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June 12, 2018

Ms. Judith C. Whitney, Clerk
Vermont Public Utility Commission
112 State Street
Montpelier, Vermont 05620-2701

RE: Request for Investigation into Electric Vehicles

Dear Ms. Whitney:

The Department of Public Service (“Department”) respectfully requests that the Public Utility Commission (“Commission”) undertake an investigation to examine a broad set of issues related to Electric Vehicles (“EV”)s and EV charging.

During the 2017-2018 session, the Vermont Legislature passed legislation that was signed by the Governor requiring the Commission to investigate a range of issues related to EVs and EV charging. This legislation, [H.917](#), is timely and necessary. It is needed to facilitate progress towards the State’s ambitions greenhouse gas (“GHG”) emission reduction goals, and timely to avoid undue impacts on all electric ratepayers (e.g. unnecessary infrastructure build-out) and ensure there is adequate, well-considered roles and patterns of investment by end-users, private developers, utilities, and public-sector entities in this nascent but rapidly evolving industry. Since 2012, over 2,300 EVs have been registered in Vermont; almost half of these occurred in the last year. This trend is likely to increase due to developments characterized below and the rapid improvement in the travel distances of plug-in EVs and plug-in hybrid EVs. Adoption is also likely to improve rapidly with changes in the availability of plug-in options for trucks and all-wheel drive vehicles that are popular in Vermont.

The electric sector in Vermont is already low-carbon, with utilities required to achieve at least a 75% renewable portfolio by 2032 and two utilities already reporting that they are 100% renewable. However, the transportation sector is the largest source of GHG emissions; currently accounting for approximately 42% of the state’s GHG emissions. A shift towards EVs is beginning to take hold in the transportation sector. In order to avoid adverse impacts of EV adoption and speed the transition to EVs, a thoughtful regulatory framework must be developed that provides clarity and expectations regarding the roles and responsibilities of our utilities, public and state entities, and private interests that will be the source of needed capital.

The major issues to be addressed in this investigation [a complete list has been included as Attachment I] track, in part, common barriers associated with EV adoption. Initial costs (or rather cost differentials between EVs and internal combustion engine – “ICE” – vehicles) represent formidable barriers to



adoption. However, recent forecasts suggest that EVs may achieve cost parity with ICE vehicles in the near future.¹ Concerns for slow adoption in Vermont are allayed by the rapid declines in the costs of battery technology, ongoing federal tax incentives, manufacturer incentives, and the widening availability of affordable, second-hand EVs. New business models may emerge that can further accelerate adoption and transformation. The Commission can enhance these opportunities through rate design and related regulatory reforms that improve the economics of EV ownership. Rate design can also accelerate adoption by improving the economics of EV ownership in a manner that benefits both participating EV owners and other ratepayers (as a result of additional kWh sales and the attendant downward rate pressure).

A second major issue for consumers is access to charging facilities and the related concern of range anxiety. Surveys show that most EV charging takes place at the home, but only about half of homes have easy access to recharge their vehicles through their garage or adjacent driveways. Public and semi-public charging facilities at work places, curbside locations, community locations, and multi-unit dwellings will need to bridge the gap. For this, there needs to be a well-formed framework that defines the respective roles of private developers and our electric utilities. This proceeding should address the boundaries of regulatory oversight as well as the framework for pricing and communicating pricing to consumers.

A third issue of concern is associated with the State's transportation fund. The transportation fund is essential for the ongoing maintenance of our roads and highways; however, improvements in the efficiency of vehicles and the potential transformation of the vehicle fleet will result in shortfalls in funding. Usage-based taxes are appropriate because they appeal to the sensibilities of most travelers and policy-makers as fair and drivers are accustomed to this fee structure. Tax issues are ordinarily beyond the scope of Commission review and consideration; however, the circumstances here are somewhat unique and warrant the Commission's guidance to the Legislature and the administration on these concerns. There may be opportunities to tie rate design and the potential application of taxes that marry the interests of policy makers to tax fairly, with the interests of utilities in sound and compensatory rates, and with the interests of electric consumers and travelers to lower the costs of the system and pay for our roads. The issue deserves to be considered and debated among the stakeholders during this investigation.

The Legislature also directed the Commission to identify recommendations on the issues featured in H.917 that may require timely legislative action. In order to accomplish this prior to the 2018-2019 session, the Department requests that the Commission phase its investigation. At a minimum, the Commission should phase the investigation to consider the recommended scope of the jurisdiction of the Commission, the Department of Public Service, and other state agencies over such stations prior to the 2018-2019 legislative session. However, the Department requests that the Commission solicit feedback regarding other potential issues that should be phased from the stakeholders in this proceeding.

¹ Nikolas Soulopoulos, *When Will Electric Vehicles be Cheaper than Conventional Vehicles?*, Bloomberg New Energy Finance, April 12, 2017.

The Department has copied the electric utilities on this letter, as well as other stakeholders who often appear before the Commission. The Department has included a proposed schedule below for consideration as Attachment II.

Please let me know if I can be of any further assistance.

Sincerely,



Sheila Grace

Special Counsel

Attachment I

Preliminary issues for investigation.

- 1) Issues related to electric distribution utilities including:
 - Removal or mitigation of barriers to EV charging, including strategies, such as time-of-use rates, to reduce operating costs for current and future EV users;
 - Strategies for managing the impact of EVs on, and services provided by EVs to, the electric transmission and distribution system;
 - Electric system benefits and costs of EV charging, electric utility planning for EV charging, and rate design for EV charging; and
 - The appropriate role of electric distribution utilities with respect to the deployment and operation of EV charging stations.
- 2) Issues related to public charging stations owned and operated by persons other than electric distribution utilities included:
 - The recommended scope of the jurisdiction of the Commission, the Department of Public Service, and other State agencies over such stations;
 - The appropriate oversight of the rates and prices charged by such stations, including the transparency to the consumer of those rates and prices; and
 - The recommended billing and complaint procedures for such charging stations.
- 3) Cross-cutting issues included:
 - Recommended options to address EV contributions to the cost of maintaining the State's transportation infrastructure;
 - The accuracy of electric metering and submetering technology for charging EVs;
 - Strategies to encourage EV usage at a pace necessary to achieve the goals of the State's Comprehensive Energy Plan and its greenhouse gas reduction goals, without shifting costs to electric ratepayers who do not own or operate EVs; and
 - Any other issues the Commission considers relevant to ensuring a fair, cost-effective, and accessible EV charging infrastructure that will be sufficient to meet increased deployment of EVs.

Attachment II

EV Investigation – Proposed Schedule

Initial Proceedings

- July 2018 - PUC Opens Docket
- 1st Week of August - Interested Parties File Scoping and Phasing comments
- 3rd Week of August - Opportunity for Reply Comments
- 1st Week of September 2018 - PUC Order re: Scoping and Phasing. (Schedule??)

Phase 1 – September 2018 – December 2018

- October 2018 - Interested Parties File Position Papers re: 1st Set of Issues
- November 2018 – Workshop
- 2 Weeks after Workshop – Opportunity for Reply Comments
- December 2018 – PUC Order re: 1st Set of Issues (including any recommended enabling legislation)

Phase 2 - January 2019 – June 2019

- February 2019 – Interested Parties File Position Papers re: 2nd Set of Issues
- March 2019 - Workshop
- 2 Weeks after Workshop – Opportunity for Reply Comments
- April 2019 – Interested Parties File Position Papers re: 2nd Set of Issues (Optional)
- May 2019 – Workshop (Optional)
- 2 Weeks after Workshop – Opportunity for Reply Comments (Optional)
- June 2019 – PUC Order re: 2nd Set of Issues