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July 25, 2018

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

RE: Case No. 18-2660-INV: Department's Supplemental Recommendations

Dear Ms. Whitney:

On July 9, 2018, the Public Utility Commission ("Commission") issued an Order Opening Investigation ("Order") in which it acknowledged receipt of the Department of Public Service's ("Department") June 12, 2018 letter requesting the Commission initiate an investigation into a broad set of issues related to Electric Vehicles ("EV"s) and EV charging, along with the Department's recommendations on how the investigation should proceed ("Request"). The Commission's Order specifically seeks recommendations on a number of issues not addressed in the Department's June 12, 2018 filing; therefore, the Department wishes to supplement its June 12, 2018 with the following recommendations.

Scope and Structure of the Proceeding

The Department's Request identified the issues related to electric vehicle charging in accordance with Section 25 of Act 158 (H.917) of the 2017-2018 Vermont legislative session. As noted in that Request, the Department believes that this investigation should be phased. The Department proposed a schedule that would enable the Commission and the parties to this proceeding to meet the July 2019 deadline established by Act 158 as well as enable the development of recommendations to the Vermont Legislature prior to the upcoming 2018-2019 session.

Which issues identified in Section 25 are appropriately addressed together and which are more complex and should be addressed individually?

The Department believes that many of the issues identified in Section 25 are inter-dependent and that the information, analysis, and potential conclusions related to each of the issues may inform the conversations regarding the other issues. The Department recommends that the participants be encouraged to include an initial statement or narrative that attempts to provide a reference frame for later discussion of the interrelated issues. Having said that, the Department has identified and grouped the issues into three sets.

The first set contains foundational issues including recommendations to the Vermont Legislature in time for action in the coming legislative session. The second set contains issues that are important to resolve



while this industry is in a nascent phase, but also inform issues in the third set. As an example, the accuracy of electric metering and sub-metering technology for EV charging will inform the rate design conversations. The third issue set contains those that are either dependent on or logically follow from first and second issue sets or are less time sensitive. The Department recommends that the foundational issues be addressed in Phase I of the schedule included in its Request and that the second and third sets be addressed consecutively during the second phase of the same schedule.

Foundational Issues:

- The recommended scope of the jurisdiction of the Commission, the Department of Public Service, and other State agencies over public charging stations owned and operated by persons other than electric distribution utilities;
- The appropriate oversight of the rates and prices charged by such stations; and
- The appropriate role of electric distribution utilities with respect to the deployment and operation of EV charging stations.

Second Issue Set:

- The transparency to the consumer of rates and prices at public charging stations owned and operated by persons other than electric distribution utilities;
- The recommended billing and complaint procedures for such charging stations; and
- The accuracy of electric metering and sub-metering technology for charging EVs.

Third Issue Set:

- 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;
- Recommended options to address EV contributions to the cost of maintaining the State's transportation infrastructure; and
- 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.

What issues that are not specifically identified in Section 25 are relevant to the goals of and should be part of this proceeding?

The Department believes that the list of issues identified in Section 25 of Act 158 identifies the core issues related to the charging of electric vehicles and does not have any additional recommended issues at this time. Having said that, the Department fully expects that more detailed issues will unfold or be raised by parties throughout the course of the investigation.

Is there any information or analysis beyond what can be provided by the parties to this investigation, such as studies or surveys, that might facilitate a more thorough response to the issues identified in Section 25?

Below the Department has identified several broad areas of information and analysis that will be critical to facilitating a thorough response to the issues identified in Section 25. Much of this information and analysis may be provided by the parties to this proceeding; however, some may not.

- The state of technology related to electric vehicle charging, including advanced metering infrastructure, sub-metering, Wi-Fi prevalence, etc..;
- The location of three-phase powerlines that may help identify ideal or preferred locations for level 3 charging stations from the grid perspective;
- Baseline electric vehicle charging patterns for both publicly available charging stations as well as charging that occurs at the home or workplace; and
- Analyses related to electric vehicle loads in relation to price signals or controlled charging (analysis of the value streams that can flow from these flexible loads would also be useful).

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