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PG&E Comments RE EVSE EDGE Tool

Additional submitted attachment is included below.

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California Energy Commission
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RE: CEC EVSE Deployment and Grid Evaluation (EDGE) Tool Workshop

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to comment on the California Energy Commission's (CEC) EVSE Deployment and Grid Evaluation (EDGE) Tool Workshop held on October 26, 2023.

In general, PG&E believes that the EDGE tool and datasets have a lot of value, and we look forward to further developments. We appreciate the opportunity to provide feedback and hope to continue collaborating both formally and more informally.

These formal comments include four main points: (1) request for continued collaboration, (2) suggest refining and separating the target use cases, (3) request fixing inputs and assumptions to avoid over-estimating or incorporating the impacts of multiple Electric Vehicle (EV) forecasts in the Capacity Indicator Metric (CIM) metric, (4) suggest refining the 'capacity aggregation' methodology. These four points were discussed in a meeting between PG&E and CEC staff on November 17, 2023, after which PG&E understood there was alignment on expanding collaboration as well as organizing a follow up discussion.

During the workshop the CEC presented four questions on slide 44; PG&E's comments hereafter are structured to be responsive to those questions.

Question 1. How can the CEC improve the methodology of the tool?

PG&E would like to request that the Grid Needs Assessment (GNA) forecast for our service territory be adjusted to avoid over-estimating or incorporating the impacts of multiple Electric Vehicle (EV) forecasts.

PG&E believes that the current methodology is over-estimating the EV forecast demand in the CIM metric. PG&E's GNA forecast data includes forecast EV loads, so including EV forecasts for the Traffic Analysis Zone (TAZ) based on the AB 2127 forecasts results in multiple EV load forecasts being assessed. The current methodology is such that:

$$(\text{Headroom})_{GNA} = (\text{Nominal Capacity}) - (\text{Peak Load})_{GNA}$$

$(Capacity)_{TAZ}$ = sum[$(Headroom)_{GNA}$*(% of circuit in the TAZ)]
$(CIM)_{TAZ}$ = $(Capacity)_{TAZ}$ – $(EV\ Peak\ Load)_{TAZ}$

PG&E suggests that the CEC team remove the EV-specific load included in the GNA forecast, (GNA Appendix D has the forecast EV load per year per circuit), and then utilize the AB 2127 forecast at the TAZ level based on the current process.

PG&E requests that the CEC revisit the methodology for allocating capacity to various TAZs.

PG&E appreciates the CEC's responsiveness to PG&E's comments last year in which we indicated that the ICA data was not appropriate for any kind of aggregation and was not appropriate for forecasting grid impacts. Although the capacity analysis method is improved significantly by using the GNA data, some issues still exist with how the EDGE tool attributes the headroom/capacity to each TAZ. PG&E recognizes the complexity and challenge behind creating a dataset that allows the appropriate comparison of capacity and EV forecasts. Therefore, PG&E suggests holding workshops or collaborative discussions to improve this methodology.

Finally, PG&E requests that further methodology improvements are developed based on refining the use cases and collaboration with the different user groups (see answer to Question 4 below).

Question 2. What else would you like to see in the tool?

PG&E believes that a clear use case needs to be identified for a specific user group before answering this question. As such, PG&E has answered this question based on the refined use cases (see our response to Question 4 below). For example, PG&E expects that overlaying distribution line locations on top of the TAZ layers would help the "Public" use case.

PG&E believes that this question should be addressed through ongoing collaboration with all types of stakeholders, such as utilities, developers, local governments, the public, etc.

Question 3. How can the CEC best address the data gaps of EDGE and obtain better data?

PG&E believes that this question could be best addressed through ongoing collaboration efforts and testing. For example, the three investor-owned utilities have in-flight projects to refine load ICA modeling, as described in the Sep. 9, 2021, ALJ Ruling[1]. PG&E suggests that this dataset be layered in when available, to improve the public use case. For more information on the timeline and progress please refer to PG&E's annual Load ICA reports[2, 3]. Please note that the 2023 Load ICA annual report will be published in late Q4 2023.

Question 4. How can the results from EDGE be best used by the public and grid planners?

PG&E recommends refining and separating the target use cases. This can facilitate more focused collaborative efforts with the target user groups. PG&E believes that defining separate use cases, (e.g.

[1] Administrative Law Judge (ALJ) Ruling from September 9, 2021, in the Distribution Resources Plan (DRP) Order Institute Rulemaking proceeding (R.14-08-013).
[2] PG&E's ICA Refinements Workplan Report, February 28, 2022, R.21-06-017
[3] PG&E's ICA Refinements Annual Report, December 28, 2022, R.21-06-017.

public or EV developer use case, distribution planning use case, etc.) will enable the CEC to refine the metrics and the user interface for a more useful product for each user group.

For example, it is PG&E's understanding that the public use case is targeted at stakeholders who are trying to site new EV infrastructure[4]. This user group might want to identify locations that fit the following criteria: (a) have high forecast EV need and (b) have sufficient distribution system capacity for faster interconnection. Based on this premise, some recommended improvements for this use case might be: a) overlaying the distribution system line so that the users can identify locations in a TAZ that are close to the distribution system lines; b) adding the Load ICA refinements data when it becomes available as discussed previously; c) using ICA data at a line-section level to create a normalized multiplier ('ratio' between the capacity on a line section vs. the capacity at the feeder head). This data could be displayed on distribution lines on top of the TAZ layer, or alternatively multiplied to CIM on a TAZ level for better user experience. This is meant to differentiate between TAZs far from substation or near the substation because it is more likely that the TAZs closer to substations have higher available capacity than the TAZs far from the substation.

PG&E would like to clarify that the ICA data is not a substitute for the results of interconnection process; each load interconnection request is subject to engineering review, and thus the data is directional for this use case[5]. PG&E encourages customers to submit their new service applications through PG&E's service planning portal rather than relying on the Load ICA or any other public maps/data. However, we believe that the ICA data is the most relevant and most updated dataset available to the public and hence could help improve the user's experience in this case.

The EDGE tool can provide grid planners additional insight into potential EV load of an alternate forecast and can identify zones of potentially high EV demand which can be helpful to identify areas that could warrant deeper investigation of capacity needs or further justify capacity projects that are identified through distribution planning processes. Unfortunately, this information cannot be directionally used by grid planners, as there is no alignment between TAZs and utility electric systems. Additional granularity is needed for this forecast to be directly actionable for grid planning. By making the forecast available at the parcel level, for example, EV load could be attributed to individual circuits and could more easily be compared to the CEC IEPR forecasts and PG&E's disaggregation methods. PG&E believes this use case can be further refined through ongoing discussion and collaboration.

PG&E applauds the CEC's staff on the development of this unique and useful dataset. We recognize the complexity and challenges associated with defining a useful method and/or metric to combine these independent datasets and would like to continue collaborating with and contributing to the CEC staff's efforts. Please reach out to me if you have any questions.

Sincerely,

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[4] Edge Tool's User Guide: "Project developers and others who are interested in deploying EV charging infrastructure can use this information to identify "low-hanging fruit," areas that could host significant charging without the likelihood of grid equipment requiring significant upgrades."

[5] These constraints are discussed in detail in "PG&E Responses to Questions on Track 1 Phase of the April 6, 2023, ruling, June 5, 2023, R.21-06-017."

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