



**Jay Leyno**  
Director  
Community Wildfire Safety Program

Mailing Address: P.O. Box 7442  
San Francisco, CA 94120  
Telephone: (925) 239-3126  
Email: Jay.Leyno@pge.com

March 13, 2023

**BY ENERGY SAFETY E-FILING**

Caroline Thomas Jacobs, Director  
Office of Energy Infrastructure Safety  
California Natural Resources Agency  
715 P Street, 20<sup>th</sup> Floor  
Sacramento, CA 95814  
caroline.thomasjacobs@energysafety.ca.gov

Re: PG&E Reply Comments to 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:

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to provide reply comments to the Public Advocates Office (Cal Advocates) Comments on PG&E's Grid Hardening Spatial Data in Spatial Quarterly Data Reports to Energy Safety, served on March 6, 2023.<sup>1</sup> Below, we provide responses to Cal Advocates' comments and suggest alternatives to their proposed recommendations.

**Cal Advocates Comment Item 1**

1. 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.

**PG&E Response**

Newly installed assets and completed jobs must undergo several processing steps and additional field verification before being mapped into our Geographic Information System (GIS) source system, as indicated in the metadata of our 2022 quarterly submissions and various Spatial Quarterly Data Report (SQDR or Spatial QDR) regulatory filings.<sup>2</sup> A project may be

---

<sup>1</sup> Although the Comments appear to have been filed on February 15, 2023, they were not provided to parties through Energy Safety's List Served until March 6, 2023.

<sup>2</sup> All 2022 Spatial Quarter Data Report submission cover letters, reply comments for the adoption of version 2.2 changes of the Data Standard Data Standard, and discussed during the Draft Data Guidelines Workshop on November 17, 2022.

considered “construction complete” (completed in the field and available for tabular reporting via the QIU), but not spatially available in our geographic information system for SQDR reporting due to required quality checks prior to initiation of GIS mapping processes. Until a project is completed and fully mapped, detailed information remains in the design systems and paper job packages. Data that is available in our GIS source system, whether partially or fully mapped, is referred to as “As-Built.” Whereas the QIU primarily leverages tabular trackers for real-time job information and reflects tabular information on work completed in each quarter (construction complete jobs), the SQDR will only show work to the extent a job has been mapped in our GIS source system. This results in differences between the SQDR and the QIU.

Producing an annual report would similarly result in jobs at varying mapping stages since time associated with post-job processing and quality assessment varies by work type and associated job complexities. Additionally, given system hardening work can be composed of multiple work type activities, data that is mapped represents the system hardening initiative itself and does not differentiate sections of line geometry that are associated with the various activities. If a system hardening job is composed of more than one activity (referred to as a hybrid job in our SQDR submission), the mapping does not differentiate where each activity starts and stops, but rather shows the line work for the whole project as mapped.<sup>3</sup> These projects are complex and can include hundreds of assets, so specific devices cannot be easily traced. For example, a job could be three miles in total, but only a portion of that mileage is undergrounding work. A user of the spatial data will be unable to infer how much of that three-mile project is related to undergrounding work, as opposed to other possible types of works such as removal or retirement. Therefore, comparing, for example, the total mileage of undergrounding work for the 10K Undergrounding Initiative, will not match what is listed in the QIU.

In addition, several technical limitations exist in aligning the Spatial QDR data with the QIU including, but not limited to:

1. Projection calculations that allow the round earth to be presented on a flat screen, result in line geometries and associated data mileage to appear larger than in reality;
2. Work can be performed on multiple parallel circuits with each line adding mileage to the total job mileage and, when spatially presented, looks to be a single line; and
3. The topography of where a job took place may have peaks and valleys that are unaccounted for when work is drawn since the map is flat.

### **PG&E’s Alternative Recommendations**

PG&E acknowledges the challenges Cal Advocates is experiencing in attempting to analyze spatial and tabular data through our Spatial QDR and QIU submissions. The operational

---

<sup>3</sup> Activities include: covered conductor installation, undergrounding of electric lines and/or equipment, or removal and retirement of OH conductor and undergrounding of electric lines and/or equipment.

requirements to accurately implement ‘As Built’ processes introduce process requirements that lead to differentiations between Spatial and tabular datasets, as is acknowledged above. Regarding Cal Advocates statement that, “...it is impossible to track PG&E’s progress using the GIS data in any meaningful way,” PG&E maintains that as-built processes are necessary to ensure accuracy of our Asset Registries; the challenges in aligning tabular and spatial data reporting through the QIU and Spatial QDR, respectively, is not unique to PG&E but applies to other California Electrical Corporations that apply this methodology, which is considered an industry standard. We have achieved quarterly improvements in quantity and/or quality and will continue to focus on methods to better align these reports for future submissions.

Given the inherent technical limitations that exist with spatial reporting, PG&E recommends that our Spatial QDR be treated as supplemental material offering additional insights to the QIU and QDR reports. Where Cal Advocates would like to see comprehensive details for specific projects, PG&E can provide alternative data in the form of construction job packages to support our regulator partner with their objectives. PG&E will also participate in project review collaboration sessions on specific jobs for optimized data understanding as requested.

### **Cal Advocates Comment Item 2**

2. 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.

### **PG&E Response**

Energy Safety’s reporting requirements require electrical corporations to report all quantitative, spatial related WMP initiatives. Within the *Initiative* feature dataset, Energy Safety provides specific templates to be used for all the initiative programs. Initiative types are outlined through our WMP and aligned to within our Spatial QDR. The Grid Hardening templates require PG&E to differentiate between the different WMP Initiatives. PG&E’s 10K Undergrounding initiative includes undergrounding work performed from other WMP initiatives: the Butte County Rebuild and Distribution System Hardening. The undergrounding job relationship between the various initiatives is defined in our 2022 WMP. Regarding the 10K Undergrounding initiative, PG&E’s 2022 WMP states: “[PG&E will] [c]omplete at least 175 circuit miles of undergrounding work. The 175 circuit mile target includes undergrounding taking place as part of both System Hardening (Section 7.3.3.17.1), Butte County Rebuild efforts (Section 7.3.3.17.6).”<sup>4</sup> PG&E reports on jobs in a manner consistent with Spatial QDR requirements and

---

<sup>4</sup> See PG&E 2022 Wildfire Mitigation Plan – Final Revision, pp 557, section “Current Year Activities (2022),” (Jul. 26, 2022). ([https://www.pge.com/pge\\_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/072622-wmp-update.pdf](https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/072622-wmp-update.pdf))

in alignment with the initiative types outlined within our WMP. While one job may impact multiple initiatives, the tracking mechanisms established by Energy Safety contribute to greater tracking of progress against wildfire mitigation objectives through initiatives.

It should be noted that each project is only reported on once per initiative. Combining initiatives into single reporting is not feasible since Energy Safety's "Initiative Target," "Quarterly Progress," "Cumulative Progress," "Utility Initiative Tracking ID," "WMP Initiative Activity," "WMP Page Number," and "WMP Section" fields all treat the initiatives individual by definition and allowed character limits.

### **PG&E Proposes Alternative Recommendations**

To address Cal Advocates concern around the potential for confusion that may result from multiple initiative types applying to a single project, PG&E suggests filtering on the Grid Hardening feature datasets two key indicator fields (WMPInitiativeActivity, UtilityInitiativeTrackingID) to identify work that applies to different WMP initiatives. This technique will isolate the three overlapping initiatives (Butte County Rebuild, 10K Undergrounding, or Distribution System Hardening) so the user can review all the projects associated with the initiative in review.

### **Cal Advocates' Recommendations Should be Rejected by Energy Safety**

In Cal Advocates' concluding paragraph, three recommendations are provided to Energy Safety. First, Cal Advocates suggests that Energy Safety should "[r]equire 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."<sup>5</sup> Cal Advocates then suggests that if the first recommendation is unperformed, then Energy Safety should "[f]ind PG&E out of compliance with the 2022 WMPs if PG&E does not update both its Q4 QDR and QIU reports."<sup>6</sup> Both of these recommendations should be rejected by Energy Safety because, as explained above, as-built processes and their inherent quality control procedures are necessary to ensure the accuracy of our Asset Registries. As-built processes are considered to be the industry standard and aligning tabular and spatial data reported through QIU and Spatial QDR is not unique to PG&E but applies all other California electrical corporations with as-built processes. Furthermore, Spatial QDR data is only representative of data at a particular snapshot in time since the grid is dynamic and always changing. Therefore, even requiring a supplemental submission at a set point in time (for example, one or two months after the original filing) would not necessarily capture the outstanding as built projects (since completion of quality control cannot be standardized, varies in duration, and can last up to seven months or more) and would

---

<sup>5</sup> Cal Advocates Comments at 4.

<sup>6</sup> Cal Advocates Comments at 4.



**Jay Leyno**  
Director  
Community Wildfire Safety Program

Mailing Address: P.O. Box 7442  
San Francisco, CA 94120  
Telephone: (925) 239-3126  
Email: Jay.Leyno@pge.com

contain different data from the original submission as a result of any changes to the electrical grid during the intervening time period between the submissions.

Finally, Cal Advocates requests that Energy Safety “[r]equire PG&E in the future to report a completed project only once within the Spatial QDRs and avoid duplication across initiatives.”<sup>7</sup> As we discuss above, this approach is neither beneficial nor feasible when projects are included in multiple initiatives and would result in further misalignment between the QIU and the Spatial QDR since jobs would then be missing from critical initiatives.

### **Conclusion**

PG&E looks forward to supporting Cal Advocates with additional data sources like construction job packages, if requested, and hopes the techniques shared above on isolating the WMP Initiative Activity can be applied to the spatial data to reduce the confusion between our WMP projects. Should Energy Safety wish to further discuss the technical limitations of the Spatial QDR as outlined in Cal Advocate’s Comments, PG&E urges Energy Safety’s Data Analytics Division to add this topic to their next quarterly technical working session since all California electrical corporations with ‘As-Built’ source systems have the same spatial data limitations between the QIU and Spatial QDR.

If you have any questions or concerns, please do not hesitate to contact the undersigned at [jay.leyno@pge.com](mailto:jay.leyno@pge.com).

Very truly yours,

*/s/ Jay Leyno*

Jay Leyno

---

<sup>7</sup> Cal Advocates Comments at 4.