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Via Electronic Filing

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Subject: Public Advocates Office Comments on PG&E's Grid Hardening Spatial Data in Spatial Quarterly Data Reports to Energy Safety

Docket: 2022-QDR

Dear Director Thomas Jacobs,

The Public Advocates Office at the California Public Utilities Commission (Cal Advocates) submits the following comments on Pacific Gas and Electric Company's (PG&E's) Grid Hardening Spatial Data. These data are included in spatial Quarterly Data Reports (spatial QDR) as part of the Wildfire Mitigation Plan (WMP) submissions to the Office of Energy Infrastructure Safety (Energy Safety). We urge Energy Safety to adopt the recommendations discussed herein.

Sincerely,

/s/ ***Carolyn Chen***

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I. INTRODUCTION

Cal Advocates submits the following comments, which are related to discrepancies in the grid hardening spatial data that was submitted by PG&E to Energy Safety on May 31, August 1, and November 1, 2022, and February 1, 2023 (four 2022 QDR submissions).^{1,2,3,4} These data are submitted to Energy Safety as required by the Data Standard Guidelines (Data Guidelines)⁵ and provided to Cal Advocates by PG&E as part of a standing data request.⁶ Cal Advocates has identified two issues:

- i) Inconsistencies between spatial data in the spatial QDR and non-spatial data in the Quarterly Initiative Updates (QIU) suggest that either the non-spatial data, or the spatial data, or both do not reliably reflect PG&E's progress against PG&E's stated distribution line undergrounding targets.
- ii) PG&E is reporting the same completed distribution line undergrounding projects to meet two different initiatives, which can lead to confusion and potential double counting when assessing PG&E's progress against its stated targets.

II. COMMENTS

A. **Inconsistencies between PG&E's spatial QDRs and non-spatial data submitted as part of the QIUs need to be aligned and, where necessary, updated.**

As part of Energy Safety's Wildfire Mitigation Plan (WMP) reporting requirements, each electrical corporation (utility) must provide quarterly updates on its progress against mitigation initiative targets by submitting both spatial and non-spatial elements on a quarterly basis. Non-spatial data reported in the QIU includes the total miles of distribution line undergrounding completed compared to planned initiative targets as required by Wildfire Mitigation Plan guidelines for QIUs.⁷ The utility's spatial QDRs,

¹ PG&E_2022_Q1_CONF geodatabase. May 31, 2022.

² PG&E_2022_Q2_CONF geodatabase. August 1, 2022.

³ PG&E_2022_Q3_CONF geodatabase. November 1, 2022.

⁴ PG&E_2022_Q4_CONF geodatabase. February 1, 2023.

⁵ Office of Energy Infrastructure Safety's Geographic Information Systems Data Standard Guidelines Version 2.2, January 14, 2022 (Data Guidelines), available at: <https://efiling.energysafety.ca.gov/Lists/DocketLog.aspx?docketnumber=2022-GIS-DRS> (Accessed February 9, 2023).

⁶ CalAdvocates-PGE-2022WMP-01A. December 17, 2021.

⁷ Wildfire Safety Division – Compliance Operational Protocols. February 16, 2021.

on the other hand, contain the planned and completed locations and lengths of individual projects as required by the Data Guidelines.

The utility must submit its spatial data in geodatabases, each of which contains several *feature classes*,⁸ which themselves include *features* representing completed or planned utility projects. In PG&E’s four 2022 spatial QDR submissions, there are inconsistencies in the feature class “GridHardeningLine,”⁹ which contains information related to grid hardening initiatives including completed undergrounding projects. Cal Advocates has found that the total length in miles of the line features listed both as “complete” and as part of an “undergrounding” initiative in the spatial data PG&E provides in its QDRs does not match the total mileage PG&E provides in the non-spatial QIU. As shown in Table 1, the spatial QDR consistently underreports the completed mileage.

Table 1 - Reported mileage differences between spatial QDR and non-spatial QIU quarterly reports for PG&E undergrounding initiatives.

Quarter	Quarterly Initiative Update: 10k Undergrounding Miles Completed	Spatial QDR: Total Miles Completed as Part of Undergrounding Initiatives
1	35.0	24.10
2	72.0	43.65
3	99.5	59.24
4	179.7	129.37

Cal Advocates acknowledges that PG&E is currently “pursuing means to align the GIS Data Standard (Spatial QDR) and the Quarterly Initiative Update (QIU) through joint data governance efforts.”^{10, 11} Regardless, it is currently impossible based on the information submitted to know how accurately either the spatial QDR or the QIU represent PG&E’s completed 2022 projects. For example, PG&E has indicated that its reported spatial data is incomplete.¹² That means some portion of projects completed in 2022 remain unreported and it is impossible to track PG&E’s progress using the GIS data in any meaningful way. Therefore, PG&E should be required to provide a final spatial QDR update that includes the locations of all the projects completed in 2022.

⁸ “Feature classes are homogeneous collections of features with a common spatial representation and set of attributes stored in a database table, for example, a line feature class for representing road centerlines.” *Feature Class Basics*. ArcGIS Pro Documentation. <https://pro.arcgis.com/en/pro-app/latest/help/data/geodatabases/overview/feature-class-basics.htm> (Accessed February 9, 2023).

⁹ Data Guidelines, p. 118.

¹⁰ Cover Letter - Q4 2022 Spatial and Non-Spatial Data Submissions. February 1, 2023.

¹¹ Joint data governance refers to cooperation between internal PG&E business units.

¹² Cover Letter - Q4 2022 Spatial and Non-Spatial Data Submissions. February 1, 2023.

Next, it is not clear whether the numbers in the QIU are the final total completed miles for 2022. If the QIU is missing projects then the QIU needs a final update so that all activities completed in 2022 are accurately reported. If the reporting requirements for both QIU and spatial QDR are not met, then PG&E should be found out of compliance for the 2022 WMP.

B. PG&E is double-reporting the same distribution line undergrounding projects under multiple initiatives.

In PG&E’s spatial QDR submissions for quarters three and four of 2022 there are duplicated features¹³ for completed distribution line undergrounding projects. These duplicate features appear to represent the same completed projects and suggest the same projects are being reported for two different initiatives (Table 2). As further evidence of the duplication, when the cumulative mileage reported for all projects in initiatives are calculated the mileage is identical to the nearest 0.63 inches (Table 2). For example, PG&E reports the completed projects attributed to the Butte County Rebuild against both initiative code 7.3.3.16 - 10K-Butte County Rebuild and initiative code 7.3.3.17.6 - Butte County Rebuild - Undergrounding (Table 2). Similarly, PG&E reports undergrounding of electrical lines against both initiative code 7.3.3.16 -10K-Undergrounding of electric lines and/or equipment and initiative code 7.3.3.17.1 - Undergrounding of electric lines and/or equipment (Table 2).

Table 2 - Examples of initiatives with identical reported mileage completed in Quarter 3 2022 QDR Grid hardening spatial data.

WMP Initiative Code	WMP Initiative	Total Miles Completed
7.3.3.16	10K-Butte County Rebuild	15.22748
7.3.3.17.6	Butte County Rebuild - Undergrounding	15.22748
7.3.3.16	10K-Undergrounding of electric lines and/or equipment	15.58765
7.3.3.17.1	Undergrounding of electric lines and/or equipment	15.58765

Guidance from Energy Safety directs the utility to report project progress at the project level.¹⁴ In other words, a completed project should appear only once in the spatial database – i.e., only one feature in GIS *per project*. The guidance does not specify that the utility should report the same project against multiple initiatives, which results in a single project appearing multiple times in the spatial data. With the same completed

¹³ In GIS data a feature is defined as shape with identical geometries, i.e., vertices and other properties such as length and most attribute information. In this instance the feature is a line in the map representing the location of an undergrounding project.

¹⁴ Data Guidelines, p. 118.

project appearing many times in the spatial database the analyst runs the risk of miscalculating the completed mileage totals. This type of reporting makes it difficult or impossible to track the undergrounding initiatives and make sense of mileage totals.

PG&E should report each of its projects once consistent with Energy Safety's guidance. For future reporting, PG&E should avoid double-reporting and report each of its projects against a single initiative.

III. CONCLUSION

Cal Advocates urges Energy Safety to:

- Require PG&E to report all projects completed in 2022 in both the spatial QDR and non-spatial data in the QIU, even if this requires a supplementary update to the Quarter 4 (Q4) QDR.
- Find PG&E out of compliance with the 2022 WMPs if PG&E does not update both its Q4 QDR and QIU reports.
- Require PG&E in the future to report a completed project only once within the spatial QDRs and avoid duplication across initiatives.

For any questions relating to these comments, please contact Iain Fisher (arthur.fisher@cpuc.ca.gov) or Joshua Borkowski (joshua.borkowski@cpuc.ca.gov).

Respectfully submitted,

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