

December 12, 2022

Andrew S. Johnston
Executive Secretary
Public Service Commission of Maryland
6 Saint Paul Street, 16th Floor
Baltimore, Maryland 21202

Re: Case No. 9478 - Public Conference 44 Electric Vehicle Work Group Supplemental Reliability Summary Report

Dear Mr. Johnston,

As a BGE ratepayer and EV driver, I respectfully request that the Commission require the EV Pilot Utilities to provide a detailed explanation each time that one of their public charging stations experiences a no-charge event, consumer complaint, or system alert.

The Electric Vehicle Work Group has twice delayed establishing reliability reporting standards for the EV Pilot Utilities. We should not have to wait for federal guidelines for the National Electric Vehicle Infrastructure (NEVI) program to be released. We can begin collecting thorough data on each malfunctioning charger immediately without waiting for those guidelines.

Background

The reliability of public EV charging stations is crucial for providing a positive experience for EV drivers. As ratepayers, we deserve accountability for the money used to build the utilities' public charging stations. When the Commission was considering the EV charging pilot programs, BGE assured us that they would maintain public charging stations to a high degree of reliability.

We have a regulatory obligation to maintain the charging networks much like any other distribution asset that we have. This is going to avoid situations where you have prolonged EV charger outages due to a breakdown or subsequent vandalism or any sort of things that could befall one of these chargers, and it is our goal of course as always to provide excellent customer experience for those EV chargers.¹

¹ Sept. 6, 2018 Hearing Video at 2:34:38 (Hurson) <https://youtu.be/iJsQMkpUBjA?t=9278>

Network Vendor Statistics

Based on the Shell Recharge Solutions Sky network dashboard, BGE reported 95% uptime (99% if “unknown” is counted) in the most recent semi-annual report. The PHI Utilities reported an aggregate uptime of 99.7% and SMECO reported an “overall uptime of over 98%.”

Potomac Edison uses the ChargePoint network and provides quarterly uptime for each charging station. They also give details on the steps taken to repair each outage. For example:

On February 21, 2022, PE notified drivers that the charging station located on the right, at the Friendsville Veterans Memorial Park, was out of service. PE and ChargePoint actively worked on resolving the issues across three site visits with technicians on February 15, 2022, March 4, 2022, and March 11, 2022 (descriptions above). The site was partially operational on February 15, 2022, (meaning 1 of 2 DCFC was operational) and fully operational on March 11, 2022, (meaning 2 of 2 DCFC was operational). PE posted outage notifications on PlugShare and the ChargePoint applications notifying customers of the extended outage at the Friendsville Veterans Memorial Park.²

Similarly, BGE described a charging station repair timeline in response to questioning by the Chairman during the PSC Administrative Meeting on March 16, 2022.

We received a report that that CHAdeMO handle was damaged on January 3. We placed the order for a new charging cable on January 7, and we received the cable to do a completely replace out that cable and CHAdeMO connector on February 25. There were several weeks from when it was identified to when we received the replacement cable just due to all of the supply chain issues that we’ve been experiencing with broken parts.³

Utilities have various ways of becoming aware of issues with charging stations in their network. BGE noted in the March 16, 2022 Administrative meeting, “if a customer calls the Greenlots 800 number that is listed on the chargers to report a ticket, we are made aware of that immediately.” BGE also stated that they look at PlugShare reviews on a daily basis, and they respond to any customer that provides a negative check in.

² Potomac Edison Semi-Annual Report - August 1, 2022, ML 241711, page 14

³ Administrative Meeting - March 16, 2022 video at 32:35 (Groncki) <https://youtu.be/dkfl6xKFhbg?t=1955>

Field Evaluation

In late August and early September 2022, I tested all 69 fast chargers in the BGE network and found that 29% had some kind of deficiency. If a charger had an issue, I reported it to Shell Recharge (formerly Greenlots) customer service via their mobile app or 800 number. I shared the results with the Commission in comments filed on September 12, 2022. (ML 242263)

Between November 5 and November 13, 2022, I repeated the testing of all 69 BGE fast chargers. The reliability had worsened - malfunctioning chargers had gone from 29% to 35% of the total. As before, I contacted Shell Recharge to report any issues that I encountered. In many cases, the issues were the same as those I reported during the first evaluation performed two months earlier. I documented the issues and provided this information to BGE. (See Appendix)

Work Group Compromise

In Order No. 90036, issued on January 11, 2022, the Commission directed the EV Pilot Utilities to work with the Public Conference 44 EV Work Group to develop standards for reporting public charging station reliability data. The Work Group has proposed that EV Pilot Utilities report “the most granular data they have” in their upcoming semi-annual reports until the NEVI program rules are finalized and the Work Group can meet to develop final standards that align with NEVI.

Customer-Centered Reporting

I respectfully ask the Commission to clarify the expectation for “granular data” and to require that each EV Pilot Utility provide a list of each charger issue that the utility became aware of via their monitoring software, an EV driver report to customer service or PlugShare, and report on their resolution and status. The report for each issue should include:

- The charging equipment location and station ID
- The date and time the outage or malfunction was first reported and length of time until resolved
- A detailed narrative and timeline of efforts to service, maintain, and repair each issue
- Identification of issues that contributed significantly to excessive charging equipment downtime
- Steps taken to address challenges and prevent the recurrence of excessive downtime

Conclusion

EV drivers are discouraged by the discrepancy between the 98% - 99.7% uptimes reported by network providers and the number of broken chargers we encounter in real life. The Commission needs to hold the utilities accountable. Accountability begins with credible data. The interim compromise resolution proposed by the Work Group will allow the utilities to use the same questionably high uptime numbers that have been reported in aggregate and apply them to individual sites or stations. The data should be based on customer reports and repair tickets.

The success of this pilot program depends on the availability of high-quality data to inform decision-making. We need comprehensive data reporting to begin with the semi-annual reports that are due on February 1, 2023. The Work Group can reconvene when NEVI standards are released to finalize reporting metrics, reliability goals, exemptions, and other details. By holding the utilities accountable and providing credible data, we can ensure the success of this program.

Sincerely,

/s/ Lanny Hartmann

Lanny Hartmann
Columbia, Maryland

Attachment

Appendix A

| Station Name | Station ID | Date Tested | Functional | App Status | Issue Description | Reported to SRS Customer Service - Details |
|----------------------------|------------|-------------|------------|-------------|---|--|
| Carroll Co. Commissioners | 43336 | 11/12/2022 | No | OFFLINE | Offline. Neither card nor app worked. App: "Start Charge Unsuccessful. Unable to use the EVSE, it is in an unknown state." A Leaf driver here told me he couldn't get the DCFC to work and was charging on Level 2 to get home. | Reported via app: Unable to charge, Network Problems - Unable to initiate charging. Tried both the app and RFID card. Charger didn't respond to either. |
| Howard Co Library - Miller | 43335 | 11/12/2022 | No | OFFLINE | No power. Screen is dark | Reported via app: No Power to Station - Station is offline, the screen is dark. See attached photo. |
| Ripken Stadium - R | 43359 | 11/13/2022 | No | OFFLINE | Offline. Neither card nor app worked. Broken latch on CCS connector. App: "Start Charge Unsuccessful. Unable to use the EVSE, it is in an unknown state." | Reported via app: Visible Damage - Station is offline and the latch on the CCS connector is broken off. See attached photo. |
| Finksburg Library | 153033 | 11/12/2022 | No | *Not Listed | Offline. Neither card nor app worked. App: "Get EVSE Stations Unsuccessful. Charge station not found." | Reported via email to SRS: Fast charger does not initiate. Tried both scanning the QR code and a Shell Recharge RFID card. Neither worked. |
| BCPL Cockeysville - L | 153488 | 11/13/2022 | No | *Not Listed | No power. Unit is dark and wrapped with caution tape. | Did not report, presumed that it is a known issue since the station ID is not listed in the app. |
| HCLS Glenwood - L | 153018 | 11/12/2022 | No | *Not Listed | Offline. Neither card nor app worked. App: "Get EVSE Stations Unsuccessful. Charge station not found." Another EV driver told me that she couldn't charge on this station. | Phoned CS. They said there was a note that this unit is due to be replaced. She said that she will put in a note that the power should be turned off to help other drivers know that this is not operable. |
| HDG City Hall | 53381A | 11/13/2022 | No | AVAILABLE | Error code: Proximity Error1 (on 3 attempts) | Phoned CS. On hold for over 25 minutes. I had already left the station when CS finally answered. CS confirmed that there was already an open case on this station and he said he would update it with my report. |
| S Carroll Sr CC - R | 43395 | 11/12/2022 | No | AVAILABLE | Red indicator ring on vehicle. Charger Error: "Charger did not detect vehicle. Check the connector or the ignition!" | Reported via app: Unable to charge, Other - Got the following message: Charger did not detect the vehicle. Check the connector or ignition! |
| Howard Comm Coll - R | 43371 | 11/12/2022 | No | AVAILABLE | Did not initiate via app or card. App: Start Charge Unsuccessful. Unable to process your request please try again later. | Phoned CS. They could not communicate with the station, said it had network issues and that they would create a case. |
| BWI Cell Lot - #1 | 54161 | 11/12/2022 | No | AVAILABLE | Error code: TIMEOUT_INSULATION_TEST | Reported via app: Unable to charge, Other - Could not charge on Nov 12. Error code: TIMEOUT_INSULATION_TEST |
| BWI Cell Lot - #4 | 54153 | 11/12/2022 | No | AVAILABLE | Error code: Communication_Failed | Reported via app: Unable to charge, Other - Could not charge on Nov 12. Error code: Communication_Failed |
| Arbutus - R | 153019 | 11/12/2022 | No | AVAILABLE | Start button didn't respond to pressing when blinking | Phoned CS. He restarted the station but the start button wouldn't react. He said he'd put in a report. |
| Arbutus - L | 153034 | 11/12/2022 | No | AVAILABLE | Error code: Err 22. When the start button is pressed it immediately says to return the connector to the holster. | Phoned CS. He restarted the station but it still didn't initiate. CS said there was already an open ticket on this station. |
| BWI Rideshare Lot - #3 | 54147 | 11/12/2022 | No | *Not Listed | No power. Screen blank. | Reported via app: (continuation with 54163) Also, station ID 54147 at the same location has no power. Screen is dark. |
| BWI Rideshare Lot - #6 | 54163 | 11/12/2022 | No | AVAILABLE | Error code: Proximity Error1, Damaged CCS | Reported via app: Unable to charge, Other - CCS connector is broken. CHAdeMO session does not initiate. Error code: Proximity Error1 |
| MDA HQ Annapolis - R | 53378A | 11/6/2022 | No | AVAILABLE | Error code: Communication_Failed | Reported via app: Unable to charge, Network Problems - Charging failed. Error code: Communication_Failed |
| S Carroll Sr CC - L | 43396 | 11/12/2022 | Low Pwr | AVAILABLE | Low power, 16 kW | Reported via app: Other - Very low charging power. 15.6 kW |
| HCC A Lot - L | 43394 | 11/13/2022 | Low Pwr | AVAILABLE | Low power, 15 kW | Reported via app: Other - Station ID 43394 and 43398 have lower power than is normal. Both charge at only 15 kW. Normal is around 40 kW. See attached screenshots from Shell Recharge app. |
| HCC A Lot - R | 43398 | 11/13/2022 | Low Pwr | AVAILABLE | Low power, 15 kW | Reported via app: Other - Station ID 43394 and 43398 have lower power than is normal. Both charge at only 15 kW. Normal is around 40 kW. See attached screenshots from Shell Recharge app. |
| 2660 Riva Rd - R | 43373 | 11/6/2022 | Low Pwr | AVAILABLE | Low power, 15 kW | Phoned CS. Rebooted, but only charged at 15 kW. Created a ticket for low power. |
| Chesapeake Beach - R | 43356 | 11/11/2022 | Low Pwr | AVAILABLE | Low power, 15 kW | Reported via app: Other - Only charging at 15.4 kW. |

Appendix A

| Station Name | Station ID | Date Tested | Functional | App Status | Issue Description | Reported to SRS Customer Service - Details |
|-------------------------|------------|-------------|------------|-------------|---|---|
| Kenhill Center - R | 153020 | 11/11/2022 | Card Only | OFFLINE | Offline - Card only. App: "Start Charge Unsuccessful. Unable to use the EVSE, it is in an unknown state." | Reported via app: Unable to charge, Network Problems - Station offline Nov 11. Unable to initiate charge via app. |
| Aquatic Center - L | 43358 | 11/12/2022 | Card Only | OFFLINE | Offline - Card only. | Reported via app: Unable to charge, Network Problems - Station is offline. |
| Eastport - R | 53197 | 11/6/2022 | Card Only | *Not Listed | Offline - Card only. App: "Start Charge Unsuccessful. Unable to use the EVSE, it is in an unknown state." | Reported via app: Unable to charge, Network Problems - Offline. Station does not initiate via app. Does initiate with RFID card though. |
| Glen Burnie Garage | 153016 | 11/12/2022 | Closed | FAULTED | Faulted since August Temporarily inaccessible. Section of garage is closed. (exempt) | Station has been Faulted since August. Reported via email to BGE that the floor of the garage with the charging stations is closed due to construction. |
| Whitmore Garage | 153025 | 11/6/2022 | Closed | *Not Listed | Station is not listed on app. Temporarily inaccessible. Section of garage is closed. (exempt) | Temporarily closed. All stations at this location have been removed from being listed on app. |
| Harford County Govt - R | 53386A | 11/13/2022 | See Note | AVAILABLE | Note: Sign covering screen: "CHARGER UNDER REPAIR" However, the charger seemed to function as normal. | Reported via app: Other - Sign says "charger under repair" but it works OK. |