February 21, 2023

VIA ELECTONIC FILING

Harry A. Lanphear
Administrative Director
Maine Public Utilities Commission
18 State House Station
Augusta, ME 04333-0018

RE: PUC NOTICE OF INQUIRY REGARDING RATE STRUCTURE FOR STANDARD OFFER SERVICE - DOCKET NO. 2023-00019

Dear Mr. Lanphear:

Direct Energy Business, LLC; Direct Energy Business Marketing, LLC; Direct Energy Services, LLC; NRG Home f/k/a Reliant Energy Northeast LLC; and XOOM Energy Connecticut, LLC (collectively, "NRG" or "NRG Retail Companies)[1] hereby submit these comments to the Maine Public Utilities Commission ("Commission") in response to the Commission's Notice of Inquiry dated February 3, 2023, in the above-captioned proceeding.

BACKGROUND

The State of Maine provides electricity customers with the opportunity to choose the provider of their electric supply. 35-A M.R.S. §§ 3201-3217. If customers do not choose a competitive electricity provider, by default, electric customers in Maine receive their electric supply from the standard offer service ("SOS") provider(s).

As part of a competitive bidding process, the Commission issues an order approving requests for SOS proposals for the service territories of Central Maine Power and Versant Power's Bangor Hydro and Maine Public Districts. The SOS provider for each service territory is then selected by the Commission following the competitive bidding process, resulting in a

[1] NRG Energy, Inc. is a leading, integrated energy and home services company in North America. A publicly traded, Fortune 500 company, NRG's retail brand affiliates maintained one of the largest combined competitive retail energy portfolios serving millions residential, small commercial and large commercial & industrial customers.

standard offer rate for each calendar year, running from January 1 to December 31. Chapter 301 of the Commission's rules governs standard offer service.[2]

INITIAL COMMENTS OF NRG IN RESPONSE TO THE COMMISSION'S NOTICE OF INQUIRY

As the Commission is considering whether it may be in the public interest to offer standard offer Time-of-Use ("TOU") rates to all customer classes in the service territories of Central Maine Power and Versant Power, NRG provides the following initial comments in response to the Commission's requests to selective policy questions associated with its examination of this important and timely matter.

1. **Describe the potential risks and benefits to customers and/or the distribution system of offering standard offer TOU rates?**

   RESPONSE: The Commission should ensure that SOS conveys an accurate retail price signal that contours to the wholesale market. At the moment, SOS rate design suggests than any kilowatt-hour, used at any hour, at any day, at any season of the year, will cost the same as any other kilowatt-hour. Obviously, that is not the case. Suppliers of SOS will naturally build into their price offers to the SOS procurements a premium associated with the risk of volume and price of the power that would be needed to supply SOS customers given the likelihood of events (such as winter storms) that drive demand to be high and supply to be constrained.

   Over 755,000 advanced metering infrastructure ("AMI") or smart meters[3] have been deployed throughout the Central Maine Power and Versant Power service territories. These distributed intelligence-enabled meters, designed to modernize Maine's electricity grid at considerable ratepayer expense, offer the promise of enhanced data management, analytics, grid performance, operational efficiency and generally offer better customer experience. These smart meters should not be allowed, by default through SOS, to perpetuate dumb rates.

   The current rate design for SOS erases any customer incentive that may exist to respond to both the high and low prices that periodically exist in the Maine and ISO-NE markets. Retaining the SOS status quo means that Maine will have essentially decided, as a matter

[2] The Commission notes that currently under Chapter 301, standard offer prices for the residential and small non-residential standard offer class must be an amount per kWh that does not vary by a customer's usage level, or by month or time of day. Prices may not include any amounts charged on a per-kW, per-customer, or fixed charge basis. MPUC Rules, ch. 301, § 2(A)(3). Thus, to the extent a TOU rate was to be offered to this customer class, the Commission would need to amend Chapter 301

[3] The Edison Foundation Institute for Electric Innovation – Report: Electric company Smart Meter Deployments: Foundation for a Smart Grid (2021 Update) - Table 3. Smart Meter Installations by Electric Company Type and State (2019)

of public policy, that SOS customers' demand should not participate across from supply, which if it did would be the most significant thing Maine might do to control supply costs.

As described in a recent white paper[4] by Travis Kavulla, the empirical evidence for SOS (or opt-out) TOU rates is now significant. Maine should adopt SOS TOU rates as part of this or another proceeding.

2. Describe whether and to what extent standard offer TOU rates might affect beneficial electrification, greenhouse gas emissions, and other related State policy goals.

RESPONSE: NRG believes that the implementation of standard offer TOU rates will be a significant contributory factor that will enable and advance beneficial electrification, greenhouse gas emissions, and other related State policy goals. Further, the implementation of time-varying rate designs would help accelerate the state's timetable to achieve its climate and energy requirements as well as aiding in its transition to a clean energy future. Although ISO-NE has not presented a study on these issues, both New York and PJM have presented comprehensive studies that suggest decarbonization will be significantly more expensive without TOU pricing at the retail level.[5]

Regarding this key public policy matter, the Great Plains Institute ("GPI") and The Nature Conservancy ("TNC") report entitled "*Maine Utility/Regulatory Reform and Decarbonization Initiative Report*"[6] ("Report") sets forth a constructive blueprint. GPI and TNC convened a stakeholder engagement process in which participants had the opportunity to collectively decide what they wanted to discuss and seek to accomplish, within the scope of utility and regulatory reform towards decarbonization in Maine. The stakeholder process resulted in a series of recommendations regarding how to plan, build, and operate the electric grid of the future that will meet Maine's climate and energy requirements. In response to the question above, NRG references several key valuable elements from the Report.

Most notably, in the Load Flexibility Enabled by Dynamic Rate Designs section[7] of the Report, it states the following:

> *Rationale:* *Operating the electric grid to meet Maine's climate and energy requirements while maintaining safe, reliable, and affordable service will require*

[4] Kavulla, Travis. 2023. "Why Is the Smart Grid So Dumb? Missing Incentives in Regulatory Policy for an Active Demand Side in the Electricity Sector." A White Paper from the Retail Pricing Task Force. Reston, VA: Energy Systems Integration Group. https://www.esig.energy/aligning-retail-pricing-with-grid-needs

[5] Kavulla, pp. 8-9.

[6] Maine Utility/Regulatory Reform and Decarbonization Initiative Report Stakeholder (April 2021).

[7] Id. at 19-20

flexible loads that can be aligned with renewable energy generation and managed to reduce demand peaks. Load flexibility can be achieved through consumer behavior changes enabled by intelligent and dynamic rate design, autonomous customer-owned devices, and/or active management of those devices. The capabilities of these technologies are enabled by grid modernization such advanced metering infrastructure (AMI), operator visibility, and grid automation.

Recommendation: Maine should move toward a more dynamic grid with more granular load flexibility capabilities in a concerted manner. As a first step, the Maine PUC should immediately look more closely at time of use rates and/or other dynamic rate structures that more accurately reflect the cost of producing and delivering power. It should also take into account how time-varying rate designs could help to meet the state's climate and energy requirements.

Below, ("we") have outlined a set of specific considerations to support this recommendation. The alphanumeric format is for reference purposes only; it does not indicate a ranking or priority unless otherwise stated.

1. Time-varying rate design considerations:
    a. *The pricing for time-varying rates should include energy, capacity, transmission, and distribution costs; otherwise, the price differential is unlikely to be large enough to make time-varying rate designs worthwhile.*
    b. *The time periods for time-varying rate designs should take both cost and emissions into account (i.e., shifting load off-peak could be counterproductive if the electricity supplying the grid off-peak has higher emissions than the electricity supplying the grid on-peak). To support this, ISO-NE should explore more transparent reporting of marginal emission factors for carbon, nitrogen oxides, and sulfur oxides (this also applies to distribution locational marginal prices, which are part of recommendation 4).*
    c. *Time-varying rates can and should be designed carefully to bring about benefits to all customers and must be paired with protections for low-income customers. Importantly, time-varying rates have been shown to save low-income ratepayers money.*
    d. *Time-varying rate designs need to be paired with complementary customer-side technologies to be most effective. The PUC should consider ways in which the utilities and Efficiency Maine can work more closely to deploy those technologies and ensure they're used effectively, including but not limited to expansion of grid flexibility pilots already managed by Efficiency Maine to test these technologies in order to operate a decarbonized electric grid in Maine, load will need to be flexibly aligned to renewable generation. One way to achieve this alignment would be to*

establish a market at the distribution level of Maine's electric system, with transparent and granular price signals that enable DERs to provide all load flexibility capabilities that they can provide. This would allow Maine to move toward a more dynamic electric grid that acknowledges and values flexible loads in real time, ultimately enabling more effective grid balancing and limiting the need for costly infrastructure upgrades.

3. **What are the financial and behavioral impacts of TOU electricity rates on vulnerable households? To what degree should they have access to additional assistance or be considered separately in time-of-use rate design?**

RESPONSE: Any suggestion that low-to-moderate income ("LMI") or other vulnerable customers are disadvantaged by TOU rates is not empirically demonstrated. To the contrary, one may look to Maryland's recent study, which specifically recruited a sample of LMI customers in order to evaluate claims that they would be disadvantaged, which found instead that the peak load reductions achieved by these customers were "not statistically different" than reductions achieved by customers on the whole.[8] Across that entire study, an impressive 9.3% demand reduction in peak loads was recorded.[9] Another study, by Lawrence Berkeley National Laboratory, has corroborated the findings that vulnerable customers were just as likely as residential customers as a whole to be responsive to time-varying rates.[10]

4. **If the Commission were to offer standard offer TOU rates, should those rates be optional (i.e., opt-in), default (i.e., opt-out), or mandatory? Should the polices be different for residential and non-residential rate classes?**

RESPONSE: TOU rates should be the SOS rate design, and they should be the default (opt-out). Customers may opt-out of these rates by shopping for other produces in Maine's competitive retail market, which presumably would continue to offer flat-rate products to customers who desire them. NRG believes that regulated rates should reflect both routine (e.g., tiered Time-of-Use) and extraordinary (e.g., "Oil Peak Day") wholesale-market & long-run marginal cost dynamics.

To the extent Maine customers do not have AMI installed at their premises, then they, like in Colorado (Xcel) & Missouri (Ameren), should be defaulted to Time-of-Use ("TOU") when AMI is installed.[11]

[8] Kavulla, p. 11.
[9] Id.
[10] Id.
[11] Kavulla, pp. 9-10.

5. **What is the likely expected uptake of TOU supply rates? How could standard offer TOU rates be structured to maximize adoption?**

RESPONSE: Uptake of TOU will be exceptionally small unless it is the default service option. This is a well recorded finding of behavioral economics, which has found that the "choice architecture" that regulators like Maine's Commission establishes, is a leading determinant of customer choice. Simply put, the default choice is considered the normal, prudent, and correct choice to make. If the Commission determines that a flat-rate product is the most cost-reflective SOS product, then it will essentially have made that choice for the vast majority of customers.

Most electric distribution utilities offer some form of TOU or time-varying rates ("TVRs") but only a small percentage of eligible customers have chosen to take advantage of this rate design option. Among the reasons why customer chiefly do not opt for TOU supply rates, customers are generally not aware that these rates exist and their relative advantages over flat rate designs. Ensuring electric customers understand what rate design they are on, and how changes in consumption can help them achieve lower bills is key to maximizing the benefits of TOU rates. This requires significant customer marketing, education and outreach. The implementation of TOU or TVR rates will empower Maine electricity consumers to control their energy consumption and lead to lower rates and increased cost savings.

6. **How would the rate option be communicated? Whose responsibility would it be to communicate the rate option to customers? How would the customers best suited for such rates be identified?**

RESPONSE: NRG believes the TOU rate should be the default for customers. Meanwhile, other options available in the third-party competitive landscape should be primarily communicated through marketing efforts of those parties, but also the utilities and Office of Public Advocate's ("OPA") platforms, which include email, website, bill inserts, advertising on traditional and social media platforms, information with a tutorial-like approach found on the utility's website as well as trusted state agency websites, e.g., Maine PUC, Maine OPA, Governor's Energy Office, etc.

Ensuring electric customers understand what rate option they are on, and how changes in consumption can help them achieve lower bills is key to maximizing the benefits of TOU rates. This requires significant marketing, education and outreach. NRG notes that for customers who may face language or information barriers, the need for targeted outreach is even more pronounced.

7. **Is there technology available that could assist end-users with beneficially**

scheduling their load (i.e., shifting their consumption off-peak)? Is this technology widely and inexpensively found in the marketplace?

RESPONSE: The ubiquitous nature of smart devices, appliances and home automation allows the residential energy consumer to program smart devices to run at off-peak times. Using electricity at off-peak times can save money while having a beneficial contribution to the State's climate change goals. These smart devices, like wi-fi enabled hot water heaters, heat pumps, and appliances are affordable, easy to program and will not disrupt the day-to-day routine. For example, a smart dishwasher, you can halt water leaks before they ruin your floors, be reminded when you are low on soap and rinsing agents, or schedule loads to run while you sleep. If the residential consumer utilizes utility TOU rates, one can lower their energy bills by shifting loads and energy-intensive operations to off-peak hours.

8. **To what extent should the standard offer periods be aligned with ISO-NE system peaks, the distribution system peaks, or some other usage pattern?**

RESPONSE: Since nearly 90% of residential and small-commercial customers remain on SOS at the present time, it is useful to consider how the responsiveness of demand relative to that price signal would reduce both supply costs as well as serve as a longer-run signal to reduce distribution-system peaks. Demand flexibility is demonstrated most profoundly when the on-/off-peak ratio is approximately 4:1 or greater, based on Maryland's pilot that is referenced above.

9. **Is it necessary or preferable for standard offer TOU periods to be aligned with T&D TOU periods? What would be the impact if the supply TOU periods did not align with wholesale market peak and off-peak hours?**

RESPONSE: It would be preferable that SOS be aligned with T&D periods under TOU. Realizing that these periods may be different, the preference should be given to periods when short-run marginal costs predominate, with longer-run or embedded costs (such as T&D) imputed to those periods.

10. **If the Commission were to offer TOU supply rates, should supplier responding to the standard offer RFP be required to offer both a time-differentiated bid and a non-TOU bid, or rather, should a provider be permitted to offer only a TOU bid or only a non-TOU bid? Notice of Inquiry 3 Docket No. 2023-00019.**

RESPONSE: SOS suppliers should be required to offer a time-differentiated offer based on the TOU specifications of the Commission. To the extent that the Commission entertains offers separate from this, it should be to further concentrate particular excursions in pricing associated with wholesale price volatility (e.g., the SOS supplier has a right to call and price the retail SOS price as a "Oil Peak Day" no more than six (6)

times per winter at a predetermined inflection of pricing). This option could serve to flatten the other offer periods if price volatility was expected to be concentrated only a small number of days or pricing intervals.

11. Is it possible for a supplier to bid a fixed price (non-time-differentiated) but have the utility offer a TOU standard offer rate? If so, please provide a detailed description of how would such a structure work?

RESPONSE: Realizing that SOS suppliers are unlikely to be familiar with TOU pricing's interrelationship with revenue collection from retail customers in the first instance, this could be a reasonable introductory approach. In this case, Maine should attempt to emulate the demand response of already conducted pilots, like Maryland's, and establish a significant ratio between on-/off-peak pricing. Since Maine's mass market customers shop is relatively low numbers today, it would be relatively easy to isolate those customers from significant effects of this rate design.

12. Describe whether and to what extent the utilities' metering and billing systems can accommodate a standard offer TOU rate. What changes would be required to either the metering or billing system? What is the estimated timeline and cost for implementing such changes?

RESPONSE: NRG has no comments on this, other than to suggest that utilities that have been allowed to rate base AMI investments should be expected to be able to put them to use in relatively basic functions such as those contemplated by the Commission's questions above.

13. In addition to the data typically provided in conjunction with the Commission's standard offer request for proposal, what other data would suppliers require to adequately inform a TOU supply proposal?

RESPONSE: To assess the associated load, a SOS supplier would require data with the Commission's standard offer request for proposal regarding what rate classes, if any, may be subject to an opt-out provision, e.g., certain vulnerable populations or low-income customers.

SUPPLEMENTAL COMMENTS

Interested parties are invited to offer comments on any additional issues related to TOU standard offer rates not set forth in this notice.

RESPONSE: NRG does not have any additional issues related to TOU standard offer that it wishes to provide at this time regarding the Commission's Notice of Inquiry.

Respectfully submitted,

NRG RETAIL COMPANIES

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