

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES**

Petition of Massachusetts Electric Company)
and Nantucket Electric Company each d/b/a)
National Grid pursuant to General Laws Ch.)
164, § 94 and 220 C.M.R. §§ 5.00 et seq.)
for a general increase in distribution rates)
)

D.P.U. 15-155

INITIAL BRIEF OF VOTE SOLAR

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Dated: June 17, 2016

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INTRODUCTION

In their first general rate case in roughly seven years, Massachusetts Electric Company and Nantucket Electric Company, each doing business as National Grid (jointly, “National Grid” or the “Company”), seek approval to fundamentally change the structure of the fixed charges that residential and small commercial customers must pay, and to increase such charges across the board. The Company also seeks to charge community solar, government, and other stand-alone distributed generation (“DG”) facilities a new fee for the energy they generate. These proposals, which would increase rates, are unjustified, deeply flawed and must be rejected.

First, the Company proposes a complex tiered customer charge as a first step toward mandatory demand charges—a rate design that no state-regulated electric utility in the country requires for residential customers. National Grid’s proposal, which is opposed by every intervenor who has taken a position on this issue, is premised on faulty assumptions regarding the need for and design of the charge, is not supported by substantial evidence in the record, and runs counter to state policy to promote energy efficiency and DG.

Second, National Grid proposes a new access fee to recover the costs that it believes community solar, government, and other stand-alone DG facilities impose on the system. Yet, the Company has neither quantified these costs nor demonstrated that they are unrecovered; the Company also has not quantified the benefits provided by these facilities. Furthermore, National Grid has failed to show that the fee is set at the appropriate level—which is unsurprising given that the Company has not even quantified the costs that the fee would recover. Instead of presenting a cost basis of its new fee,

National Grid uses the revenue it recovers through demand charges from a different customer class as a proxy for the costs it thinks stand-alone DG facilities impose on the distribution system.

These rate design proposals—described in the Company’s own words as merely “a second-best solution” and a “first step” towards a more suitable rate design—should be rejected because the Company failed to carry its burden of demonstrating that these proposals are just, reasonable, and in the public interest. Contrary to the Company’s claims, these flawed proposals represent a step backwards in rate design.

These rate design proposals are especially problematic in light of pending grid modernization proceeding, DPU 15-120, and recently-enacted solar legislation, House Bill H. 4173. Both of these developments relate to matters highly relevant to the Company’s proposals, including customers’ access to advanced meters, the value of certain net metering credits in the Commonwealth, and the process by which utilities may propose that customers contribute to the fixed costs of the distribution system. Because neither of these regulatory and legislative developments has been considered by the Company in developing its proposals in this docket, however, approval of the Company’s “second-best” rate design proposals is also premature and inappropriate.

OVERVIEW AND BACKGROUND

In this rate case, the Company proposes to increase customer charges for residential (R-1 and R-2) and small commercial (G-1) customers, among others, and to establish an access fee for stand-alone generators. The proposed increase in customer charges for residential and small commercial customers would occur in two phases. In Phase I, the monthly customer charge for residential customers would increase from \$4 to

\$5.50. Ex. NG-PP-1 at 52:15-16.¹ In Phase II, which would be implemented no earlier than six months after the implementation of Phase I rates, residential and small commercial customers would be placed into one of four tiers based on the customer's maximum monthly kWh usage in the preceding 12 months. The customer charge imposed would increase from tier to tier, beginning with \$6.00 per month in Tier 1 and increasing to \$20.00 per month in Tier 4 for residential customers. Ex. NG-PP-1 at 65. For small commercial customers, the customer charge would start at \$10 in Tier 1 and triple to \$30 in Tier 4. *Id.* at 69. No other utility uses a rate design similar to the proposed Phase II tiered rate design.²

The Company also proposes a monthly access fee applicable to stand-alone generators³ that apply for interconnection to the distribution system after the effective date of the proposed Phase I rates. *See* Ex. NG-PP-1 at 72. This capacity-based fixed fee

¹ In Phase I, the monthly customer charge for G-1 customers would remain at \$10. Ex. NG-PP-1 at 54:11.

² When asked to “discuss whether any utility in any jurisdiction outside of Massachusetts . . . uses a rate design similar to the Phase II rate design proposed,” the Company pointed only to a rate design implemented by Arizona Public Service Company. *See* Resp. to DPU-12-2. However, there are key differences between National Grid's proposal and APS's rate design. As the Company conceded at hearing, APS's tiered charge is optional, does not equate a customer's kWh usage to demand, and functions as an alternative partial decoupling mechanism. Tr. at 640:11-641:16. By contrast, the Company's proposed tiered charge is mandatory, uses a customer's maximum kWh usage as a proxy for maximum demand, and is being proposed despite the fact that the Company has full revenue decoupling in place. *Id.*

³ The Company defines the term “stand-alone generators” as “DG facilities that are directly connected to the distribution system and have no associated on-site load for any DG facility enrolled in any of the DG programs, such as Qualifying Facilities, net-metered facilities, and facilities resulting from any new programs approved in the future by the Department.” Ex. NG-PP-1 at 70:16-20.

(per kW-month) would be based on the facility's nameplate capacity and adjusted for the facility's "capacity availability factor." *Id.* at 70-71.

Even as the Company moves forward with its proposals in this rate case, it has pending before the Department a proposed Grid Modernization Plan, in which the Company has proposed to roll out advanced metering infrastructure and to implement time-varying rates for basic service. *See Petition of Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid for Approval of its Grid Modernization Plan*, D.P.U. 15-120 (Aug. 19, 2015). The Department's investigation into modernization of the electric grid began in 2012, has involved a stakeholder process, and now continues underway as the Department reviews the Grid Modernization Plans submitted by National Grid and the other electric distribution companies.

Meanwhile, House Bill H. 4173, which Governor Baker signed into law three weeks before the evidentiary hearing commenced in this proceeding, marks a significant shift in solar policy in the state. This new legislation contains at least two provisions directly relevant to the Company's rate proposals. One provision decreases the value of net metering credits generated by commercial Class I, II, and III solar net metering facilities by 40 percent after the Department of Energy Resources ("DOER") certifies that the aggregate nameplate capacity of solar net metering facilities in the Commonwealth qualified under the state renewable energy portfolio standard has reached 1,600 megawatts. G.L. c. 164 §§ 138, 139(b ½).

Another provision of the new legislation sets forth the process by which distribution companies may submit proposals to the Department "for a monthly minimum reliability contribution to be included on electric bills for distribution utility accounts that

receive Class I, Class II, Class III, or market net metering credits” G.L. c. 164 § 139(j). This monthly minimum bill provision specifies that the Department “may only approve a proposal for a monthly minimum reliability contribution after the aggregate nameplate capacity of installed solar generating facilities in the commonwealth is equal to or greater than 1,600 megawatts.” *Id.* The record reflects that qualification of the 1,600 megawatt threshold is “imminent,” Tr. at 658:18-19—which would trigger DOER’s certification and the subsequent 40 percent reduction in the value of net metering credits.⁴ The installation of the full 1,600 megawatts is expected to occur in late spring or early summer of 2017, Tr. at 658:15-18, only after which the Department may approve any proposals for a monthly minimum bill.

The Company’s Massachusetts President, Marcy Reed, has acknowledged that the Company has not accounted for or considered the implications of this new legislation in developing the proposals currently before the Department. *See* Tr. at 89 (Ms. Reed confirming that the new legislation was enacted after the Company filed its rate case and was therefore “not an external driver that impacted the company’s ratemaking proposals in this case”); *see also* Tr. at 659 (Company witness testifying that the law was passed only recently and that the Company has not analyzed the impact of a reduction in net metering credit value).

⁴ On June 3, 2016, DOER notified the DPU that it will “soon submit to the [DPU] its determination that 1,600 megawatts of projects have been qualified pursuant to G.L. c. 164 § 139(b ½).” *See* DOER Ltr. to DPU, D.P.U. 16-64 (June 3, 2016), <http://web1.env.state.ma.us/DPU/FileRoomAPI/api/Attachments/Get/?path=16-64%2fDPU1664DOERFiling6316.pdf>.

STANDARD OF REVIEW

The Department reviews the Company's proposed rates pursuant to G.L. c. 164 § 94, which requires that the agency "make an investigation as to the propriety of" any proposed general increase in rates, prices and charges. G.L. c. 164 § 94. When a company requests a general increase in rates pursuant to G.L. c. 164 § 94, "[t]he burden of proving the propriety of a rate increase remains with the utility seeking the increase." *Town of Hingham v. Dep't of Telecomms. & Energy*, 433 Mass. 198, 213 (2001); *see also Fitchburg Gas & Elec. Light Co. v. Dep't of Pub. Utils.*, 375 Mass. 571, 582 (1978) ("[T]he Company was required to prove its case before the Department by presenting a clear and reasonable analysis.").

In determining the propriety of the proposed rates pursuant to Section 94, the Department "must find that they are 'just and reasonable.'" *Attorney Gen. v. Dep't of Telecomms. & Energy*, 438 Mass. 256, 264 fn. 13 (2002) (citing *Attorney Gen. v. Dep't of Pub. Utils.*, 392 Mass. 262, 265 (1984)); *see also In Re Incentive Regulation for Elec. & Gas Companies*, D.P.U. 94-158 (Feb. 24, 1995). A public interest standard "lies at the heart of" this section. *In Re Boston Edison Co.*, D.T.E. 99-19 (July 27, 1999). The Department must have substantial evidence, based on the record developed before the agency, to support its determination of the propriety of the proposed rates—that is, that "there is such evidence as a reasonable mind might accept as adequate to support the agency's conclusion." *Massachusetts Oilheat Council v. Dep't of Pub. Utils.*, 418 Mass. 798, 805-06 (1994); *see also* G.L. c. 30A §§ 1(6), 14(7).

ARGUMENT

I. THE COMPANY'S PROPOSED PHASE II TIERED CUSTOMER CHARGE IS UNJUSTIFIED AND UNREASONABLE

The Company's tiered customer charge proposal is premised on three faulty assumptions—(i) that there is a cost shift from DG to non-DG customers that must be addressed, (ii) that the customer's highest monthly energy use is a reasonably proxy for that customer's peak demand, and (iii) that individual peak demand captures the cost that a customer imposes on the system. The record is clear that the Company has neither demonstrated the existence of, nor quantified, the supposed cost shift it identifies as justification for its tiered customer charge proposal. Moreover, even if the Company did identify a cost shift, the Company has not demonstrated that its proposed tiered customer charge design—which consists of a complex double proxy equating maximum monthly usage to maximum demand and assuming that maximum demand corresponds to a customer's contribution to system cost—is actually grounded in cost causation and is otherwise just and reasonable. Finally, if implemented as proposed, the tiered customer charge would fail to meet the Department's goals of efficiency and simplicity in rate design. For all of these reasons, as discussed more fully below, the Department cannot lawfully approve the Company's proposed Phase II tiered customer charge.

A. The Company Has Not Met Its Burden of Proving the Need for the Phase II Tiered Customer Charge

The Company justifies the Phase II tiered customer charge on the grounds that non-DG customers are subsidizing DG customers. Yet, the Company fails to quantify this supposed subsidization or even to show that this type of cost shift actually exists. Without such evidence in the record, the Department cannot conclude that the proposed

customer charge is just and reasonable. *See* G.L. c. 164 § 94; *Attorney Gen. v. Dep't of Telecomms. & Energy*, 438 Mass. at 264 fn. 13.

The Phase II tiered customer charge was “designed to mitigate the cost shifting from DG customers to non-DG customers resulting from the application of the current per kWh charge design.” Ex. NG-PP-Rebuttal-1 at 53:12-15. The Company takes the position that:

under the current rate design, which relies primarily upon per-kWh charges assessed on delivered kWh, particularly for residential and small C&I customers and stand-alone generators, DG customers *may* contribute significantly less to support the distribution system as a result of their reduced kWh usage, thereby shifting the recovery of distribution system costs to all non-DG customers.

Ex. NG-PP-1 at 28:14-19 (emphasis added); *see also* Tr. at 616-617. The Company’s use of the word “may” is significant and reflects the fact that the record actually contains no analysis showing that this cost shift *does* exist.

The Company’s witnesses have testified that “[t]he Company *has not quantified the amount of costs attributable specifically to DG customers.*” Ex. NG-PP-Rebuttal-1 at 22:10-12 (emphasis added); *see also* Tr. at 620 (Company witness confirming that National Grid has not quantified the amount of costs attributable specifically to DG customers). The Company also has not quantified the benefits associated with DG customers in its service territory. *See* Resp. to DPU-29-6 at 2 (“[T]he Company has not completed its own study of the potential benefits to the distribution system that could be provided by renewable energy generation.”); Tr. at 620:14-18 (Company witness confirming that National Grid has not quantified the benefits associated with DG

customers in this proceeding).⁵ Without having quantified the costs and benefits associated with DG customers, the Company was unable to—and in fact, did not—ascertain whether any cost-shift actually is occurring. In other words, the record contains no evidence, much less substantial evidence, to conclude that the tiered customer charge is needed to address a purported cost shift caused by DG customers. The Company plainly has failed to meet its burden to provide “clear and reasonable analysis” to prove its case. *Fitchburg Gas & Elec. Light Co.* 375 Mass. at 582 (1978).

B. The Company Failed to Present a Clear and Reasonable Analysis Justifying Its Proposed Phase II Tiered Customer Charge

Even if the Company had sufficiently demonstrated and quantified a cost shift justifying a different rate design, it did not meet its burden of showing that the proposed tiered customer charge is just and reasonable. The cost-causation basis for the proposed tiered customer charge rests on a chain of unjustified assumptions. First, the Company assumes that a customer’s maximum monthly kWh usage can serve as a proxy for the customer’s maximum monthly hourly kW demand. Second, it assumes that an individual customer’s maximum kW demand, or non-coincident peak (“NCP”), is an appropriate

⁵ Although the Company admitted in discovery that it “has not conducted its own study of the costs and benefits of interconnecting hundreds of megawatts of distributed generation (‘DG’) to its electric power system (‘EPS’),” Resp. to LI-1-10 at 1, at the hearing, the Company repeatedly referred a “Solar Phase 2 project” as evidence that the Company is conducting a study of the costs and benefits of DG. *See, e.g.*, Tr. at 617:18-618:7.

The Solar Phase 2 project, however, studies only Company-owned solar with advanced inverters. Tr. at 617:18-618:5, 713:15-21. More importantly, the Solar Phase 2 project is “ongoing” and expected to continue for an unspecified “number of years.” Tr. at 662:5-9. The fact that the Company pointed to an ongoing study that will produce results years from now (setting aside the fact that the subject matter of the study is not on point) further demonstrates that the Company’s current proposal is unsupported.

determinant of cost causation. As discussed below, both of these assumptions are insufficiently supported by the evidence in the record.⁶

1. The Company Has Not Demonstrated that Maximum Monthly kWh Usage Is an Appropriate Proxy for Maximum kW Demand

A central feature of the Company’s tiered customer charge proposal is its use of customers’ maximum monthly kWh usage as a proxy for maximum kW demand. To demonstrate the purported appropriateness of using maximum billed usage as a proxy for maximum hourly load, the Company relied exclusively on a single statistical analysis—an R^2 analysis, which measures how closely data fits a linear model.⁷ *See* Tr. 690:23-691:4 (referencing Ex. NG-PP-10 and National Grid’s response to DPU-9-8); *see also id.* at 636:5-7. An R^2 value of one means that the linear model explains all the variability of the data, and an R^2 value of zero means that the model explains none of the variability of the data. *Id.* at 636:8-16. As the Company’s witnesses described it, the R^2 analysis “measure[s] the strength of the relationship [being] observ[ed].” Tr. at 1218:17-24.

The Company’s witnesses testified that they were “confident” that their approach of using maximum billed usage as a proxy for maximum hourly demand was reasonable

⁶ Additionally, it is worth noting that the Company relies on this convoluted double proxy—an admittedly “second-best solution”—because the necessary advanced meters are not currently in place to allow for the demand charges that the Company ultimately hopes to implement. Tr. at 627:6-12; Ex. NG-PP-1 at 31:16-32:5. The Company has, however, already sought approval for the installation of such advanced metering in its pending Grid Modernization Plan. Ex. NG-PP-1 at 31:20-32:1. While demand charges are not appropriate for residential and small C&I customers at this point in time, *see* VS-NP-1 at 38-42, the pending Grid Modernization Plan demonstrates that National Grid’s tiered charge proposal is not only deeply flawed, but also premature.

⁷ In response to a record request made by the Department, the Company later provided the correlation coefficient between maximum monthly usage and maximum demand for the rate classes that would be subject to the tiered customer charge. *See* RR-DPU-29.

“because the maximum billed usage explained more than 50 percent of the variation in maximum hourly load”—that is, the R^2 value was greater than 0.5. Tr. at 688:23-689:4. They further testified that had the R^2 value been below 0.5, they would “probably be very concerned” and “would have certainly thought hard about what we would have done in that case.” Tr. at 692:13-21. Notably, however, the Company’s R^2 analyses for the customer classes in each of the four proposed customer charge tiers showed only a single R^2 value greater than 0.5. See Attach. DPU 9-8; Tr. at 637-38. The R^2 values for residential customers in Tiers 1, 2, 3, and 4 were, respectively: 0.1911, 0.1352, 0.1134, and 0.4587. See Attach. DPU 9-8; see also Ex. VS-NP-1 at 26. The R^2 value for G-1 customers for Tiers 1, 2, 3, and 4 were, respectively: 0.2306, 0.0576, 0.3617, and 0.5727. See Attach. DPU 9-8; see also Ex. VS-NP-1 at 26.

The Company dismissed these exceedingly low R^2 values on the grounds that its rate design proposal is “based on the analysis of the entire [sample] population” and that the analysis for each tier reflected merely the relationship between maximum usage and maximum demand for a subset of the sample population. See Tr. at 638:12-21. But this rationalization does not pass muster. While the Company may have justified using maximum usage as a proxy for maximum demand based on an analysis of the entire sample population, the proposed tiered customer charge is premised on the designation of customers *into one of four tiers*. Thus, the relationship between maximum monthly usage and maximum demand for customers in each of these four tiers—not customers as a whole—is the key indicator of the appropriateness of the proxy relied on by the Company. The extremely low R^2 values for customers in each tier demonstrate the weak relationship between maximum monthly usage and maximum monthly demand for

customers in these four tiers. By the Company's own measure, all of the R^2 values below 0.5 for customers in each of the proposed tiers are "very concern[ing]." Tr. at 692:13-21. As Attorney General witness Rubin explained in testimony, "the Company's tier proposal does a poor job of serving as a proxy for a customer's contribution to NCP demand." Ex. AG-SJR-1 at 19:17-20 (referencing the analysis done in Ex. AG-SJR-5).⁸ On this record, the Company plainly has not met its burden of proving the propriety of its tiered customer charge proposal. *See Town of Hingham*, 433 Mass. at 213.

2. The Company Also Has Not Demonstrated that an Individual Customer's Non-Coincident Peak Is an Appropriate Indicator of Cost Causation

The second link in the chain of assumptions underlying the Company's flawed tiered customer charge proposal is the assumption that an individual customer's maximum hourly demand, that is NCP, is an appropriate indicator of that customer's contribution to system costs. The overwhelming evidence in the record supports the

⁸ The record contains additional evidence that maximum monthly usage is not an appropriate proxy for maximum hourly demand. In response to Record Request DPU-27, the Company produced its R^2 analysis of the relationship between a customer's *average* kWh usage, which reflects the way energy rates are currently set for a customer class, and maximum hourly demand. Despite the Company's claim that the results were "similar" to the analysis of the relationship between maximum monthly usage and maximum demand, Tr. at 698:24-699:6, 1183:19-1184:2, the data indicates otherwise. For R-1 customers, the R^2 value for the relationship between average billed usage and maximum hourly load is 0.6156—slightly *higher* than the R^2 value of 0.5985 calculated for the relationship between maximum billed usage and maximum hourly load. *Compare* Attach. RR-DPU-27 at Chart5R1Only, *with* Attach. DPU-9-8 at 1. Similarly, for R-2 customers, the R^2 value for the relationship between average billed usage and maximum hourly load is 0.6822—slightly *higher* than the R^2 value of 0.6637 calculated for the relationship between maximum billed usage and maximum hourly load. *Compare* Attach. RR-DPU-27 at Chart5R2Only, *with* Attach. DPU-9-8 at 2. Currently, volumetric rates are based on average customer energy use for that rate class. Thus, the Company's own R^2 analysis shows that current rates bear a *stronger* relationship to maximum hourly load than does maximum monthly usage, the Company's proposed rate design. *See* Ex. NECEC-RTB-1 at 19-20; *see also* Ex. EFCA-TW/MW-1 at 27:10-14.

conclusion that NCP is *not* indicative of cost causation, and the Company has put forth no “clear and reasonable analysis” to prove otherwise. *Fitchburg Gas & Elec. Light Co.*, 375 Mass. at 582.

It is well understood that the costs that a customer imposes on the distribution system are related to the customer’s demand that coincides with the collective peak demand of all customers, whether on the feeder or substation. *See* Ex. VS-NP-1 at 27; Ex. EFCA-TW/MW-1 at 26-27 (explaining that “a customer’s individual peak demand will ordinarily not put the greatest strain on the system” and the importance of accounting for the timing of a customer’s demand); Ex. AC-AA-1 at 13:12-13 (noting that “a customer’s coincident peak demand is the primary contribution it makes to the overall size and cost of the distribution system”); Ex. NECEC-RTB-1 at 18:9-17 (“[C]ustomers only cause capacity-related costs to be incurred if they use power in the months and at the times of day when the demand for electricity is high [T]his means that a small consumer’s monthly maximum kWh usage is a significant driver of the electric distribution company’s costs only if that usage correlates well with the demand which that customer places on the system during the months and hours of peak demand.”). Indeed, the Company itself recognizes that “distribution system costs are incurred to meet customer demand during the periods of highest demand,” NG-PP-1 at 31:4-5, and acknowledges that reducing customer usage during peak hours has benefits for system costs, Tr. at 681:17-23.

The Company nonetheless proposes to set the customer charge based on customer NCP rather than CP because coincident peak is known only after the fact. Tr. at 671. The Company states that it “focus[es] on demand charges for [customers’] individual

demand so that they will increase their load factor by spreading out that usage across many hours and therefore increase the utilization of the system more efficiently and therefore lower the need for additional capacity.” Tr. at 672:17-22. But the Company has not done any study to ascertain whether this theoretical and presumed effect actually would occur. The Company acknowledges that it has undertaken no analysis on whether NCP demand charges actually cause customers to shift their usage in a way that reduces use during peak system hours. Tr. at 678:13-14 (“I can’t say that there’s been actual studies.”). The Company also concedes that it has undertaken no analysis on whether customers’ responses to a demand charge actually would improve system utilization in a way that reduces system costs. *Id.* at 679. Ultimately, although the proposed tiered customer charge would be assessed based on customers’ NCP, the Company acknowledges that it has not done any study of whether NCP demand charges actually reflect a customer’s contribution to system costs. *Id.* at 677:20 (“We have not done a study.”).

The Department has set forth its goals for designing utility rate structures, and in doing so, has made clear the importance of efficiency in rate design. *See Petition of Bay State Gas Co., d/b/a Columbia Gas of Massachusetts, Pursuant to G.L. c. 164 § 94 & 220 C.M.R. § 5.00 et seq., for Approval of a Gen. Increase in Gas Distribution Rates Proposed in Tariffs M.D.P.U. Nos. 105 Through 139., D.P.U. 12-25 (Nov. 1, 2012).* As explained by the Department,

efficiency means that the rate structure is designed to allow a company to recover the cost of providing the service and to provide an accurate basis for consumers’ decisions about how to best fulfill their needs. . . . Thus, efficiency in rate structure means setting cost-based rates that recover the cost to society of the consumption of resources used to produce the utility service.

Id. Here, the record contains no evidence, much less substantial evidence, that the proposed tiered customer charge actually is an efficient cost-based rate design. The Company simply has not done the necessary analysis to show that basing the customer charge on customer NCP appropriately addresses cost causation. Even were there evidence in the record to demonstrate this, the record clearly shows, as described in the preceding section, that the Company's use of customer maximum monthly usage as a proxy for customer NCP is inaccurate and unreliable. The Department therefore has no basis for approving the tiered customer charge proposal.

C. If Implemented, the Phase II Tiered Customer Charge Would Be Inefficient and Difficult for Customers to Understand

The proposed Phase II customer charge also would contravene the Department's stated rate structure goals of efficiency and simplicity because it fails to send an appropriate and actionable price signal to customers. As the Department has explained in setting forth its goals for designing utility rate structures, "meeting the goal of efficiency should involve rate structures that provide strong signals to consumers to decrease energy consumption in consideration of price and non-price social, resource, and environmental factors." *Petition of Bay State Gas*, D.P.U. 12-25. Meanwhile, "[a] rate structure achieves the goal of simplicity if it is easily understood by consumers." *Id.* Here, the proposed customer charge is neither easily understood nor does it send a strong signal to customers to decrease energy consumption.

The Company asserts, without credible support, that "[c]ustomers can certainly understand maximum monthly usage." NG-PP-Rebuttal-1 at 29:19-20. The Company's witness concedes, however, that his claim that "customers respond to demand charges"

was made only based on experience with larger commercial customers, and not residential customers. Tr. at 675:21-676:2. Apart from such unsubstantiated assertions equating the behavior of commercial and industrial customers with the behavior of residential customers, the Company points only to the first year evaluation report of the Company's Smart Energy Solutions Program in support of its claim. *See, e.g.*, Tr. at 676:3-6, 1029:21-24. However, this report provides no evidence at all that customers would understand the tiered customer charge proposed by the Company in this docket.

As the Company concedes, the Smart Energy Solutions pilot program involved customers with smart meters and technology packages served under a time-of-use critical peak pricing rate or a peak-time rebate rate. *See Ex. VS-1* at 9; Tr. at 624:16-22. By contrast, smart meters are not in place for the vast majority of National Grid's residential customers,⁹ and the Company's proposed mandatory rate design consists of neither time-of-use critical peak pricing nor peak-time rebates. Tr. at 624:23-625:18. In short, the first year evaluation report of the Smart Energy Solutions Program—the only study relied upon by the Company to show the purported understandability of the proposed tiered customer charge—does not study what the Company is proposing in this docket. Tr. at 625:19-626:9.

In actuality, without smart meters, a customer is unlikely to be able to monitor real-time consumption. Customers will not know in real time how close they are to being bumped into a higher customer charge tier, and will only know *after* they've been subject to a higher customer charge that they've been moved into that higher tier. Resp. to VS-2-

⁹ In fact, the lack of smart meters is precisely why the Company has proposed the tiered customer charge using maximum monthly usage as a proxy for maximum demand. *See Ex. NG-PP-1* at 31:16-32:5.

7; Tr. at 626:23-627:6. Because of the lack of real-time information available to customers, the Company suggests that it is important for customers to be conscious of their energy consumption *every single day* to minimize the chances of being moved into a higher tier. Resp. to LI-2-12; Tr. at 626:10-14. Despite this lofty expectation for its customers, the Company has not actually developed a customer outreach and education plan specifically to help its customers understand and respond to the proposed tiered customer charge. Resp. to VS 2-6.

Instead, the Company plans to rely only on its existing communication methods, including bill messages, website postings, and mailings. *See* Resp. to DOER 2-17. Among these existing tools is historical usage information provided in customer bills—that is, information about the preceding 12 months of historical usage along with the current month’s usage. *See id.* The Company believes that this information will be sufficient to guide customer action in lowering usage. *See* Ex. NG-PP-Rebuttal-1 at 29:21-23 (“Therefore, customers will have information regarding which tier they may fall into based on historical usage and further identify in which month(s) that maximum usage occurs.”). But the Company has not done any study of residential customers to ascertain whether the month their maximum monthly usage occurs actually is consistent from year to year. *See* Tr. At 728:13-729:19; Attach. RR-NECEC-1.¹⁰ The record reflects, moreover, that even if a customer acts on the historical usage information by lowering electricity during the peak month reflected in the preceding year’s usage, the

¹⁰ In response to a record request for study done in Rhode Island addressing whether maximum monthly usage, and the month that usage occurs, is consistent from year to year, the Company provided a spreadsheet containing data with no time component. *See* Attach. RR-NECEC-1. The provided information is therefore unresponsive to the question of whether customers’ peak usage months are consistent from year to year.

customer might not actually be moved into a lower tier and could indeed be moved into a higher tier anyway. Tr. at 629:1-15. In other words, as the Company concedes, customer action taken based on the information available to the customer may not even have the desired impact on the customer's bill. Tr. at 629:16-20. This hardly suffices as a "strong signal[]" to consumers to decrease energy consumption in consideration of price and non-price social, resource, and environmental factors." *Petition of Bay State Gas*, D.P.U. 12-25.

Under the Company's proposed tiered customer charge, customers would have only limited, retrospective information on which to act, and even then, any action taken would have only limited likelihood of affecting the customer's bill. The consequences for the customer are not trivial. The customer charge for residential customers in Tier 2 is 50 percent more than the customer charge for Tier 1, and the customer charge for residential customers in Tier 3 is 67 percent more than the customer charge for Tier 2. *Id.* at 622:5-13.

Moreover, customers whose usage surpassed the threshold for a higher tier would be placed into the higher tier and subjected to the higher customer charge in the very next month and required to pay that higher customer charge for the next twelve months. Tr. 630:22-631:2. To be placed in a lower tier under the Company's proposal, a customer would have to wait 12 months, during which it would need to show a sustained reduction in maximum usage below the threshold of its current tier, before being moved into the lower tier. Tr. at 631:3-7. The Company's proposal thus requires a one-year sustained period of low usage for a customer to be charged less but no similar one-year sustained period of high usage to be charged more. Tr. at 630:5-631:7. The Company proposes

this punitive one-sided ratchet without having done any analysis to determine how likely customers are to move to different tiers. Tr. at 631:13-17. This record plainly reflects no substantial evidence on which the Department can find that the proposed Phase II customer charge rate design is just and reasonable. *See Attorney Gen. v. Dep't of Telecomms. & Energy*, 438 Mass. at 264 fn. 13.

II. THE COMPANY'S PROPOSED ACCESS FEE FOR STAND-ALONE GENERATORS IS UNJUSTIFIED AND UNREASONABLE

Like the proposed tiered customer charge, the proposed access fee for stand-alone DG is unjustified and its design unsupportable. As explained below, the Department must reject this proposed access fee because the record lacks evidence to support a finding that the fee is needed to recover costs currently unrecovered from stand-alone generators. Even were the fee justified, the record contains no evidence that it is set at a level that is just and reasonable.

A. The Record Contains No Evidence Demonstrating that the Proposed Access Fee Is Needed

Under the current rate design, stand-alone DG facilities are typically in the G-1 class, which is generally available to customers with monthly usage of less than 10,000 kWh. Ex. NG-PP-1 at 73:7-10. As part of the G-1 class, these facilities pay a monthly customer charge of \$10. *Id.* In the Company's view, "[t]his current method of billing stand-alone DG facilities does not provide for adequate contribution towards the recovery of the costs that the DG facility's use of the system causes the Company to incur to serve these customers." *Id.* at 73:12-14; *see also* Tr. at 644:9-12 (Company witness confirming the Company's position "that stand-alone DG facilities incur costs towards which they are not adequately contributing recovery").

Despite this justification for the proposed access fee, the Company acknowledges that it has not actually quantified “the costs that [stand-alone DG facilities’] use of the system causes the Company to incur to serve these customers.” Ex. NG-PP-1 at 73:12-14; *see also* Tr. at 646:7-15. That is, the Company claims these G-1 customers are not fully contributing to the costs they impose on the system and proposes a way to address this under recovery—all without knowing the level of costs that these facilities impose. The Company also contends that the interconnection fee paid by stand-alone DG facilities is inadequate to recover the costs incurred by these facilities. Tr. at 645:4-8. But the Company concedes that it has not conducted any analysis to determine how current interconnection fees fail to account for the costs the Company believes that stand-alone DG facilities are incurring. Resp. to EFCA-1-11; Tr. at 646:7-15. Ultimately, the Company maintains that it is not “necessary to provide an exact accounting of costs incurred as a result of serving DG customers in order to require that these customers pay for a portion of the costs for which they are directly responsible” Ex. NG-PP-*Rebuttal-1* at 22:18-21; *see also* Tr. at 651:14-20 (noting that “[t]he effort to actually do an exact accounting . . . would add even more costs to serve those customers”).

In short, the Company is proposing to impose a fee on customers to recover purported costs it has not quantified. In doing so, the Company is asking the Department to make a finding that would fly in the face of fundamental principles of utility ratemaking and eviscerate the role of the Department in investigating “the propriety of” any proposed general increase in rates, prices and charges. G.L. c. 164 § 94. Without any evidence in the record quantifying the costs that are sought to be recovered through the access fee, the Company simply asks the Department to take its word for the propriety

of the proposed access fee. This, the Department cannot do. *Massachusetts Oilheat Council*, 418 Mass. at 805-06; *see also* G.L. c. 30A §§ 1(6), 14(7).

B. Even if the Need for an Access Fee Were Demonstrated, the Record Contains No Evidence to Support a Finding that the Fee as Proposed Is Just and Reasonable

Having failed to quantify the costs that stand-alone DG facilities impose on the distribution system, the Company points instead to its allocated cost of service study, which assessed the demand-related costs to serve the G-2 and G-3 classes. Ex. NG-PP-Rebuttal-1 at 32:5-7; Tr. at 652:23-653:4. The Company believes that because “[s]tand-alone DG customers use the distribution system in a manner *similar* to the Company’s C&I G-2 and G-3 load customers,” it is appropriate to set the proposed access fee based on the demand-related costs imposed on G-2 and G-3 customers. Ex. NG-PP-Rebuttal-1 at 32:19-20 (emphasis added). But once again, the Company fails to meet its burden by providing no evidence to support this assumption that stand-alone DG facilities impose the same costs on the distribution system as G-2 and G-3 customers. Indeed the Company concedes that it “has not conducted an analysis on whether the reliance on the [electric power system] by a typical ‘stand-alone’ DG facility is greater than, equal to, or less than electricity customers on Rates G-2 and G-3.” Resp. to AG-27-10; Tr. at 654:1-7. The failure to undertake this necessary analysis is consistent with the Company’s general failure, noted in preceding sections, to provide the analysis needed to prove the propriety of its proposal. *Town of Hingham*, 433 Mass. at 213. The access fee proposal must therefore be denied.

III. THE COMPANY HAS PRESENTED INSUFFICIENT EVIDENCE TO ALLOW THE DEPARTMENT TO COMPLY WITH G.L. C. 164 § 141

In all decisions related to rate design, the Department is mandated to “consider the impacts of such actions, including the impact of new financial incentives on the successful development of energy efficiency and on-site generation.” G.L. c. 164, § 141. Here, on the record before the agency, the Department simply cannot comply with this obligation.

The Company is explicit that it did not undertake any specific analysis on the proposed Phase II tiered customer charge’s impacts on customer incentives to reduce demand. *See* Resp. to DOER-2-18; *see also* Tr. at 634:1-5, 634:12-15. The Company also is clear that it performed no specific analyses on how its proposed rate design might affect the achievement of its current Three-Year Energy Efficiency Plan. Resp. to DOER-2-18; *see also* Tr. at 634:16-20. The absence of such analysis in the record is striking in light of the fact that the very purpose of the tiered customer charge proposal, as National Grid puts it, is “to shift cost recovery through variable (per-kWh) charges to customer and/or demand (per-kW) charges *to ensure that customers who reduce kWh consumption either through implementation of DG or energy efficiency will pay their fair share of the Company’s distribution system.*” Ex. NG-PP-1 at 64:9-13 (emphasis added). It is uncontested by the Company that customers are incentivized to implement energy efficiency by the opportunity to save through lower kWh usage, *see* Resp. to DOER 2-16; Tr. at 632:2-11; and the Company further acknowledges that its proposal shifts recovery *away* from variable per-kWh charges and that per-kWh rates would decline under its proposal, *see* Ex. NG-PP-1 at 32:11-13; Tr. at 750:1-5. Yet the record is devoid of any analysis that would allow the Department to consider, pursuant to G.L. c. 164, § 141,

whether the Phase II tiered customer charge would negatively impact energy efficiency and on-site generation.

With respect to the proposed access fee for stand-alone generators, the Company also explicitly testified that it “did not analyze whether the proposed Access Fee will impact the development of distributed generation (‘DG’), or ‘stand-alone’ DG.” Resp. to EFCA-1-8; *see also* Tr. at 90-91. On a record that, by the Company’s own admission, contains no analysis of how the proposed access fee will affect on-site generation, the Department simply cannot comply with its obligation to consider the impact of the proposed rate design “on the successful development of energy efficiency and on-site generation.” G.L. c. 164, § 141.

IV. NEWLY ENACTED HOUSE BILL H. 4173 MARKS A SIGNIFICANT CHANGE IN STATE POLICY THAT IS WHOLLY UNACCOUNTED FOR IN THE COMPANY’S RATE PROPOSAL

The Company’s proposed rate design in this docket is not consistent with the direction set forth in newly enacted House Bill H. 4173. Viewed in light of the significant development marked by the passage of House Bill H. 4173, which shifts the landscape on the value of net metering credits and identifies a specific process for considering minimum reliability contribution proposals, the Company’s unsupported rate proposals in this docket are especially ill-advised and premature.

In rebuttal testimony, the Company attempts to frame its rate proposal as consistent with the new law by claiming that the proposed access fee on stand-alone generators meets the purpose and criteria of the minimum bill provision in H. 4173. *See* Ex. NG-PP-Rebuttal-1 at 46-48. But this argument is unavailing. First, in discovery produced before the enactment of the new law, the Company already acknowledged that

in developing the access fee proposal, it did *not* consider a minimum bill alternative. *See* Resp. to DOER-2-4. Moreover, its after-the-fact claim in rebuttal testimony that the access fee actually is a minimum bill is squarely contradicted by Massachusetts President Marcy Reed’s admission that the Company did not consider the new legislation in developing its proposal. Tr. at 89:8-11.

Second, the proposed access fee does not meet the criteria for approval set forth in the new law, namely that the monthly minimum reliability contribution:

(i) equitably allocates the fixed costs of the electric distribution system not caused by volumetric consumption; (ii) does not excessively burden ratepayers; (iii) does not unreasonably inhibit the development of Class I, Class II, Class III facilities; and (iv) is dedicated to offsetting reasonably and prudently incurred costs necessary to maintain the reliability, proper maintenance and safety of the electric distribution system.

G.L. c. 164 § 139(j). As explained in Section II, *supra*, the Company has neither quantified the costs attributed to stand-alone DG customers that are not being recovered from these customers nor demonstrated that the access fee is appropriately equated to the demand-related costs of serving G-2 and G-3 customers; it therefore cannot demonstrate that the proposed access fee “equitably allocates the fixed costs of the electric distribution system.” *Id.* The record also contains no evidence that the access fee would not excessively burden stand-alone DG customers. Furthermore, the Company is clear that it “did not analyze whether the proposed Access Fee will impact the development of distributed generation (‘DG’), or ‘stand-alone’ DG.” Resp. to EFCA-1-8; Tr. at 90-91. The record therefore contains no evidence to show that the proposed fee “does not unreasonably inhibit the development of Class I, Class II, Class III facilities.” G.L. c. 164 § 139(j). In short, the proposed access fee cannot constitute the minimum reliability contribution contemplated in the new legislation—both because it does not meet the

statutory criteria set forth in H. 4173 and because the Department, in any event, would have no authority now to approve the proposal as a minimum bill consistent with the law.

Although the Company addresses only the minimum bill provision of the new law in its rebuttal testimony, the law's imminent reduction of the value of net metering credits also has important implications for the Company's rate proposals in this docket. The Company takes the position that net metering credits result in lower revenue to the Company and therefore contribute towards a cross-subsidy between DG and non-DG customers. Resp. to EFCA-1-3. By logical extension, the reduction in the value of net metering credits by 40 percent would reduce the purported cross-subsidy that serves as a fundamental justification for the Company's proposed customer charge and access fee. The Company freely acknowledges, however, that it has not actually analyzed the impact of the reduced net metering credit values. Tr. at 659:1-11.

In short, the newly enacted law marks a significant development that, by the Company's own admission, is unaccounted for in the Company's proposals in this case. In addition, the pending grid modernization docket in which the Company has proposed to install advanced metering and time-of-use rates could revolutionize the Company's path forward in the near future. Together, these major moving pieces suggest that the more prudent course would be for the Company to develop a rate design proposal consistent with the legal and policy landscape unfolding before it. The Company claims that it "want[s] a sustainable rate that we don't have to go back and revisit" and that its recommendation "is to put something that is sustainable over the long term." Tr. at 675. Yet, it asks the Department to approve an inadequately-justified and poorly-designed rate structure that is, in the Company's own words, merely "a second-best solution" and a

small “first step” towards a more suitable rate design. Tr. at 617:1-2; 627:9; 774:1-2.

For this reason, too, the Department should reject the Company’s tiered customer charge and access fee proposals.

CONCLUSION

For all the reasons set forth above, the Department should reject the Company’s proposed tiered customer charge and access fee for stand-alone generators.

Dated: June 17, 2016

Respectfully submitted,



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