**TRANSMITTED VIA ELECTRONIC MAIL**

# DATA REQUEST

**Request Date:** August 8, 2024

**Response Due:** August 12, 2024

**To:**

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**Originator:** Kristin Ralff Douglas
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**Data Request Number**: Energy Safety-DR-EUP-24-08

**Subject:** PG&E Polygon Features

## INSTRUCTIONS

a. Provide all information in your possession, custody, or control, or the possession, custody, and/or control of your affiliates or agents, that is responsive to these data requests by the due date identified above.

b. Responses and documents may be produced and served electronically, but they shall be fully machine-readable and searchable.

c. If you have any questions about the meaning or scope of the data requests herein, direct such questions to the Energy Safety staff identified as the "Originator" of this request at your earliest opportunity.

    a. Lack of clarity on meaning or scope of requests, without prior request for clarification from the "Originator," will not be a permissible reason for incomplete responses and will be regarded as non-compliance with the request.

d. Identify the personnel (employees, consultants, agents, etc.) who provided information responsive to each of the data requests below. As used in this context herein, "identify" means to provide the full name, business address, and title of each employee, consultant, or agent who provided such information.

e. If you do not know the exact answer to any of the requests below, please so indicate and provide your best estimate.

f. Provide data in its original format (i.e., PDF, Excel, GIS shapefile, etc.), unless otherwise specified in the request.

g. Send your response to Kristin Ralff Douglas (Kristin.RalffDouglas@energysafety.ca.gov), and include a copy to:

    Simone.Brant@energysafety.ca.gov
    Jeanne.Mckinney@energysafety.ca.gov
    electricalundergroundingplans@energysafety.ca.gov

h. E-file a copy of the response on the Electrical Undergrounding Docket #2023-UPs.

## REQUEST

**Q01.** When we visited the PG&E undergrounding scoping site in Placerville, the process for scoping a project was described as listed below. Can you confirm that this is the general process, or provide any corrections?

1. The Circuit Protection Zones or CPZs are traced out annually with a GIS software's radial graph tracing algorithm which defines the CPZs by their terminal equipment.
    - The names of the CPZs are determined by the substation name, the circuit number, and either "CB" for "Circuit Breaker" or a serial number for a piece of terminal equipment.
    - Because these circuit numbers can be reassigned, or the same equipment with the same serial numbers can be reused in a different place, these CPZ names are often reused, so at different times, the same name may be used to refer to different physical alignments which may serve different customers.
2. The CPZs are thus separated into a Polyline feature class with these affiliated names.
3. A Polygon object is drawn around each CPZ (more detailed questions below) in such a way as to incorporate all equipment, conductor lines, and other PG&E assets affiliated with this CPZ.
4. By joining the Polygon to all PG&E equipment asset layers, the set of assets affiliated with this CPZ is identified with the CPZ name.
5. PG&E applies their risk modeling procedure to each of these sets of affiliated assets, assigning Ignition Risk Scores, PSPS Risk Scores, and a Combined Utility Risk Score to each CPZ by its CPZ name.
    - This involves some GIS processing of equipment overlaps with pixelated consequence scores, likelihood scores, and other scores over the service territory.
6. Using these risk scores, PG&E identifies CPZs which are worth undergrounding or applying other mitigations to. A CPZ is selected for applying mitigations.
    - This CPZ remains "frozen" in place, meaning even if the CPZ is changed in the next radial graph tracing after another year, this set of affiliated assets remains under consideration as one object.
7. This CPZ begins the "scoping" process, using the "frozen" set of assets and lines. This is broken down into individual "jobs" which are small parts of the CPZ which will be mitigated as a single unit, which go through further scoping, permitting, alignment, and construction.

**Q02.** When we visited the PG&E undergrounding scoping site in Placerville, the process for scoping a project made use of a distinction made between "main" and "tap" lines for prioritization of service and planning work. Can you confirm that this is a major distinction, or provide any corrections?

a. How does PG&E distinguish between "main" and "tap" lines, procedurally?
b. Is this distinction defined in any PUC proceedings or other government documents, or is it strictly internal to PG&E?
c. If we were to use this distinction in data collection for the EUP, how would PG&E recommend we define it to most closely align with its existing usage?

**Q03.** If the polygons are an important part of the process. what is the procedure for creating these polygons?

a. Are these polygons created automatically using a Minimum Bounding Box algorithm, a Buffer algorithm, or something else similar?
b. Are these polygons ever manually edited, i.e. an SME adjusts the vertices? What are they adjusting them to accomplish?
c. Are these drawn in order to prevent, or minimize, inclusion of equipment from other, nearby CPZs?
d. Are the polygons drawn such that all the pre-mitigation assets which will be removed or mitigated are located inside this polygon?
e. Are the polygons drawn such that all the post-mitigation assets which will be installed are located inside this polygon?
f. What happens when or if there is an asset or a line segment that might be in multiple CPZ polygons?
    - Is it used for risk evaluation in both?
    - What kinds of circumstances can cause this?
    - How frequently does this happen?
g. Does PG&E consider these polygons confidential?

**Q04.** If the polygons are NOT an important part of the process how is the set of assets assigned to each CPZ identified?

a. Do assets from other, nearby CPZs ever mistakenly get assigned to the wrong one, or to multiple CPZs?

- Does this get corrected during or before the risk modeling procedure takes place?

b. Do assets ever need to be manually added or removed from the set?

**Q05.** If a new Project is scoped on a CPZ adjacent to or partially overlapping with an existing Project, how are potential overlaps or border issues handled?

a. Are the Projects defined as overlapping?
b. Is the risk modeled on the current, unmitigated CPZ, or does it incorporate the planned changes on the existing Project?
c. Are the Projects merged?

**Q06.** What happens if the physical assets themselves have been swapped out or moved since the high-risk CPZ's set of affiliated equipment was identified, or in other words the current as-built no longer matches the "frozen" Project? How does this affect the selected Project?

a. Does the set of affiliated equipment get regularly re-evaluated to ensure it includes all current equipment as-built near the Project? Or, does it stay "frozen" to maintain the original project scope?
    - Alternatively, is non-emergency maintenance and construction postponed until the project is done to minimize changes to the Project?
b. Is the risk re-evaluated on the "frozen" project, or on the current as-built?
c. Is the scoping re-evaluated on the "frozen" project, or on the current as-built?
d. Is the GIS alignment re-evaluated on the "frozen" project, or on the current as-built?

**Q07.** Is the before-project "as-built" recorded on the level of the individual job?

**Q08.** Is the after-project "as-built" recorded on the level of the individual job?

**Q09.** If Energy Safety, as part of the SB 884 Guidelines, were to ask PG&E to track Projects as a spatial GIS feature class of polygons encompassing an entire Circuit Segment's boundaries at the start of scoping that project in Screen 3:

a. What concerns would PG&E have about the feasibility of this addition? What would the timeline be on the ability to create this?
b. What features could and could not be tracked as attributes of this feature class? E.g. Project ID, risk modeling scores, lists of subprojects, etc.
c. What additional challenges would arise from requiring this feature class to *only* include assets from the circuit segment on which it was defined, e.g. by manually editing the boundaries to remove overlaps from other Circuit Segments?
d. Even if it is not possible to remove overlaps entirely, estimate the difficulty of creating polygons with, on average, less than 1% of the encompassed Line segments being from a different Circuit Segment, less than 20% of the encompassed Line segments being from a different Circuit Segment, and less than 40% of the encompassed Line segments being from a different Circuit Segment.
e. What challenges would arise if Subprojects were restricted to take place only on pre-mitigation assets falling within this Project polygon?
f. Currently, how commonly do subprojects extend outside the boundaries of the Circuit Segment on which they were qualified as high risk? By how far (as a percentage)? Would a Subproject ever take place *entirely* outside of the Circuit Segment on which it was qualified?

**END OF REQUEST**