



March 17, 2022

Ms. Sarah Hall
Mr. Eric Shierman
Oregon Public Utilities Commission
Docket: AR 654

Re: AR 654 – FLO Comments on revisions to Division 87 Rules and Requirements

Dear Ms. Hall and Mr. Shierman,

Thank you for the opportunity to comment on Oregon Public Utilities Commission’s (OPUC) revised rules and requirements for Division 87 Transportation Electrification Rulemaking.

FLO Services USA Inc. (FLO) is a leading North American charging network for electric vehicles (EV) and manufactures smart charging software and equipment. FLO offers networked residential, workplace, public, and commercial chargers, including multiple power levels for both Level 2 stations and DC fast chargers. In North America, FLO has sold and deployed over 60,000 charging stations and manages approximately 500,000 unique charging experiences that transfer 5.5 GWH of energy monthly. FLO’s headquarters and network operations are based in Quebec City, with additional offices across both Canada and the U.S.

As part of OPUC’s revision to Division 87’s rules, we strongly encourage specifying EV charging reliability requirements as part of utilities’ transportation electrification plans, including (1) uptime guarantees and (2) uptime reporting requirements.

I. Uptime Guarantees

We strongly support OPUC specifying that transportation electrification plans must advance “infrastructure performance including charging adequacy”. To encourage mass EV adoption, charging stations must be reliable. However, there are extensive examples of broken public chargers, causing consumer frustration. Plug In America, which represents EV drivers, released a survey in February that revealed 34 percent of surveyed drivers have experienced broken DC fast chargers, which was a “moderate concern” to them¹. The California Air Resources Board also independently surveyed drivers about their charging experiences and found that the second most common customer complaint were issues related to “charging station operability”². Avista, a utility in Washington State, conducted a pilot study of 439 charging ports it owned, and concluded as late as 2019 their overall uptime was 78 percent³. These are not isolated incidents, and the lack of reliable charging stations is gaining more visibility. Ford is employing a workforce of “Charge Angels”⁴, whose sole purpose will be to track down broken public EV charging stations and service them. Broken chargers, at best, risk creating consumer frustration with the EV charging experience, or, at worst, risk stranding them.

¹ Plug In America. *The Expanding EV Market: Observations in a year of growth*. February 2022. Page 2.

² California Air Resources Board. *Electric Vehicle Supply Equipment Standards Technology Review*. February 2022. Pages 10-11.

³ Avista Corp. *Electric Vehicle Supply Equipment Pilot Final Report*. October 2019.

⁴ [Roving bands of Ford ‘Charge Angels’ will repair EV charging stations | Engadget](#)

To ensure “infrastructure performance”, FLO strongly encourages OPUC to specify further in the Division 87 rules that utilities’ transportation electrification plans must include a minimum of a 97 percent uptime guarantee from funding recipients at the individual station level. Uptime guarantees ensure charging stations are online, operational, and available for use (or already in use) to drivers for a minimum period of time in a given year.

A 97 percent uptime guarantee or higher has already been established in other public or ratepayer funded programs across North America. These examples include:

- The Federal Highway Administration’s National Electric Vehicle Formula program requires a greater than 97 percent uptime guarantee at the individual station level⁵.
- The California Energy Commission requires 97 percent uptime in its multi-family housing EV charging grant solicitation⁶ as well as its grant solicitation for rural charging⁷.
- The New York State Energy and Research Development Authority requires 97 percent uptime for its DCFC grant program⁸.
- ConEdison’s Make Ready EV Program requires 99 percent uptime for DCFC EVSE⁹.
- Louisville Gas & Electric requires 99 percent uptime for DCFC EVSE¹⁰.
- Florida Power & Light requires 98 percent uptime for both Level 2 and DCFC EVSE in an RFP¹¹.

Governmental entities have also recommended uptime guarantees, including:

- The Regional Electric Vehicle Plan for the West recommends a 97 percent uptime requirement for charging stations¹².
- The Northeast States for Coordinated Air Use Management recommends a 99 percent uptime requirement for DCFC EVSE¹³.

And finally, California is currently considering legislation, Assembly Bill 2703 (Muratsuchi), which would call on its Energy Commission to implement a reliability standard for EV charging stations it funds¹⁴.

Uptime guarantees act as an insurance policy that minimize consumer frustration and maximize the public benefit provided to drivers from charging stations funded by ratepayer dollars. Broken chargers do not provide a public good, and each time a charger goes offline, the return on investment in the charger is diluted. Uptime guarantees protect against this outcome.

⁵ Federal Highway Administration. National Electric Vehicle Infrastructure Formula Program. February 2022. Page 22.

⁶ California Energy Commission. *EV Charging For Multi-Family Housing*. Page 16. November 2021.

⁷ California Energy Commission. *Rural Electric Vehicle Charging*. Page 16. December 2021.

⁸ NYSERDA PON 4509, Page 11

⁹ Consolidated Edison Company of New York, Inc. *Electric Vehicle Infrastructure Make-Ready Program Implementation Plan*. September 2020. Page 7.

¹⁰ Louisville Gas and Electric. *Direct Current Fast charger Project Requirements*. 2021. Page 5.

¹¹ Florida Power & Light. *Electric Vehicle Supple Equipment Request for Proposal: Scope of Work*. 2021. Page 5.

¹² REV West: Voluntary Minimum Standards. Page 3. [revwest_volminimumstandards.pdf \(naseo.org\)](https://www.revwest.org/voluntary-minimum-standards.pdf)

¹³ Kinsey et. Al. *Building Reliable EV Charging Networks*. Page 6. May 2019.

¹⁴ Assemblymember Al Muratsuchi. Assembly Bill 2703. 2022. [Bill Text - AB-2703 Zero-emission fueling station reliability standards: transportation: low-income and disadvantaged community financial assistance. \(ca.gov\)](#)

Therefore, it's critical that OPUC require utility transportation electrification plans to include uptime guarantees.

II. Uptime Reporting Requirements

FLO further recommends that OPUC complement any uptime requirements with additional uptime reporting requirements at the individual station level to effectively measure infrastructure performance. Otherwise, neither OPUC nor the state's utilities will be able to assess performance and whether charging stations met their uptime obligations.

We encourage OPUC to specify the following uptime reporting requirements:

- Require charging networks to report station uptime on behalf of the funding recipient.
- Require reporting of uptime data at the station level.
- Require reporting for a minimum of five years.
- Require charging networks to use a standardized reporting formula.

These features will ensure that uptime is reported consistently and well into each station's useful life, providing a longer-term understanding to OPUC on how chargers perform. Requiring uptime data reporting only for the first year or two could give OPUC skewed results, as there is a risk that some work best during the first couple years of operation, but as time goes on, may begin to wear down from use, abuse, and exposure to the elements, if improperly maintained. Furthermore, if OPUC does not require charging networks to use a standardized reporting formula, it will have limited ability to know how charging networks are calculating uptime, potentially undermining accuracy and consistency of information. FLO has written extensively on how to calculate station uptime¹⁵ and would be pleased to provide OPUC technical support in developing its own standard.

There is precedent requiring uptime reporting, including:

- The Federal Highway Administration plans to issue data reporting requirements for funding recipients of National Electric Vehicle Formula funding, in which uptime reporting is likely to be included¹⁶.
- California's Zero-Emission Vehicle Market Development Strategy calls out the importance of tracking "charging system resilience" (page 17), and its Energy Commission has committed to "measur[ing] and track[ing] EV charging station reliability and uptime" (page 3)¹⁷.
- California's legislature requires its Energy Commission to track the downtime of stations funded with money it allocated in budget legislation last summer¹⁸.
- California's legislature is currently contemplating Assembly Bill 2061 (Ting), which would mandate uptime data reporting requirements for all publicly funded charging stations¹⁹.

¹⁵ [Reliability Blog Series #3: Calculating Standardized Charger Uptime \(flo.com\)](#)

¹⁶ Federal Highway Administration. National Electric Vehicle Infrastructure Formula Program. February 2022. Page 28.

¹⁷ Governor's Office of Business & Economic Development. *California Zero-Emission Vehicle Market Development Strategy*. February 2021. Pages 3 and 17.

¹⁸ Senate Bill 129 (Skinner, 2021). [Bill Text - SB-129 Budget Act of 2021. \(ca.gov\)](#)

¹⁹ Assemblymembers Phil Ting and Eloise Reyes. Assembly Bill 2061. 2022. [Bill Text - AB-2061 Transportation electrification: electric vehicle charging infrastructure.](#)

- California’s Air Resources Board recommended in a recent report to develop metrics and process for tracking charging station uptime²⁰.
- Alaska Energy Authority’s request for qualifications on charging stations requires charging networks to “monitor station uptime” and provide this data to the agency²¹.

III. Recommended revisions to Division 87 rules and requirements

As part of the recommendations in (I) and (II) above, we offer the following revisions to Division 87 language:

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(c) A discussion of how programs and Infrastructure Measures in the TE Plan holistically advance performance area categories that include, but are not limited to:

- (A) Environmental benefits including greenhouse gas emissions impacts;*
- (B) Electric vehicle adoption;*
- (C) Underserved community inclusion and engagement;*
- (D) Equity of program offerings to meet underserved communities;*
- (E) Distribution system impacts and grid integration benefits;*
- (F) Program participation and adoption;*
- (G) Infrastructure performance including charging ~~adequacy~~ station uptime;*
- (H) Learnings for readiness to advance innovation and efficiency.*

*(d) Supporting data and analysis used to develop the TE Plan, which may be derived from elements such as review of costs and benefits; rate design, energy use and consumption, **charging station uptime data and analyses**, overlap with other electric company programs, and customer and electric vehicle user engagement;*

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*(viii) Description of the electric company’s role and, if applicable, a discussion of how the electric company proposes to own or support charging infrastructure, **charging station uptime**, billing services, metering, or customer information;*

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*(F) A description of learning objectives and how the electric company will evaluate the effectiveness of the program/infrastructure measure, including data collection methods to **advance performance categories (A)-(H)**.*

Thank you for your consideration,

[electronically submitted]

Cory Bullis
Senior Public Affairs Specialist
FLO

²⁰ California Air Resources Board. *Electric Vehicle Supply Equipment Standards Technology Review*. February 2022. Pages 20.

²¹ Alaska Energy Authority. *RFQ Section 2 EVSE Package Requirements Response Attachment A*. 2021. Pages A6-A7.