

PUBLIC SERVICE COMMISSION OF WISCONSIN

Memorandum

July 24, 2020

FOR COMMISSION AGENDA

TO: The Commission

FROM: Martin R. Day, Administrator
Joe Fontaine, Policy Advisor
Division of Energy Regulation and Analysis

RE: Investigation of Electric Vehicle Policy and Regulation 5-EI-156

Suggested Minute: The Commission (approved/approved with modifications/did not approve) issuing for comment the Draft Order that would direct utilities to submit pilot program plans related to electric vehicles.

Introduction

On February 21, 2019, the Public Service Commission of Wisconsin (Commission) issued a Notice of Investigation (NOI) to consider present and future policies and regulations of electric vehicles (EV) and their associated infrastructure as they pertain to electric utility service in the state of Wisconsin. ([PSC REF#: 359979](#).) The scope of the investigation encompasses a wide range of policy and regulatory conditions related to EVs. To provide initial direction for the investigation, the NOI specified that this range includes, but is not limited to, the eight topics listed in Figure 1.

Figure 1 Initial EV Investigation Topics



On April 8, 2019, Commission staff issued a Request for Comment to interested parties, utilities, and the general public with a series of 28 questions soliciting commenters’ general views on EV issues and asking specific questions regarding each of the eight topics identified in the NOI. ([PSC REF#: 363720.](#)) A total of 42 commenters—24 parties, 6 utilities, and 12 members of the public—submitted comments in response to the Request for Comment, and their responses were summarized in Commission staff’s Memorandum of September 9, 2019. ([PSC REF#: 375500.](#)) Release of the Commission staff Memorandum was accompanied by a request for parties, utilities, and the public to review the comments and provide input on the appropriate next steps in the investigation.

The Commission received follow-up comments from 17 respondents, who most commonly suggested conducting workshops to facilitate further education and dialogue on EV issues. The Commission conducted a workshop for all interested parties on December 5, 2019, to discuss the strategies for addressing the infrastructure or other barriers that are impeding the deployment of EVs and EV charging stations. ([PSC REF#: 379765.](#))

This memorandum summarizes the results of the workshop, in conjunction with the previous findings from the Request for Comment. Based on the findings from both steps in the investigation, the Commission may wish to consider whether reasonable next step could be for the Commission to direct utilities to submit EV-related pilot programs for Commission approval. Proposals would be reviewed under a Commission-established framework designed to provide regulatory clarity on the general criteria that the Commission would use to determine approval, while maintaining flexibility for utilities to test different program options and address the needs and interests of their own customers. The largest Wisconsin utilities, who likely have the largest number of customers interested in EV use, would be required to submit programs; other utilities interested in pursuing programs could also submit proposals to be reviewed under the same framework.

Attachment B of this memorandum is a Draft Order for comment outlining the proposed requirement to submit program proposals and the content of a proposed program framework. To continue to maintain the stakeholder-driven nature of this investigation, Wisconsin electric utilities, parties, and members of the public can review this proposed approach and provide input for the Commission to consider before taking further action.

Investigation Findings to Date

To help define commenters' general views on EV issues, the Commission's Request for Comment asked commenters to identify the barriers they perceived to EV adoption in Wisconsin. Limited charging infrastructure was the most frequently cited barrier to EV adoption for utilities, parties, and public commenters. As shown in Figure 2, other commonly cited barriers included upfront purchase costs to consumers for EVs and limited public awareness and education on EV issues.

Figure 2 Barriers to EV Adoption Cited by Commenters

Question 1

**Do barriers to EV adoption currently exist in Wisconsin?
If so, what are those barriers?**



After asking questions on the range of specific EV topics identified by the investigation, the Request for Comment concluded by asking commenters to identify their top areas of interest that they believed to merit further attention from the Commission. As shown in Figure 3, multiple topics received significant interest, led by access to charging infrastructure as well as:

- The appropriate pricing and design of rates for the electricity used for EV charging;
- Approaches to the “load management” of the increased electric use that would be associated with greater proliferation of EVs—including the opportunities that may exist to manage the increased load cost-effectively through rate design and other “managed charging” approaches to shift charging use away from periods of peak demand;
- EV-related subsidies and incentives that could be provided through utility programs;
- Clarifying whether third-party ownership of charging infrastructure requires the owner to be regulated as a public utility;

- Determining appropriate procedures for cost recovery of EV-related investments by utilities; and
- The role of utilities in providing EV-related awareness and education.

Figure 3 Top Areas of Interest Cited by Commenters

Question 26

Of the question topics referenced above, please list your top two or three areas of interest that you or your organization believe may necessitate further direction or consideration from the Commission?

Please provide a brief explanation for your choices.



The Commission staff memorandum concluded by noting that future and present EV policies should be informed by achieving more clarity regarding the Commission’s appropriate role across the range of priority issues. ([PSC REF#: 375500](#) at 30.) To encourage further dialogue on this issue, the Commission’s December 2019 workshop asked participants to identify the strategies for addressing the infrastructure or other barriers impeding the deployment of EVs and EV infrastructure. The workshop began by providing introductory information, including findings from the Request for Comment ([PSC REF#: 380334](#)), presentations from Madison Gas and Electric Company and Wisconsin Power and Light Company on their existing

EV programming and activity ([PSC REF#: 380335](#), [PSC REF#: 380336](#)); and additional presentations from other perspectives, including other state agencies ([PSC REF#: 380338](#), [PSC REF#: 380339](#), and [PSC REF#: 380340](#)). The 60 attendees were then split into six breakout groups, and each group was asked to discuss and identify what they considered to be the most important strategies for addressing deployment barriers. Attachment A summarizes the conclusions reported by each breakout group, as documented by Commission staff.

Workshop breakout groups reinforced that the priorities identified in the Request for Comment were also key strategies for addressing deployment barriers. For example, multiple groups reported that effective rate design and development of load management approaches could support increased EV deployment by helping to address questions about costs and operations faced by EV owners and by utilities and other actors considering EV investments. In addition, multiple groups highlighted two interrelated strategies related to the Commission's overall regulatory approach. First, multiple groups emphasized the value of regulatory clarity: defining clear expectations on the Commission's allowable, unallowable, and preferred activities to diminish uncertainties that could prevent utilities, customers, and other actors in the EV space from taking action. Second, multiple groups highlighted the value of developing pilots to assess potential approaches to rate design, load management, and other EV-related activities. Groups emphasized that pilot efforts could help the Commission, utilities, and other actors serve the needs of existing EV customers and improve understanding of emerging issues in advance of future increases in EV deployment.

Draft Order

The Commission has multiple mechanisms to further investigate present and future policies and regulations of EVs and their associated infrastructure as they pertain to electric

utility service in the state of Wisconsin. Under Wis. Stat § 196.02(1), the Commission “has jurisdiction to supervise and regulate every public utility in this state and to do all things necessary and convenient to its jurisdiction.” The Commission “may initiate, investigate, and order a hearing at its discretion upon such notice as it deems proper.” Wis. Stat. § 196.02(7). The Commission may require utilities to furnish information to the Commission. Wis. Stat. § 196.02(4). Further, “if the [C]ommission believes . . . that any service is inadequate or cannot be obtained or that an investigation of any matter relating to any public utility should for any reason be made,” the Commission may investigate. Wis. Stat. § 196.28. Pursuant to Wis. Stat. § 196.37(2), “[i]f the [C]ommission finds that any measurement, regulation, practice, act or service is unjust, unreasonable, insufficient, preferential, unjustly discriminatory or otherwise unreasonable or unlawful . . . the [C]ommission shall determine and make any just and reasonable order relating to a measurement, regulation, practice, act or service to be furnished, imposed, observed and followed in the future.”

Based on these powers and the workshop feedback on appropriate regulatory approaches, Commission staff suggest that one reasonable next step could be for the Commission to support utility development of EV pilot programs and develop a framework that provides regulatory clarity for utilities and customers. Based upon the feedback received in this docket, the Commission may find there is a customer need not being met. In particular, customers may not have access to utility EV programs that the customers desire. Attachment B provides a Draft Order that would direct all Wisconsin electric utilities with more than 100,000 total customers to file plans outlining proposed EV pilots by May 15, 2021, for Commission review and approval.¹

¹ The Commission has ordered utilities to submit proposals in the context of rate proceedings when parties have agreed to submit such proposals as part of a rate case settlement agreement. [Final Decision signed and served 7-17-14 - PSC REF#: 210409](#), [Final Decision \(signed 12/6/12 - mld 12/7/12\) Callisto Concur - PSC REF#: 177591](#).

The Commission may find it reasonable to limit any filing requirement to larger utilities, as they are more likely to have a significant number of customers interested in EV programs.

Submitted proposals would be required to include at least one pilot program supporting residential charging, to help focus initial attention on the residential locations where the large majority of charging activity currently takes place. ([PSC REF#: 380335](#) at 4.) Residential charging arrangements also reflect the full range of priority interests identified in the investigation, including rate design, load management, and efforts to address upfront costs. Proposals may also include additional pilot programs addressing other customer groups or other aspects of EV deployment. Affected utilities that already operate EV programs could respond by confirming their continuation of those programs, but may also include in their plans expansion of existing programs or the addition of new offerings. For ease and orderly processing, Commission staff recommends that the Commission require utilities to submit their programs in separate tariff filings on the Commission's Electronic Records Filing (ERF) system² using their respective utility identification numbers.

To support regulatory clarity, the Draft Order presented for the Commission's consideration outlines a program framework that would set expectations for the information all utilities must include in EV pilot proposals. Subject to modification by the Commission, the framework specifies multiple types of information that must be addressed within proposals, including the identification of clear performance goals, and plans for collecting and reporting program data, in order to ensure program experience can help the utility, the Commission, and other stakeholders understand the outcomes of any pilot and use that information to inform future decision-making. The framework does not prescribe program content, but rather maintains

² ERF is the Commission's electronic filing system.

flexibility for utilities to develop specific pilot proposals for the Commission to evaluate on a case by case basis. This framework would be used for evaluation of required proposals submitted by large utilities, and would also be used to review proposals by any other utilities who voluntarily choose to submit EV pilot proposals.

Development of this docket has benefited from the broad and informed input provided by numerous participants in the Request for Comment and the workshop. To continue the stakeholder-driven nature of the investigation, Commission staff recommends soliciting further input on all aspects of the Draft Order to inform the Commission's final decision.

Commission Alternatives

Alternative One: Approve issuing for comment the Draft Order that would direct utilities to submit program plans related to residential electric vehicle charging.

Alternative Two: Approve issuing for comment with modifications the Draft Order that would direct utilities to submit program plans related to residential electric vehicle charging.

Alternative Three: Do not approve issuing for comment the Draft Order that would direct utilities to submit program plans related to residential electric vehicle charging.

Alternative Four: Direct that Commission staff take a different approach than listed in these alternatives.

MRD:JF:cmb;jlt:DL: 01726648

Attachments:

1. Workshop Results
2. Draft Order

Key Background Documents

[Notice of Investigation Signed and Served 02-21-19 - PSC REF#: 359979](#)
[Correspondence PSC Electric Vehicle Investigation Request for Comments - PSC REF#: 363720](#)
[Cover Letter and Electric Vehicle Comment Summary Memorandum - PSC REF#: 375500](#)
[Notice of Workshop Scheduled December 5, 2019 - PSC REF#: 379765](#)
[EV Workshop-Introductory Slides - PSC REF#: 380334](#)
[EV Workshop- Wisconsin Power and Light Presentation - PSC REF#: 380335](#)
[EV Workshop- Madison Gas and Electric Presentation - PSC REF#: 380336](#)

[EV Workshop-Wisconsin Paper Council Presentation - PSC REF#: 380338](#)

[EV Workshop-Greenlots Presentation - PSC REF#: 380339](#)

[EV Workshop-Wisconsin Department of Transportation Presentation - PSC REF#: 380340](#)

Attachment A

Workshop Results: What are strategies for addressing the infrastructure and other barriers that are impeding the deployment of electric vehicles and electric vehicle charging infrastructure?

Group 6

- Information
 - Utilities as trusted advisors to customers
 - Data sharing around infrastructure patterns
 - Hosting capacity analysis
- Utility pricing, rate design
 - Cost-based, revenue neutral
 - Time of use
 - Third-party pricing
- Service policy and access
 - Connection policies from utilities
 - Make ready infrastructure

Group 5

- Pilots and research
 - Be prepared for coming shifts
 - Interoperability standards
 - How to address benefits
 - How to quantify
- Market development
 - How to grow infrastructure
 - Can state policies drive adoption?
 - Broad travel policy
- VW Settlement
- Location matters
 - Reach rural communities
- Do not lose sight of alternative fuels

Group 4

- Regulatory clarity
 - Time of use rates
 - Peak solutions
 - Resale of electricity
- Strategic clarity
 - What are the goals?
 - Tourism, climate change, etc.

Group 3

- Treat rural access to EVs like broadband access
 - VW settlement possibly towards this
- Managed charging
 - Be proactive
 - Gain experience for utilities and customers
 - Before we have heavy EV saturation
- Partner DCFC with large industrial customers
 - Low impact on customers demand

Group 2

- Commission clarity on utility programs
 - Public infrastructure ensures public access
 - Database of public chargers
 - Utility investment goes with private investment
 - Rate design clarity
 - Smart chargers vs second meter
 - Understanding where cars are in utility territory
 - Education and information sharing
 - Utilities, commission, state agencies

Group 1

- Load management can lead to benefits to all customers
 - Fleet charging is its own issues and challenges
- Use pilots and new programs to learn and research
 - Can set customer expectations early
- Limit cross subsidies
- Do not limit options up front

Attachment B

Draft Order

PUBLIC SERVICE COMMISSION OF WISCONSIN

Investigation of Electric Vehicle Policy and Regulation

5-EI-156

ORDER

Comments on Draft Order Due: [Commission Insert Date]	Address Comments To: Steffany Powell Coker, Secretary to The Commission Public Service Commission P.O. Box 7854 Madison, Wisconsin 53707-7854
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This is an Order in the Public Service Commission of Wisconsin’s (Commission) investigation to consider present and future policies and regulations of electric vehicles (EV) and their associated infrastructure as they pertain to electric service in the state of Wisconsin. This Order requires electric utilities with more than 100,000 total customers to file pilot program plans that include at least one EV pilot for residential customers. This Order creates a framework designed to provide regulatory clarity on the criteria the Commission will use to evaluate EV program proposals from any electric utility.

Introduction

On February 21, 2019 the Commission issued a Notice of Investigation to consider present and future policies and regulations of EV and their associated infrastructure as they pertain to electric utility service in the state of Wisconsin. ([PSC REF#: 359979.](#)) On April 8, 2019 Commission staff issued a Request for Comment to interested parties, utilities, and the general public with a series of 28 questions soliciting commenters’ general views on EV issues

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and asking specific questions on identified policy and regulatory considerations. ([PSC REF#: 363720](#).) Responses to the Request for Comment from 42 commenters were summarized in the Commission staff Memorandum dated September 9, 2019. ([PSC REF#: 375500](#).) Based on the input from respondents on the appropriate next steps in the investigation, the Commission conducted a workshop on December 5, 2019 to facilitate further discussion on the range of issues in the investigation. ([PSC REF#: 379765](#).)

The Commission staff's Request for Comment asked commenters to identify the barriers they perceived to EV adoption in Wisconsin. Limited availability of charging infrastructure was the most frequently cited barrier to EV adoption for utilities, parties, and public commenters, followed by upfront purchase costs of EVs for customers and limited public awareness and education on EV issues. The Request for Comment also asked commenters to identify the top areas of interest they believed to merit further attention from the Commission. Multiple topics received significant interest, led by access to charging infrastructure, as well as:

- The appropriate pricing and design of rates for the electricity used for EV charging;
- Load management of the increased electric use that would be associated with greater proliferation of EVs, including opportunities to cost-effectively incorporate the increased load through “managed charging” approaches to shift charging away from periods of peak demand;
- EV-related subsidies and incentives that could be provided through utility programs;
- Clarifying whether third-party ownership of charging infrastructure requires the owner to be regulated as a public utility;

- Determining appropriate procedures for cost recovery of utility EV investments; and
- The role of utilities in providing EV awareness and education.

More than 60 participants attended the follow-up December workshop. Attendees were split into six breakout groups, and each group was asked to identify what they considered to be the most important strategies for addressing the infrastructure or other barriers impeding the deployment of EVs and EV charging stations.

Workshop breakout groups reinforced that the priorities identified by written comments were key strategies for addressing deployment barriers. For example, multiple groups reported that effective rate design and development of load management approaches could support EV deployment by helping to address questions about costs and operations faced by EV owners, utilities, and other actors considering EV investments. In addition, multiple groups highlighted two strategies related to the Commission's overall regulatory approach. First, multiple groups prioritized regulatory clarity: defining clear Commission expectations regarding allowable, unallowable, and preferred activities to diminish uncertainties that could discourage customers, utilities, and others from taking action. Second, multiple groups supported developing EV program pilots, to help utilities serve the needs of existing EV customers and improve utility and Commission understanding of key issues in advance of future increases in EV deployment.

Findings of Fact

1. Barriers to EV adoption in Wisconsin include, but are not limited to, insufficient charging infrastructure, the upfront costs of EVs and associated charging equipment, and limited customer awareness and education.

2. Commission and utility policies and regulations related to electric service in the state of Wisconsin can significantly influence EV deployment. Issues include, but are not limited to, regulating the electric rates applicable to EV charging; load management of the increased electric use resulting from increased EV deployment; and defining the role of regulated utilities supporting charging infrastructure, customer programs, and customer awareness and education.

3. The Commission can influence EV deployment by providing regulatory clarity to reduce the uncertainties that could discourage electric utilities and other EV market actors from taking action.

4. Initiating EV pilot programs can help electric utilities serve existing customers with EVs and improve utility and Commission understanding of effective EV-related policies and regulations in advance of future increases in EV deployment.

Conclusions of Law

1. The Commission has authority under Wis. Stat. §§ 196.02, 196.03, 196.19, 196.20, and 196.22 to authorize regulated utilities to operate EV-related programs and recover funds through their rates.

2. The Commission has authority under Wis. Stat. §§ 196.02 and 196.37 to require regulated utilities to submit information to the Commission and provide customers with reasonable service.

3. The Commission may impose any term, condition, or requirement necessary to protect the public interest pursuant to Wis. Stat. §§ 196.02 and 196.395.

Opinion

The Commission can address the priorities identified by Commission staff in the investigation to date by supporting the development of EV pilots, within a framework that provides regulatory clarity and supports further efforts on a range of key EV issues, including but not limited to rate design, load management, and charging infrastructure investment.

To serve as a starting point for pilot development, and based on Commission staff's suggestions, this Order directs all Wisconsin electric utilities with more than 100,000 total customers to file EV program plans by May 15, 2021 for Commission review and approval. Plans must include at least one pilot program for residential customers, that addresses one or more priority issues identified in the investigation, such as rate design and load management, in the residential locations where the large majority of charging activity currently takes place. ([PSC REF#: 380335](#) at 4). However, plans may also include any other pilot programs a utility believes would be appropriate to serve customer needs and explore EV-related issues. Affected utilities that already operate residential EV programs can respond by confirming their continuation of those programs, but may also identify plans to expand or modify existing programs or add further offerings.

To provide regulatory clarity, this Order establishes a program framework that defines the information utilities should include regarding each proposed pilot program, and the general criteria the Commission will use to determine whether to approve each proposal. Defining this framework can benefit utilities and other stakeholders by establishing regulatory expectations that can reduce uncertainties and support timely and efficient development of proposals. For example, the framework specifies multiple types of information that must be addressed within proposals to help the Commission assess whether the proposed programs will operate effectively,

including program budgets, eligibility criteria, information on financial accounting procedures, and identification and quantification of the projected benefits to customers, ratepayers, and the utility. Proposals must also identify clear performance goals and identify plans for collecting and reporting program data, to help utilities, the Commission, and other stakeholders use program experience to make more informed future decisions.

The framework does not prescribe specific approaches to achieving these standards. Utilities would maintain flexibility to design programs appropriate to serve the needs of their customers and use approaches to program design and operation appropriate to their organizations, for the Commission to evaluate on a case by case basis.

The framework applies to all EV-related pilot program proposals submitted by Commission regulated utilities. Electric utilities with fewer than 100,000 customers are not required to file pilot proposals under this order, but any proposals submitted by those utilities would be reviewed under the same framework.

Order

1. Each Wisconsin utility with more than 100,000 total customers shall submit an EV pilot program plan for Commission review and approval by May 15, 2021. Plans must include at least one residential EV pilot program. Plans may also include additional pilot programs to address any aspect of EV operation and infrastructure for any customer class. Plans may indicate the continuation of existing EV programs, the modification or expansion of existing programs, and/or the development of new programs.
2. Proposed residential EV programs shall address one or more of the following aspects of charging service for residential customers: rates related to EV charging, load

management efforts to control the timing of charging, and/or initiatives to address the upfront purchase costs of EVs and residential charging technology to potential owners.

3. Any utility-submitted proposal for EV pilot programming, including but not limited to proposed programs submitted under this Order, shall include the following information, which the Commission will review in considering whether to approve the program:

- a. A program description that identifies the target customers to be served, barriers to the deployment of EVs and EV charging infrastructure the program is designed to address, the approaches the program will use to address the barriers for participating customers, and the pilot duration and end date;
- b. A program budget for the full proposed duration of the pilot;
- c. The performance goals of the program;
- d. Identification of the benefits the program is intended to provide for participants, ratepayers, and the utility, including but not limited to any benefits from load management;
- e. A description of performance metrics that will be used to assess program performance and measure program benefits, and the data that will be used to calculate those metrics;
- f. A schedule for reporting program outcomes, including participation, expenditures, and outcomes on performance metrics, that clearly identifies the timeframe for final reporting at the end of the pilot period as well as any interim reporting before the end of the pilot;
- g. The eligibility criteria for program participation;

- h. A description of the marketing and education approaches that will be used to make eligible customers aware of the program and help participants achieve program benefits;
- i. Proposed tariffs for any new or modified rates proposed as part of the program;
- j. A description of proposed accounting procedures that explains how program costs will be recovered through rates in accordance with cost causation principles; and
- k. For programs addressing public charging infrastructure, the arrangements that will be made to support interoperability among all potential users.

4. Utilities may revise and resubmit proposals that the Commission has denied under this framework. Utilities whose required proposals under Order Point No. 1 are denied shall be required to submit revised proposals for Commission approval.

5. Affected utilities shall file their EV program proposals with the Commission under individual utility tariff dockets (TE dockets).

6. Jurisdiction is retained.

Dated at Madison, Wisconsin,

By the Commission:

Steffany Powell Coker
Secretary to the Commission

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