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Daniel C. Goldner, Chairman
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301

Re: Docket No. IR 22-076; Investigation of Whether Current Tariffs and Programs are Sufficient to Support Demand Response and Electric Vehicle Charging Programs; WeaveGrid's Reply Comments

Dear Chairman Goldner:

I am writing today to provide Weave Grid, Inc.'s ("WeaveGrid")¹ reply comments in response to the procedural schedule established by the New Hampshire Public Utilities Commission ("Commission") in its March 28, 2023 procedural order issued in this proceeding ("Procedural Order").²

I. WeaveGrid's Response to Initial Comments

Based on the schedule established in the Commission's Procedural Order, initial comments were submitted by Conservation Law Foundation ("CLF"), Vehicle

¹ WeaveGrid is a software company that helps utilities support increased EV adoption through greater understanding of customer charging behaviors, managed charging programs, and distribution-level optimization. WeaveGrid's technology leverages utility and charging data, including the embedded vehicle telematics—data, controls, and communication systems—and the charging equipment to transform unpredictable and disaggregated EV charging loads into a cohesive network of controllable grid resources. We also support utilities in engaging their EV customers with personalized messages, insights, and notifications via the web, email, and text messages. WeaveGrid is a market leader in providing these solutions, which we are deploying in utility programs across the United States.

² Docket No. IR 22-076; Investigation of Whether Current Tariffs and Programs are Sufficient to Support Demand Response and Electric Vehicle Charging Programs, Procedural Order at 1-2 (March 28, 2023).

Grid Integration Council (“VGIC”), Fermata Energy, the Community Power Coalition of New Hampshire (“CPCNH”), Public Service Company of New Hampshire d/b/a Eversource Energy (“Eversource”), and Unitil Energy Systems, Inc. (“Unitil”).³ WeaveGrid likewise submitted initial comments (“WeaveGrid Initial Comments”).⁴ WeaveGrid respectfully provides its response to specific items raised by other participants.

1. WeaveGrid agrees with the general recommendation of other participants that the Commission should strongly consider the implementation of managed charging programs.

WeaveGrid’s Initial Comments recommended that the Commission consider managed charging programs as a strategy to cost-effectively reduce the impacts of electric vehicle (“EV”) charging consumption during times of significant strain on the grid.⁵ This recommendation was not unique among participants that submitted initial comments. For example, CLF noted that “managed charging programs can be developed for EV charging to reduce electricity consumption during periods of unusually high demand.”⁶ Eversource⁷ and Unitil⁸ similarly expressed support for such programs, as well.

As noted in WeaveGrid’s Initial Comments and those of other participants, rate-based approaches like electric vehicle time of use rates are an important strategy to encourage EV owners to charge during off-peak periods.⁹ However, rate-based approaches are not the only strategy the Commission should consider to reduce the grid impacts of EV charging. Rate-based approaches can result in secondary concerns like timer peaks¹⁰ and be overly complex from a customer

³ See Docket No. IR 22-076.

⁴ Docket No. IR 22-076, Initial Comments of WeaveGrid, Inc. (March 21, 2023).

⁵ WeaveGrid Initial Comments at 6-8.

⁶ CLF Initial Comments at 7 (March 21, 2023).

⁷ Eversource Initial Comments at 5 (“Demand response and managed charging programs enable effective and impactful load management in ways that are beneficial to customers and the system as a whole without relying on a change in customer behavior and require minimal action by customers”) (March 21, 2023).

⁸ Unitil Initial Comments at 10 (“Load management and managed charging technologies and programs are essential to ensuring that transportation electrification does not lead to unnecessary and costly power system impacts and rate pressure”) (March 28, 2023).

⁹ WeaveGrid Initial Comments at 6-7; Eversource Initial Comments at 11; Unitil Initial Comments at 11-12.

¹⁰ Docket No. DE 20-170; Electric Vehicle Time of Use Rates, Joint Testimony of Dennis E. Moore, Brian J. Rice and Michael R. Goldman, Attachment MRG-1 at 6 (June 15, 2021) (“Timer peaks are periods of the day, typically early morning or late evening, where customers have scheduled their

perspective. Particularly complex rates can create confusion for customers and limit participation, thereby reducing changes in charging behavior and the resulting grid and customer benefits.¹¹

As noted by the Smart Electric Power Alliance, too much complexity can result in lower customer interest and enrollment in EV-related rates or programs.¹² EV drivers generally become more informed about charging and the need for load management the longer they own their EV.¹³ When EV drivers first get their vehicle, however, the need to participate in a utility rate or program that reduces the impact of their charging on the grid is less understood.¹⁴ That is why strategies that require minimal action by customers, or those that do not rely on frequent, active changes in customer behavior often result in more participation by new EV owners and ultimately result in more effective and impactful managed charging programs.¹⁵

The importance of EV load management strategies was recognized by various participants, most pointedly by Unitil:

“[E]lectric system upgrades will be needed to handle the increased load from EVs and impacts will depend on charging locations on the distribution system along with the time of day when vehicles are charged. Managing these impacts through smart charging can improve asset utilization and may mitigate needed system investments.”¹⁶

Unitil emphasizes a key consideration for Commission as it weighs the implementation of EV load management programs – the need to proactively plan and prepare for EV adoption in a way that reduces the distribution system-related capital costs required to serve this increasing source of demand. Eversource likewise recognizes this need: “[o]ptimizing charging behavior to ensure efficient integration of this new load onto the distribution system, especially as EV adoption

EVs to begin charging at the moment off-peak rates begin (in locations where TOU rates are in effect) resulting in sharp load ramps”).

¹¹ Eversource Initial Comments at 11.

¹² Smart Electric Power Alliance, *Managed Charging Programs: Maximizing Customer Satisfaction and Grid Benefits* at 11 (March 2023).

¹³ *Id.* at 16.

¹⁴ *Id.*

¹⁵ Eversource Initial Comments at 5.

¹⁶ Unitil Initial Comments at 12.

continues to grow, is critical to long term planning.”¹⁷ VGIC and CLF similarly emphasized the benefits that well-designed programs can have on avoiding distribution system upgrades related to increased demand from unmanaged EV charging.¹⁸

WeaveGrid reiterates its recommendation stated in its initial comments that the Commission should consider the implementation of EV programs, in addition to the currently approved EV rates, to ensure that utilities have the tools to plan prepare and plan for the increase in EV adoption. Managed charging programs, especially those that require minimal customer behavior changes, are often “the most efficient and cost-effective solution for encouraging beneficial charging behavior that can achieve charging policy objectives such as reducing peak demand.”¹⁹

2. WeaveGrid agrees with the recommendation of other participants that foundational definitions relative to transactive energy first need to be established before the Commission makes any findings in this proceeding.

In its Order of Notice, the Commission posed a number of questions related to the implementation of a transactive retail electricity market in New Hampshire.²⁰ These questions indicate the Commission’s consideration of the use of the current Electronic Data Interchange (“EDI”) mechanism, or the implementation of a different interoperable two-way standard, to share real-time data between the utilities, third parties, and ratepayers.²¹ Multiple participants provided comments on the topic, including Eversource, Unitil, VGIC, Fermata Energy, and CPCNH.²²

While the level of support for establishing a transactive retail electricity market varies, what is clear is there is little support for the use of EDI as the mechanism for its implementation.²³ Moreover, there are a number of initial steps that need to be taken, including agreement on a standard or protocol for sharing

¹⁷ Eversource Initial Comments at 11.

¹⁸ VGIC Initial Comments at 3-4; CLF Initial Comments at 7-8.

¹⁹ Eversource Initial Comments at 12.

²⁰ Docket No. IR 22-076; Order of Notice at 3-4.

²¹ *Id.*

²² See Eversource Initial Comments at 7-8; Unitil Initial Comments at 5-9; VGIC Comments at 3; Fermata Energy Reply Comments at 2-3; and CPCNH Initial Comments at 5-8.

²³ Unitil Initial Comments at 8; Eversource Initial Comments at 8.

information between utilities and customers such that customers or a third party can respond to price signals and participate in such a market.

WeaveGrid supports the development and agreement on similar foundational concepts, preferably with Commission input, before the implementation of a transactive energy market is considered.²⁴ Moreover, the costs and benefits of such a market should be considered, as well. Given that sufficient ratepayer participation is necessary to make the benefits of such programs exceed the costs of implementation, a realistic estimate of how many participants such a market would have should first be established. It is axiomatic that programs can only provide benefits if ratepayers participate in them in a meaningful way. Costly endeavors such as the implementation of a transactive energy market are important to consider in the medium to long term, but there are other, more cost-effective programmatic approaches that New Hampshire can utilize in the near term to realize the grid benefits of distributed energy resources, including EVs.

II. Conclusion

WeaveGrid appreciates the opportunity to provide comments on these important issues. Please contact the undersigned should have any questions or require any additional information. Thank you.

Respectfully submitted,

WEAVE GRID, INC.

Sincerely,



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²⁴ Eversource Initial Comments at 8; Unitil Initial Comments at 7-8.