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Mr. Eric Chiang
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

RE: Egbert Switching Station (A. 17-12-021) Response to California Public Utilities Commission Application Completeness Review/Data Request #1

Dear Mr. Chiang:

This letter is in reply to your January 26, 2018, letter in which you request certain additional information regarding Pacific Gas and Electric Company's (PG&E's) application (A.17-12-021) for a Certificate for Public Convenience and Necessity for the Egbert Switching Station Project (project). PG&E provided numbering for each of the items for which the CPUC requested information. The original text for each data request from the California Public Utilities Commission (CPUC) is included, followed by PG&E's response.

There are 5 attachments to this letter provided on a DVD to support PG&E's response.

- Attachment 1 Native PEA and Application Files
- Attachment 2 Proposed Egbert Switching Station Exhibits
- Attachment 3 Aesthetics
- Attachment 4 Hazards and Hazardous Materials
- Attachment 5 GIS Manufacturer Data Sheets

CPUC Data Request Item #1

Please provide the native files (Word, Excel, etc.) for the PEA, including appendices, and the Application A17-12-021.

PG&E's Response

Attachment 1 of this data request response provides the native files for the PEA, including appendices, and the Application A17-12-021 as available to PG&E. Any native file updated as part of this response, is provided as part of Attachment 1.

- MS Word:
 - Application A17-12-021
 - PEA
 - PEA with tracked changes corresponding with PG&E's responses in this letter
 - PEA Appendix B: Electric and Magnetic Fields
 - Separate report – Biological Resources Technical Report
 - Separate report – Final Paleontological Inventory Report
- MS Excel:
 - PEA Appendix A: List of Parcels within 300 feet

- Separate report – Egbert Switching Station Project AQ-GHG Emissions – *updated as part of this response*
- Section 3.16 data request response tables – Vehicular Trip Generation Summary and Peak Construction Trip Generation
- PDF (not available in a native file format and previously provided during the filing)
 - PEA Appendix C: Native American Heritage Commission and Native American Correspondence
 - Separate report – EDR DataMap™ Corridor Study
 - Separate report – Geological Hazard and Feasibility Evaluation

CPUC Data Request Item #2

Please provide a summary of the public's input that was received at the public open houses held in May 2017.

PG&E's Response

PG&E mailed out over 7,000 invitations to property owners and residents within 500 feet on either side of the proposed project (including the switching station and transmission lines).

5/22/2017 Open House held at Visitation Valley Library Meeting Room

Members of the project team and two translators representing Chinese and Spanish language were available to the public to discuss the project, answer questions and gather community feedback. Six (6) members of the community attended this open house. No comment cards were filled out, but attendees asked general questions about the anticipated impacts around the site and along the transmission lines, as well as need for the project.

5/24/2017 Open House held at Bayview Police Station Community Room

Members of the project team and two translators representing Chinese and Spanish language were available to the public to discuss the project. Six (6) members of the community attended this open house. In addition to the general questions asked by attendees, three (3) comment cards were filled out by the attendees. The content of the comment cards is summarized:

- 1) Inquiring why the power in the area went out around 5:30 p.m. on 5/22/17.
- 2) Opposing Egbert switching station site alternative due to the following: a) loss of parking during construction; b) noise during construction; c) aesthetics concerns of having an industrial looking building near residential buildings; and d) possibly having street trees planted in front of the switching station.
- 3) Inquiring about the exact location of the proposed switching station and expressing concern about any exposed transformers at the new [switching station] building.

CPUC Data Request Item #3

Regarding PEA Section 2.5.1 Proposed Egbert Switching Station:

- a) Please provide exhibits that illustrate the visual characteristics of the proposed switching stations' outdoor equipment. Also, on page 2-13 prior to the listing of the proposed switching stations' outdoor equipment, the text references Figure 2.5-2 as an exhibit that illustrates the location of various outdoor equipment. Figure 2.5-2 contains colored polygons that could illustrate the location of outdoor equipment;

however, a legend explaining the intent of colored polygons is not provided. Please update the figure and provide a legend.

- b) Please clarify the height of and materiality used for the switching station site perimeter fence. If chain-link, please clarify whether the fence would be covered with a privacy screen.
- c) Please clarify which equipment would be housed on a building floor above ground level within the 11,000-square-foot switching station building. Please also provide elevation and section drawings of the switching station building.
- d) Please provide a dimensioned elevation drawing that illustrates the height of equipment and structures to be installed at the switching station. Please describe the building materials associated with the 11,000-square-foot switching station building.
- e) Clarify whether landscaping would be installed along the perimeter of the switching station site.

PG&E's Response

- a) As part of Attachment 2, Proposed Egbert Switching Station Exhibits, please find preliminary design exhibits Figures 1-4 that illustrate the visual characteristics of the proposed switching station's outdoor equipment (shunt reactors, series reactor and station service voltage transformer). These project depictions are preliminary and subject to change pending final engineering, CPUC requirements, and other factors. Figure 2.5-2 is updated to provide the requested legend identifying the colored polygons, please see Attachment 2, Figure 2.5-2.
- b) The perimeter fence height is expected to be approximately 12 feet. The material is proposed to be expanded metal mesh which provides semi-obscured visibly into the facilities exterior yard. Please see Attachment 2, Figure 5 for expanded metal mesh material specifications. This depiction of metal mesh is preliminary and subject to change pending final engineering, CPUC requirements, and other factors.
- c) The main equipment in the switchgear building is the 230 kilovolt (kV) Gas Insulated Switchgear (GIS) which contains the 230 kV bus, circuit breakers and disconnect switches. The station relay and control equipment is within the Modular Protection, Automation, and Control (MPAC) room, and the station battery and chargers are within in the battery room. Please see Attachment 2, Figures 6-8 for elevation and section drawings. These project depictions are preliminary and subject to change pending final engineering, CPUC requirements, and other factors.
- d) Please see Attachment 2, Figures 1-4 and 6-8 for dimensioned elevation figures illustrating the height of equipment and structures to be installed at the switching station. Please note these figures are provided for reference only; final equipment sizes are preliminary and subject to change pending final engineering, CPUC requirements, and other factors.
- e) PG&E will coordinate with the City of San Francisco during its review and approval of the switching station design to consider landscaping along the perimeter of the switching station site along Egbert Avenue. Landscaping may include low-growing landscaping such as bushes and/or groundcover that meet safety and security requirements.

CPUC Data Request Item #4

Regarding PEA Section 2.7.1.1 Staging Areas

- a) If temporary fencing of staging areas would be needed, clarify if fencing would be covered with privacy screens to minimize off-site visibility to the staging area.
- b) For staging that would occur in temporary closed lanes, clarify the approximate duration that materials associated with the construction of underground conduits would remain in temporary closed lanes.

PG&E's Response

- a) If temporary fencing of a staging area is needed, contractors can install privacy fencing material to minimize off-site visibility to the staging area.
- b) Typically, only material planned to be installed that day will be staged in a temporarily closed lane. Uninstalled materials will be removed from the lanes before the temporarily closed lanes are re-opened. It is anticipated at this time that the cities will require lanes to be re-opened at the end of each day's work which will establish the duration of time materials are staged.

CPUC Data Request Item #5

Regarding PEA Section 2.7.1.6 Cleanup and Post-Construction Restoration

- a) Please clarify proposed landscaping restoration activities. Will inventories of existing conditions be conducted prior to vegetation removal? Will success criteria for new plantings be established?

PG&E's Response

- a) PG&E will document existing conditions of work areas as part of its pre-construction activities which will occur prior to vegetation removal. PG&E implement APM WQ-3: Project Site Restoration in coordination with the landowner (e.g., 400 Paul Avenue) and the City of San Francisco (e.g., Mansell Avenue median near San Bruno Avenue) and any success criteria for new planting will be established during that coordination. Work areas where vegetation management, ruderal vegetation removal, and/or tree trimming occur are expected to re-vegetate naturally and restoration is not expected beyond any activities associated with the implementation of APM WQ-1: Development and Implementation of a Stormwater Pollutions Prevention Plan.

CPUC Data Request Item #6

Regarding PEA Section 2.10 Applicant-Proposed Measures (APMs)

- a) APM Aesthetics (AE)-1: Will motion or timer-controlled lighting be installed at the switching station to prevent unnecessary illumination of the site and surrounding area during nighttime hours?
- b) APM AE-1: Clarify what is meant by "directed lighting." Will lighting be directed downward? Also, non-glare lighting presents opportunities for skyglow and unnecessary illumination. Can the project applicant commit to fully shielded lighting at the switching station site? Will any lighting be installed along the perimeter fence or at entryways?

- c) APM AE-2: Please clarify how often construction debris will be picked up. “Regularly” is non-committal and cannot be relied on in the environmental analysis.

PG&E’s Response

- a) Typically motion or timer-controlled lighting will be installed at the switching station to prevent unnecessary illumination of the site and surrounding area during nighttime hour. Security and personnel safety requires some lighting inside the switching station but the majority of the lights could be installed on motion detectors.
- b) Directed lighting means that the lights are directed downward. The lights will be fully shielded at the switching station site. The majority of the lighting will be inside the perimeter fence and outside walls of the building within the perimeter fence. PG&E will coordinate with the City of San Francisco during its review and approval of the switching station design to include downward directed, fully shielded lighting at the entryways as appropriate or other locations required for safety and security.
- c) Construction debris is planned to be picked up on a daily basis.

CPUC Data Request Item #7

Regarding PEA Section 3.1 Aesthetics

- a) Please provide high-quality jpegs or PDFs of all photographs and simulated views of the project included in Section 3.1. Please include images only; please do not include format figures or include individual PDFs of report figures. Please also include a kmz or .shp file of the photograph and simulated view locations. Also include high-quality jpegs or PDFs of the perspective renderings of the project included as Figure 2.5-3.
- b) Section 3.1.2.1, Local, contains policies of the Bayview Hunters Point Area Plan that are applicable to the Third Street corridor. The proposed Egbert switching station is located approximately 0.15 miles west of Third Street and separated by Third Street facing properties by railroad track. Please clarify why policies relevant to Third Street are applicable to the proposed Egbert switching station site.
- c) In regards to proposed green connections identified in the City of San Francisco General Plan Recreation and Open Space Element, please clarify how/why Policy 3.2 is relevant to the proposed project. Please clarify whether proposed underground pipelines would traverse proposed green connections.
- d) In regards to Policy 2.7 of the San Francisco General Plan: Urban Design Element, clarify whether the Egbert switching station area has been identified by the City as “an outstanding and unique area that contributes to the extraordinary degree to San Francisco’s visual form and character.”
- e) The PEA, Page 3.1-14, states “the visual assessment employs methods, based in part on those adopted by the FHWA [Federal Highway Administration], and other accepted visual techniques.” Provide the other visual analysis techniques used in this analysis and clarify who (i.e., which agencies) accept those techniques.
- f) Section 3.1.3.1 describes land uses in the immediate vicinity of the site. Also describe the landscaping, lighting, and potential sources of glare present in the immediate vicinity of the site.
- g) The location of the project site is not apparent in Photographs 1 and 2. Please clarify the location of the project site through use of text, leader lines, or another means. Clarify if visibility to the site is limited to the airspace over the site.

- h) Please clarify the use of the emergency access road at Waterbend Apartments (Photograph 4 and simulated viewpoint). Identify the viewer group (e.g., residences and motorists) likely to be provided this view to the project site. Clarify whether this road receives regular use. The parking garage to the Waterbend Apartments does not appear to be accessible from the emergency access road. Clarify why this view and location qualifies as a Key Observation Point; the location appears to receive limited public use. Photograph 3 (or the adjacent sidewalk) may be a more appropriate location for a simulated view of the project.
- i) Please include a photograph from Egbert Avenue near the switching site boundary (i.e., along the site frontage).
- j) Please describe where (e.g., buildings, walls/fences, and entryways) new lighting will be installed at the new switching station site.
- k) The PEA, page 3.1-30, states “the switching station will be built within approximately three years, at which time newly planted deciduous trees seen in the foreground along the emergency access drive could be taller with broader canopies.” While juvenile trees remain in the simulated view, the PEA considers the screening effect of the trees in making a determination of a minor incremental effect at viewpoint (VP) 4. See previous Item h regarding the selection of VP 4 as a key observation point.
- l) The PEA, page 3.1-31, states “the similarity in terms of overall scale and form of the proposed switching station helps to visually integrate it into the surrounding urban-industrial setting”. Please include analysis pertaining to potential building material contrast associated with the proposed metal-cladding and screening enclosures.
- m) Please provide a photograph from the ridgeline of San Bruno Mountain looking towards Martin Substation and the Egbert switching station site. Views to the sites may be available from the easterly extension of the San Bruno Mountain State Park Saddle Trail. A photograph would benefit the scenic vista analysis and support the PEA analysis by characterizing the quality of existing views to the substation and switching station sites and revealing the extent of the expansive view.

PG&E's Response

- a) High quality JPG files of all photographs and simulated views are provided with this response in Attachment 3, Aesthetics Response, PEA_Fig3.1-2_JPGs and PEA_Figs3.1-3_3.16_JPGs. In addition, high quality PNG files of the perspective rendering of the project included as Figure 2.5-3 are provided in Attachment 3 as PEA_Fig2.3-5_PNGs. A kmz file with the location photograph and simulated viewpoints has been provided in Attachment 3, 3.1Photos_sims_view_locations.
- b) Because the CPUC has exclusive jurisdiction over project siting, design, and construction, the project is not subject to local land use and zoning regulations or discretionary permits. The inclusion of local plans is for informational purposes and to assist with CEQA review. The discussion of local plans does indicate the local plans are applicable to the proposed Egbert Switching Station site. In order to provide public policy context regarding community aesthetics, PEA Section 3.1.2.1 includes City of San Francisco Bayview Hunters Point Area Plan policies for Third Street. Photographs 1 and 2 on PEA Figure 3.1-2a are public views from along or near the Third Street corridor area looking west toward the project. Section 3.1.3.3 of the PEA includes discussion of existing visual conditions including the project site's visibility from this area along Third Street.
- c) The Recreation and Open Space Element identifies Paul Avenue south of the site and Carroll Avenue east of the site as Green Connection Route 10. Photographs 2, 3, 11,

and 12 presented on PEA Figures 3.1-2a and 3.1-2f respectively are public views from along Carroll and Paul Avenues looking toward the project. Section 3.1.3.3 of the PEA includes description of existing visual conditions including the project site's visibility from this area. Policy 3.2 of the Recreation and Open Space Element is included in order to provide public policy context for potential future improvement to community open space in the project area. In response to the second requested clarification, the proposed Jefferson-Egbert duct bank alignment would cross under or be within the roadway for portions of the proposed Green Connection Routes 10, 12, and 23 as described in PEA Table 3.15-4 and text on page 3.15-7.

- d) The Egbert Switching Station area has not been identified by the City as “an outstanding and unique area that contributes to the extraordinary degree to San Francisco’s visual form and character.” Policy 2.7 of the San Francisco General Plan: Urban Design Element is included to provide policy context regarding the unique aspects of the project area’s visual form and character including urban views of nearby and distant hillsides. As shown on PEA Figures 3.1-2a through 3.1-2g Photographs such as 4 through 7, 10, 12, 13, and 14 portray views of the urban landscape including developed and undeveloped hillsides, which contribute to unique visual character experienced in the project area. As discussed in Section 3.1.4.3 and demonstrated in the Figure 3.1-3 through 3.1-5 visual simulations, the project will not substantially degrade or obstruct views toward these urban landscape features.
- e) In addition to those adopted by the FHWA, the PEA visual analysis draws upon professionally accepted methods such as those employed by the U.S. Forest Service (USFS) and U.S. Bureau of Land Management (BLM), as summarized in Foundations for Visual Project Analysis (Smardon, Richard, Palmer, J. and Felleman, J.P.). The PEA visual analysis also conforms to general guidance provided by the California Public Utility Commission and California Energy Commission (CPUC and CEC).
- f) Landscaping Present in the Immediate Vicinity of the Site: There is minimal vegetation and no landscaping at the switching station site or at the adjacent Art Hive industrial facility. In the immediate vicinity of the site there are no street trees along either side of Egbert Avenue (refer to PEA Photograph 8, Figure 3.1-2d). At the commercial storage facility across from the switching station site on Egbert Avenue, landscaping along the site frontage consists of low shrubs and mulch. Landscaping at the Portola Place residential area located to the west of the commercial storage facility includes a mixture of ornamental shrubs and some trees. Along the east side of Egbert Avenue at Newhall Street, landscape setback area in front of the three-story office building includes grass, several evergreen canopy trees, and shrubs. Across the UPRR tracks along the southern edge of the Waterbend apartment complex, landscaping includes a double row of deciduous trees. Additionally, on the west side of this residential development, which faces Egbert Avenue, landscaping includes some evergreen trees.

Lighting and Potential Sources of Glare Present in the Immediate Vicinity of the Site: Located along the north side of Egbert Avenue, cantilevered metal street light fixtures are mounted on wood utility poles, including one directly across from the switching station site. Immediately to the northwest within the Portola Place residential development, similar style light fixtures are mounted on steel poles (refer to PEA Photographs 8, 9, and 10 on Figures 3.1-2d and 3.1-2e). In addition, several pole-mounted lights are situated immediately northeast within the commercial storage facility parking area situated along Egbert Avenue. On the east side of the UPRR tracks, street lighting at or near the Waterbend apartment complex consists of pairs of

light fixtures mounted on steel poles; the lower fixture is smaller and at pedestrian level while the higher one is for vehicular scale and safety. Additional pole mounted security light is located within parking and outdoor storage yard areas located south of the switching station site, and other sources of nighttime lighting include illumination emanating from the industrial work space at the adjacent Hive building as well as from nearby residences at the multi-story Waterbend apartment and Portola Place developments. The passing rail cars traveling along the UPRR tracks would be a potential source of glare.

- g) Annotated copies of Figure 3.1-2a, Photographs 1 and 2 are provided in Attachment 3, 3.1g *Annotated Figure 3.1-2a*.
- h) Photograph 4 was selected for a visual simulation because it represents a close range view of the project site that is routinely experienced by residents of the Waterbend Apartment complex as well as other pedestrians in the vicinity. In addition to providing vehicle access to the apartment building, the design of the emergency access road incorporates aesthetic treatment including decorative pavement, landscaping, and traffic bollards that provide pedestrian-scale amenities to enhance pedestrian circulation. Because the Photograph 4 view represents a publicly accessible area available for public use by residents and other pedestrians, it was selected as a KOP. Photograph 3 is also a representative view toward the project site from an outdoor area near the Waterbend Apartment building and was included to document existing visual conditions in the vicinity. However, because the community garden is likely used less frequently and by fewer people, and because the Photograph 3 viewpoint is located at the end of a dead-end street that is lined by perpendicular parked cars and that lacks through-traffic, Photograph 4 was selected as a more representative unobstructed close range view experienced routinely by residential motorists and pedestrians. During recent field observations, pedestrian activities including dog walking were noted along the emergency access road at Waterbend Apartments (February 2018). As demonstrated by the photographs presented in Attachment 3, 3.1h *Pedestrians Using Emergency Access Road*, document the public pedestrian use of the emergency access road at Waterbend Apartments. In light of information outlined above and illustrated in Attachment 3, the emergency access road is a reasonable close range key observation point for portraying existing and post project visual conditions. At the request of the CPUC, PG&E can provide a visual simulation using Photo 3 as an additional KOP.
- i) Photographs showing a view along Egbert Avenue near the switching site boundary and a view into the switching station site from Egbert Avenue are provided in Attachment 3, 3.1i *Egbert Avenue Site Frontage*.
- j) New lighting is expected to be installed inside of the perimeter fence (on the average 3 to 4 lights on each side), and will likely include 3 to 4 lights per side on the exterior walls of the switchgear building, and one light on the exterior of each shunt reactor enclosure. PG&E will coordinate with the City of San Francisco during its review and approval of the switching station design to include downward-directed and fully shielded lighting at the entryways as appropriate or other locations required for safety and security.
- k) Recent observations (February 2018) indicate the deciduous trees are maturing and have grown taller than the height shown in the visual simulation (Attachment 3, 3.1h *Pedestrians Using Emergency Access Road*).
- l) The proposed switching station's exterior materials have been selected to integrate the project with surrounding light industrial neighboring buildings. Photographs 4, 5, 6,

11, 12, and 13 on PEA Figures 3.1-2b through 3.1-2g show views of the project's existing urban visual context which includes nearby single and multi-story concrete and metal clad warehouse and light industrial buildings. Section 3.1.3.3 of the PEA includes description of this existing visual context. Figure 1 in Attachment 3, 3.11 Existing Materials Textures provides images of existing materials and textures in the proposed switching station area. Given the presence of existing light industrial buildings in the surrounding neighborhood, the proposed building materials called for in the conceptual design including solid neutral color cladding and perforated metal screening would generally appear compatible with nearby existing structures in terms of color and appearance. A comparison of the existing and post-project views presented on PEA Figures 3.1-4 and 3.1-5 demonstrates the proposed facility would not result in substantial contrast and the proposed building materials are compatible with the surrounding built environment.

- m) Intervening topography obstructs views toward the switching station site from most areas within the San Bruno Mountain State Park, including the Saddle Loop Trail, located 2.4 miles to the southwest. From the eastern end of the Ridge Trail, located more than 3.5 miles to the south, views of the switching station site are obstructed by large buildings just south of the site. Photographs 1 and 2 in Attachment 3, 3m San Bruno Mountain, *San Bruno Mountain State Park – Existing*, respectively show views from these recreation trails. Attachment 3, 3m San Bruno Mountain, *San Bruno Mountain State Park – Annotated* includes annotated versions of the two existing setting photographs, with labels indicating the location of Martin Substation and the proposed switching station site. While the proposed Egbert Switching Station could potentially be seen from limited locations within San Bruno Mountain State Park, the attached photographs demonstrate that given existing visual conditions, the new facility would not be particularly noticeable or distinguishable due to its scale, and because it would be seen at a considerable distance, within the context of an expansive urban landscape.

CPUC Data Request Item #8

Regarding PEA Section 3.2 Agricultural and Forest Resources

- a) Page 3.2-2, please confirm if lands in the San Bruno Mountain State and County Park or John McClaren Park would qualify as “forest land” under Public Resources Code Section 12220(g). The Biological Resources land cover descriptions (page 4.4-12) imply that San Bruno Mountain State and County Park may contain forest land that meets this definition.

PG&E's Response

- a) Forest Land is defined in PRC Section 12220(g) as land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. San Bruno Mountain State and County Park and John McLaren Park, in the vicinity of the project, historically include more grassland, agriculture, and scrub rather than a forest land. Wooded areas in existence now in these parks are almost entirely planted with non-native trees including eucalyptus, Monterey Pine and thus do not meet the state definition of natural vegetation.

CPUC Data Request Item #9

Regarding PEA Section 3.3 Air Quality

- a) Please confirm 1) the quantity of water required for dust control, 2) where water for dust control would be coming from, and 3) if water import is considered in construction emission estimates. Additionally, please confirm if on-site water truck activity is accounted for in construction emission estimates.
- b) In Tables 6 through 11 of the Air Quality – Greenhouse Gas (GHG) Methodology appendix, please confirm that these calculations appropriately account for:
 - i. Number of haul trucks. For instance, Table 6 includes a “Material Haul Trucks” row that notes five heavy-duty diesel trucks would be used for 160 days. One roundtrip per day per truck, which seems likely based on the “Miles per Day” assumption, would equate to 800 roundtrips total. Off hauling 33,500 cubic yards of soil would require 2,094 truck trips, assuming each truck could haul 16 cubic yards per the California Emissions Estimator Model (CalEEMod) default. Please confirm or revise the number of material haul truck trips for each project component.
 - ii. Haul truck trip distances. Some of the haul truck distances seem to be one-way trip lengths listed under the “Miles per Day” column. As an example, the “Material Haul Trucks” rows depict 20 miles per day for each of the trucks. This value is a CalEEMod default for haul trucks for a one-way trip distance. If the trucks are doing roundtrips in the day, however, these miles should have been doubled. This question applies to the short-haul and long-haul dump trucks listed in Tables 8 and 9 as well, which appear to be one-way trip lengths to Ox Mountain and Buttonwillow, respectively. Please confirm or revise the haul truck trip lengths for each project component.
 - iii. Confirm that all material/fill import is accounted for in the calculations.

PG&E's Response

- a) PG&E plans to use towable water wagons for dust control activities. Water wagons have a 500 gallon capacity.
 - 1) The quantity of water required for dust control will depend on the construction activity location. The volume is estimated to be no more than 1,500 gallons per day on average for project construction activities. Construction in a roadway is expected to use less than 100 gallons per day per crew. In areas of unpaved excavation, a water wagon is anticipated to be used for dust control as well. Dependent on wind and moisture of the soil, excavation in unpaved may use approximately 500 gallons of water a day.
 - 2) Water for dust control is likely to be obtained by construction contractor from fire hydrants or by reusing clean water from a project excavation. Hydrants meters are obtained from the city where the work is occurring. The project expects to use the closest allowable meter to the work area to obtain water.
 - 3) Water transportation, from a fire hydrant(s) near work areas using a towable water wagon, was included in the construction emission estimates and are included in the light duty or heavy duty pick-up truck emissions.
- b) Tables 6 through 11 of the Air Quality – Greenhouse Gas (GHG) Methodology appendix were reviewed and revisions were made to Tables 1 through 4 and Tables 6

through 11 as part of these responses. Where data or calculation ranges in cells, or footnotes were revised, the worksheet and the cell is highlighted blue. Within the PEA provided in tracked changes in Attachment 1 of this response letter, data summarized in Tables 3.3-7 and 3.3-8 were updated with the revised information in the Air Quality – Greenhouse Gas (GHG) Methodology workbook. Section 3.3.4.3 was reviewed and the Potential Impacts discussion aligns with the previous and the revised estimate of construction emissions.

- i. Revised Tables 1 through 4 and Tables 6 through 11 update the construction emissions associated with material hauling and provide additional information on assumptions used in estimating the material hauling number and distances.
- ii. The haul distances in Tables 6 and 8 were updated to reflect the estimated roundtrip mileage to Ox Mountain and Buttonwillow. The CalEEMod does use one-way trip mileage and is based on the reasonable assumption that the hauler would not make the return trip empty, but rather hauling material for others.
- iii. Material/fill import is accounted for in the calculations with information provided in rows with the following Equipment / Vehicle types: Concrete Trucks (Tables 6-9), T 880 Kenworth Dump Truck (Tables 6-7) and Dump Truck (Tables 10-11).

CPUC Data Request Item #10

Regarding PEA Section 3.4 Biological Resources

- a) Because three potentially jurisdictional features exist adjacent to the alignment or staging areas/substations (not within the alignment or stations, but could still be impacted by project activities), a formal wetland delineation should be performed to assess the status and extent of these features and any other potentially jurisdictional features that could be potentially affected by the project prior to project implementation. The delineation shall be conducted in accordance with U.S. Army Corps of Engineers (ACOE) standards. If potentially jurisdictional wetlands or waters of the United States are identified on site, a wetland delineation report shall be prepared and submitted to the ACOE San Francisco District Regulatory Division for verification.
- b) If, based on the delineation previously described, jurisdictional features are identified and determined to be under the jurisdiction of the ACOE or other applicable regulatory agencies (e.g., California Department of Fish and Wildlife and/or Regional Water Quality Control Board), a measure should be provided that requires proper best management practices be installed between project activities and these areas to demonstrate that these features will be protected and that runoff into these features will be prevented.
- c) There is potential for bats to roost in buildings/trees along the route and also forage adjacent to these roosts. A measure should be provided that requires work be completed during daylight hours to prevent impacts to foraging bats.

PG&E's Response

- a) A formal wetland delineation is not necessary because the project will not dredge or discharge fill in these features. These features will also be protected from sedimentation by appropriate SWPPP measures.

- b) Please see response to Data Request Section 3.4 a) and APM WQ-1: Development and Implementation of a Stormwater Pollutions Prevention Plan.
- c) No buildings are being demolished or trees removed as part of the project, so no direct impacts to bat species would occur. The streets where the project is proposed are not different from other nearby areas, and foraging habitat, if present, includes much larger areas. Any disturbance would be minor and not affect success of foraging for any bats that could possibly live in the vicinity. Foraging habitat is not limited, therefore even if feeding patterns were to be slightly adjusted for with the project's construction, it would be short term and temporary and there are large areas of similar habitat throughout the area.

CPUC Data Request Item #11

Regarding PEA Section 3.5 Cultural Resources

- a) Page 3.18-9, first line indicates "The record search identified one historical district, resources in the project APEs [areas of potential effect]." Please clarify that both historical and archaeological impacts would be addressed by CR-1-4 and that they will not be impacted.

PG&E's Response

- a) A total of four cultural resources were identified in the APE. The records search identified two historic-era resources within the project APE: a standing warehouse structure (P-41-002307) and an underground utility vault and covered manhole constructed in the early twentieth century (P-41-002317). These two resources are located within the potential staging area at Martin Substation and will not be impacted by the Project. The Martin Substation compound itself has been recommended as a California Register Historic District. The field survey identified two additional historic-era resources in the APE: an abandoned 1940s-era rail line and a 1942 metal manhole/drain cover that indicates the presence of subsurface drainage features. Both resources were evaluated and recommended not eligible for the National Register of Historic Places or the California Register of Historical Resources. No archaeological resources were identified in the APE. The analysis in Section 3.5.4.3 concludes that impacts to cultural (i.e., historic and archaeological) and paleontological resources will be less than significant with incorporation of the APMs described in Section 3.5.4.2.

CPUC Data Request Item #12

Regarding Cultural Resources Technical Report

- a) On pages i and 40, while the technical report reviews relative sensitivity of areas for buried cultural resources, it does not provide specific recommendations for management. Please explain why recommendations are not included. Furthermore, please provide recommendations for management relative to the sensitivity throughout the project, as applicable.
- b) The management summary on page i indicates that tribal consultation has been conducted on behalf of Pacific Gas and Electric (PG&E). Please clarify that PG&E will be using this information to inform their consultation efforts, and for what purpose consultation was completed (i.e., if for Assembly Bill 52).
- c) Page 31 indicates that the paved lot behind 400 Paul Avenue and the proposed Egbert switching station were not surveyed due to access restrictions. Please confirm that

historical information was reviewed for these areas, and confirm that no potential resources will be affected.

- d) Page 31 notes that the potential staging areas had not been identified at the time of the field survey and so were not surveyed. Based on the PEA project description, some staging yard options have been identified. Please include cultural and historic resource information for these areas.
- e) On Page 46 and in Appendix C (Department of Park and Recreation forms), the following report is referenced. Please provide: *Waechter, Sharon A., Justin Wisely, Sarah Heffner, and Cindy Baker 2017 Report on Archaeological Monitoring for the PG&E Embarcadero-Potrero 230-kV [kilovolt] Transmission Line Project, San Francisco, California. Far Western Anthropological Research Group Inc., Davis, California; and PAR Environmental Services, Sacramento, California. Submitted to PG&E Company, San Francisco, California.*

PG&E's Response

- a) The CRTR's purpose is to inventory cultural resources and not to develop management recommendations. Management recommendations, including those related to the relative sensitivity of areas within the APE for buried cultural resources, are provided in the relevant PEA resources sections; please see APMs CR 1-4 on pages 3.5-28 through 3.5-29.
- b) As described in PEA Section 3.5.3.6, PG&E reached out to local Native American representatives identified by the California Native American Heritage Commission to request information from the local Native American community on the proposed project as part of its analysis of potential project impacts. Correspondence with the local Native American community can be found in PEA Appendix C. PG&E understands that the CPUC will conduct consultation with eligible tribes under PRC Section 21080.3.1 (AB 52) once the application is complete.
- c) The paved lot behind 400 Paul Avenue and the proposed Egbert Switching Station site were included in the records searches, which included searches for historical information. Please see confidential Figures 8 and 9 for maps of the record search area, and refer to the Field Inventory Discussion on pages 29, 31 and 35 for a discussion of historical information reviewed. No known cultural resources will be affected by the project.
- d) When the potential staging areas were identified, the record searches were updated to include those areas, as described on pages 1 and 5. Please see Figure 8 (page 21), Table 2 (pages 22-24), Figure 9 (page 25), and Table 3 (page 26), which include mapped record search results for studies and resources inclusive of the potential staging areas.
- e) The *Report on Archaeological Monitoring for the PG&E Embarcadero-Potrero 230-kV [kilovolt] Transmission Line Project* will be provided under separate cover.

CPUC Data Request Item #13

Regarding PEA Section 3.7 GHG Emissions

- a) Data requests under 3.3 (Air Quality) above also apply to the GHG analysis.
- b) Page 2-30 of Chapter 2, Project Description, states "Temporary power for construction activities will be pulled from local electrical service. Portable generators (typically 2,000 watts or less) may also be used on a limited basis to provide

supplemental power depending on the number of trailers and construction activity needs”, and “Project construction site office(s) are not expected to require generators as they are typically given access to temporary power, such as a tap, or use existing office space. The proposed Egbert Switching Station construction will use power from a distribution line tap from Egbert Avenue. Embarcadero, Martin, and Jefferson substations will use the existing power at those locations.” It does not appear that GHG emissions resulting from construction-related electricity was analyzed. Please provide emission estimates generated from electricity, if necessary. Additionally, confirm that the portable generators previously mentioned have also been accounted for in the air quality and GHG calculations.

PG&E’s Response

- a) The responses to the data requests under 3.3 (Air Quality) were applied to the GHG analysis update and included in Attachment 1. Where data or calculation ranges in cells, or footnotes were revised, the worksheet and the cell is highlighted blue. Within the PEA provided in tracked changes in Attachment 1 of this response letter, Table 3.7-3 was updated with the revised information in the Air Quality – Greenhouse Gas (GHG) Methodology workbook. Section 3.7.4.3 was reviewed and the Potential Impacts discussion aligns with the previous and the revised estimate of construction emissions.
- b) GHG emission for electricity generation to support temporary construction offices is estimated to be:

Assuming up to three office trailers (one 12 foot by 56 foot trailer located at Martin Substation in a potential staging area and two 8 foot by 28 foot trailers located at Egbert Switching Station location) totaling 1,120 square feet and an annual energy consumption of 5 kilowatt hour (kWh)/square foot/year.

Assuming the trailers are in place for 2 years, the combined electrical consumption for the trailers at Egbert Switching Station will be 2,240 kWh/year or 4.48 megawatt hour (MWh) for the project. Using a 2017 PG&E electrical system carbon dioxide emission factor of 349 pounds of CO₂/MWh results in total GHG emissions associated with electrical use from the construction trailers at Egbert Switching Station of 1,563 pounds or 0.7 metric tons of CO₂. PG&E’s electrical system’s GHG emission factor only reflects CO₂ emissions as their fossil generation system uses primarily natural gas which emits CO₂ as the primary GHG.

Assuming a larger construction trailer (12 feet by 56 feet) is installed at a potential staging area at Martin Substation, using the same calculations, the total GHG emissions for all three trailers would be 2,345 pounds of CO₂ or a project total of 1.1 metric tons of CO₂.

The AQ-GHG Emissions file has been updated with an analysis of the electricity use as anticipated from the office trailer estimate, see Attachment 1.

The uses of portable generators previously mentioned were included in the air quality and GHG calculations.

CPUC Data Request Item #14

Regarding PEA Section 3.8 Hazards and Hazardous Materials

- a) Section 2.7.4 states that various electrical equipment will be removed from the existing Martin substation. The Hazards and Hazardous Materials section should specify if the equipment has been/will be tested for hazardous materials such as polychlorinated biphenyls and lead.
- b) Section 3.8.4.2 states that hazardous materials and hazardous wastes will be properly disposed of. The section should specify the expected hazardous wastes and waste petroleum/oils from project demolition, construction, and maintenance.
- c) Section 3.8.4.2 states that applicable portions of PG&E plans for Martin substation (e.g., Risk Management Plan or Site Management Plan) will be adhered to. Please provide a copy of these existing plans.
- d) Section 3.8.4.2 states that soil and groundwater sampling will be conducted in areas where existing data are not available. Please provide available existing data or include specific references to existing data. Additionally, provide further details on the proposed sampling (e.g., estimated sampling frequency within the project area, anticipated analyses for the different areas based on the anticipated potential impacts). This may be best accomplished with a table listing the sites that may impact the project area and Maher Ordinance areas, the potential contaminants of concern at those sites, and the general sampling plan for that area.
- e) Agency file reviews may provide additional information and/or data for sites that are listed as possibly impacting the project areas (sites discussed under the header *Historic Conditions* on pages 3.8-10 through 3.8-13). Were agency file reviews conducted for the sites that may impact the project area (sites discussed under the header *Historic Conditions* on pages 3.8-10 through 3.8-13)? Please provide information from the file reviews.
- f) Please list estimated quantities (general range or rough estimate) and types of chemicals to be used during construction and operation.
- g) Dudek requests to review the project Health and Safety Plan and Worker Environmental Awareness Program when available and prior to construction.

PG&E's Response

- a) Hazardous wastes associated with the removal of existing substation equipment will be based on sampling, where applicable, but will also rely on manufacturer information and the date of manufacture. For example, often times name plates will indicate that the polychlorinated biphenyl (PCB) content of the oil in the piece was <1 parts per million at the time of manufacture. Material verified as hazardous will be disposed of accordingly.
- b) Expected hazardous wastes may include but not be limited to soil, groundwater, waste oils, building materials, etc. In accordance with applicable regulations and APM HM-1 and HM-3, the waste will be sampled and profiled for proper disposal at a PG&E approved landfill.
- c) Martin Substation and Martin Service Center Soil Management Plan and the associated DTSC approval letter are provided in Attachment 4, Hazards and Hazardous Materials.
- d) The text in APM-HM-3 stating "where existing data are not available," is forward looking to existing data that will be reviewed as part of the project's final design

phase. Existing data and specific references can be provided with the project's final design.

The proposed sampling plan will also be developed as part of the project's final design. The general sampling plan may include sampling analyzes for total petroleum hydrocarbons (TPH)-motor oil, TPH-diesel, TPH-gasoline/ benzene, toluene, ethylbenzene and xylene (BTEX), California Administrative Manual (CAM)-17 Metals, asbestos, and polycyclic aromatic hydrocarbons (PAHs) as informed by the potential contaminants of concern at sites that may impact the project area and Maher Ordinance areas.

- e) Agency file reviews were conducted to identify information and data for the sites discussed in PEA Section 3.8.3.3 under the "Historic Conditions" subheading, as potentially impacting the project areas. The Department of Toxic Substances and Control's (DTSC's) EnviroStor database and State Water Resources Control Board's (SWRCB's) GeoTracker database listings for all sites located adjacent to and within 0.25 mile of project areas were reviewed for information including site history, investigations, and cleanup status. Available regulatory correspondence, regulatory files, and reports documenting site investigations and cleanup actions were downloaded and reviewed. Information from these reviews is summarized for each site in the discussion of Historic Conditions in Section 3.8.3.3. Materials reviewed for the Metten and Gebhard site (1775 Egbert Avenue, San Francisco; see page 3.8-10 to 3.8-11) included DTSC's site screening file. This file, consisting of a site screening form, memorandum, drive-by record, site maps, and other property information, is provided as Attachment 4 to this response letter. Information for other sites listed in the EnviroStor and Geotracker databases was limited to site history and status profiles, but no separate documents were available for download.
- f) Relatively small quantities of hazardous materials will be onsite during construction and operation and maintenance, primarily associated with construction equipment and vehicles. These hazardous materials include gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants, welding flux, various lubricants, paint, and paint thinner. The types of paint required will be dictated by the types of equipment and structures that must be coated and by the service conditions and environment in which the equipment is located. No estimate of the volume of chemicals anticipated to be used is available.
- g) The project's Health and Safety Plan and Worker Environmental Awareness Program will be provided to the CPUC prior to construction.

CPUC Data Request Item #15

Regarding PEA Section 3.10 Land Use and Planning

- a) Section 3.10.4 (page 3.10-23) includes the statement: "Because the project will have no impact on land use, APMs have not been included for this section." However, Section 3.10.4.2 states: "The project will have no impact on land use and planning; however, to further reduce short-term disturbance to the surrounding neighborhoods during construction, PG&E is proposing the following APMs." Two land use APMs are then listed. Please reconcile these two statements.

PG&E's Response

- a) To reconcile the two statements, PG&E proposes to remove the first statement: Section 3.10.4 (page 3.10-23) "~~Because the project will have no impact on land use,~~

~~APMs have not been included for this section.~~” That sentence was mistakenly included in the PEA.

CPUC Data Request Item #16

Regarding PEA Section 3.12 Noise

- a) For the Egbert Switching Station, please provide manufacturer data sheets for proposed series and shunt reactor equipment indicating the sound power rating for this equipment.
- b) For the Egbert switching station, please provide manufacturer data sheets for the proposed GIS building exhaust fan equipment and external components of the proposed heating, ventilation, and air conditioning system for the Control Room, indicating the sound power rating for this equipment.
- c) Please clarify the anticipated routine daily construction schedule for the transmission line work and switching station construction, with regard to earliest start time in the morning and latest hour of work in the afternoon or evening.
- d) Please clarify the anticipated daily construction schedule (start/stop times) for the 10-hour workdays referenced for the trenchless boring activity.

PG&E's Response

- a) The proposed series and shunt reactor equipment will be specifically designed for the project according to PG&E's specifications after the CPUC issues the CPCN. PG&E's specifications for the proposed equipment provide a conservative estimate of sound level for the noise analysis provided on PEA page 3.12-23 (Section 3.12.5.3 Potential Impacts, Operation and Maintenance). Since the equipment has not been procured, no manufacturer data sheets are available at this time. The manufacturer data sheets for the proposed equipment will be available after the equipment is ordered and can be provided at that time.
- b) Manufacturer data sheets for the proposed GIS building exhaust fan equipment and air conditioning system, for the Control Room used in the conceptual building design and the noise analysis are provided in Attachment 5, GIS Manufacturer Data Sheets. The manufacturer data sheets for this equipment are available now because this equipment can be purchased “off the shelf” rather than custom-designed and built like the proposed series and shunt reactor equipment.
- c) The anticipated routine daily construction schedule for the transmission line work and switching station construction is expected to typically occur between 7 a.m. and 8 p.m. as stated in Section 2.8, Permitting and Construction Schedule, or as otherwise authorized by the city in which the work is occurring.
- d) The 10-hour workdays associated with the trenchless boring activity are expected to occur within the 7 a.m. and 8 p.m. construction hours as stated in Section 2.8, Permitting and Construction Schedule, or as otherwise authorized by the Cities of San Francisco, Daly City or Brisbane.

CPUC Data Request Item #17

Regarding PEA Section 3.16 Transportation and Traffic

- a) Provide a clear vehicular trip generation summary (preferably in tabular format) for workers and truck traffic (using appropriate Passenger Car Equivalent factors for trucks) for the following construction related activities:

- Section 2.7.2 Underground Transmission Line Construction, Table 2.7-1
- Section 2.7.3 Egbert Switching Station Construction, Table 2.7-2
- Section 2.7.4 Martin Substation Modification, Table 2.7-3

Based on the daily and peak hour construction trip generation estimates for each of the construction activities previously listed, a determination for the need of a quantitative traffic analysis can be made.

- b) Please indicate if there would be any overlaps during different phases of construction process, and provide resulting peak/worst case trip generation.
- c) As described in Section 2.9, Operation and Maintenance, even though existing operation and maintenance crews would be working on the new switching station and transmission lines, there could be new trips due to additional facilities. Provide an estimate of existing frequency of operation and maintenance visits to quantify anticipated vehicular trip generation per month or per year.

PG&E's Response

- a) A vehicle trip generation summary in a tabular format is provided below for workers and truck traffic using a Passenger Car Equivalent factor of 1.5 for heavy haul trucks. The daily and peak hour construction related activities were summarized from the updates AQ-GHG emissions calculations workbook. The summary assumes 2 workforce trips per day (1 incoming and 1 outgoing). The summary is a conservative average of trips based on duration of truck use from the AQ-GHG workbook. The schedule in the AQ-GHG workbook assumes 20 work days per month. Where truck duration of use was less than 20 days (as shown on Tables 6, 8, and 10), truck trips were rounded up for the month except if less than 5 days of use. The table below is also provided in Excel as part of Attachment 1, EgbertDR1 17a Vehicle Trip Generation Summary.

Construction Phase	2020												2021												2022
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1
Workforce Trips	-	-	-	0	8	20	46	64	54	47	47	41	40	33	26	26	42	30	20	20	24	8	0	0	0
Transmission Line	-	-	-	21	21	23	23	23	27	26	24	24	24	28	24	34	42	48	54	58	38	24	0	0	0
Switching Station	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	8	8	8
Substation-Remote Ends	-	-	-	21	29	43	69	87	81	73	71	65	64	61	50	60	84	78	74	78	65	35	8	8	8
Subtotal	-	-	-	42	58	86	138	174	162	146	142	130	128	122	100	120	168	156	148	156	129	69	17	16	17
Workforce Trips¹	-	-	-	42	58	86	138	174	162	146	142	130	128	122	100	120	168	156	148	156	129	69	17	16	17
Truck Trips	-	-	-	0	155	191	220	248	220	192	192	119	118	118	118	118	122	122	122	122	13	9	0	0	0
Transmission Line	-	-	-	9	9	9	9	9	13	13	7	7	7	9	9	11	9	9	9	15	11	9	0	0	0
Switching Station	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Substation-Remote Ends	-	-	-	9	164	200	229	257	233	205	199	126	125	127	127	129	131	131	131	137	34	28	15	15	15
Subtotal	-	-	-	9	164	200	229	257	233	205	199	126	125	127	127	129	131	131	131	137	34	28	15	15	15
Truck Trips per Day²	-	-	-	9	164	200	229	257	233	205	199	126	125	127	127	129	131	131	131	137	34	28	15	15	15
Heavy Haul Trips	-	-	-	0	45	4	30	40	58	50	35	34	32	26	19	12	11	4	4	4	1	1	0	0	0
Transmission Line	-	-	-	3	25	23	23	23	4	3	2	2	2	4	3	2.5	4	3	3	6	12	18	0	0	0
Switching Station	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	5	5	4
Substation-Remote Ends	-	-	-	3	70	27	53	63	62	53	37	36	34	30	22	14.5	15	7	7	10	14	20	5	5	4
Subtotal	-	-	-	3	70	27	53	63	62	53	37	36	34	30	22	14.5	15	7	7	10	14	20	5	5	4
Truck Trips per Day³	-	-	-	3	70	27	53	63	62	53	37	36	34	30	22	15	15	7	7	10	14	20	5	5	4
Passenger Car Equiv (PCE, 1.5)	-	-	-	5	105	41	80	95	93	80	56	54	51	45	33	22	22	10	10	15	21	30	8	8	6
TOTAL COMBINED DAILY TRIPS⁴				56	327	327	447	526	488	431	397	310	304	294	260	271	321	297	289	308	184	127	39	39	38

- b) The construction phases do overlap and the peak/worst case trip generation is highlighted in green on the vehicle trip generation summary table in the response to Item 17.a above. Total workforce and truck trips (combined) peak in 2020, Month 8. Workforce trips peak in 2020, Month 8. Truck trips peak in 2020, Month 8. Heavy haul trips peak in 2020, Month 5.

Activities associated with the construction phases will be distributed across the regional and local road network, not all concentrated in one location. The majority of

the temporary construction related truck trips is expected to occur outside of peak hours. With the construction workday starting typically at 7 a.m., the majority of the workforce would be traveling to the project before the a.m. peak hours. At the end of the workday, the majority of the workers would leave the project before or after the p.m. peak hours depending on the work day. The majority of pick-up trucks and haul trucks trips typically occur between 10 a.m. and 3 p.m. The table below provides a conservative estimate of peak construction trip generation based on the average daily total estimated for the project. This table is also provided in Excel as part of Attachment 1, EgbertDR1 17a Vehicle Trip Generation Summary.

Peak Construction Trip Generation - Average Daily Total (ADT)											
Trip Type	ADT	AM Peak Hour			PM Peak Hour						
		In	Out	Total	In	Out	Total				
Workers	174	17	0	17	0	35	35				
Trucks	257	10	10	21	10	0	10				
Heavy Haul Trucks (PCE)	95	4	4	8	4	0	4				
Total Construction Traffic in PCE	526	31	14	46	14	35	49				

c) As described in Section 2.9, Operation and Maintenance, it is estimated that existing operation and maintenance crews would be typically make about 35 vehicle visits per year to the new Egbert Switching Station, Martin-Egbert line, Egbert-Embarcadero line, and Jefferson-Egbert line facilities, which includes the following:

- 12 trips/year by PG&E Substation Maintenance Crew to Egbert Switching Station (monthly inspections)
- 4 trips/year for quarterly inspections of XLPE terminations
- 5 trips/year to inspect 50 percent of the XPLE vaults (10 total / 2 years)
- 12 trips/year to inspect HPFF terminals
- 2 trips/year for detailed inspections of HPFF systems

This is a conservative estimate that assumes that no trips are combined with inspections of other existing nearby equipment. The personnel responsible for the operation and maintenance work are stationed at PG&E’s existing Martin Service Center, which is in the project area. The estimated number of new trips is based on PG&E’s standard normal maintenance and inspections for similar existing facilities and does not include any emergency response or other unanticipated repair work that is not part of the typical visit activities.

CPUC Data Request Item #18

Regarding PEA Section 3.18 Mandatory Findings of Significance and Cumulative Impact Analysis

a) Regarding Table 3.18-2, the source information for the City of Daly City Planning Department is identified as 2016. All other sources are dated 2017. Is the project list for Daly City still accurate?

PG&E’s Response

a) The City of Daly City posted an updated project list dated 09/01/2017. PG&E has reviewed the updated list, and identified two project changes to the discussion of cumulative projects: the removal of Point Martin - Phase 2 (which was not built) and

the addition of the Calgary Street subdivision. The Point Martin - Phase 2 project has been removed from the Daly City list. The Calgary Street Subdivision project is within 0.5 mile of a component of the project, and while its construction timeline is unknown at this time, the time period may overlap with the project's construction timeline. PG&E is providing updates to Figure 3.18-1, Table 3.18-2, and edits to Section 3.18.3.1 text.

PG&E has updated Figure 3.18-1 to align with the update in cumulative projects, see Attachment 1.

PG&E is providing the following updates to Table 3.18-2.

Table 3.18-2. Cumulative Projects in the Project Vicinity

Project Name	Description/Location	Construction Time Frame	Proximity to Project*
Point Martin – Phase 2	Housing Development on Steve Courter Way and Martin Street.	2017 – 2019	0.1 mile from proposed Jefferson Egbert line
<u>Calgary Street Subdivision</u>	<u>7 detached homes at 55 Calgary Street, Daly City</u>	<u>Unknown; Approved by City, pending design review</u>	<u>0.2 mile from the existing Martin Substation</u>

Note:

City of Daly City Planning Department, ~~2016~~ 2017.

In Section 3.18.3.1, the paragraph describing the Point Martin – Phase 2 project is not current and should be removed, as shown below.

~~Point Martin – Phase Two~~

~~The Point Martin project is located on Steve Courter Way and Martin Street; the completed Phase One developed a 1.9-acre vacant area into a residential area. The second phase of the Point Martin project proposes to develop an additional 7.93 acres into 133-unit townhomes, with construction to begin in late 2017 and lasting 2 years. This project is approximately 0.1 mile from the proposed Jefferson Egbert line.~~

The following summary of the Calgary Street Subdivision project is provided to supplement section 3.18.3.1, Key Projects in the Project Vicinity:

Calgary Street Subdivision

The Calgary Street Subdivision is located at 55 Calgary Street in Daly City. The project would construct seven detached single-family homes. Daly City has approved the project pending design review. The construction timeline is unknown. The project is approximately 0.2 mile from the existing Martin Substation.

Given that the location of the Calgary Street Subdivision project (off city streets) and its construction timeline are unknown, no updates to the discussion in Section 3.18.3.2, Analysis of Cumulative Impacts, are needed.

CPUC Data Request Item #19

Regarding Chapter 4 Alternatives

General Note: The alternatives analysis provides a comparison of the system alternatives and the alternative locations/routes. However, for the purposes of the California Environmental Quality Act, the analysis does not identify potentially significant impacts that would be reduced or avoided by the selected alternative and does not provide a direct comparison of environmental impacts by alternative. Note that the current analysis may be sufficient for an initial study (but not if an environmental impact report will be required).

PG&E's Response

PG&E acknowledges your General Note on Chapter 4, Alternatives.

CPUC Data Request Item #20

Regarding PEA Appendix B Electric and Magnetic Fields (EMF) Discussion

- a) The discussion is dated. Please note that the most recent publication cited is over 10 years old. Although the overall assessment of EMF risks to public health has not changed greatly over the decades since the assessments that form the heart of this discussion, the CPUC goal of informing the public is not served without providing more recent information, including recent evaluations from European agencies and scientific expert groups.
- b) A wrap-up statement is needed on the status of research on EMF health effects, including several recent studies focused on long-term exposures near transmission lines that significantly advanced scientific knowledge about risks of childhood leukemia and adverse pregnancy outcomes related to residential exposures. These are not the only areas that could be updated in the EMF-related documents supporting the PEA. Such a wrap-up statement would not be a scientific review as could be incorrectly inferred from the examples of recent literature that follow (see references on page A-10 of CPUC Data Request and reference list on page A-12).

PG&E's Response

- a) PG&E relies on comprehensive governmental organization reviews of the electric and magnetic field health issue. The conclusions of individual studies must be evaluated by health and medical expert panels that take into account the thousands of other studies that have been completed over the last forty-plus years. The World Health Organization 2007 review is the most recent comprehensive review of the issue.
- b) A wrap-up statement is provided on page 2 of PEA Appendix B under the "Possible Health Effects" heading, which states:

The possible effects of EMF on human health have come under scientific scrutiny. Concern about EMF originally focused on electric fields; however, much of the recent research has focused on magnetic fields. Uncertainty exists as to what characteristics of magnetic field exposure need to be considered to assess human exposure effects. Among the characteristics considered are field intensity, transients, harmonics, and changes in intensity over time. These characteristics may vary from power lines to appliances to home wiring, and this may create different types of exposures. The exposure most often considered is intensity or magnitude of the field.

There is a consensus among the medical and scientific communities that there is insufficient evidence to conclude that EMF causes adverse health effects. Neither

the medical nor scientific communities have been able to provide any foundation upon which regulatory bodies could establish a standard or level of exposure that is known to be either safe or harmful. Laboratory experiments have shown that magnetic fields can cause biologic changes in living cells, but scientists are not sure whether any risk to human health can be associated with them. Some studies have suggested an association between surrogate measures of magnetic fields and certain cancers while others have not.

CPUC Data Request Item #21

Regarding PEA Exhibit I Preliminary Transmission EMF Management Plan and Substation Checklist

- a) Omits the necessary: Substation checklist in the EMF PLAN.
- b) In absence of other data, the map detail in Fig. 2.5-1a-d (Detailed Site and Route Map, Egbert Switching Station Project) for routing of a proposed 3.1-mile Jefferson-Egbert 230-kV line is inadequate to determine proximity of residences to the right-of-way (ROW). Proximity is needed to place magnetic field data of the Field Management Plan into context of environmental magnetic fields consistent with the CPUC objective in to inform the public on environmental effects of the project.
- c) Although the EMF PLAN acknowledges a California Department of Education setback distance of 37.5 feet for a 230-kV underground cable transmission line at school sites and cites six facilities for children and youths; there is no indication of the actual setback distances at these sites. Provide setback distances for the six facilities for children and youths.
- d) The EMF PLAN indicates that strategic line placement is a consideration for reducing EMFs in the environment and states such placement would occur “except where the location of existing underground utilities prevent strategic line placement.” What are the locations where strategic line placement could not be employed? How much of the project would be affected by difficulties created by existing underground utilities? Do any such locations affect sensitive receptors such as daycare facilities, schools, or youth activity centers? Would residences be affected?
- e) The EMF PLAN indicates possible alternative duct bank arrangements if existing underground facilities require them. However, the EMF PLAN does not show calculations or give quantitative or semi-quantitative information on the extent (feet of the project) and magnitude (magnetic field strengths) of alternative duct bank arrangements that may be significantly affected due to the features of phase cancelation.
- f) Magnetic fields are stated to be calculated at 3 feet above ground at the edge of the ROW (page 7 of EMF PLAN), and on page 8 data are given for magnetic fields at the centerline and at “5 feet away,” possibly 5 feet away from the centerline, and possibly indicating a 10-foot ROW. Figure 1 of the EMF PLAN shows an asymmetric lateral arrangement of the power conductors in the duct bank, indicating indefiniteness about lateral locations for the magnetic field data. Identify the centerline for the duct bank configuration(s) and, trivially, for the single pipe conduit. Clarify by stating ROW width (duct banks and pipe conduit).
- g) The statement “Reducing magnetic field strength by increasing the distance from the source either by increasing the height or depth of the conductor from ground level” is confusing (height of what?). A suggested revised sentence is: “Magnetic field

strengths in the environment can be reduced by increasing the depth of the conductor below ground level.”

- h) Table 2 shows adoption of various identified low-cost modifications and rejection of others but provides no discussion or rationale for the choices made. For example, it is proposed that four of five school/daycare sites would be modified for a cost of \$2.424 million, or about 1.2% of the project total, and a fifth such site costing \$0.0568 million is omitted. Insofar as field reduction for this site would have relatively little total cost impact, why was it omitted? Why were certain residential areas included for field reduction steps but others of similar cost were excluded with the notation “exceeds 4%”, although none of the items individually exceeds the 4% benchmark? Insofar as CPUC has set the 4% figure as a benchmark, not a bright line, the decisions implied by Table 2 are unsupported and inconsistent with CPUC policy (Decision 06-01-042 January 26, 2006).

PG&E's Response

- a) The substation checklist in the EMF Plan is provided as part of Attachment 1, EgbertDR1 Exhibit I a Preliminary Substation Checklist EMF Plan.
- b) At this stage in the design process the exact location of the proposed trench has not been determined because the route will have existing utility constraints. The purpose of magnetic field modeling is to evaluate relative effectiveness of various magnetic field reduction measures, not to predict magnetic field level exposure.
- c) At this stage in the design process the exact location of the proposed trench has not been determined because the route will have existing utility constraints. The California Department of Education setback policy is included for informational purposes only; PG&E will be applying the CPUC's EMF policy of low-cost and no cost EMF mitigation.
- d) At this stage in the design process the exact location of the proposed trench has not been determined because the route will have existing utility constraints. In the final field management plan, both the duct bank and pipe type cable configurations will be placed within the right of way to reduce magnetic field exposure to buildings along the entire route, except where the location of existing underground utilities prevent strategic line placement.
- e) At this stage in the design process the exact location of the proposed trench has not been determined because the route will have existing utility constraints. The existing utility constraints may require the use of a different configuration than the proposed typical duct bank arrangement. No matter what the phase configuration is, lowering the trench depth will achieve a magnetic field reduction at the edge of a right-of-way (ROW). The purpose of magnetic field modeling is to evaluate relative effectiveness of various magnetic field reduction measures, not to predict magnetic field level exposure. If the existing utility constraints require a change in the typical duct bank configuration, low-cost and no cost EMF mitigation will be considered in the final field management plan.
- f) At this stage in the design process the exact location of the proposed trench has not been determined because the route will have existing utility constraints. For the preliminary field management plan, it is assumed that the centerline of the typical duct bank configuration might have to be located as close as five feet from the edge of the right-of-way. In the final field management plan, the distance from the centerline of the duct bank configuration and the right-of-way will be included.
- g) The suggested change will be made.

- h) Lowering the trench depth was not proposed for the daycare facility located on Egbert Avenue because the proposed design trench depth is at 10 feet already. The CPUC benchmark of 4 percent for magnetic field mitigation applies to total mitigation cost for the whole project, not just the individual segment costs. The preliminary field management plan proposes to spend \$7,575,000 (3.9 percent) on magnetic field mitigation.

We trust the information provided herein is fully responsive to your requests. However, should you have any further requests, please do not hesitate to contact me at (415) 973-4893.

Sincerely,



Brandon Liddell
Senior Land Planner

Enclosure(s) digital versatile disc (DVD):
Attachments

cc:

Wendy Worthey, Dudek
Mathew Swain, PG&E Law Department
Colleen Taylor, Jacobs