance or questioning thereof) is critical not only to the program’s characterization as successful, but to BQDM’s role in refining the next steps for REV.

Con Edison appears to frame the auction results, without handicap, as the actual, deliverable end resource. However, recent publicly-available indicators suggest significant challenges in making good on BQDM’s primary reliance on BQ-DR.

For example, the largest single BQ-DR awardee (nearly half of Con Edison’s 2018 nighttime BQ-DR resource) recently announced a 2017 deficiency penalty—assessed where a BQ-DR awardee cannot fulfill its commitment—equivalent to its

¹¹ *Order Authorizing Utility-Administered Energy Efficiency Portfolio Budgets and Targets for 2016 – 2018*. NY Department of Public Service, 22 January 2016.

entire 2017 award. These 4 MW would likely have knock-on effects on the awardee's ability to deliver its 8 MW 2018 commitment. The announcement also noted that the awardee is seeking to exit its secondary market relationship, suggesting a fundamental reassessment of its resource acquisition strategy.¹²

The challenges associated with procuring such a large BQ-DR commitment in so short a time are further suggested by current Con Edison demand response program performance—here the Commercial System Relief Program.¹³ Con Edison reports indicate that performance has shrunk by 40% annually over the last three years for the comparable nighttime window (applicable to two out of the three BQDM networks), to about 60 kilowatts. By contrast, the Auction results for 2018—presented by Con Edison as deliverable resource—are 280 times these 2016 levels! As with SBDI, the BQ-DR results to date suggest a complication of the core REV thesis: that price signals and auction outcomes on their own are probably not sufficient to ensure resource deliverability.

This is particularly relevant for REV's contention that markets' informational strengths can overcome the informational asymmetry endemic to utility regulation. By this logic, while Con Edison may have set 5 MW for BQ-DR in its initial proposals, the auction results indicated more than triple that, and because they are market-based, must be more correct.

Any final judgment on BQ-DR's deliverability is certainly premature. But the Commission should keep a close eye on the outcomes of these market-based bids, and use them to inform any future nonwires alternative programs. As proposed by the Petition, low realization of BQ-DR in 2017 and 2018 would allow future redeployments down the line via contractual penalties and refunds. Yet offloading performance risk to less-reliable third parties, however offset with monetary penalties, does not address the fundamental policy problem BQDM set out to solve.

¹² SEC Form 8-k, Power Efficiency Corporation, 9 March 2017.
https://www.sec.gov/Archives/edgar/data/1024075/000114420417014769/v461729_8-k.htm

¹³ 2016 Con Edison DR Evaluation.
<http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={C09B7623-AA7F-48DE-AF64-3A2F488E96EA}>