Comment Set F
Pacific Gas & Electric Company

Pacific Gas and Electric Company ™

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September 16, 2013

BY U.S. MAIL AND E-MAIL

Billie Blanchard
California Public Utilities Commission
c/o Aspen Environmental Group
235 Montgomery Street, Suite 935
San Francisco, CA 94104-3002
embarcaderopotrero@aspeneg.com

Re: Draft Mitigated Negative Declaration and Supporting Initial Study for the Embarcadero-Potrero 230 kV Transmission Project (A.12-12-004)

Dear Ms. Blanchard:

Pacific Gas and Electric Company ("PG&E") appreciates the opportunity to review and comment on the Draft Mitigated Negative Declaration ("MND") proposed for the Embarcadero-Potrero 230 kV Transmission Project (the "Project"). The Project is designed to increase the reliability of electric service to downtown San Francisco, particularly in the event of several low-probability but very high-impact scenarios. Because of the major economic and social impacts associated with an extended loss of service to downtown San Francisco, the Project is a high priority for both PG&E and the City of San Francisco, and it has been approved by the California Independent System Operator.

F-1

PG&E agrees that an MND is appropriate for this project and appreciates your effort and that of Aspen Environmental Group to produce a thorough and strongly supported environmental analysis. PG&E generally supports the MND and respectfully submits only three minor comments below. As a courtesy and for your convenience, PG&E is also attaching as Appendix A to this letter a table showing potential typographical errors or internal inconsistencies.

As indicated in the Application for the Certificate of Public Convenience and Necessity ("CPCN") submitted in this proceeding, PG&E needs to begin construction on the Project in early 2014 in order to meet the Project's goal of an in-service date before 2016. PG&E therefore appreciates the California Public Utilities Commission's ("Commission") recognition that time is of the essence in completing this permitting process.

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I. PG&E'S COMMENTS ON THE MND

F-2

A. The MND Should Not Prejudge the Outcome of PG&E's Request for Staff-Level Variance Authority that Is Consistent with CEQA.

Chapter 6 of the MND describes the Mitigation Monitoring Plan for the Project, noting that the "[f]inal language of the [Mitigation Monitoring, Compliance, and Reporting Program ("MMCRP")] will be made in consultation with PG&E."[1/] Nonetheless, the MND provides "[d]rafted language for the project variance and dispute resolution protocols."[2/]

The draft language in the MND regarding the authority of Commission staff to consider and approve requests for minor project modifications or variances is inconsistent with the finding on this issue that PG&E requested as part of its Application for the Project.[3/] Specifically, PG&E requested that the Commission "[a]uthorize Energy Division to approve requests by PG&E for minor project modifications that may be necessary during final engineering and construction of the Project so long as Energy Division finds that such minor project modifications would not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects."[4/] PG&E explained the importance of adopting this finding, rather than the draft standard contained in the MND, in its Application and served testimony on September 9, 2013 in this proceeding providing examples of why the standard articulated in the MND could lead to unintended cost and environmental impacts.[5/]

F-3

In light of PG&E's requested finding and the fact that this issue must ultimately be resolved by the Commission when it takes action on the CPCN Application, PG&E respectfully requests that the MND be modified to revise or remove the draft language regarding variances. If revised, the MND should cite PG&E's Application, note that staff authority to issue variances or approve modifications will be determined by the Commission when it acts on the CPCN, and state that the final MMCRP will incorporate the Commission-approved authority.

F-4

B. The Descriptions of the 230 kV Switchyard at Potrero Should Be Modified to Allow for Evolving Design and Stakeholder Input.

Since the publication of PG&E's Proponent's Environmental Assessment ("PEA") for the Project in December 2012, PG&E has continued to refine the design and layout of the proposed Potrero 230 kV switchyard in consultation with NRG Energy Inc. ("NRG"), Trans Bay Cable

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1/ MND at 6-1.

2/ *Ibid.*

3/ PG&E's Application for a CPCN for the Embarcadero-Potrero 230 kV Transmission Project, A.12-12-004, filed Dec. 11, 2012, at 26-27.

4/ *Ibid.*

5/ *Id.* at 20-21; Prepared Opening Testimony of Chapin Koch, served in A.12-12-004, Sept. 9, 2013.

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LLC ("TBC"), and other stakeholders. PG&E's current design of the switchyard has a slightly modified footprint and layout from the design described in the PEA and the MND. It would also incorporate an architectural façade on the 23rd Street frontage and landscaping along the southern side of the gas-insulated switchgear ("GIS") building rather than a perimeter wall. F-4 cont.

The current design for the switchyard would improve the visual appearance of the facility and its consistency with planned development in the neighborhood, would reduce any potential for impact to historical resources by eliminating or significantly reducing any needed modifications to the brick wall attached to the existing Station A building, and would continue to meet PG&E's construction, operation, and maintenance needs, consistent with the Project's objectives. Because these refinements will only further reduce the potential for impacts identified in the MND, the Commission should make the modifications shown in Appendix B to this letter to incorporate the current design details into the narrative discussion in the MND.

Additionally, the Commission should modify Figures 4-14 and 4-15 in the MND to be consistent with the updated drawings provided in Appendices C-G to this letter. Appendix C is a revised site plan for the switchyard. Appendices D-F are revised elevation drawings showing the current design profile looking toward the east, west, and north, respectively. Appendix G is an aerial view of the area with outlines showing the revised shape of the land rights PG&E intends to acquire from NRG (formerly GenOn), including the land needed for the switchyard and Alternative 1 for the construction staging site. F-5

Finally, the Commission may wish to modify figures that generally show the shape of the parcel that PG&E intends to acquire in fee simple and the resulting changes in the shape of the proposed construction staging site (Alternative 1) to ensure consistency with Appendix G to this letter. This may require very minor changes to the polygons in Figures 4-2, 4-4, 4-5, 4-9, and 5-10.2. F-6

C. The MND Should Provide Adequate Flexibility to Increase the Seismic Resiliency of the New Transmission Line in Final Engineering. F-7

Design of the Project components is ongoing, although final engineering would not occur until after PG&E receives a CPCN for the Project. In particular, PG&E and its construction and engineering consultants are continuing to consider design improvements that could increase the seismic resiliency of the new Project components given that one of the primary scenarios driving the need for the Project is a major earthquake.

Based on the most recent conceptual design work, PG&E requests that the MND be modified to provide for additional flexibility to accommodate potential design elements that would increase the value of the line without introducing new or different environmental impacts. Specifically, PG&E is now planning to specify two layers of copper or steel armor on the submarine portion of the cable in order to increase its tensile strength. Because Figure 4-13 only shows one layer of copper wire armor, PG&E requests that it be replaced with Appendix H to this letter (double steel armoring) and Appendix I to this letter (double copper armoring), as alternative options.

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Either of the revised designs would strengthen the cable, but would not alter the environmental impact analysis or conclusions or change the route.

F-7 cont.

PG&E's consultants have identified a number of other design options that may further increase the resiliency of that portion of the line. Although Applicant Proposed Measures ("APM") GS-1 and GS-2 already describe how PG&E will incorporate additional soil stability and other seismic safety design measures that are necessary to meet the Project's seismic resiliency objectives, the Commission may wish to include in the MND an illustrative list of such design measures that PG&E's consultants have raised as additional possibilities. For example, the APM GS-2 could be amended to state:

F-8

> **APM GS-2** Appropriate seismic safety design measures implementation. As part of conceptual design investigation, site-specific seismic analyses were performed to evaluate PGAs for design of project components. Because the proposed transmission cables will be lifeline utilities, the 84th percentile motions (i.e., one standard deviation above the median; see Table 3.6-2), were used (B&V, 2012). The project will be designed based on current seismic design practices and guidelines. Potential seismic safety design practices for onshore segments may include geotextile wrap, an oversized trench with a compressible zone, flexible joints, duct banks with heavier/ high strength reinforcement, flexible conduits in place of concrete duct banks, soil improvement, or use of deep foundations; offshore segments may include flexible joints at the transition to land cables, sinusoidal installation or other methods to provide slack in the submarine cable.

Because adoption of these design options was already contemplated by APMs GS-1 and GS-2 and would not lead to material changes in the environmental impact analysis or conclusions, PG&E includes this recommendation only to clarify the description of the Project.

Sincerely,

/s/

M. Grady Mathai-Jackson

Attachments

cc: Billie Blanchard, CPUC Project Manager (billie.blanchard@cpuc.ca.gov)
Mr. Alain Billot, PG&E Senior Project Manager
Mr. Robert Donovan, PG&E Senior Land Planner

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APPENDIX A:
IDENTIFICATION OF TYPOGRAPHICAL ERRORS AND INTERNAL INCONSISTENCIES

Section 1 - Mitigated Negative Declaration

F-9

Page 1-6, MM B-2. "As an alternative to preparing and implementing the Marine Mammal Monitoring Plan specified in this mitigation measure, PG&E may provide adequate evidence, to the CPUC for approval at least 30 days before the start of marine activities, based upon actual data collected for this project or other projects using similar equipment in a similar submarine environment, that demonstrates to the satisfaction of the CPUC that underwater noise source levels generated by the project hydroplow and marine activities cannot ~~not~~ be reasonably expected to exceed the 180 dB threshold recently used by NMFS for marine mammal protection."

Page 1-6, MM B-3. To ensure consistency with the description of the California Endangered Species Act at page 5-62 of the MND and to accurately cite state regulatory standards, MM B-3 should be amended as follows: "PG&E shall consult with CDFW to obtain an Incidental Take Permit for longfin smelt or a determination from the agency that the project ~~is~~will not result ~~likely to adversely affect~~ in take of longfin smelt."

Page 1-9, MM C-1. "Preservation in place, i.e., avoidance, is the preferred method of mitigation for impacts to historical or unique archaeological resources. Alternative methods of treatment that may be demonstrated to~~by~~ the CPUC to be effective include evaluation, collection, recordation, and analysis of any significant cultural materials in accordance with a Cultural Resources Management Plan prepared by the CPUC approved qualified cultural resource specialist/archaeologist. The methods and results of evaluation or data recovery work at an archaeological find shall be documented in a professional level technical report to be filed with CHRIS. Work may commence upon completion of treatment, as approved by the CPUC."

Page 1-11, MM N-2. "PG&E shall provide a report to the CPUC regarding actions taken to reduce the duration or level of noise within 48 hours of monitoring noise levels found to be in excess of the ambient noise level by 5 dBA, at the edge of the nearest private property containing residential use, based on 1-hour Leq."

Section 4 – Project Description

F-10

Figure 4-2, Project Location. The figure incorrectly shows the Trans Bay Cable line on 24th Street instead of in 23rd Street. The line is on the southern margin of 23rd Street, as correctly described on page 4-2 of the MND.

Figure 4-4, Potrero Switchyard Area. The figure incorrectly shows the Trans Bay Cable line on 24th Street instead of in 23rd Street. The line is on the southern margin of 23rd Street, as correctly described on page 4-2 of the MND.

Page 4-46. To be consistent with the updated parcel shapes provide in Appendix G of this letter and the current land acquisition negotiations between PG&E and NRG, the following paragraphs in Sections 4.11.3 and 4.11.4 should be revised as indicated.

"The proposed HDD staging site along 23rd Street (Figure 4-9) would be approximately 1,600 feet in length by 20 feet wide. Approximately half or 800 feet of the staging area would be located in the public street, and would result in the temporary loss of street parking for 70 spaces. The remainder of the closure along 23rd Street would be approximately 800 feet by 40~~50~~ feet for the southern HDD landing work area."

. . .

"The southern landing location at 23rd Street would require approximately 23,200~~38,000~~ square feet of right-of-way acquisition from the shoreline to a gate located approximately 760 feet west from the shoreline. In addition, the Potrero 230 kV Switchyard site would need to be acquired in fee simple or by condemnation from landowner GenOn, and a License would need to be obtained from the Port for use of Port property (Section 2.5 of PG&E, 2012a)."

"A Temporary Construction Easement~~s~~ approximately ~~50~~40-feet wide and permanent easements would be negotiated by PG&E and acquired from private property owners. PG&E indicates that all private property is in Port's jurisdiction. Two sections of the cable are in private property. The first is in the GenOn Potrero LLC property~~DHL facility~~ at 401 23rd Street. The ~~DHL~~GenOn parcel extends 760 feet from the shoreline to the franchise

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APPENDIX A:
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area. Both a temporary and a narrower permanent easement would be required in that area."

Page 4-55. To ensure consistency with APMs GS-1 and GS-2 (as proposed to be revised in the cover to this letter), Section 4.11.7.2 should be revised as follows: "PG&E developed the submarine cable route as part of a preliminary design to avoid known rocky soil conditions and any existing buried cables so that the proposed three submarine cables would be buried by hydroplow for their entire lengths. Nonetheless, either rocky soil conditions, ~~or~~ existing (but unknown) cables crossing the route, or other seismic safety design considerations may not ~~physically~~ allow the cables to be buried. At these locations, the cables would be laid directly on the bottom of the bay for a short distance until they can again be buried into the sediments. To protect such segments of exposed cable from future damage by anchors, fishing gear, etc., concrete "blankets" or steel half-pipe sections would be placed over them. Typically, this might be done for 100 feet to either side of a crossing, at 50 feet in width (200 feet by 50 feet total area). PG&E's preliminary engineering indicates that no such blankets or pipe would be needed. Final design review prior to construction would include a review of existing conditions. However, to allow flexibility should the need arise in final design evaluations, PG&E assumes that up to 5 percent of the route, or 650 feet in length by 50 feet in width, may need to be covered by blankets or pipe on the seafloor."

F-10 cont.

Section 5 – Initial Study

Page 5-37, Air Quality. The table showing the air quality significance criteria shows that criterion (a), "Conflict with or obstruct implementation of the applicable air quality plan?," is "Less than Significant." This should be modified to check "No Impact" for consistency with the impact analysis conclusion on page 5-43 in section 5.3.2(a).

Page 5-45, Air Quality. "equipment exhaust emissions would occur through APM AQ-2, which incorporates BAAQMD recommendations to minimize emissions. This APM limits idling, requires use of low-emissions vehicles, encourages carpooling, minimizes welding and cutting, and promotes the use of alternative fueled vehicles. However, APM AQ-2 does not clearly specify the achievable level of emissions controls for potential construction equipment. Mitigation Measure A-1 (Achieve minimum emission standards) would be necessary to achieve the emission levels stated in Table 5.3-5. Mitigation Measure A-1 would supplement APM AQ-2 by requiring proper maintenance and tuning of construction equipment and by specifying emissions performance standards that are feasibly achievable and consistent with the emission calculations that appear in PG&E's application, shown in Appendix A (PG&E, 2013)."

F-11

Page 5-51, Biological Resources. To ensure consistency with the reference to water depth at page 4-20 of the Project Description, this discussion should be modified as follows: "The depth ranges from approximately 30 feet deep along the southern portion to ~~70~~ 80 feet deep along the northern portion of the proposed submarine route (see also Section 5.9, Hydrology and Water Quality)."

Page 5-52, Biological Resources. Although the narrative discussion regarding great white sharks, harbor porpoises, and gray whales at pages 5-56 and 5-59 suggests that these species have a low or unlikely potential to occur in the project area, the text on page 5-52 implies that these animals have a "high or moderate potential" to be present. To make the narrative consistent, PG&E recommends that the three species identified be removed from the list on page 5-52, or that the text on page 5-52 be modified as follows: "There are no special-status marine invertebrates in the San Francisco Bay; however, there are 11 special status marine species (fish and mammals) with high, ~~or~~ moderate, or low potential to be present in the project area:"

Page 5-55, Biological Resources. "The entire San Francisco Bay, including the proposed submarine cable route, is designated as critical habitat for Central California Coast steelhead ~~along the~~."

Page 5-72, Biological Resources, MM B-2. "As an alternative to preparing and implementing the Marine Mammal Monitoring Plan specified in this mitigation measure, PG&E may provide adequate evidence, to the CPUC for approval at least 30 days before the start of marine activities, based upon actual data collected for this project or other projects using similar equipment in a similar submarine environment, that demonstrates to the satisfaction of the CPUC that underwater noise source levels generated by the project hydroplow and marine activities cannot ~~not~~ be reasonably expected to exceed the 180 dB threshold recently used by NMFS for marine mammal protection."

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Page 5-72, Biological Resources, MM B-3. To ensure consistency with the description of the California Endangered Species Act at page 5-62 of the MND and to accurately cite state regulatory standards, MM B-3 should be amended as follows: "PG&E shall consult with CDFW to obtain an Incidental Take Permit for longfin smelt or a determination from the agency that the project ~~is~~will not result ~~likely to adversely affect~~ in take of longfin smelt."

F-12 cont.

Page 5-98, Cultural Resources, MM C-1. "Preservation in place, i.e., avoidance, is the preferred method of mitigation for impacts to historical or unique archaeological resources. Alternative methods of treatment that may be demonstrated to~~by~~ the CPUC to be effective include evaluation, collection, recordation, and analysis of any significant cultural materials in accordance with a Cultural Resources Management Plan prepared by the CPUC approved qualified cultural resource specialist/archaeologist. The methods and results of evaluation or data recovery work at an archaeological find shall be documented in a professional level technical report to be filed with CHRIS. Work may commence upon completion of treatment, as approved by the CPUC."

F-13

Page 5-108, Geology and Soils. Because the phrase "Seismic Zone 4" is no longer used in the CBC or IBC, but rather is a hold-over from the old UBC, the last sentence on this page should be modified as follows: "As the Proposed Project lies within a high seismic hazard area~~Seismic Zone 4,~~ provisions for design should follow the requirements of Chapter 16 of the CBC, which contains definitions of seismic sources and the procedure used to calculate seismic forces on structures."

Figure 5.6-3, Seismic Hazard Map. Please check the coloring used in the legend. It appears the color associated with "Liquefaction Hazard Zone" is incorrect.

Pages 5-175 and 5-176, Land Use Planning. To be consistent with the updated parcel shapes provide in Appendix G of this letter and the current land acquisition negotiations between PG&E and NRG, this paragraph should be modified as follows: "Two sections of the cable along the southern line would be located in private property, 760-feet in the GenOn Potrero LLC property~~DHL property~~ and a second 100-foot long portion connecting the proposed Potrero Switchyard to the cable in franchise (public ROW) in 23rd Street (PG&E, 2012a, pp. 2-33 and 2-34). A Temporary Construction Easement approximately 40~~50~~ feet wide and a permanent ~~30 feet wide~~ easement ranging from approximately 10-feet to approximately 40-feet wide would be acquired from the private property owner beyond the DHL gate."

Pages 5-183, Land Use Planning. "Traffic impacts are analyzed in Section 5.16 and would be less than significant. ~~AMP~~APM LU-1 would require PG&E to provide the public with advance notification of construction activities, between two and four weeks prior to construction and APM~~AMP~~ LU-2 would require PG&E to identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise, dust, and other construction disturbance."

Page 5-184, Land Use Planning. To ensure consistency with MM N-2, which specifies that PG&E may provide evidence that no special noise permit for night work is required by San Francisco, the language on this page should be modified as follows. "Furthermore, Mitigation Measure N-2 would ensure that PG&E obtains the special permit, if required, from the Director of Public Works or Building Inspection in anticipation of 24-hour HDD activity."

Pages 5-185, Land Use Planning. To be consistent with the updated parcel shapes provide in Appendix G of this letter and the current land acquisition negotiations between PG&E and NRG, this paragraph should be modified as follows: "Two sections of the cable along the southern line would be located in private property, 760-feet in the GenOn Potrero LLC property~~DHL property~~ and a second 100-foot long portion connecting the proposed Potrero Switchyard to the cable in franchise (public ROW) in 23rd Street. A Temporary Construction Easement approximately 40~~50~~ feet wide and a permanent ~~30 feet wide~~ easement ranging from approximately 10-feet to approximately 40-feet wide would be acquired from the private property owner beyond the DHL gate."

Page 5-185, Land Use Planning. To ensure consistency with the correct description of BCDC's jurisdiction on page 5-177, the text on this page should be modified as follows: "The new Potrero 230 kV Switchyard would not be located within BCDC jurisdictional areas because it is located outside the 100-foot shoreline band of the bay. The switchyard is also outside of the planning area of ~~either~~ both the Port's Waterfront Land Use Plan ~~or~~ and the Pier 70 Preferred Master Plan."

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Page 5-202, Noise. To ensure consistency with MM N-2, which specifies that PG&E may provide evidence that no special noise permit for night work is required by San Francisco, the language on this page should be modified as follows. "Mitigation Measure N-2 would ensure that PG&E obtains the special permit, if required, from the Director of Public Works or Building Inspection in anticipation of 24-hour HDD activity, should it become necessary."

Page 5-202, Noise, MM N-2. "PG&E shall provide a report to the CPUC regarding actions taken to reduce the duration or level of noise within 48 hours of monitoring noise levels found to be in excess of the ambient noise level by 5 dBA, at the edge of the nearest private property containing residential use, based on 1-hour Leq."

Page 5-210, Public Services. To ensure consistency with the Recreation chapter, which lists nine parks (including Spear Street Park), this language should be modified as follows. "Section 5.15 (Recreation) lists existing parks nearby to the project area, including nine~~eight~~ existing parks and one park with recreational boater access that is within 0.75 miles of the marine segment of the project."

F-13 cont.

Section 6 – Mitigation Monitoring Plan

Page 6-9, MM B-2. "As an alternative to preparing and implementing the Marine Mammal Monitoring Plan specified in this mitigation measure, PG&E may provide adequate evidence, to the CPUC for approval at least 30 days before the start of marine activities, based upon actual data collected for this project or other projects using similar equipment in a similar submarine environment, that demonstrates to the satisfaction of the CPUC that underwater noise source levels generated by the project hydroplow and marine activities cannot ~~not~~ be reasonably expected to exceed the 180 dB threshold recently used by NMFS for marine mammal protection."

Page 6-10, MM B-3. To ensure consistency with the description of the California Endangered Species Act at page 5-62 of the MND and to accurately cite state regulatory standards, MM B-3 should be amended as follows: "PG&E shall consult with CDFW to obtain an Incidental Take Permit for longfin smelt or a determination from the agency that the project ~~is~~will not result ~~likely to adversely affect~~ in take of longfin smelt."

Page 6-17, MM C-1. "Preservation in place, i.e., avoidance, is the preferred method of mitigation for impacts to historical or unique archaeological resources. Alternative methods of treatment that may be demonstrated to~~by~~ the CPUC to be effective include evaluation, collection, recordation, and analysis of any significant cultural materials in accordance with a Cultural Resources Management Plan prepared by the CPUC approved qualified cultural resource specialist/archaeologist. The methods and results of evaluation or data recovery work at an archaeological find shall be documented in a professional level technical report to be filed with CHRIS. Work may commence upon completion of treatment, as approved by the CPUC."

Page 6-33, MM N-2. "PG&E shall provide a report to the CPUC regarding actions taken to reduce the duration or level of noise within 48 hours of monitoring noise levels found to be in excess of the ambient noise level by 5 dBA, at the edge of the nearest private property containing residential use, based on 1-hour Leq."

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Appendix B: Recommended Changes to Narrative Discussion in MND to Accommodate Refinements to Potrero 230 kV Switchyard Design F-15

To accommodate refinements to the design of the Potrero 230 kV switchyard design, the MND should be modified as follows:

Page 4-35:

4.10.3 Potrero 230 kV Switchyard

The existing Potrero Switchyard is located on Illinois Street between 23rd and 22nd Streets in what is known as the Dogpatch neighborhood in the San Francisco Central Waterfront area. The facility is an open yard that operates as a 115/12 kV substation; however, for naming consistency, PG&E refers to the site as Potrero Switchyard. Currently, there is no 230 kV equipment at the existing Potrero Switchyard. To accommodate the proposed 230 kV cable, the project would include construction of a new 230 kV switchyard and 230/115 kV substation within about one acre on a parcel owned by GenOn Energy, Inc. PG&E would need to acquire this property through a fee simple transaction or condemn the property for utility use. The site is located on 23rd Street, adjacent to and east of the existing switchyard; see Figure 4-4.

Due to space constraints at the proposed site, the new 230 kV switchyard would feature gas-insulated switchgear (GIS) housed in an estimated 8,500-square-foot building with basement; see Figure 4-14. The switchgear, associated automation and control systems, and station service systems (i.e., AC power equipment to supply the building) would be inside. Up to 8,000 cy would need to be excavated and exported for the building basement and duct bank between the new switchyard building and the 115 kV buses at the south end of the existing Potrero Switchyard.

The proposed Potrero 230 kV Switchyard and GIS building area would require acquisition of a site of approximately 1.025 acres, or approximately 44,70041,200 square feet. Impermeable surfaces would include the building roof of approximately 8,500 square feet and concrete or paved outdoor equipment areas of approximately 10,000 square feet. Additionally, the remainder of the yard (approximately 26,00023,000 square feet) would likely have a combination of gravel and concrete/asphalt surfaces. Preliminary foundation evaluation suggests deep-foundation systems may be needed for some of the structures within the new Potrero 230 kV Switchyard, including the GIS building (PG&E, 2013).

The basement of the new GIS building would contain electrical conduits, trays and cables to interconnect the electrical equipment on the main floor. The layout would include a spare bay with space for an additional 230 kV transformer and shunt reactor. Although there is no proposal for an additional 230 kV supply, ongoing studies, such as the CAISO San Francisco Peninsula Reliability Assessment (discussed in Section 1.5), may determine a need for a second 230 kV connection into Potrero Switchyard in the future. Duct banks to the existing 115 kV Potrero Switchyard and the proposed submarine cable would enter and exit the new 230/115 kV substation building via the basement; see Figure 4-15.

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F-15 cont.

Page 4-39:

The building height would be approximately 3440 feet above grade to accommodate the GIS electrical equipment and a parapet wall, and building dimensions would be approximately 136 feet by 62 feet. The building's cladding would be a light neutral color with a non-reflective finish (p.3.1-20 of PG&E, 2012a). Including the outdoor equipment, the new Potrero 230 kV Switchyard would cover an area of approximately 0.7 acre (measuring all areas within the perimeter wall and fascade)190 feet by 110 feet with added room for maintenance vehicle access. Outdoor equipment would be partitioned from the GIS building with firewalls. The proposed outdoor equipment includes one new 230/115 kV transformer, one new 230 kV shunt reactor, and their respective cable-to-air bushing connections. These would be shielded from the street by a new 10-foot-tall masonry wall around the perimeter of the new 230 kV switchyard, except for the southern front of the GIS building, which would act itself as the perimeter boundary on that side. The perimeter wall would include a minimum of one 20-foot-wide access gate via 23rd Street, and the facility perimeterwall would be set back at least 3 feet away from the southern property line to allow for new landscaping. An existing gate from 23rd Street onto Michigan Avenue would be widened to allow for access to the western side of the facility through another gate in the perimeter wall off of Michigan. The gate in the brick wall that currently fronts Station A maywill be widened and the wall modified to allow adequate ingress, egress, and internal circulation access for large transformer equipment and future maintenance activities. Modification of discrete sections of the brick wall may include complete or partial removal.

Pg. 4-45:

Staging Alternative 1 would be located on GenOn property north of 23rd Street east of Illinois Street, to the north of the proposed Potrero 230 kV Switchyard. The L-shaped area is approximately 0.760.9 acres extending north of the proposed switchyard construction work area, comprising of threetwo rectangular shaped areas approximately 215 feet by 60 feet and 170 feet by 140 feet135 feet by 145 feet, 120 feet by 25 feet and 160 feet by 65 feet.

Pg. 5-21:

The primary permanent visible component of the project would be the new 230 kV switchyard building, proposed to be adjacent to the existing Potrero Switchyard. This new facility would be located within the existing fenceline of the property and would be housed in an estimated 8,500-square-foot building with basement. The approximate dimensions of the major project components are listed in Table 5.1-3. The 23rd Street frontage of the site would include an entry gates on both the east and west sides of the facility and an architectural building façade or 10-foot-tall masonry wall that would partially screen outdoor components. To convey power between the 115 kV and 230 kV switchyards, six single-phase tubular steel termination poles would be installed. These would be approximately 10 feet high, with insulated terminals to a total height of approximately 17 feet. The new poles would likely be at the south end of the

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F-15 cont.

existing 115 kV bus, near 23rd Street. The height of the existing 115 kV bus structure is approximately 34 feet. These poles would be a minor element in the project and would blend with the existing bus equipment on-site.

Table 5.1-3. Approximate Dimensions of Major Project Components

Components (Number of Elements) Height (feet) Length (feet) Width (feet)
Equipment Building (1) 34~~40~~ 136 62
230/115 kV Transformer (1) 28 35 23
Shunt reactor (1) 23 42 16
Source: PG&E, 2012.

. . .

Figure 5.1-3b shows the same view with a simulation of how the wall and structure preliminarily proposed to be constructed would appear. Planned landscape vegetation along the wall is shown. Based on further stakeholder consultation and design work by PG&E since the Proponent's Environmental Assessment was submitted, PG&E may construct the GIS facility with an architectural façade open to 23rd St, rather than a perimeter wall as shown in the figures of this Chapter. Such a design would be expected to reduce further the already less-than-significant visual impacts associated with the Project.

Page 5-22:

Visual Change: Low to Moderate. The visual simulation portrays the proposed Potrero 230 kV Switchyard based on a preliminary design, including the southern façade of the building that encloses most of the individual switchyard elements, and the masonry screening wall and entry gate from 23rd Street (Figure 5.1-3b). As noted above, PG&E has consulted with stakeholders and recently refined its design for the Switchyard, including adding the potential for two entry gates from 23rd and allowing an architectural façade on the GIS building to serve as the south-facing perimeter rather than the masonry wall. These minor revisions in the design would further reduce the less-than-significant visual impacts identified in this Chapter.

From this view location, the new building would partially screen views of the existing Potrero Switchyard and the multi-story warehouse beyond. The scale and appearance of the new building at the switchyard would be compatible with the existing visual character found in the project vicinity. In addition, the new wall would screen the lower portions of the new switchyard. Given the presence of nearby existing utility and industrial facilities, the introduction of the new 230 kV Potrero Switchyard would not have a substantial effect on overall character or composition of the urban landscape in this area.

B-3

Comment Set F, cont.
Pacific Gas & Electric Company

F-15 cont.

Pg. 5-31:

Visual Change: Low to Moderate. The visual simulation from this location (Figure 5.1-4b) shows the preliminary design of the new Potrero Switchyard, including the new equipment building and screening wall with planting and an entry gate along 23rd Street. As noted above, PG&E has consulted with stakeholders and recently refined its design for the Switchyard, including adding the potential for two entry gates from 23rd and allowing an architectural façade on the GIS building to serve as the south-facing perimeter rather than the masonry wall. These minor revisions in the design would further reduce the less-than-significant visual impacts identified in this Chapter. In addition, a small upper portion of the new shunt reactor would be slightly visible beyond the switchyard wall. As seen from this intersection, the new switchyard building and the nearby existing metal building would be similar in terms of scale and form. As such, the overall appearance of the proposed switchyard building would be compatible with the existing visual character found in the project vicinity. The project-related changes are incremental effects that would not substantially alter existing visual conditions in the area, including views toward the waterfront.

Pg. 5-96:

LESS THAN SIGNIFICANT. Construction of the proposed Potrero 230 kV Switchyard and GIS structure would modify the visual setting of the former Potrero Power Plant by introducing a new industrial building to the west of and approximately adjacent to a multi-story brick industrial building within the former power plant site (Station A) and by potentially removing or modifying the existing brick wall that fronts Station A. It would also result in the removal of foundations from other structures at Station A that have been demolished in the past. The proposed building, while altering the setting of Station A, would not result in

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Pgs. 4-70 and 6-16:

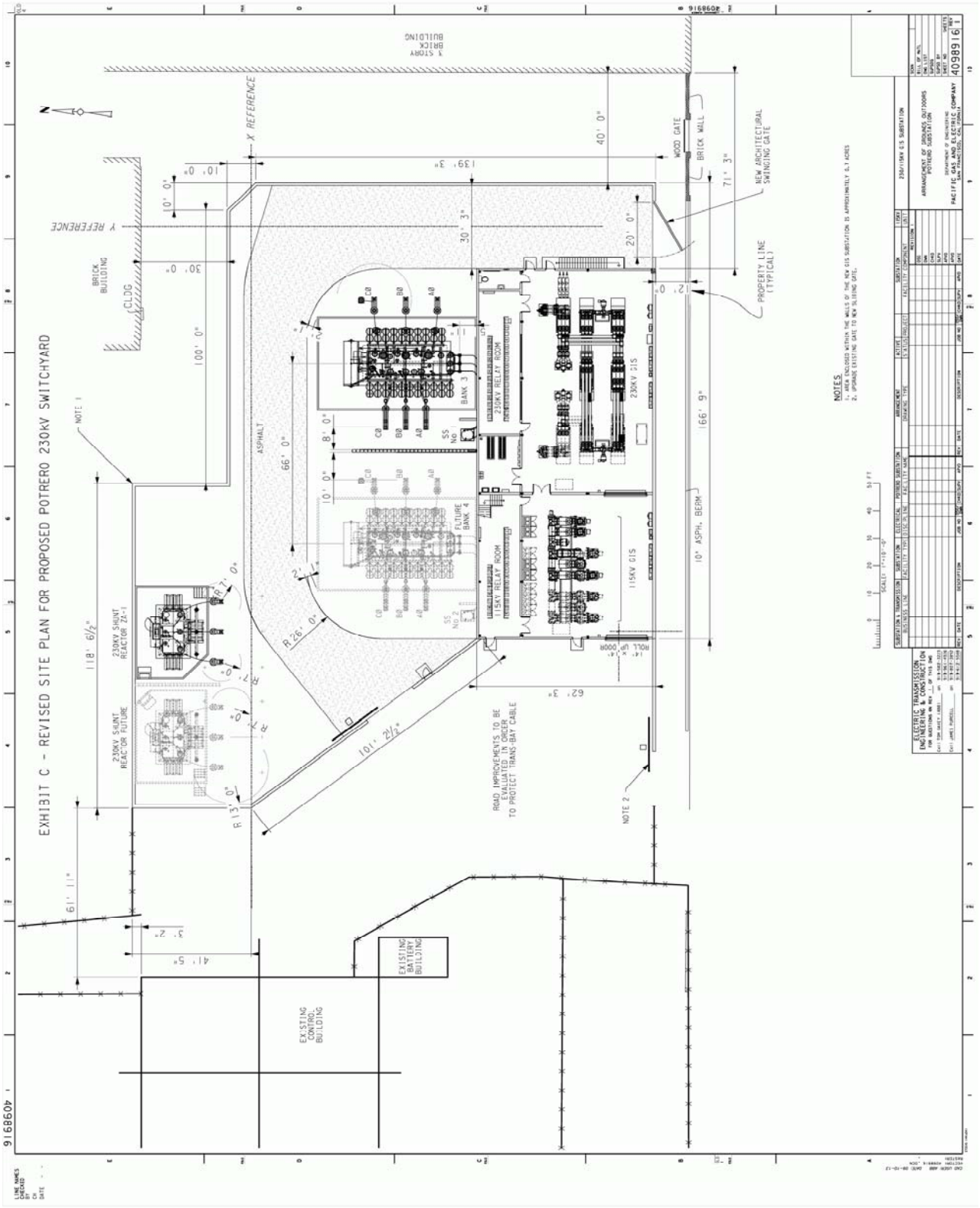
APM CUL-8

Apply Secretary of the Interior Standards for the Treatment of Historic Properties to Brick Wall Modifications.

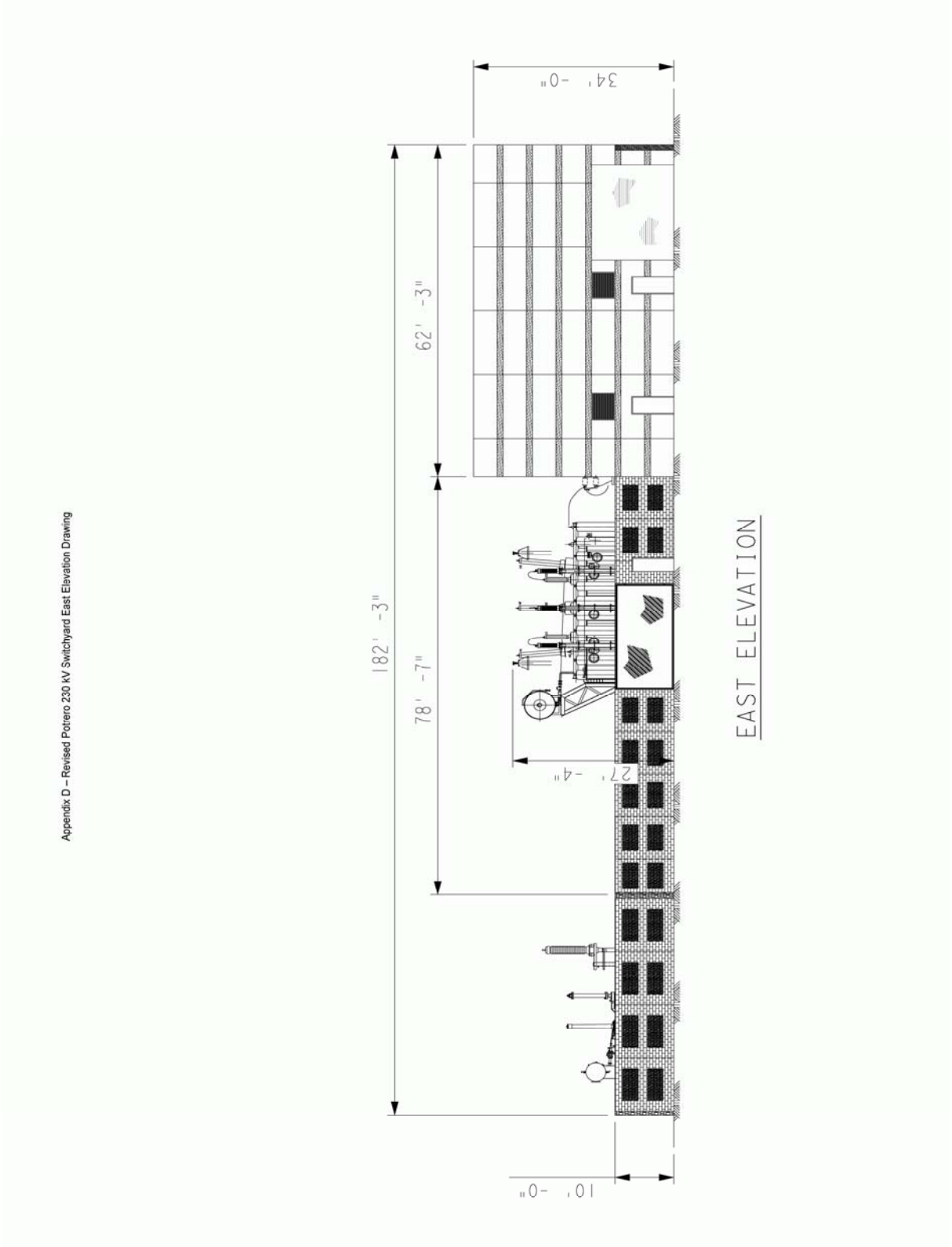
The gate in the brick wall that fronts Station A may~~will~~ be widened and the wall removed or modified to allow access for large transformer equipment and future maintenance activities. Modifications to or removal of the wall will follow the Secretary of the Interior Standards for the Treatment of Historic Properties (available at http://www.nps.gov/hps/tps/standguide/) and will be designed to be compatible with the historic character of Station A. PG&E will submit a draft of its design for the brick wall modifications to the Commission no less than 30 days prior to any alteration of the wall.

B-4

Comment Set F, cont.
Pacific Gas & Electric Company



Comment Set F, cont.
Pacific Gas & Electric Company



Comment Set F, cont.
Pacific Gas & Electric Company

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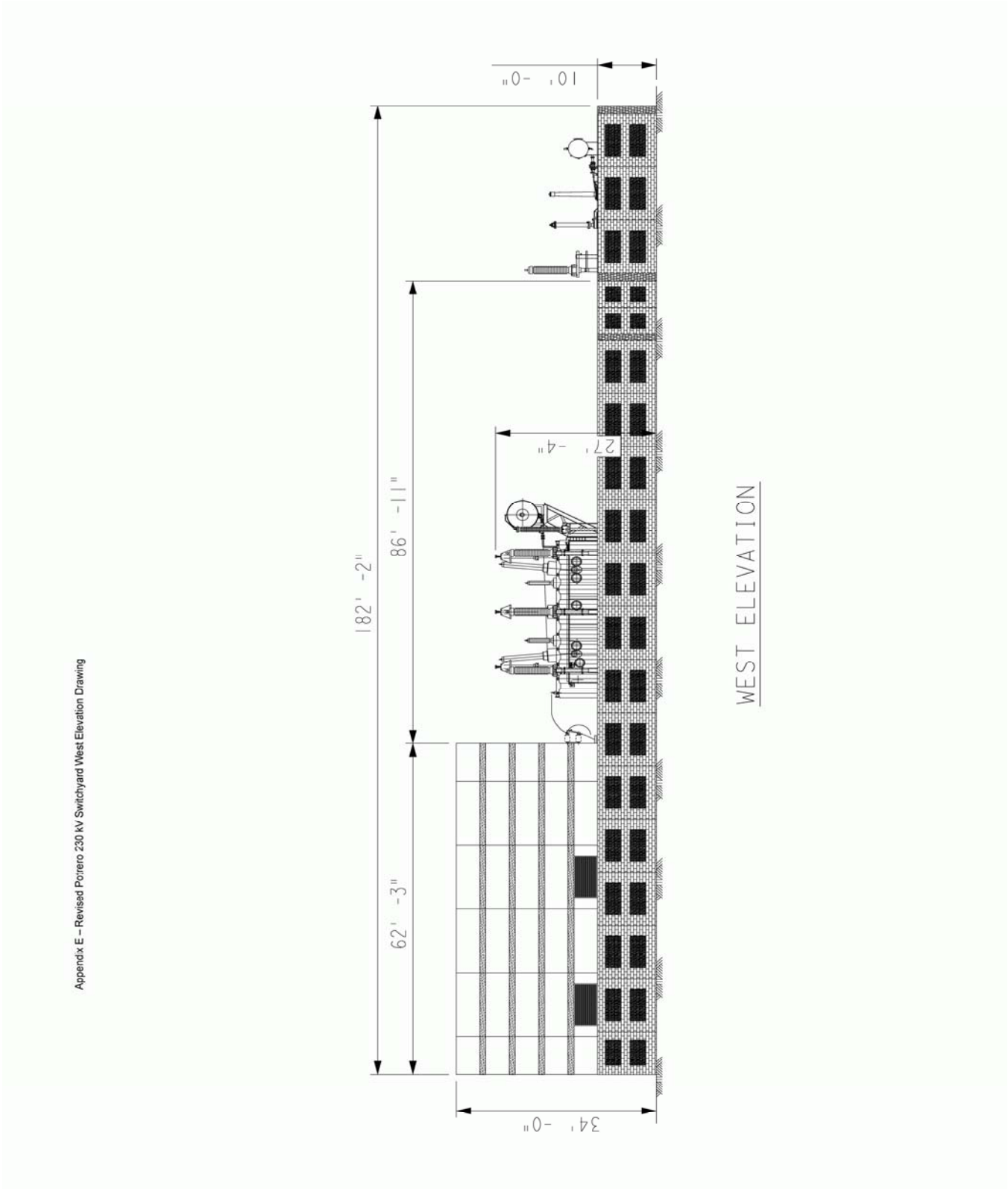

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Pacific Gas & Electric Company

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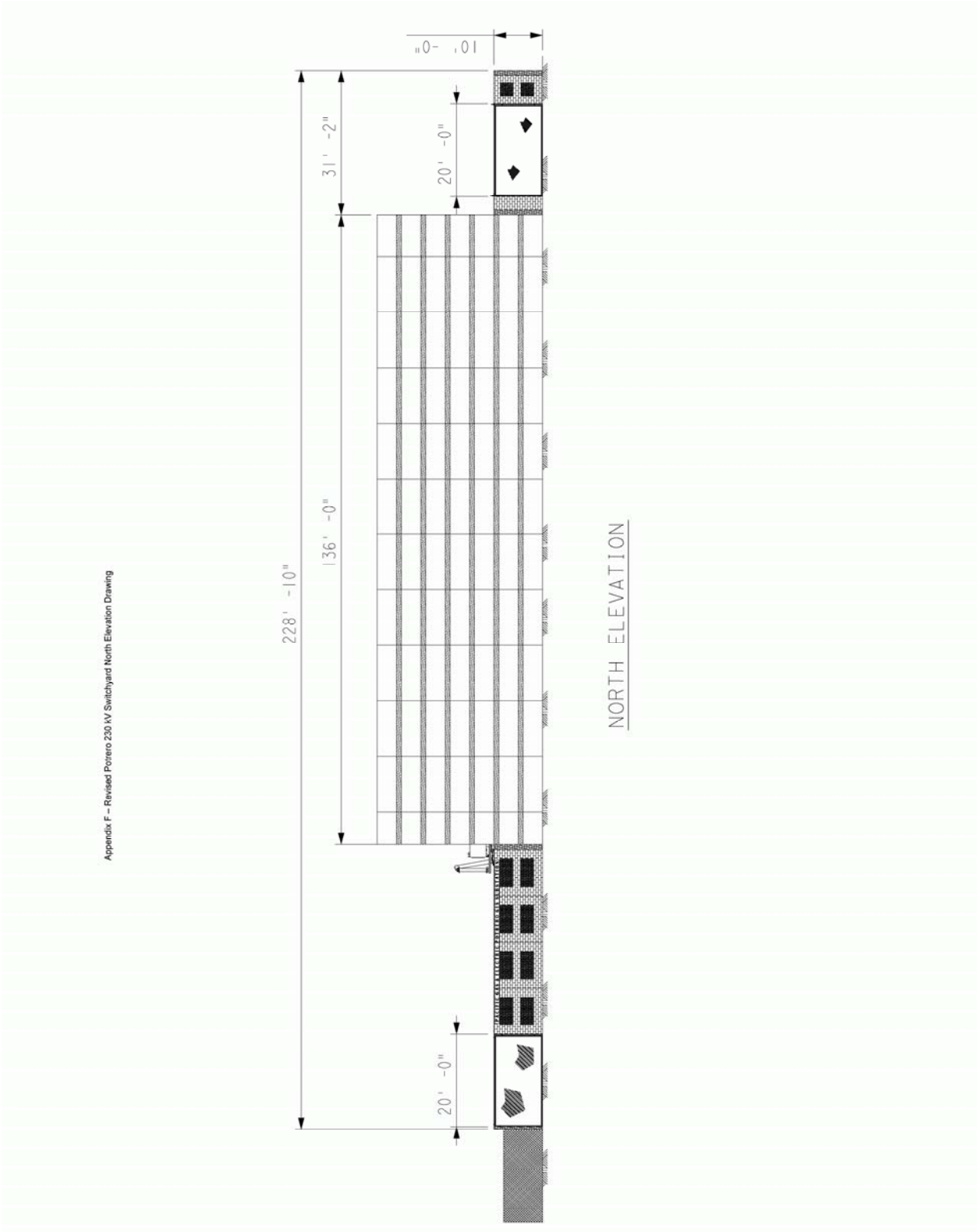

Comment Set F, cont.
Pacific Gas & Electric Company

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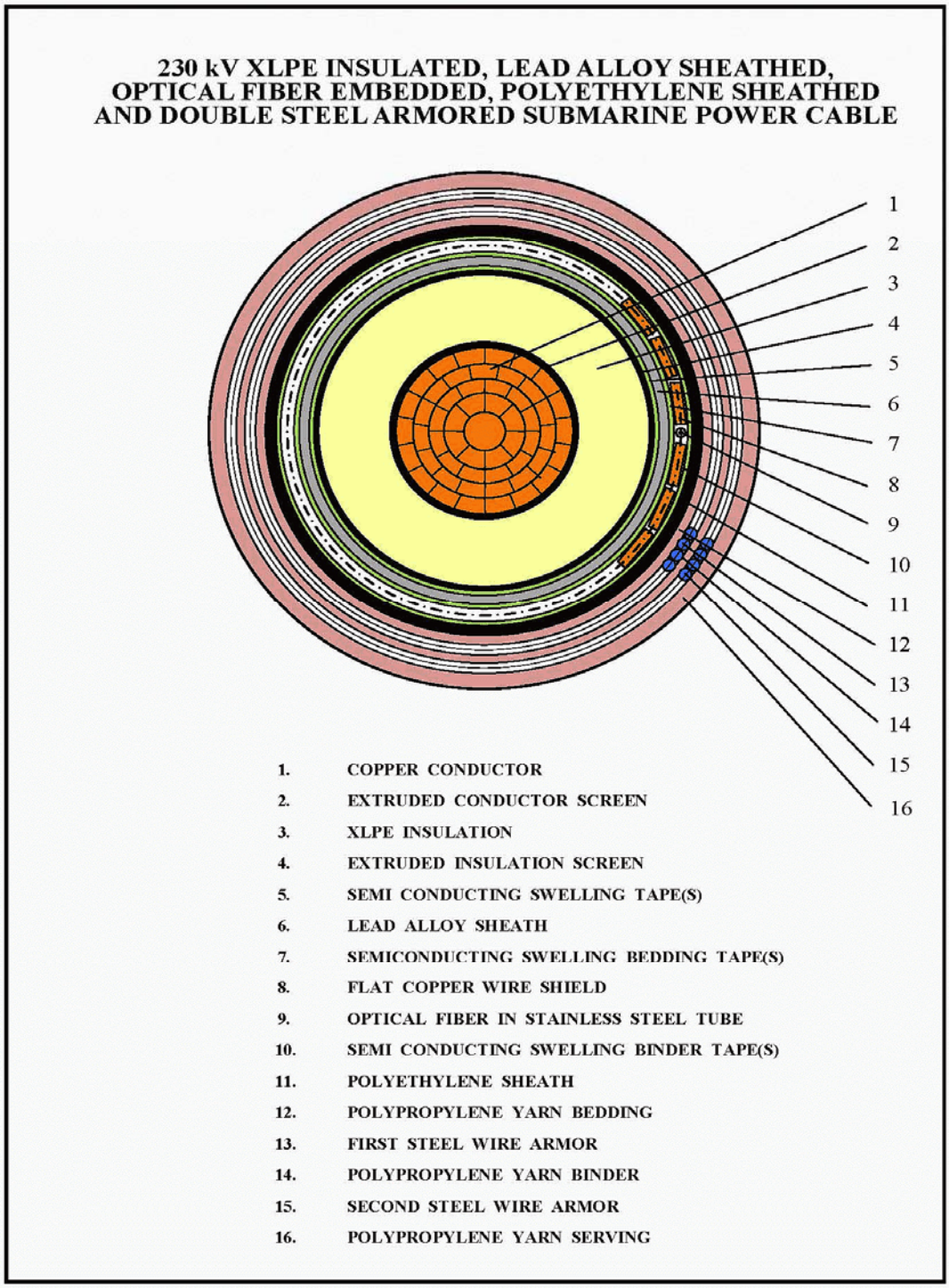
Comment Set F, cont.
Pacific Gas & Electric Company

Appendix H: Submarine Cable Diagram Assuming Double Steel Armoring Design 6



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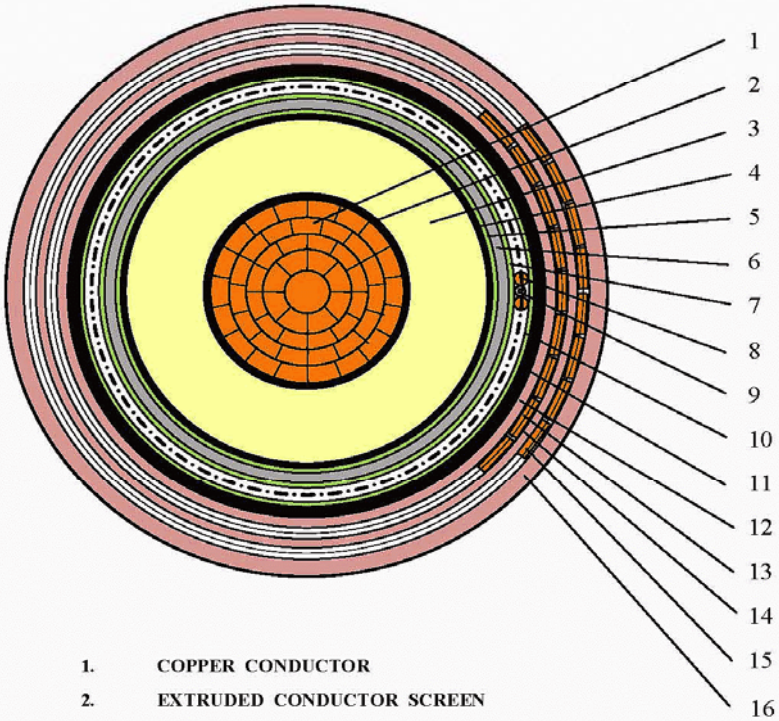
Comment Set F, cont.
Pacific Gas & Electric Company

Appendix I: Submarine Cable Diagram Assuming Double Copper Armoring Design 6

230 kV XLPE INSULATED, LEAD ALLOY SHEATHED, OPTICAL FIBER EMBEDDED, POLYETHYLENE SHEATHED AND DOUBLE COPPER ARMORED SUBMARINE POWER CABLE



1. COPPER CONDUCTOR
2. EXTRUDED CONDUCTOR SCREEN
3. XLPE INSULATION
4. EXTRUDED INSULATION SCREEN
5. SEMI CONDUCTING SWELLING TAPE(S)
6. LEAD ALLOY SHEATH
7. SEMICONDUCTING SWELLING BEDDING TAPE(S)
8. COPPER WIRE SHIELD
9. OPTICAL FIBER IN STAINLESS STEEL TUBE
10. SEMI CONDUCTING SWELLING BINDER TAPE(S)
11. SEMI CONDUCTING POLYETHYLENE SHEATH
12. POLYPROPYLENE YARN BEDDING
13. FIRST FLAT COPPER WIRE ARMOR
14. POLYPROPYLENE YARN BINDER
15. SECOND FLAT COPPER WIRE ARMOR
16. POLYPROPYLENE YARN SERVING

X

Comment Set F, cont.
Pacific Gas & Electric Company

Pacific Gas and Electric Company ™

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October 10, 2013 **BY E-MAIL**

Billie Blanchard
California Public Utilities Commission
c/o Aspen Environmental Group
235 Montgomery Street, Suite 935
San Francisco, CA 94104-3002
embarcaderopotrero@aspeneg.com

Re: Draft Mitigated Negative Declaration and Supporting Initial Study for the Embarcadero-Potrero 230 kV Transmission Project (A.12-12-004)

Dear Ms. Blanchard:

Pacific Gas and Electric Company ("PG&E") respectfully submits this letter to supplement the comments it submitted on September 16, 2013 regarding the draft Mitigated Negative Declaration ("MND") proposed for the Embarcadero-Potrero 230 kV Transmission Project (the "Project"). While PG&E recognizes that this letter is not submitted within the comment deadline for the MND, PG&E hopes that the additional information it provides may be useful to the California Public Utilities Commission ("CPUC") as it works to finalize the MND and requests that it be included in the administrative record. Specifically, PG&E is providing below additional information in response to certain comments the CPUC received from the California Department of Fish and Wildlife ("CDFW") in a letter dated September 13, 2013. PG&E is responding separately and concurrently to the comments of CDFW not addressed in this letter through PG&E's responses to the CPUC's data request #9, questions 2-5. F-16

PG&E appreciates the ongoing discussions and consultation it has had with CDFW and looks forward to continuing to work with CDFW in subsequent permitting reviews for the Project. While many of the issues CDFW raises are typically resolved in those subsequent permitting proceedings, PG&E would like to take this opportunity to provide additional information to both the CPUC and CDFW that may be of assistance in evaluating the Project.

Having reviewed CDFW's comments on the MND and those submitted by other stakeholders, PG&E continues to agree with the CPUC's draft conclusion that an MND is appropriate for this Project.

Comment Set F, cont.
Pacific Gas & Electric Company

I. ELECTRIC AND MAGNETIC FIELDS

F-16 cont.

CDFW states: "The draft MND does not analyze the potential effects of [electric and magnetic] fields (EMF) on marine species from an electrical power cable. Analysis of the potential effects of EMF on sensitive species, such as salmonids and elasmobranchs (sharks, rays, skates, and sturgeon), should be described. Additionally, there is not information in the document on what the expected EMF levels would be from this cable in the Bay. The information needs to be presented for the Department to complete its review of potential EMF impacts."[1/]

EMF can originate from natural sources like the magnetic field of the earth, but also from anthropogenic sources, such as the undersea transmission cables proposed as part of the Project. The types of EMF that can be present include the electric field from the current running through the cable, the magnetic field generated by the presence of an electric field, and a consequently induced electrical field (Fig 1). These fields decrease in intensity with distance.

In Decision 06-01-042, the CPUC addressed the potential for health impacts from EMF related to electric utility infrastructure. There, the CPUC concluded that it "has exclusive jurisdiction over issues related to EMF exposure from regulated utility facilities"[2/] and decided that "EMF concerns in future [Certificate of Public Convenience and Necessity] proceedings for electric transmission and substation facilities should be limited to the utility's compliance with the Commission's low-cost/no-cost policies."[3/] Accordingly, the CPUC has historically addressed EMF concerns through ensuring compliance with the CPUC's low-cost/no-cost policies, rather than through CEQA impact analysis. PG&E describes the CPUC's EMF policy and the Project's compliance with that policy in the Preliminary Transmission EMF Management Plan and Substation Checklist attached to the Application filed for this Project.[4/]

Nonetheless, for purpose of information, PG&E provides the following response to CDFW's concerns related to EMF. While marine animals that are magneto- or electro-sensitive, such as elasmobranchs (skates and rays) may be able to detect the EMF generated by the transmission cable, impacts would only arise if the EMF levels affect their movement patterns or behavior. Therefore, impacts to these animals should not be based on sensitivity to EMF alone, but the likelihood that the EMF generated will impact the animals' movements and/or behavior.

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1/ CDFW Letter at 4.
2/ D.06-01-042 at 21 (Conclusion of Law ("COL") 1).
3/ *Id.* at 21 (COL 2).
4/ Application 12-12-004, Exhibit D.

Comment Set F, cont.
Pacific Gas & Electric Company

Ms. Billie Blanchard
October 10, 2013
Page 3

F-16 cont.

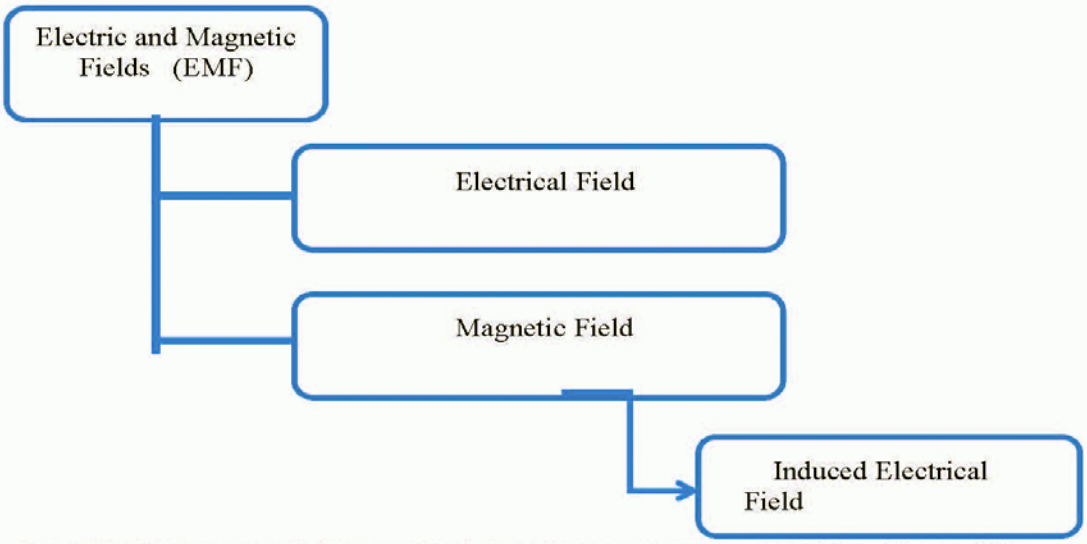

Figure 1: Electrical and magnetic fields associated with anthropogenic sources. Modified from Gill et al. 2005.

Electric and magnetic fields will be generated from the operation of the 230 kV cable. The undersea cable will be shielded to maximize current transmission, so an electrical field outside the cable insulation will be virtually nonexistent. Magnetic and induced electrical fields will not be shielded by the cable itself, so these will be present during cable operation.

Intensity of the magnetic field from normal cable operation (base case / expected 2022 summer peak load of 280 amps[5/]) was calculated by PG&E (Fig 2). In making this calculation, PG&E assumed a phase separation of 150 feet between cables and a cable burial depth of 6 feet.

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5/ *See* Application for the Embarcadero-Potrero 230 kV Transmission Project, A.12-12-004, Exh. D (Preliminary Field Management Plan), Section IV.

Comment Set F, cont.
Pacific Gas & Electric Company

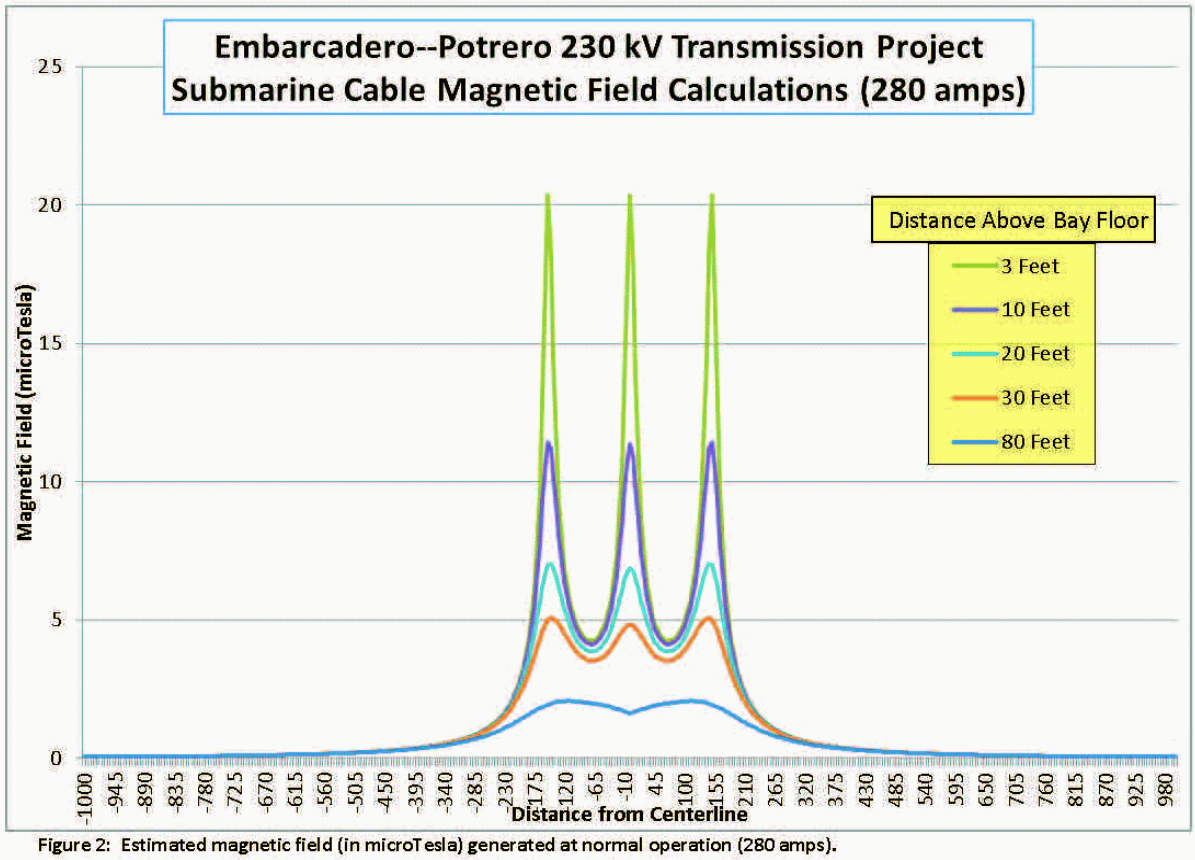

Figure 2: Estimated magnetic field (in microTesla) generated at normal operation (280 amps).

F-16 cont.

The average magnetic field in the Bay Area is approximately 48 – 52 microTesla (National Atlas 2013),[6/] and the magnetic field associated with the transmission line is well below background at all positions from the cable that are above the bay bottom.

PG&E also conservatively estimated the intensity of the magnetic field at full cable capability (48-hour emergency rating of 1150 amps). The magnetic field at this loading would drop to background levels within approximately 15 feet horizontally and 10 feet vertically from the Bay floor directly above the transmission cables.

An induced electrical field would also be created by the transmission line, but estimation of the exact magnitude of this field is difficult without complex modeling. A modeling study on a 60Hz

6/ Attachment 1 provides full citations to this and the other sources referenced in this letter.

Comment Set F, cont.
Pacific Gas & Electric Company

AC transmission line that is buried 1 meter (m) below the seafloor found that a small shark would experience a maximum induced electrical field that is approximately 0.0007 Volts (V)/m at the seafloor (Normandeau et al., 2011). The induced electrical field was estimated at only 0.00001 V/m at 9 meters above the seafloor (Normandeau et al. 2011). Elasmobranches could potentially sense the cable if they were within a few meters of it as this is within their range of sensitivity (Paulin 1995; Kalmijn 2000b).

F-16 cont.

Although magneto- and electro-sensitive fishes could potentially sense the cables if within close proximity, there is no evidence that these fishes would be impacted physiologically or behaviorally. As stated above, there would be no impacts from an electrical field as the transmission cable will be shielded, so magnetic and induced electrical fields are the only elements of EMF that should be considered.

Although the literature is limited on the subject, current studies suggest that magnetic and induced electrical fields would not impact fish populations. Most experiments studying the effects of magnetic fields on fishes showed no detrimental effects on fish health or development (Ward et al. 2010; Woodruff et al. 2011). These experiments exposed fish to magnetic field strengths of 100 – 3000 microTesla for extended exposure conditions and found very few statistically significant behavioral, physiological or developmental effects. These magnetic field strengths are much higher than those estimated for this Project. The assumed strength of the magnetic field associated with the transmission cable would only be above background levels when the line is loaded to abnormally high capacity and in very close proximity (approximately 15 feet horizontal and 10 feet vertical above the Bay floor) to the cable route. PG&E expects that under normal conditions, the Project would not cause any magnetic field above background at any location in the water column.

Induced electrical field studies also illustrate that the Project has little potential to affect fish behavior. In these studies, to repulse electro-sensitive species, the strength of the induced electrical field had to be greater than 0.0001 V/m (Normandeau et al. 2011). When conservatively assumed to run at its short-term emergency rating, the transmission cable for this Project is only estimated to produce an induced electrical field greater than 0.0001 V/m within a few meters. Therefore, it is very unlikely that EMF would exclude fish from habitat along the cable route. In addition, studies on elasmobranchs interacting with induced electrical fields show that these fishes typically react to weak induced electrical fields at low frequencies (1-10 Hz; Normandeau et al. 2011). The transmission cable for this Project will be operating at 60 Hz, and there is no evidence that electro-sensitive fishes change their behavior at this frequency in the literature (Kalmijn 1974; New & Tricas 1997; Bodznick et al. 2003; Normandeau et al. 2011). Thus, it is unlikely that fish that could encounter and sense the induced field would alter their feeding or other behavior.

In conclusion, EMF impacts from the Project are not likely to occur. When operated at normal projected levels, the magnetic field associated with the cables would be below Bay Area background levels above the bay bottom. Even when the transmission cables are operated at

Comment Set F, cont.
Pacific Gas & Electric Company

emergency rating, the strength of the magnetic and induced electrical fields is small. Although these fields could be detected by electro-sensitive fish, there is no evidence to suggest that these fish would react to or be impeded by the low levels of EMF generated by the transmission cable.

F-16 cont.

II. CONCLUSION

PG&E appreciates the opportunity to submit these supplemental comments on the draft MND and looks forward to continuing to work with the CPUC, CDFW, and other permitting authorities to successfully implement the Project.

Sincerely,

/s/

M. Grady Mathai-Jackson

Attachment

cc: Billie Blanchard, CPUC Project Manager (billie.blanchard@cpuc.ca.gov)
Mr. Alain Billot, PG&E Senior Project Manager
Mr. Robert Donovan, PG&E Senior Land Planner
Craig Shuman, CDFW (Craig.shuman@wildlife.ca.gov)
Arn Aarreberg, CDFW (aarreberg@wildlife.ca.gov)

Comment Set F, cont.
Pacific Gas & Electric Company

F-16 cont.

Attachment 1: References

Bodznick, D., J. Montgomery, and T. C. Tricas. 2003. Electroreception: extracting behaviorally important signals from noise. Pages 389-403 in S. P. Collin and N. J. Marshall, editors. Sensory Processing in Aquatic Environments. Springer-Verlag, New York.

Gill, AB, Y Huang, I Gloyne-Philips, J Metcalf, V Quayle, J Spencer, and V Wearmouth. 2009. COWRIE 2.0 Electromagnetic Fields (EMF) Phase 2: EMF-sensitive fish response to EM emissions from sub-sea electricity cables of the type used by offshore renewable energy industry. Commissioned by COWRIE Ltd (COWRIE-EMF-1-06). http://www.offshore-wind.co.uk.

Kalmijn, A.J. 1974. The detection of electric fields from inanimate and animate sources other than electric organs. In: Fessard, A. (ed.), Handbook of sensory physiology, vol. III (3): Electroreceptors and other specialized receptors in lower invertebrates. Berlin: Springer-Verlag. Pp. 147-200.

Kalmjin, AT. 2000. Detection and processing of electromagnetic and near-field acoustic signals in elasmobranch fishes. Philosophical Transactions of the Royal Society of London B. 355: 1135-1141.

National Atlas. 2013. Geomagnetism: The Magnetic Field of the Earth. Accessed online at: http://nationalatlas.gov/articles/geology/a_geomag.html

New, J. G. and T. C. Tricas. 1997. Electroreceptors and Magnetoreceptors: Morphology and Function. Pages 741-758 in N. Sperlakis, editor. Cell Physiology Source Book, 2nd ed. Academic Press, San Diego.

Normandeau, Exponent, T Tricas, and A Gill. 2011. Effects of EMFs from undersea cables on elasmobranchs and other marine species. US Department of the Interior, Bureau of Ocean Energy Management, Regulation and Enforcement, Pacific OCS Region, Camarillo, CA. OCS Study BOEMRE 2011-09.

Paulin, MG. 1995. Electroreception and the compass sense of sharks. Journal of Theoretical Biology 174.3: 325-339.

Ward, J, I. Schultz, D. Woodruff, G. Roesijadi, and A. Copping. 2010. Assessing the effects of marine and hydrokinetic energy development on marine and estuarine resources. Proceedings of OCEANS 2010, September 20-23, Seattle, WA.

Woodruff, D.J., J. Ward, I. Schultz, V. Cullinan. 2011. Effects of electromagnetic fields on fish and invertebrates. Tasks 2.1.3: Effects on Aquatic Organisms – Fiscal Year 2011 Progress report. PNNL-20813. Pacific Northwest National Laboratory, Richland, WA.

Responses to Comment Set F, Pacific Gas & Electric Company

F-1 PG&E's stated purpose and need for the project is noted. Project objectives and purpose and need are discussed in Section 4.9 (Project Overview) of the Final IS/MND. The commenter states that PG&E needs to begin construction in early 2014 in order to meet the goal in-service date before 2016. The CPUC Energy Division notes the commenter's construction schedule goals in completing the permitting process. Table 4-3 (Preliminary Proposed Construction Schedule) in the Final IS/MND reflects this timeline and indicates a goal in-service date of December 2015.

F-2 As part of the CPUC's General Proceeding on PG&E's Application (A.12-12-004) and in its comment herein, PG&E has requested that the CPUC "[a]uthorize Energy Division to approve requests by PG&E for minor project modifications that may be necessary during final engineering and construction of the Project so long as Energy Division finds that such minor project modifications would not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects" (Purpose and Need testimony, dated September 9, 2013).

As stated in Section 6 of the IS/MND, the CPUC Project Manager, who will be a member of Energy Division staff, would be responsible for review of "minor project modifications." To clarify the type of determination that may be made at the staff-level and to ensure consistency with recent Commission decisions, the language in Section 6.1 (Minor Project Changes or Variances) of the IS/MND has been revised consistent with PG&E's suggested language as follows:

> No minor project changes or variances will be approved by the CPUC if they are located outside of the geographic boundary of the project study area or if they create new or substantially more severe significant impacts. Variances are strictly limited to minor project changes that will not trigger other permit requirements unless the appropriate agency has approved the change, and that clearly and strictly comply with the intent of the mitigation measure or applicable law or policy. This determination is ministerial, and shall be made by the CPUC Project Manager. PG&E shall seek any other project refinements by a petition to modify. Should a project change or refinement require a Petition for Modification, supplemental environmental review under CEQA will be required.

The language regarding variances in Section 6 of the IS/MND is based on the CPUC Decision (D.12-06-039) on the East County (ECO) Substation Project, approved on June 21, 2012. The Ordering Paragraph in D.12-06-039 states:

> "Energy Division may approve requests by San Diego Gas & Electric Company (SDG&E) for minor project refinements that may be necessary due to final engineering of the East County Substation Project so long as such minor project refinements are located within the geographic boundary of the study area of the Environmental Impact Report/Environmental Impact Statement and do not, without mitigation, result in a new significant impact or a substantial increase in the severity of a previously identified significant impact based on the criteria used in the environmental document; conflict with any mitigation measure or applicable law or policy; or trigger an additional permit requirement. SDG&E shall seek any other project refinements by a petition to modify this decision."

Under the above specifications, the CPUC Project Manager may authorize minor project changes, as set forth in Section 6.1 of the IS/MND, without reinitiating CEQA review.

F-3 PG&E requests that the IS/MND discussion regarding variances be modified or removed to instead allow the final Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) to incorporate a future Commission-approved order on this process. As noted in Section 6 of the IS/MND, CPUC staff expects to consult with PG&E in developing the final logistics and details in the MMCRP, which must incorporate all Commission-adopted measures derived from the Mitigation Monitoring Plan (MMP) in the Final IS/MND. Because this comment does not offer specific revisions to the MMP for the Commission to consider before acting on the project, no additional changes to the IS/MND have been made. See Response to Comment F-2.

F-4 As shown in Response to Comment F-15, PG&E's suggested edits to the Project Description regarding the Potrero Switchyard have been incorporated into the Final IS/MND. Edits that reflect the independent review by the CPUC Energy Division appear throughout the environmental analysis (Chapter 5, Initial Study).

F-5 Figure 4-14 (Potrero Gas Insulated Switchgear Building Conceptual) and Figure 4-15 (230 kV Electrical Equipment) have been replaced in the Final IS/MND by revised figures submitted as Appendices C-G. The following new figures are included in the Final IS/MND:

- Figure 4-14a (Revised Site Plan for Proposed Potrero 230 kV Switchyard),
- Figure 4-14b (Revised Parcel Map for Private Land Rights Acquisition near Potrero Switchyard),
- Figure 4-15a (Revised Potrero 230 kV Switchyard East Elevation),
- Figure 4-15b (Revised Potrero 230 kV Switchyard West Elevation), and
- Figure 4-15c (Revised Potrero 230 kV Switchyard North Elevation).

Edits that reflect the independent review by the CPUC Energy Division appear throughout the environmental analysis (Chapter 5, Initial Study).

F-6 See Response to Comment F-5 regarding a new Figure 4-14b showing the revised parcel map for private land rights acquisition near Potrero Switchyard. In addition, minor changes to the parcel polygons shown in Figure 4-2 (Project Location), Figure 4-4 (Potrero Switchyard Area), Figure 4-5 (Potential Staging Locations), Figure 4-9 (Potrero HDD Transition Area), and Figure 5.10-2 (Potrero Area Existing Land Use) have been made in this Final IS/MND. See also Response to Comment F-10 regarding additional revisions to Figures 4-2 and 4-4 and the text in Sections 4.11.3 (Staging Areas, Onshore Staging) and 4.11.4 (Easements and Right-of-Way).

F-7 Figure 4-13 (Cross Section of the Proposed 230 kV XLPE Submarine Cable) has been replaced in the Final IS/MND with the following two revised figures submitted as Appendices H and I:

- Figure 4-13a (Cross Section of the Proposed 230 kV XLPE Submarine Cable with Double Steel Armoring Design)
- Figure 4-13b (Cross Section of the Proposed 230 kV XLPE Submarine Cable with Double Copper Armoring Design)

Section 4.10.1, Submarine Cable, has been revised as follows:

> ~~A~~n double copper or steel armored 2800 kcmil (1400 mm2) cable with solid-dielectric copper conductor, XLPE insulation, and a lead sheath would be used to satisfy the project electrical loading requirements; see Figures 4-13a and 4-13b for the two cable options.

Edits that reflect the independent review by the CPUC Energy Division appear throughout the environmental analysis (Chapter 5, Initial Study).

F-8 APM GS-2 has been revised in Table 4-5, Table 5.6-3 and Table 6-1 and reflected in the Final IS/MND analysis, as follows:

> **Appropriate seismic safety design measures implementation.** As part of conceptual design investigation, site-specific seismic analyses were performed to evaluate PGAs for design of project components. Because the proposed transmission cables will be lifeline utilities, the 84th percentile motions (i.e., one standard deviation above the median; see Table 3.6-2), were used (B&V 2012). The project will be designed based on current seismic design practices and guidelines. Potential seismic safety design practices for onshore segments may include geotextile wrap, an oversized trench with a compressible zone, flexible joints, duct banks with heavier/ high strength reinforcement, flexible conduits in place of concrete duct banks, soil improvement, or use of deep foundations; offshore segments may include flexible joints at the transition to land cables, sinusoidal installation or other methods to provide slack in the submarine cable.

See also Response to Comment F-10 regarding text changes to Section 4.11.7.2 (Alternative Submarine Cable Installation Procedures) to ensure consistency with APMs GS-1 and GS-2.

F-9 PG&E's suggested edits have been made to Mitigation Measure (MM) B-2, MM B-3, MM C-1 and MM N-2. Minor edits to clarify or address typos in these four mitigation measures do not change the content or the meaning of the information in the analysis.

Mitigation Measure B-2 has been revised as follows in the Final IS/MND:

> …that demonstrates to the satisfaction of the CPUC that underwater noise source levels generated by the project hydroplow and marine activities cannot ~~not~~ be reasonably expected to exceed the 180 dB threshold recently used by NMFS for marine mammal protection.

Mitigation Measure B-3 has been revised as follows in the Final IS/MND:

> **MM B-3** **Protect marine species.** PG&E shall consult with CDFW to obtain an Incidental Take Permit for longfin smelt or a determination from the agency that the project ~~is~~ will not ~~likely to adversely affect~~ result in take of longfin smelt…

Mitigation Measure C-1 has been revised as follows in the Final IS/MND:

> …Alternative methods of treatment that may be demonstrated ~~by~~ to the CPUC to be effective include evaluation, collection, recordation, and analysis of any significant cultural materials...

Mitigation Measure N-2 has been revised as follows in the Final IS/MND:

- PG&E shall provide a report to the CPUC regarding actions taken to reduce the duration or level of noise within 48 hours of monitoring noise levels found to be in excess of the ambient noise level by 5 dBA, at the edge of the nearest private property containing residential use, based on 1-hour Leq.

F-10 The location of the Trans Bay Cable depicted on Figure 4-2 (Project Location) and Figure 4-4 (Potrero Switchyard Area) was gathered from the vector digital data of electric transmission lines from Platts (2010). Trans Bay Cable, LLC, did not submit comments on the Draft IS/MND regarding the exact location of the line shown on the aforementioned figures. Therefore, the location of the Trans Bay Cable shown on Figures 4-2 and 4-4 has not been revised in the Final IS/MND. Regardless, Mitigation Measure UT-1 (Protect underground utilities) requires PG&E to coordinate with all other utility owners, including Trans Bay Cable, LLC, to protect existing utilities within the approved right-of-way.

See Response to Comment F-6 regarding minor changes to the parcel polygons shown on Figures 4-2 and 4-4 and Response to Comment F-13 regarding text changes made to the Land Use section to reflect the current land acquisition negotiations between PG&E and NRG. As suggested, Section 4.11.3 (Staging Areas, Onshore Staging) has been revised as follows:

> The remainder of the closure along 23rd Street would be approximately 800 feet by ~~50~~ 40 feet for the southern HDD landing work area.

As suggested, Section 4.11.4 (Easements and Right-of-Way) has been revised as follows:

> The southern landing location at 23rd Street would require approximately ~~38,000~~ 23,200 square feet of right-of-way acquisition from the shoreline to a gate located approximately 760 feet west from the shoreline.
>
> …
>
> A Temporary Construction Easement~~s~~ approximately ~~50~~ 40-feet wide and permanent easements would be negotiated by PG&E and acquired from private property owners. PG&E indicates that all private property is in Port's jurisdiction. Two sections of the cable are in private property. The first is in the ~~DHL facility~~ NRG Potrero LLC property at 401 23rd Street. The ~~DHL~~ NRG parcel extends 760 feet from the shoreline to the franchise area.

See Response to Comment F-8 regarding changes to APM GS-2. Text in Section 4.11.7.2 (Alternative Submarine Cable Installation Procedures) has been revised to reflect the changes to APM GS-2, as follows:

> Nonetheless, either rocky soil conditions, ~~or~~ existing (but unknown) cables crossing the route, or other seismic safety design considerations may not ~~physically~~ allow the cables to be buried.

F-11 The overview table showing significance criteria determinations for Section 5.3, Air Quality, has been updated to reflect the No Impact determination discussed in Section 5.3.2(a).

Additionally, Section 5.3.2(b) has been corrected in the Final IS/MND as follows:

…consistent with the emission calculations that appear in PG&E's application, shown in Appendix A (PG&E, 2013).

F-12 The description of Marine Habitat in Section 5.4.1 (Biological Resources, Setting) has been revised in the Final IS/MND as follows to be consistent with Section 4 (Project Description).

The depth ranges from approximately 30 feet deep along the southern portion to ~~70~~ 80 feet deep along the northern portion of the proposed submarine route…

Section 5.4.1 under Special-Status Plants and Animals has been revised in the Final IS/MND as follows to match the descriptive narrative of individual special-status species, including great white shark, harbor porpoise and gray whale:

…there are 11 special-status marine species (fish and mammals) with high, ~~or~~ moderate, or low potential to be present in the project area:

The description of the Central California Coast Steelhead Trout in Section 5.4.1 of the Final IS/MND has been corrected as follows:

The entire San Francisco Bay, including the proposed submarine cable route, is designated as critical habitat for Central California Coast steelhead ~~along the~~.

See Response to Comment F-9 for revisions made to MM B-2 and MM B-3.

F-13 See Response to Comment F-9 for revisions made to MM C-1.

The discussion of Applicable Standards and Regulations in Section 5.6.1 (Geology and Soils, Setting) has been revised as follows to match the language in the California Building Code and International Building Code:

As the Proposed Project lies within ~~Seismic Zone 4~~ a high seismic hazard area, provisions for design should follow the requirements of Chapter 16 of the CBC,…

The legend in Figure 5.6-3 has been corrected in the Final IS/MND to match the liquefaction zone illustrated in the figure.

Section 5.10.1 (Land Use and Planning, Setting) and Section 5.10.2(b) under Central Waterfront have been revised to reflect the current land acquisition negotiations between PG&E and NRG. See also Responses to Comment F-6 and F-10.

Two sections of the cable along the southern line would be located in private property, 760 feet in the ~~DHL~~ NRG Potrero LLC property and a second 100-foot-long portion connecting the proposed Potrero Switchyard to the cable in franchise (public ROW) in 23rd Street (PG&E, 2012a, pp. 2-33 and 2-34). A Temporary Construction Easement approximately 40- ~~50-~~feet wide and a permanent ~~30 feet wide~~ easement ranging from approximately 10-feet to approximately 40-feet wide would be acquired from the private property owner beyond the DHL gate.

Section 5.10.2(b) has been corrected in the Final IS/MND as follows:

~~AMP~~ APM LU-1 would require PG&E to provide the public with advance notification of construction activities, between two and four weeks prior to construction and ~~AMP~~ APM LU-2 would require PG&E to identify and provide a public liaison person before and during construction…

The text in Section 5.10.2(b) under Rincon Hill has been revised as follows in the Final IS/MND to ensure consistency with MM N-2:

> Furthermore, Mitigation Measure N-2 would ensure that PG&E obtains the special permit, if required, from the Director of Public Works or Building Inspection in anticipation of 24-hour HDD activity.

Section 5.10.2(b) has been revised as follows in the Final IS/MND to ensure consistency with the correct description of BCDC's jurisdiction under the Regulatory Setting in Section 5.10.1:

> **Potrero Switchyard Site**. The new Potrero 230 kV Switchyard would not be located within BCDC jurisdictional areas because it is located outside the 100-foot shoreline band of the bay. The switchyard is also outside of the planning area of ~~either~~ both the Port's Waterfront Land Use Plan ~~or~~ and the Pier 70 Preferred Master Plan.

Similar to the modification to Section 5.10.2(b) above, Section 5.12.2(a) has been revised as follows in the Final IS/MND to ensure consistency with the requirements in MM N-2:

> Mitigation Measure N-2 would ensure that PG&E obtains the special permit, if required, from the Director of Public Works or Building Inspection in anticipation of 24-hour HDD activity, should it become necessary.

See Response to Comment F-9 for revisions made to MM N-2.

Section 5.14.1 (Public Services, Setting) has been corrected under Parks as follows:

> Section 5.15 (Recreation) lists existing parks nearby to the project area, including ~~eight~~ nine existing parks and one park with recreational boater access that is within 0.75 miles of the marine segment of the project.

F-14 See Response to Comment F-9 regarding minor text changes to MM B-2, MM B-3, MM C-1 and MM N-2.

F-15 The following revisions to Section 4 (Project Description), Section 5 (Initial Study) and Section 6 (Mitigation Monitoring Plan) reflect refinements that have been made by PG&E to the Potrero 230 kV Switchyard. In addition, Figure 5.1-3b (Visual Simulation from 23rd Street East of Illinois Street) and Figure 5.1-4b (Visual Simulation from 23rd Street at Illinois Street) have been revised to reflect the refinements to the switchyard.

Section 4.10.3 (Potrero 230 kV Switchyard) has been revised in the Final IS/MND as follows:

> The proposed Potrero 230 kV Switchyard and GIS building area would require acquisition of a site of approximately 1.025 acres or 44,700~~41,200~~ square feet. Impermeable surfaces would include the building roof of approximately 8,500 square feet and concrete or paved outdoor equipment areas of approximately 10,000 square feet. Additionally, the remainder of the yard (approximately ~~23~~26,000 square feet) would likely have a combination of gravel and concrete/asphalt surfaces.
>
> …
>
> The building height would be approximately ~~40~~ 34 feet above grade to accommodate the GIS electrical equipment and a parapet wall, and building dimensions would

be approximately 136 feet by 62 feet. The building's cladding would be a light neutral color with a non-reflective finish (p.3.1-20 of PG&E, 2012a). Including the outdoor equipment, the new Potrero 230 kV Switchyard would cover an area of approximately ~~190 feet by 110 feet with added room for maintenance vehicle access~~0.7 acres (measuring all areas within the perimeter wall and façade). Outdoor equipment would be partitioned from the GIS building with firewalls. The proposed outdoor equipment includes one new 230/115 kV transformer, one new 230 kV shunt reactor, and their respective cable-to-air bushing connections. These would be shielded from the street by a new 10-foot-tall masonry wall around the perimeter of the new 230 kV switchyard, except for the southern front of the GIS building, which would act itself as the perimeter boundary on that side. The perimeter wall would include a minimum of one 20-foot-wide access gate via 23rd Street, and the ~~wall~~ facility perimeter would be set back at least 3 feet away from the southern property line to allow for new landscaping. An existing gate from 23rd Street onto the Michigan Street alignment would be widened to allow for access to the western side of the facility through another gate in the perimeter off of the Michigan Street alignment.

Section 4.11.3 (Staging Areas, Onshore Staging) has been revised in the Final IS/MND as follows:

- Staging Alternative 1 would be located on ~~GenOn~~ NRG property north of 23rd Street east of Illinois Street, to the north of the proposed Potrero 230 kV Switchyard. The L-shaped area is approximately ~~0.9~~0.76 acres extending north of the proposed switchyard construction work area, comprising of ~~two~~ three rectangular shaped areas approximately ~~215~~ 135 feet by ~~60~~ 145 feet, 120 feet by 25 feet, and ~~170~~ 160 feet by ~~140~~ 65 feet.

The description of the Potrero Switchyard under Project Components in Section 5.1.2 (Aesthetics, Environmental Impacts and Mitigation Measures) has been revised in the Final IS/MND as follows:

The 23rd Street frontage of the site would include ~~an~~ entry gates on both the east and west sides of the facility and an architectural building façade or 10 foot-tall masonry wall that would partially screen outdoor components.

The switchyard equipment building height in Table 5.1-3 (Approximate Dimensions of Major Project Components) has been revised in the Final IS/MND as follows:

Table 5.1-3. Approximate Dimensions of Major Project Components

Components (Number of Elements)	Height (feet)	Length (feet)	Width (feet)
Equipment Building (1)	34 ~~40~~	136	62

The discussion under VP-1 (Close-range View from 23rd Street) in Section 5.1.2 (Aesthetics, Environmental Impacts and Mitigation Measures) has been revised as follows:

Figure 5.1-3b shows the same view with a simulation of how the wall and structure preliminarily proposed to be constructed would appear. Planned landscape vegetation along the wall is shown. Based on further stakeholder consultation and design work by PG&E since the Proponent's Environmental Assessment was submitted, PG&E may construct the GIS facility with an architectural façade open to 23rd

Street, rather than a perimeter wall as shown in the figures herein. Such a design would be expected to further reduce the already less-than-significant visual impacts associated with the Proposed Project.

…

Visual Change: Low to Moderate. The visual simulation portrays the proposed Potrero 230 kV Switch-yard based on preliminary design, including the southern façade of the building that encloses most of the individual switchyard elements, and the masonry screening wall and entry gate from 23rd Street (Figure 5.1 3b). As noted above, PG&E has consulted with stakeholders and recently refined its design for the switchyard, including adding the potential for two entry gates from 23rd Street, as well as allowing an architectural façade on the GIS building to serve as the south-facing perimeter rather than the masonry wall. These minor design revisions would further reduce the less-than-significant visual change impacts associated with the Proposed Project.

The discussion under VP-2 (View from 23rd Street at Illinois Street) in Section 5.1.2 (Aesthetics, Environmental Impacts and Mitigation Measures) has been revised as follows:

Visual Change: Low to Moderate. The visual simulation from this location (Figure 5.1-4b) shows the preliminary design of the new Potrero Switchyard, including the new equipment building and screening wall with planting and an entry gate along 23rd Street. As noted above, PG&E has consulted with stakeholders and recently refined its design for the switchyard, including adding the potential for two entry gates from 23rd Street, as well as allowing an architectural façade on the GIS building to serve as the south-facing perimeter rather than the masonry wall. These minor design revisions would further reduce the less-than-significant visual change impacts associated with the Proposed Project. In addition, a small upper portion of the new shunt reactor would be slightly visible beyond the switchyard wall.

Section 5.5.2(a) under Cultural Resources has been revised in the Final IS/MND as follows:

LESS THAN SIGNIFICANT. Construction of the proposed Potrero 230 kV Switchyard and GIS structure would modify the visual setting of the former Potrero Power Plant by introducing a new industrial building to the west of and approximately adjacent to a multi-story brick industrial building within the former power plant site (Station A) and by potentially removing or modifying the existing brick wall that fronts Station A.

APM CUL-8 has been modified as suggested by PG&E in Table 4-5 in Section 4.13; Table 5.5-4 in Section 5.5.1; and Table 6-1 in Section 6.2 of the Final IS/MND, as follows:

Apply Secretary of the Interior Standards for the Treatment of Historic Properties to Brick Wall Modifications. The gate in the brick wall that fronts Station A ~~will~~ may be widened and the wall removed or modified to allow access for large transformer equipment and future maintenance activities.

F-16 See Response to Comment A-7 regarding California Department of Fish and Wildlife's concerns about potential effects of electromagnetic fields (EMF) on marine species from installation of the underwater cable for the Proposed Project.