

PG&E FULTON-FITCH MOUNTAIN RECONDUCTORING PROJECT (A.15-12-005)

Table 1 Data Needs #2

ID	Applicant References	Issue	Data Need	PG&E Response
Introduction (IN)				
IN-01	<p>PEA: 00c Index to CPUC PEA Requirements</p> <p>Other: Response to DR #1 (IN-01 and IN-02)</p>	<p>Public and agency outreach</p> <p>In response to DR #1 (IN-01), PG&E stated there were in the process of contacting schools along the project alignment and setting up meetings with school principals.</p> <p>In response to DR #1 (IN-02), PG&E stated that they were undertaking additional outreach to property owners with particular project issues and scheduled to meet with the Town of Windsor on January 25, 2016. Additionally, PG&E stated they would continue outreach to other local agencies.</p> <p>Updated information is needed regarding PG&E's outreach efforts and outcomes with residents, landowners, and agencies.</p>	<p>a. Provide a description of any outreach and meetings with school officials, including dates, names, and a summary of any outcomes.</p> <p>b. Provide a description of public outreach efforts with residents and property owners who have raised issues with the project, including a summary of any concerns that would be addressed.</p> <p>c. Provide a description of meetings regarding the project with the Town of Windsor and a summary of any outcomes.</p> <p>d. Provide an updated summary of outreach efforts to other local agencies in 2016, as applicable (also see REC-01 below regarding outreach to Sonoma County Regional Parks Department).</p>	<p>a. On February 18, 2016, PG&E met with the superintendent and acting interim principal for Mark West School and the principal of the San Miguel Charter School, both located along the 230kV segment of the project. Included in that meeting was our EMF expert, Michael Herz. At this meeting, PG&E described the need for the project and discussed construction-related issues related to the schools, including expressing our desire to perform this work outside of school session (summer). Mr. Herz discussed EMF, including previous discussions he has had with the schools. He gave a general presentation on EMF, including describing why our project is not expected to increase EMF exposure. He also described the typical EMF producers found in Schools and homes. We indicated that as we move closer to a possible construction start, we will reengage with the school to work on project schedule coordination. All parties agreed that a public open house would be a good idea prior to construction.</p> <p>b. Weston Ranch: On March 25, 2016, PG&E staff met with Mr. and Mrs. Richard Weston on the Weston Ranch to physically review all work locations within their property as well as to hear the concerns from the Weston Family related to this project. As a follow-up, PG&E sent correspondence to Mr. Weston on June 13, 2016 responding to several questions posed by the Mr. and Mrs. Weston, both in the field and after the meeting via email. In attendance at this meeting for PG&E were: Nate Lishman, Sr. Land Planner; Brandon Pintane, Construction Foreman; and Steve Loechl, Principal Right-of-way Agent. Carol Rombiero: On June 28, 2016, PG&E met with Mrs. Carol Rombiero to review all work planned within her property as well as to hear any concerns the Rombiero Family may have related to this project. The concern expressed by Mrs. Rombiero was in relation to the three-pole structure currently on her property. She would prefer PG&E only leave one pole after completion of the work rather than two, as planned. In attendance at this meeting for PG&E were: Nate Lishman, Sr. Land Planner; Brandon Pintane, Construction Foreman; and Steve Loechl, Principal Right-of-way Agent. Minaglia Ranch: On June 28, 2016, PG&E met with Mr. John Minaglia to review all work planned within the Minaglia Ranch, including work spaces and LZ's, and to listen to any concerns the Minaglia Family may have related to this project. Discussion primarily focused around land rights and access. At the request of Mr. Minaglia, only Nate Lishman, Sr. Land Planner was in attendance from PG&E.</p> <p>c. On January 25, 2016, PG&E Sr. Land Planner Nate Lishman met with representatives from the Town of Windsor to discuss the project. The primary area of consideration raised by the town was in regards to Sonoma County Parks. They were pleased that we had already reached out to Mr. Bert Whitaker, Director Sonoma County Parks. All other items discussed during this meeting were regarding the Windsor Substation Project.</p> <p>d. On October 5, 2015, PG&E met with Sonoma County staff to provide them with an overview of the project. County staff members included Bert Whitaker, Director of County Parks, and Reg Cullen, representing the Permit and Resource Management Department. At this meeting, PG&E described the need for the project and discussed construction-related issues related to the County of Sonoma and its residents, including work in parks and County rights-of-way and the need for PG&E to obtain encroachment permits from the County. In response to a request for a position statement, PG&E received an email statement from Mr. Cullen confirming the meeting with PG&E and indicating that County staff was prepared to work with PG&E to process any encroachment and/or other permits required for the project.</p>
Project Description (PD)				
PD-01	<p>PEA: 00c Index to CPUC PEA Requirements 2.3.3 Substation Modifications 2.5.3 Substation</p>	<p>Fitch Mountain Substation modifications</p> <p>In response to DR #1 (PD-09), PG&E provided an existing plan for the Fitch Mountain Substation and stated that engineering plans for changes at Fitch Mountain Substation will be provided when available. Engineering plans have not been</p>	<p>a. Provide a diagram of the proposed control building and a description of key aspects of the building such as surface color, material, finish, etc.</p> <p>b. Describe the capacity of the existing motor switches and proposed circuit breakers. State if the equipment is oil filled,</p>	<p>a. Please see attached draft sketch (Fitch_MTN_Ctrl_Bldg.pdf). As currently planned, the control building will be approximately 15'-4" (W) X 40'-0" (L) X 10'-8" (H) consisting of a pre-assembled (one building, two rooms), modular structure. The building's exterior wall and roofing will likely be 24 gauge, ribbed Galvalume steel panels with a coil-coated, baked-on, Kynar-500 PVDF resin-based finish over a baked-on Kynar-500 compatible primer, in "Light Stone" color.</p> <p>b. The existing switches consist of three 69 kV/600 A motor-operated air switches. PG&E proposes to replace the existing switches with two 72.5 kV/1200 A/31.5 kA SF₆ gas insulated circuit breakers and one 72.5 kV/1200 A</p>

DATA NEEDS #2 – SEPTEMBER 12, 2016

ID	Applicant References	Issue	Data Need	PG&E Response
	<p>Modifications</p> <p>Other:</p> <p>Response to DR #1 (PD-09)</p>	<p>provided to date.</p> <p>Additional details are needed about the proposed control building are needed, proposed circuit breakers, potential communication lines, and the potential need for temporary work areas outside of the substation fence line.</p> <p>Specific access routes that would be used during substation construction should be specified (also see PD-07 below regarding access roads).</p>	<p>describe existing and proposed spill containment and countermeasure procedures that are/would be implemented.</p> <p>c. State if communications lines would be installed or replaced at the substation.</p> <p>d. Provide GIS data for any work area boundaries that would be located outside of the substation perimeter fence, such as for crane operation, parking, or staging materials or equipment. Describe any site development requirements that may be needed, such as vegetation clearing or trimming and/or grading/blading.</p> <p>e. Identify the specific access routes that would be used to access the substation during construction (also see PD-07). Describe any road improvement, stabilization, or vegetation clearing/trimming that may be needed along substation access routes.</p>	<p>motoroperated air switch. Because neither the existing nor the proposed equipment is oil-filled, there is no need for Spill Prevention Control and Countermeasure (SPCC).</p> <p>c. No new communication lines will be installed. Existing communication lines will be relocated rather than replaced.</p> <p>d. No work areas have been located outside of the substation perimeter fence.</p> <p>e. Construction equipment will access the substation using the existing gravel access road. Vegetation trimming may be required along the road margins to allow sufficient clearance for construction vehicles.</p>
<p>PD-02</p>	<p>PEA:</p> <p>2.5.1.1 Fulton-Shiloh Segment</p> <p>Other:</p> <p>Response to DR #1 (PD-07)</p>	<p>Project pole details</p> <p>In response to DR #1 (PD-07), PG&E provided GIS point data for existing and proposed poles that include attributes such as the proposed action for existing poles, pole types, and the approximate heights for poles that would be installed or removed. The characteristics and proposed actions were blank in the GIS data for several poles. Pole locations and the corresponding pole IDs are shown on the detail maps included as Attachment A-1. Project pole details are summarized in the spread sheet included as Attachment B.</p> <p>GIS data for existing poles identifies a pole for the Fulton-Hopland line (Pole 105) just north of where the line meets the Fitch Mountain #1 Tap, and just past the limits of proposed reconductoring. The pole type and proposed activities are not defined for the existing Pole 105. GIS data for proposed poles identifies a replacement pole with the same pole ID (Pole 105) approximately 600 feet southwest along the Fitch Mountain #1 Tap. Additional information is needed for the existing and proposed Pole 105 identified in the GIS layers. These pole locations are identified in Attachment A-1 (Map 26).</p> <p>The PEA project description states that existing insulators in the Southern Segment would be replaced, primarily with ceramic</p>	<p>a. Provide information on the highlighted pole characteristics identified in Attachment B, which are summarized as follows:</p> <ul style="list-style-type: none"> • Define the pole types and proposed activities for Poles 0a, 0b, 0c, 1, 2, 3, 4, 5, and 6 • Define the proposed activities for TSPs 7a, 7b, 7c, and 7d • Provide the existing heights for Poles 91 and 92 • Identify the proposed activities for existing Pole 105 and state if the proposed Pole 105 location along the Fitch Mountain #1 Tap is accurate. Provide revised pole locations and characteristics, if applicable <p>b. Describe project activities that would occur at Pole 106, which is labeled as "switch" in the GIS data provided by PG&E.</p> <p>c. State if any structures would require guy support poles in addition to guy wires.</p>	<p>a. Information on the highlighted pole characteristics identified in Attachment B is as follows:</p> <p>Map 1: Poles 0a-c are provided for engineering context: Pole 0a is the Fulton Takeoff; Pole 0b is the Cap Bank Tie Deadend; and Pole 0c is the 230 kV Pulloff. No work is proposed for these locations.</p> <p>Map 1: Poles 7a-d are part of the Geysers-Fulton 230 kV Transmission Line. The Geysers #12-Fulton will be reconducted to poles 7a and 7d. Insulators will be replaced on these structures. Poles 7b and 7c are provided for engineering context; no work is proposed for these locations.</p> <p>Map 26: Pole 91 is approximately 55 feet tall; pole 92 is approximately 65 feet tall.</p> <p>Map 26: No activities are proposed at either Pole 105 locations on Map 26; these poles were included for engineering context.</p> <p>b. Crew will install temporary conductor from Geysers #12-230kv to Geysers #17-230kv at tower 106. Once the two circuits are tied together, crew will open up jumpers at tower 106 on Geysers #12 circuit going towards Fulton. This will allow a clearance to be established on the Geysers #12 circuit from open jumpers at the tower to switches at Fulton Substation</p> <p>c. No guy support poles are currently planned.</p>

DATA NEEDS #2 – SEPTEMBER 12, 2016

ID	Applicant References	Issue	Data Need	PG&E Response
		<p>insulators, and composite insulators will be used at the TSP and dead-end structure at Fulton Substation. For existing structures identified by PG&E south of State Route (SR) 101, it is not clear which of the structures would have insulators replaced and which structures would be accessed for the project.</p> <p>Pole 106 is identified in the GIS data for existing poles but a description of work at the location has not been provided. The pole is located approximately 10 miles northeast of the project alignment along what appears to be the Geysers-Fulton 230 kV Transmission Line, and labeled as a "switch" pole. A description of project activities at this pole are needed. A map showing the location of Pole 106 is included as Attachment A-2.</p> <p>Note: CPUC assigned unique pole IDs for three undefined structures in Fulton Substation that were not give IDs (i.e., Poles 0a, 0b, and 0c as shown in Attachment A-1, Map 1). CPUC changed the northern of two poles labeled Pole 55 to Pole 56. It should also be noted that there is no Pole 24.</p>		
<p>PD-03</p>	<p>PEA: 2.3.1 Fulton-Shiloh Segment</p> <p>Other: Response to DR #1 (PD-02)</p>	<p>Distribution pole relocation in the Southern Segment</p> <p>The PEA stated that one wood pole on a 12 kV distribution line along Old Redwood Highway would be relocated.</p> <p>In response to DR #1 (PD-02), PG&E provided the coordinates for two existing distribution poles carrying the span that crosses under the 60 kV line between TSPs 14 and 15, and stated "the new pole locations have not yet been determined."</p>	<p>a. If proposed locations for the pole(s) cannot be provided, describe the approximate relocation direction and distance range from the current position(s).</p> <p>b. State if the existing distribution poles and hardware would be reused, or if a new pole and hardware be installed during relocation. If new poles would be installed, provide the type, material, and height of the existing pole and proposed poles.</p>	<p>a. Proposed locations are not available. If ultimately required by final engineering design, the distribution pole would be moved along Old Redwood Highway in either direction from its existing location to a location in line with the existing alignment.</p> <p>b. If required, any replacement pole would be a similar type, material, and height to the existing pole.</p>
<p>PD-04</p>	<p>PEA: 2.7.2.1 Pole Work Areas</p> <p>Other: Response to DR #2 (PD-01)</p>	<p>Pole and guard structure work areas</p> <p>In response to DR #2 (PD-01(a)), PG&E provided an approximate size for LDSPs, TSPs, and guard structures work areas, but did not provide proposed boundaries for these areas, stating that the pole work areas will shift around the pole locations depending on conditions on the ground. In addition, no information has been provided about the size or boundaries of work areas where existing poles would be accessed and left in place (i.e., TSPs in the Southern Segment) and existing poles that would be permanently removed in the Northern</p>	<p>a. Provide GIS data for the anticipated work area boundaries for the following, which should include sufficient space to accommodate ground condition changes:</p> <ul style="list-style-type: none"> • Existing TSPs and dead-end structures in the Southern Segment • Existing wood poles, LDSPs, H-Frame structure, and three-pole structures along the Northern Segment and Fitch Mountain #1 Tap • Proposed LDSPs and TSPs along the Northern Segment and Fitch 	<p>a. Work area boundaries will be of the approximate size provided in the response to DR #2 and located within the areas surveyed for resources. The circular work areas provided by the CPUC are not representative of construction work areas, which will be configured prior to construction to avoid environmental impacts.</p>

DATA NEEDS #2 – SEPTEMBER 12, 2016

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		<p>Segment.</p> <p>In response to DR #2 (PD-01 (b)), PG&E described two unique LDSP work areas for Poles 27 and 28 that would be twice as large as other LDSP work areas (0.4 acre) due to topographic constraints. GIS data for larger work area sighting zones was provided for Poles 27 and 28, that were 1.68 and 0.65 acres in size, respectively.</p> <p>Preliminary project detail maps based on GIS data provided by PG&E are included as Attachment A-1. Circular representative pole and guard structure work areas were prepared by CPUC using the descriptions provided by PG&E. Copies of the GIS layer files are included in Attachment E.</p>	<p>Mountain #1 Tap</p> <ul style="list-style-type: none"> • Temporary guard structures 	
<p>PD-05</p>	<p>Other:</p> <p>Response to DR #1 (PD-06)</p> <p>Response to DR #2 (PD-01)</p>	<p>Pull sites</p> <p>Additional information is needed regarding pull site locations that have been identified or may be needed in the Northern Segment. Pull sites are typically oriented in the direction of line pulling and tensioning, and at either end of pulling segments, such as pull sites PS-4 and PS-5. There are multiple locations in the Northern Segment that may need pull sites identified due to span distances and directional changes of the power line. Some of these locations are identified on the detail maps included in Attachment A-1.</p>	<p>a. State if the following proposed and alternate staging areas identified directly under project lines would be used as pull sites, and if any pull sites at these locations would be needed if alternate staging areas are used, where applicable: LSA-1 at Pole 11, and LSA-2 at Pole 15, SA/LZ-3 and Pole 31, SA-LZ-4 at Pole 52, and SA/LZ-6 (Alt. A) at Pole 85. Provide GIS data for the approximate pull site boundaries within proposed and alternate staging areas that would be needed if alternate staging areas are used.</p> <p>b. State if the pull site located at Pole 23 (PS-6) sufficient in size and orientation to facilitate reconductoring of the Fulton-Hopland Line in a northward direction (see PS-4 and PS-5). If more workspace is needed, provide GIS for the work area boundaries.</p> <p>c. State if pull sites would be needed somewhere between PS-7 and SA/LZ-4, or between PS-8 and PS-9, due to the span distance and angle changes.</p> <p>d. State if a pull site would be needed northwest of Pole 92 to reductor the 60 kV line on Poles 91 and 92. If additional pull sites are needed, provide GIS data for the work area boundaries.</p>	<p>a. The pull sites that PG&E has identified are of the size and orientation to facilitate reconductoring of the Fulton-Hopland Line in a northward direction.</p> <p>b. PS-6 is sufficient in size and orientation to facilitate reconductoring of the Fulton-Hopland Line in a northward direction.</p> <p>c. No additional pull sites are anticipated between PS-7 and SA/LZ-4 or between PS-8 and PS-9.</p> <p>d. No additional pull sites are anticipated north of pole 92 (Fitch Mountain #1 Tap pole).</p>
<p>PD-06</p>	<p>PEA:</p> <p>2.7.1 Staging Areas</p> <p>Other:</p> <p>Response to DR #1 (PD-11)</p> <p>Response to DR #2</p>	<p>Proposed and alternate staging areas</p> <p>During a site visit with CPUC and PG&E on January 20, 2016, PG&E stated that no outreach with landowners had occurred regarding use of land where proposed staging areas have been identified.</p> <p>In response to DR #1 (PD-11), PG&E stated</p>	<p>a. Provide a description of outreach efforts to landowners where proposed and alternate staging areas are located. At a minimum, PG&E should initiate discussions with landowners where staging areas are located, to inform them about the proposed or potential construction</p>	<p>a. Acquisition of land rights issues are not within the jurisdiction of the CPUC. Landowner outreach for temporary construction easements will begin in early 2017.</p> <p>b. PG&E intends to use the staging areas proposed in the PEA. If necessary, PG&E would select alternate staging areas based on their proximity to the transmission line and suitability for use as a staging area. Suitability may be understood to mean an area that is accessible to construction vehicles, relatively large and clear, topographically flat, within the area surveyed for the PEA, and which can be configured to avoid environmental impacts that have not been identified, analyzed, and disclosed in the PEA.</p>

DATA NEEDS #2 – SEPTEMBER 12, 2016

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	(PD-01)	<p>that written statements from landowners authorizing use of staging area sites were not yet available.</p> <p>In response to DR #2 (PD-01), PG&E provided GIS data for four alternate staging areas.</p> <p>More information is needed regarding the availability of proposed and alternate staging areas, and the selection and use of alternate staging areas.</p>	<p>activities that would occur at staging areas on their property.</p> <p>b. Describe how alternate staging areas would be selected at the time of construction.</p>	
PD-07	<p>PEA: 00c Index to CPUC PEA Requirements 2.7 Construction 2.7.3 Access Roads Other: Response to DR #1 (PD-06)</p>	<p>Missing access routes and access clarifications</p> <p>In response to DR #1 (PD-06), PG&E provided GIS data that identified proposed access routes for the project; however, several poles do not have access routes identified that would allow for ground based access. In addition, access has not been identified to the Fitch Mountain Substation (see PD-01).</p> <p>Locations where access routes have not been identified are noted in the project detail maps included as Attachment A-1. Copies of the GIS layer files are included as Attachment E.</p>	<p>a. Provide GIS data for proposed access routes needs to the Poles 72, 104, and 105 (new pole location along the Fitch Mountain #1 Tap – see PD-04), and the Fitch Mountain Substation. Include attributes for the road type any anticipated road improvements or vegetation trimming.</p> <p>b. Describe any unique access considerations for the new routes and identify any new water crossings and proposed avoidance methods, if applicable.</p>	<p>a. Access to Pole 72 (Windsor Oaks Conservation Easement) will be along the alignment. If necessary at the time of construction, nonnative grassland along the alignment will be mowed. Access to Pole 104, which is the second pole on Fitch Mountain #1 Tap, will be by helicopter or along the tap alignment from Bailhache Road. See PD-02 for discussion concerning Pole 105. Please note that all information on access is preliminary and subject to ground conditions at the time of construction. Minor alterations in the access routes may be necessary to support project construction. PG&E has identified alternative access to poles 74-76 which avoid water crossings. GIS for these routes and proposed access routes along the tap and into Fitch Mountain Substation will be provided.</p> <p>b. No unique access considerations or water crossings are identified for the routes along Fitch Mountain #1 Tap alignment or the existing gravel road into Fitch Mountain Substation. Biological reconnaissance is being prepared for the route along the tap alignment and will be provided upon completion.</p> <p>PG&E has attempted to identify and provide biological, cultural, and water crossing surveys for a comprehensive set of project access routes and potential backup routes that could be used in the event that preferred access routes become unavailable. However, it remains possible that alternate, comparable and as-yet unidentified access routes may be required that are not included in the routes that have been surveyed to date or are outside of the previously surveyed areas for biological and/or cultural resources. In this event, PG&E will 1) configure routes to avoid impacts to environmental resources beyond those that have been analyzed and disclosed in the PEA, and 2) provide documentation of cultural and biological reconnaissance surveys to the CPUC prior to their use.</p>
PD-08	<p>PEA: 00c Index to CPUC PEA Requirements 2.7.4 Vegetation Clearance Other: Response to DR #1 (PD-14)</p>	<p>Vegetation clearing during construction</p> <p>In response to DR #1 (PD-14), PG&E stated that information regarding tree removal was being developed, and provided a description of select locations where vegetation clearing is anticipated. PG&E also stated that a map of the vegetation clearing locations was being prepared and would be submitted when available. Additional information or maps regarding vegetation clearing and tree removal have not been provided to date.</p> <p>Vegetation mapping is addressed below in BR-03. Tree removal estimates are addressed in BR-04.</p> <p>Mid-span vegetation clearing was described between Poles 23 and 25, and 51 and 52. No work area is shown were mid-span vegetation clearing is described between Poles 23 and 25, and it is not clear if vegetation clearing between Poles 51 and 52 would occur entirely within the</p>	<p>a. Provide a description of proposed "full span tree work" that would occur between Poles 23 and 25.</p> <p>b. Provide GIS data for the mid-span work areas where vegetation removal would occur between Poles 23 and 25, and 51 and 52.</p>	<p>a. Under current plans, no trees will be removed between Poles 23 and 25; however, standard line clearance trimming will be performed.</p> <p>b. Under current plans, three oak trees will be trimmed and one unit of brush will be removed at approximately 38.557688° N, 122.781555° W as required under GO-95.. A kmz of these locations will be provided.</p>

DATA NEEDS #2 – SEPTEMBER 12, 2016

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		adjacent staging area/landing zone (SA/LZ-4).																																									
PD-09	<p>PEA: 2.8 Operation and Maintenance</p> <p>Other: Response to DR #1 (PD-17)</p>	<p>Vegetation clearance during operation & maintenance</p> <p>In response to DR#1 (PD-17) regarding vegetation maintenance, PG&E stated that Public Resource Code § 4292 requires that poles with non-exempt equipment maintain a minimum 10-foot circle free of vegetation at the base of the pole.</p> <p>Existing and proposed poles with non-exempt equipment should be identified in order to compare the existing and proposed long-term impacts to vegetation.</p>	<p>a. Using the pole IDs from Attachment B, identify existing poles and proposed poles for the project with non-exempt equipment that would be maintained free of vegetation within a 10-foot circle.</p> <p>b. Describe how vegetation clearance is and will be maintained in these areas, and state if herbicides are used as described below in HAZ-01.</p>	<p>a. Based on additional review, PG&E has determined that there are currently no existing or proposed poles with non-exempt equipment that must be maintained free of vegetation within a 10-foot circle as required by Public Resource Code § 4292.</p> <p>b. See response a.</p>																																							
PD-10	<p>PEA: 2.7.5 Erosion and Sediment Control and Pollution Prevention during Construction</p> <p>Other: Response to DR #1 (PD-15)</p>	<p>Ground disturbance and cut-and-fill volumes</p> <p>The PEA Project Description does not address specific areas of soil disturbance including acreage totals or cut-and-fill volumes.</p> <p>In response to DR #1 (PD15), PG&E stated that information regarding soil disturbance and cut-and-fill volumes was not yet available, and such information has not been provided to date.</p> <p>During the joint CPUC and PG&E site visit on January 20, 2016, PG&E identified the location of an access road and pull site (PS-6) at Pole 23 located within the Shiloh Ranch Regional Park. Due to the uneven ground and dense vegetation at the location, it appears more than minor grading and blading would be required, and cut-and-fill may be necessary to develop an adequate working surface. Two photos of the location are included as Attachment C. The proposed work area for PS-6 is approximately 100 feet wide by 510 feet long, as shown in the project detail maps (Map 4).</p> <p>Information on soil disturbance and cut-and-fill volumes is needed to analyze potential impacts, including those associated with biology, cultural, paleontological, hydrology, geology and soils, and aesthetics.</p>	<p>a. Using the refined GIS data for proposed work areas and where access roads would be improved, provide a table summarizing potential ground disturbance acreages for the project, broken down by work area type, access route, and by the Southern and Northern Segments. Include notes regarding assumptions used to prepare the values.</p> <p>b. Provided a table with estimated cut-and-fill volumes in cubic yards for each work area location where more than surficial blading or grading would occur (also see GSS-1). If cut material would be removed from the site or if supplemental fill material would be transported to the site, provide estimates for the number of haul trips that would be needed for each location, and the typical truck capacity for each soil haul trip in cubic yards.</p> <p>c. Provide preliminary construction plans for proposed development of the work area and access road at Pole 23, the adjacent pull site (PS-6), and where "full span tree work" would occur between Poles 23 and 25. Included estimates for total cubic yards of cut-and-fill soil.</p>	<p>a. Proposed Work Area Estimated Ground Disturbance Acreages</p> <table border="1"> <thead> <tr> <th rowspan="2">Work Area Type</th> <th>Southern Segment</th> <th>Northern Segment</th> </tr> <tr> <th colspan="2">Approximate acres disturbed</th> </tr> </thead> <tbody> <tr> <td>Pull sites</td> <td>2.8 – 3.2</td> <td>5.8 – 6.2</td> </tr> <tr> <td>Landing zones</td> <td>1.8 – 2.2</td> <td>1.6 – 2</td> </tr> <tr> <td>Access Roads</td> <td>0.8 – 1.2</td> <td>14 – 16</td> </tr> <tr> <td>Additional work areas or turn arounds</td> <td>> 1/4</td> <td>> 1</td> </tr> </tbody> </table> <p>Notes: 1. Areas of disturbance for Landing Zones, Pull Sites, Turnaround Areas and Laydown Yards include a 20-foot construction "buffer" around the perimeter of the site. 2. Quantities for combination pull sites/landing zones were included in the totals for pull sites.</p> <p>b. Estimated Cut-and-Fill Volumes for Each Work Area Location with More than Surficial Grading</p> <table border="1"> <thead> <tr> <th rowspan="2">Work Area Type</th> <th>Southern Segment</th> <th>Northern Segment</th> <th rowspan="2">Estimated Truck Haul Trips</th> </tr> <tr> <th colspan="2">Approximate cubic yards cut-and-fill</th> </tr> </thead> <tbody> <tr> <td>Pull sites</td> <td>4,000 – 4,900</td> <td>8,200 – 10,000</td> <td>1,229</td> </tr> <tr> <td>Landing zones</td> <td>2,400 – 2,900</td> <td>1,300 – 1,500</td> <td>307</td> </tr> <tr> <td>Access Roads</td> <td>400 - 500</td> <td>50 - 100</td> <td>26</td> </tr> <tr> <td>Additional work areas or turn arounds</td> <td>8,00 – 1,000</td> <td>700 - 900</td> <td>143</td> </tr> </tbody> </table> <p>Notes: 1. Proposed work areas may have some grading to cut bumps and fill voids that are greater than six inches but less than one foot. Based on past conversations with Sonoma County on a previous PG&E project, the County considers this level of cut and fill slightly more than surficial and recommends using an average depth of two inches over the entire disturbed areas as a basis of computing earthwork. 2. Quantities for combination pull sites/landing zones were included in the totals for pull sites.</p>	Work Area Type	Southern Segment	Northern Segment	Approximate acres disturbed		Pull sites	2.8 – 3.2	5.8 – 6.2	Landing zones	1.8 – 2.2	1.6 – 2	Access Roads	0.8 – 1.2	14 – 16	Additional work areas or turn arounds	> 1/4	> 1	Work Area Type	Southern Segment	Northern Segment	Estimated Truck Haul Trips	Approximate cubic yards cut-and-fill		Pull sites	4,000 – 4,900	8,200 – 10,000	1,229	Landing zones	2,400 – 2,900	1,300 – 1,500	307	Access Roads	400 - 500	50 - 100	26	Additional work areas or turn arounds	8,00 – 1,000	700 - 900	143
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DATA NEEDS #2 – SEPTEMBER 12, 2016

ID	Applicant References	Issue	Data Need	PG&E Response
				<p>3. Cut material will be used on site as fill. Supplemental fill will be transported to the site.</p> <p>4. The typical truck capacity for each soil haul trip was conservatively approximated as 10 cubic yards.</p> <p>c. See attached preliminary construction plans for PS-6. Tree work between Poles 23 and 25 is described in PD-08.</p>
<p>PD-11</p>	<p>Other: Response to Data Needs (DN) #1 (PD-02 and NS-01)</p>	<p>Reconductoring in the Southern Segment</p> <p>In response to DN #1 (PD-02), PG&E acknowledged that the Southern Segment could be constructed without the use of helicopters, and that cranes and bucket trucks could be used to replace the 126 mid-span 230 kV spacers from the ground. PG&E stated that if helicopters were not used in the Southern Segment the project schedule would be extended by at least 16 working days and additional work areas and lane closures would be necessary for the cranes and bucket trucks to operate.</p> <p>In response to DN #1 (NS-01), PG&E provided a detailed summary for the construction schedule in Table A. Clarification is needed regarding the timing of insulator replacement (referred to as TSP modifications in Table A) and conductor replacement in the Southern Segment.</p> <p>Additional information is needed regarding 230 kV reconductoring proposed to address clearance requirements, and if there are feasible alternatives that would reduce potential impacts and the duration of construction.</p>	<p>a. State if additional crane staging areas would be required, beyond the two identified, if helicopters were not used in the Southern Segment.</p> <p>b. Describe the mid-span spacer removal process, and provide details for the timing and approximate duration removal would occur, including if the spacers would be removed all at once or just immediately prior to conductor replacement for each pulling segment. State if any spacers would be removed from the 230 kV conductor over SR 101.</p> <p>c. Describe the construction process and order of operations for insulator and conductor replacement in the Southern Segment. State if insulators would be replaced prior to the conductor replacement or at the same time.</p> <p>d. Provide GIS data for additional work area boundaries in the Southern Segment that provides sufficient workspace for crane and bucket trucks to facilitate reconductoring activities without the use of helicopters. Work areas should include poles and mid-span locations where spacers would be removed and pole locations, such as a corridor. The extent of all work areas within the California Department of Transportation (Caltrans) ROW for SR 101 should be included (also see TT-02 below).</p> <p>e. State if adequate clearance could be achieved for the 230 kV line through increasing the tension in the line only, and without replacing the conductor. Describe the feasibility of this approach and reasoning for proposed reconductoring as opposed to tightening the line.</p>	<p>a. If helicopters were not used in the Southern Segment, cranes could potentially be used at each pole work area and under each mid-span spacer. Double bucket trucks with 95' booms could be used instead. Staging areas for the cranes or bucket trucks would be required at each location.</p> <p>b. PG&E proposes to use helicopters to remove mid-span spacers. An approved mid-span chair would be attached to the helicopter using an approximately 60 foot line. Two transmission line crewmembers would be seated in the chair, which has a material bag secured to its side. Prior to deploying the helicopter, PG&E would secure the area under the transmission line for public safety; where the transmission line is adjacent to the road, PG&E would close off a lane of traffic. Once the area is secured, the helicopter would lift off from the LZ and fly the seated crewmembers along the alignment to the spacer. Starting with the top phase and moving downwards, the crewmember would unbolt the spacer and place it into the material bag. Each spacer would take approximately a minute to unbolt. One the spacers are removed from the three phases, the helicopter will move along the alignment to the next mid-span spacer. The material bag holds approximately 24 spacers; once full, the helicopter will return along the alignment to the LZ to allow the crew to unload the bucket. PG&E estimates it would take approximately one day to remove the mid-span spacers using helicopters. All spacers would be removed prior to conductor replacement.</p> <p>If cranes were used to remove spacers, crews would set up a crane at the base of the TSP to reach the insulator and conductor. They first unclip the conductor from the existing insulator onto rollers and install new insulators. Then they will move the crane along the line to position it under the mid-span spacers, typically about 200' from each TSP, to remove the spacer. Once spacers are removed from the mid-span, crews will position the crane under the next TSP and repeat the process.</p> <p>All spacers will be removed prior to conductor removal except those on the span over Mark West Creek or SR 101, where the spacers can't be reached by crane or bucket truck. For these spans, crews would have to pull the line to the TSP until they can reach the spacers to remove them.</p> <p>Mid-span spacers over SR 101 will be removed.</p> <p>PG&E previously stated that there were 3 midspan spacers per span: there are actually 2, for a total of 84 midspan spacers.</p> <p>c. See previous response. Insulators will be replaced prior to conductor replacement.</p> <p>d. If helicopters were not used in the Southern Segment, work areas approximately 100' long and up to approximately 40' wide would be required under each pole and spacer to accommodate cranes or bucket trucks. GIS data has not been prepared for this option because impacts are so much less using helicopters to remove the spacers. PG&E would like to discuss this request further before spending time and money on obtaining this data. Work areas for reconductoring are not expected to extend into the Caltrans SR 101 right-of-way; however, see reply to TT-02 below for discussion of work areas for guard structures.</p> <p>e. Adequate clearance cannot be achieved for the 230 kV line by increasing the tension on the line and without replacing the conductor. The tension required to achieve adequate clearance between the existing 230 kV and replacement 60 kV conductors is greater than the existing TSPs are designed to withstand. Furthermore, changing the tension levels between the Geysers #12 and Geysers #17 circuits increases the chances of blowout issues between the two lines. Reconductoring from a bundled 1113 AAC to a single 954 ACSS will maintain existing tensions and ampacity on the 230 kV line while reducing sag and allowing PG&E to comply with GO-95 clearance requirements.</p>
Air Quality and Greenhouse Gases (AQ/GHG)				
AQ/GHG-	PEA:	Estimates for criteria air pollutants and GHG	a. Recalculate criteria air pollutants and	See attachments "Fulton Fitch CPUC Data Needs No. 2 Calcs 10082016" and "PGE Fulton Fitch 10082016"

DATA NEEDS #2 – SEPTEMBER 12, 2016

ID	Applicant References	Issue	Data Need	PG&E Response
01	<p>00c Index to CPUC PEA Requirements 3.3 Air Quality</p> <p>Other:</p> <p>Responses to DR#1 (AQ/GHG-01)</p> <p>Response to DN #1 (TT-01)</p>	<p>emissions</p> <p>In response to DR #1 (AQ/GHG-01), PG&E provided a PDF titled "Project AQ Emissions Summary and Calcs 10162015.pdf", that contain values used to determine criteria air pollutants and GHG emission estimates. The PDF included a summary of annual, average daily, and peak daily criteria air pollutant estimates with and without implementation of proposed APMs. Summaries also contained breakdown of emissions both on-site and offsite by project component, and output from the CalEEMod was also included. Construction and operational GHG emissions were included in a PDF titled "Project GHG Emissions Summary and Calcs 20150914.pdf".</p> <p>CPUC identified minor corrections that are needed to the original information provided in response to DR #1; however, prior to submitting these comments to PG&E, PG&E provided additional information to CPUC in response to DN #1 though the information was not described in PG&E's response and it is unclear what factors were revised. PG&E's response to DN #1 included the following files: AQ_Project_Emissions_Summary.pdf, AQ_Helicopter_Emissions_Calcs.pdf, and Construction_Equipment_List July 7 2016.pdf.</p> <p>Estimates for criteria air pollutants and GHG emissions should be revised based on information provided by PG&E to address missing information, classification issues, and/or changes to the proposed activities, equipment and usage hours in CalEEMod, disturbance area, construction schedule, haul truck trip values, and fugitive dust from helicopter use.</p>	<p>GHG emission estimates to include the following revisions:</p> <ul style="list-style-type: none"> • Add equipment used for "Vegetation Removal and Trimming" • Add the jackhammer used under "LDS Pole Installation – Ground Access" • Update equipment usage hours for the following equipment: (1) Off-highway truck: 1.80 hr (listed as 0.50 in CalEEMod output) under "Site Improvements and Reestablishment"; (2) Off-highway truck: 2.70 hr (listed as 2.80 in CalEEMod output) under "Site Improvements and Reestablishment"; and (3) Crawler tractor: 1.80 hr (listed as 1.90 in CalEEMod output) under "Site Improvements and Reestablishment" • Update the grading acreage using the final work areas described in PD-04 and PD-05 above and use the most conservative estimate in CalEEMod • Update the emission calculations to include assumptions regarding fugitive dust from helicopter take-off and landing activities • Ensure all haul trips for construction materials are incorporated, including anticipated cut-and-fill soil and gravel • Ensure that any generators at staging areas are incorporated as described in AQ/GHG-2 • Update the revised construction schedule to July 2018 through January 2020, if not already been updated • Clarify equipment included as "Other Material Handling Equipment" and reclassify any pickup trucks or on road vehicles to EMFAC2014 as appropriate • Specify whether equipment is gas or diesel powered, where applicable 	<p>CalEEMod files.zip."</p>

DATA NEEDS #2 – SEPTEMBER 12, 2016

ID	Applicant References	Issue	Data Need	PG&E Response
			b. Provide updated data calculations and spreadsheets that support the revised emission estimates described in part a. a. Provide detailed summaries presenting the estimate results including annual, average daily, and peak daily criteria air pollutant estimates with and without implementation of APMs. Summaries should contain a breakdown of emissions that would be on-site and offsite by project component. Emissions should include helicopter operations, and output from the CalEEMod should be included.	
AQ/GHG-02	PEA: 00c Index to CPUC PEA Requirements 3.3 Air Quality 2.7.1 Staging Areas	Power at staging areas The PEA Project Description states that no electrical service would be required for staging areas, and no information has been provided regarding the use of gas powered generators during construction at staging areas. Additional information is needed regarding power needs at staging areas and the use of generators.	a. State if generators would be used at staging areas. Provide the general type and size of generators, if they will be used. a. Update the emissions calculations to include the use of generators at staging areas, if applicable.	a. A small, trailer mounted generator may be used to provide power to the Weston residence and outbuildings. Generators sized 1000 – 3000 watts could be used at all staging areas. Many crew trucks have 2500 watt generators permanently attached. b. See attachments "Fulton Fitch CPUC Data Needs No. 2 Calcs 10082016" and "PGE Fulton Fitch 10082016 CalEEMod files.zip."
Biological Resources (BR)				
BR-01	Other: Response to DR #1 (BR-01 and BR-02) Addendum #2 to the Biological Resources Technical Report (BTR) (TRC June 2016)	Addendum #2 to the BTR As a follow-up response to DR #1 (BR-01 and BR-02), PG&E provided a memorandum prepared by TRC (dated June 23, 2016) as an addendum to the BTR (Addendum #2) to document an additional biological reconnaissance survey conducted for backup work areas, access roads, and helicopter touch down areas. Maps referenced as attachments in the memo were not included with the material as stated, and the survey area and identified resources cannot be verified. Additionally, GIS data layers associated with the memo were not provided. As stated in DR #1, CPUC requires GIS data with the location of special-status species, waters and wetlands, vegetation communities, and biological survey areas (BSAs) addressed in biological resource reports.	a. Provide the missing maps referenced in the memo submitted as Addendum #2 to the BTR. b. Provide GIS data associated with the memo, including layers for the following boundaries with completed attributes: <ul style="list-style-type: none"> • 326-acre survey area (also see BR-02) • Vegetation communities and land uses in the survey area corresponding to the BTR categories (also see BR-03) • Wetlands and water features in the survey area including information about proposed avoidance methods or impacts, as applicable (also see HWQ-03) 	a. Maps are included as attachments to this response. b. GIS data will be provided to the CPUC.
BR-02	PEA: 00c Index to CPUC PEA Requirements 3.4 Biological	Biological survey reports and survey areas In response to DR #1 (BR-01 and BR-02), PG&E provided several biological survey reports and GIS data for many of the resources and survey areas associated with	a. Provide biological survey reports for all proposed and alternate work areas and access roads, or remove them from the proposed project and provide revised GIS data layers for work areas and access	a. The areas referred to were included in the survey area described in Addendum #2 to the BTR. Maps and GIS data for this addendum will be provided as an attachment to this response. As discussed in response to PD-07(b), PG&E has made a concerted effort to identify all possible components and provide biological resource surveys of these areas. In the event that either construction work areas or access roads are required beyond the areas previously surveyed, PG&E will configure components to avoid

DATA NEEDS #2 – SEPTEMBER 12, 2016

ID	Applicant References	Issue	Data Need	PG&E Response
	<p>Resources</p> <p>Other:</p> <p>Response to DR #1 (BR-01 and BR-02)</p> <p>BRTR (Garcia and Associates [GANDA] July 2012)</p> <p>Addendum #1 to the BRTR (TRC December 2015)</p> <p>Addendum #2 to the BRTR (TRC June 2016)</p>	<p>the reports; however, the BSA for Addendum #2 has not been provided, and CPUC has identified proposed access roads, work areas, work area sighting zones, and backup/alternate work areas that are located outside of survey areas identified in the reports and GIS data. Many but not all of these locations are identified on detail maps included as Attachment D.</p> <p>All proposed and alternate project work areas and access roads must be surveyed and addressed in a biological survey report, or they must be removed from the proposed project.</p> <p>The BRTR states that approximately 106 acres of the 477.5-acre survey area were "surveyed remotely" and not on foot, due to steep canyons where access is too difficult and unsafe, and other areas where the height from the conductor to the ground is too great for equipment access. GIS data for survey areas should differentiate between areas surveyed on foot and areas surveyed remotely.</p>	<p>roads that are within previously surveyed areas (GIS layers are included as Attachment E).</p> <p>b. Provide GIS data showing the boundary of each survey area, with attributes corresponding to the associated survey report, including the survey dates, firm, and name of the associated survey report. The GIS data should distinguish between areas that were surveyed on foot and remotely.</p>	<p>environmental impacts beyond those previously identified and disclosed in the PEA, and provide documentation of additional biological surveys to the CPUC prior to use.</p> <p>Existing substations, which were previously improved and covered with compacted fill, were not surveyed for biological resources.</p> <p>b. GIS data for biological survey areas will be provided to the CPUC.</p>
BR-03	<p>Other:</p> <p>Response to DR #1 (PD-14 and BR-2)</p> <p>BRTR (Garcia and Associates [GANDA] July 2012)</p> <p>Addendum #1 to the BRTR (TRC December 2015)</p> <p>Addendum #2 to the BRTR (TRC June 2016)</p>	<p>Vegetation community mapping</p> <p>In response to DR #1 (PD-14 and BR-2), PG&E provided GIS data for vegetation communities for portions of the Northern and Southern Segments that were addressed in the BRTR and Addendum #1. Neither GIS data or maps have been provided for locations addressed in Addendum #2.</p> <p>As with the BSA issues addressed in BR-02 above, vegetation has not been mapped for several work areas and access roads, beyond those that would be addressed in Addendum #2. Some of the instances are identified on the detail maps included with Attachment D. Vegetation mapping is required for the extent of all BSAs addressed in survey reports, that cover all project work areas and access routes.</p> <p>GIS data for vegetation mapping from the BRTR and Addendum #1 does not match GIS data for the BSAs from the reports, and a few of the feature boundaries and classifications in the data are different than shown on maps in the survey reports (see Attachment D for examples). The data for vegetation communities should match the extent of all project BSAs, and any mapping changes following the survey</p>	<p>a. Provide GIS data for vegetation communities that matches the extent of all BSAs for the project, as described in BR-02. Do not include vegetation mapping for any areas that have not been surveyed. If any changes are made to the mapping described in survey reports, provide rationale for the changes.</p>	<p>a. GIS data for vegetation communities in the biological survey area will be provided to the CPUC.</p>

DATA NEEDS #2 – SEPTEMBER 12, 2016

ID	Applicant References	Issue	Data Need	PG&E Response
BR-04	<p>PEA: 3.4 Biological Resources</p> <p>Other: Response to DR #1 (PD-14)</p>	<p>reports should be explained.</p> <p>Tree removal estimates As stated in DR #1 (PD-14), vegetation clearing is described in the Project Description; however, there is no information about tree removal. In response, PG&E stated that information regarding tree removal is still being developed, and that vegetation impacts are subject to change. CPUC needs an estimate for how many trees may be removed during construction of any type and size, and the approximately number of oak trees that meet the criteria for protection under the Sonoma County Valley Oak Conservation Plan, Sonoma County Heritage of Landmark Tree Ordinance, or Town of Windsor Tree Preservation and Protection Ordinance.</p>	<p>a. Provide a rough estimate for how many trees may be removed during construction of any type and size.</p> <p>b. Of the total trees that may be removed, provide the types and approximate number of oak trees greater than 10-inches diameter at breast height (dbh) (i.e., 4.5 feet above ground), or cumulatively greater than 60-inches dbh for small valley oaks.</p>	<p>a. Approximately 100 trees of any type and size may be removed.</p> <p>b. Approximately half of the trees that may be removed are either valley oak, coast live oak, or black oak greater than 10-inches dbh or cumulatively greater than 60-inch dbh.</p>
BR-05	<p>PEA: 3.4 Biological Resources</p> <p>Other: BRTR (GANDA July 2012) Delineation of Waters of the United States (TRC May 2015) DRAFT Delineation of Waters of the United States (TRC April 2016)</p>	<p>Federally listed plants in the Santa Rosa Plain Conservation Strategy Portions of the project study area are located in the Santa Rosa Plain Conservation Strategy (SRPCS) area and within the range of federally listed plants that may require mitigation. The BRTR prepared by GANDA (2012) describes protocol level surveys for special-status plants, but it is not clear if the surveys were conducted according to the required survey protocol for the federally listed plants identified in the SRPCS (USFWS 2005), available here.</p>	<p>a. State if surveys for the federally listed plants covered by the SRPCS were conducted in accordance with required survey protocols. If the surveys were conducted in accordance with the SRPCS protocols, submit a stand-alone memo that documents adherence to the required survey protocols.</p>	<p>a. Surveys were conducted in accordance with SRPCS protocols. See attached memo "F-FM Plant Survey Memo 10-3-16".</p>
Cultural and Paleontological Resources (C/PR)				
C/PR-01	<p>PEA: 3.5 Cultural Resources</p> <p>Other: Response to DR #1 (C/PR-01) Cultural Resources Report (North Coast Resource Management 2011) Historical Resources Inventory and Evaluation Report of Fulton and Fitch Mountain Substations</p>	<p>Cultural resources report and survey areas In response to DR #1 (C/PR-01), PG&E provided the Cultural Resources Report prepared by North Coast Resource Management (2011) for the majority of the Northern Segment, and Addendum #1 prepared by Tremaine & Associates (2015) that covered the majority of the Southern Segment. PG&E later submitted Addendum #2 to the cultural resources report prepared by TRC (2016) that for the majority of new and backup work areas along the project alignment. Maps in Addendum #2 identify cultural resource survey areas from the Cultural Resources Survey Report (labeled as</p>	<p>a. Provide GIS data for all cultural resource survey areas identified in Addendum #2, including DeGeorgey 2011 and Underbrink 2016.</p> <p>b. Provide additional survey reports for any project areas that have not been surveyed or remove them from the proposed project.</p>	<p>a. GIS data for Underbrink 2016 will be provided to the CPUC. GIS data consisting of poles and the alignment developed for DeGeorgey 2011 was provided to the CPUC in response to Data Deficiency Report #1. A GIS layer based on the 2011 survey description was developed by Underbrink 2016 for cartographic purposes; this layer will be provided.</p> <p>b. All project areas are within previously surveyed areas according to the record search (LSA in 2000 for the Santa Rosa Recharge Project). As discussed in response to PD-07(b) and BR—02(a), PG&E has made a concerted effort to identify all possible components and provide cultural resource surveys of these areas. In the event that either construction work areas or access roads are required beyond the areas previously surveyed, PG&E will configure components to avoid environmental impacts beyond those previously identified and disclosed in the PEA and provide documentation of additional cultural resources surveys to the CPUC prior to use.</p>

DATA NEEDS #2 – SEPTEMBER 12, 2016

ID	Applicant References	Issue	Data Need	PG&E Response
	<p>(Supernowicz 2015) Addendum #1 to the Cultural Resources Report (Tremaine & Associates, Inc. [Tremaine] 2015) Addendum #2 to the Cultural Resources Report (TRC 2016)</p>	<p>DeGeorgey 2011), the resources inventory for the project substations (labeled as Supernowicz 2015), Addendum #1 to the Cultural Resources Report (labeled as Tremaine 2015), and Addendum #2 Cultural Resources Report (prepared by TRC and labeled as Underbrink 2016). Partial GIS data was provided for surveys completed by Supernowicz 2015 and Tremaine 2015; however, no GIS data has been provided for DeGeorgey 2011 or Underbrink 2016. CPUC requires GIS data for all survey areas described in the referenced cultural resource reports, as well as for any resources identified in the reports. In addition, the maps in Addendum #2 show several proposed access routes that are outside of survey area boundaries, including overland and unpaved access routes that may require improvements. All proposed project areas must be surveyed for cultural resources and addressed in a cultural resources report, or the areas must be removed from the proposed project.</p>		
C/PR-02	<p>PEA: 3.5 Cultural Resources Other: Response to DR #1 (C/PR-02)</p>	<p>Paleontological resources report The Paleontological Evaluation Report conducted by PaleoResource Consultants and F&F GeoResource Associates, Inc. in September 2015 states the use of information provided in a previous Paleontological Resources Inventory Report conducted by Pratt, Haasl, and Fisk in 2011. This Paleontological Resources Inventory Report is needed to support the conclusions in the PEA.</p>	<p>a. Provide the Paleontological Resources Inventory Report conducted by Pratt, Haasl, and Fisk in 2011, including all appendices and any GIS data associated with the report, if available.</p>	<p>a. The draft 2011 report was superseded by the September 2015 final report and was incorporated in the final report. The final report should have indicated that it was incorporated rather than referenced. No GIS data was developed for either report.</p>
Geology, Soils, and Minerals (GSS)				
GSS-01	<p>PEA: 00c Index to CPUC PEA Requirements 3.6 Geology and Soils Other: Response to DR #1 (GSS-01)</p>	<p>Design features to address geologic hazards In response to DR #1 (GSS-01), PG&E stated that no geotechnical investigation has been prepared for the project, and site-specific geotechnical reports will be prepared as needed for individual pole locations and provided to the CPUC. APM GS-3 states that site specific geotechnical investigations would be conducted at poles adjacent to potentially active faults or earthquake zones. The results of geotechnical field investigations may require typical design</p>	<p>a. Describe and provide the locations for typical design features that would be implemented to address geologic hazards based on preliminary engineering and pole locations. Provide the dimension's pole pads, and the dimensions and surface characteristics of any retaining walls that would be needed.</p>	<p>a. Site specific geotechnical investigations are under way and will be provided to the CPUC when complete. PG&E anticipates that these investigations will be complete in November.</p>

DATA NEEDS #2 – SEPTEMBER 12, 2016

ID	Applicant References	Issue	Data Need	PG&E Response
		features to address geologic hazards, such as developing pole pads, requiring larger foundations, or installing retaining walls. Design features such as these have the potential to result in additional environmental impacts, and must be addressed during the environmental review process.		
Hazards and Hazardous Resources (HAZ)				
HAZ-01	PEA: 2.8 Operation and Maintenance 3.4 Biological Resources 3.8 Hazards and Hazardous Materials	Herbicides The PEA does not mention the use of herbicides during construction or operation & maintenance. The use of herbicides to clear vegetation, and to maintain vegetation clearances is fairly common, and clarification is needed regarding potential use of herbicides is needed.	a. State if herbicides are currently used to maintain vegetation clearances for existing project lines, and if they would be used during construction or operation & maintenance of the proposed project. If herbicides would be used, described the approximate frequency, quantities, and locations, and any differences from their current use, if applicable.	a. Herbicides are normally used to treat the stumps of re-sprouting woody vegetation (i.e. trees & shrubs) and in subsequent annual follow up maintenance activities after tree removal has occurred. This is to control any incompatible trees or brush that has re-sprouted despite being treated with a cut stump treatment. There will be no change to vegetation maintenance's herbicide use as a result of this project.
HAZ-02	PEA: 3.8 Hazards and Hazardous Materials	Federal Aviation Administration (FAA) coordination regarding pole heights The PEA states that PG&E has submitted the required Notice of Proposed Construction and Alteration Application to the FAA and received a Notice of Determination from the FAA that the proposed replacement poles would not exceed obstruction standards. The application and FAA determination are needed to verify that the proposed project, as currently proposed, would be consistent with the FAA determination and applicable federal regulations.	a. Provide a copy of the Notice of Proposed Construction and Alteration Application that was submitted to the FAA, as well as the FAA's Notice of Determination.	a. In order to determine if engineering modifications would be required by the FAA, Notice of Proposed Construction and Alteration Applications were filed for 68 structures in December 2014. A copy of the tracking spreadsheet which includes the FAA's Aeronautical Study Number is attached to this response (see "F2F FAA Expired Determinations.xlsx"). PG&E received an FAA determination of "NO HAZARD" for all structures filed. The FAA determinations expired in July and August, 2016. The FAA only grants one 18-month extension per filing, which means that the determination would expire during construction. PG&E therefore decided to let the notifications for the structures expire and will refile closer to construction.
Hydrology and Water Quality (HWQ)				
HWQ-01	PEA: 2.0 Project Description 3.9 Hydrology and Water Quality	Water use during construction The PEA Project Description discusses water use for dust suppression; however, the approximate volume and source of water is not provided.	a. Provide the anticipated source(s) and volume of water that would be used during construction.	a. The project will use up to approximately 20,000 gallons during construction, which will likely be purchased from the Town of Windsor or sourced by a contractor from either a private or public water supply.
HWQ-02	Other: Response to DR #1 (BR-01) Response to DR #2 (BR-01) Delineation of Waters of the United States (TRC May 2015) DRAFT Delineation of Waters of the United	Revised wetland delineation report PG&E provided a revised wetland delineation report prepared by TRC (2016) in response to DR #2 (BR-01). The revised report is identified as a draft. The revised wetland delineation report (TRC 2016) did not include delineation forms (i.e., data sheets) for features addressed in the report, including new wetlands that were delineated and revised, and two previously delineated wetlands from TRC 2015 that the report states no longer meet the wetland	a. Provide a final version of the revised wetland delineation report, as well as version in track changes highlighting any modifications that were made. b. Provide delineation forms that support the analysis and conclusions for all features described in the revised wetland delineation report (TRC 2016). c. Provide GIS data for the formal and informal wetland survey areas from the revised wetland delineation report (TRC 2016) shown in the Appendix A maps,	a. Updated versions of the draft wetland delineation report in track changes and with changes accepted will be submitted as attachments to this response. b. Delineation forms will be submitted as attachments to the wetland delineation report. c. GIS data showing the extent of the formal and informal wetland survey areas will be submitted to CPUC staff. d. No impacts are proposed to SEW56.

DATA NEEDS #2 – SEPTEMBER 12, 2016

ID	Applicant References	Issue	Data Need	PG&E Response
	States (TRC April 2016)	<p>determination criteria (i.e., SW2 and SW8). The only delineation forms included were the old forms for SW1, which were previously included with the initial delineation report (TRC 2015). The delineation forms for all features described in the revised wetland delineation report are needed to verify the presence of wetland features within the project area.</p> <p>GIS data was not provided for either the formal or informal survey areas addressed in the revised wetland delineation report. This information is needed to verify that all proposed and alternate project areas have been adequately surveyed for wetland and water features.</p> <p>The revised wetland delineation report states that SEW56 may be temporarily impacted by project-related construction activities, but does not specify what these impacts would be. More information is needed regarding proposed or potential construction activities that could affect SEW56, such as improvement of the road or culvert, or vegetation disturbance at the existing crossing (Crossing ID FFX25).</p>	<p>including attributes identifying the associated survey date and report.</p> <p>d. Provide details on construction activities that could impact SEW56, including any proposed road or crossing improvement, or vegetation disturbance.</p>	
HWQ-03	<p>Other: Response to DR #1 (BR-01) BRTR (GANDA July 2012) Addendum #1 to the BRTR (TRC December 2015) Delineation of Waters of the United States (TRC May 2015) Water Crossing Mapping memo (GANDA January 2016) DRAFT Delineation of Waters of the United States (TRC April 2016) Addendum #2 to the BRTR (TRC June 2016)</p>	<p>Wetland and water feature mapping</p> <p>In response to DR #1 (BR-01), PG&E provided GIS data with the mapped limits of many of the wetland and water features identified in the BRTR (GANDA July 2012), the initial wetland delineation report (TRC May 2015), and Addendum #1 to the BRTR (TRC December 2015). PG&E also provided GIS data for proposed water crossings points from the water crossing mapping prepared by GANDA (January 2016). The mapped areas for some of the features identified in these reports were not provided.</p> <p>As stated above in BR-01, GIS data has not been provided for wetland and water features addressed in the revised wetland delineation report (TRC April 2016) or Addendum #2 to the BRTR (TRC June 2016).</p>	<p>a. Provide GIS data for the mapped limits of all wetlands and water bodies within the project BSA (as defined in BR-02) including the following:</p> <ul style="list-style-type: none"> • SEW54 and SEW56 (GANDA July 2012) • SEW44, SEW46, D4, and D5 (GANDA January 2016) • SEW7, SEW7A, SEW54, and SEW56 (TRC April 2016) • All features identified in Addendum #2 to the BRTR (TRC June 2016) 	<p>a. GIS data of all wetlands and water bodies within the biological survey area will be submitted to CPUC staff. Note that only water crossing data was gathered for SEW44, SEW46, D4, and D5 (GANDA January 2016); these crossings are non-jurisdictional and were not surveyed further.</p>

DATA NEEDS #2 – SEPTEMBER 12, 2016

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Noise (NS)																																	
NS-01	PEA: 3.12 Noise	<p>Operational noise levels</p> <p>Long term-estimates for operational noise (e.g., corona discharge noise, and station sources such as substations, etc.) are not provided. The PEA states that operational noise is expected to remain the same, however current operational noise levels are not provided.</p> <p>In the Southern Segment, PG&E proposes to replace existing bundled conductor (1,113 kcmil AAC 61 "Marigold") for the Geysers #12-Fulton 230 kV circuit with new unbundled conductor (954 kcmil ACSS 54/7 "Cardinal"). Unbundling and replacing the 230 kV conductor will substantially reduce the electrical surface area which has the potential to result in significant increases in corona noise. Corona noise for the existing and proposed conductor must be modeled in order to determine if any increases would be significant and if mitigation is necessary.</p>	<p>a. Model corona noise for existing and proposed conductor for the Fulton-Hopland 60 kV line and the Geysers #12-Fulton 230 kV line. Provide decibel noise values identified in the following table for peak corona noise during both dry and wet weather conditions, at the specific distances:</p> <table border="1"> <thead> <tr> <th rowspan="2">Conductor</th> <th colspan="2">At Line¹</th> <th colspan="2">Ground Level²</th> </tr> <tr> <th>Dry</th> <th>Wet</th> <th>Dry</th> <th>Wet</th> </tr> </thead> <tbody> <tr> <td>Existing 230 kV (bundled)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Proposed 230 kV (unbundled)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Existing 60 kV (unbundled)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Proposed 60 kV (unbundled)</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>¹ Refers to the noise source where corona noise would be loudest (0 feet). ² Existing and proposed conductor heights would be 28 feet for the 60 kV line and 48-49 feet for the 230 kV line.</p> <p>b. State if operational noise at the Fitch Mountain Substation following modifications could increase in any way. If operational noise could increase, describe the potential increases and provide estimates for increases in audible and low frequency noise.</p>	Conductor	At Line ¹		Ground Level ²		Dry	Wet	Dry	Wet	Existing 230 kV (bundled)					Proposed 230 kV (unbundled)					Existing 60 kV (unbundled)					Proposed 60 kV (unbundled)					<p>a. We do not believe that corona noise modeling is a justifiable cost to ratepayers on this project, as there does not appear to be any reasonable possibility of a significant impact.</p> <p>Corona noise associated with moisture on the new electrical wires is anticipated to be minimal. The Bonneville Power Administration (BPA) has done extensive measurement and modeling of corona noise for high-voltage transmission lines. Based on modeling for a 500 kV transmission line (which would be expected to generate more audible noise than lower voltage lines), audible noise levels of approximately 40 to 49 A-weighted decibels (dBA) would occur at the edge of the easement during wet weather conditions (Bracken 2010). These calculated levels are below the level of the U.S. Environmental Protection Agency (EPA) outdoor activities noise guideline of 55 dBA, and are similar to the range of audible noise levels measured in general rain conditions (41-63 dBA) (EPA 1974; Miller 1978). Under fair weather conditions, BPA estimates audible noise levels would be approximately 20 dBA lower (if corona were present). These noise levels are below the sound level for a library (35 dBA). Audible noise levels will decrease with distance away from the transmission line. Therefore, the impacts from operation noise will be less than significant.</p> <p>Sources: Bracken, T. Dan. 2010. <i>Bonneville Power Administration Big Eddy-Knight Transmission Project Final Environmental Impact Statement, Appendix E Electrical Effects</i>, March 2010.</p> <p>Miller, L.N. 1978. <i>Sound Levels of Rain and Wind in the Trees</i>, Noise Control Engineering, Vol. 11, No. 3, pp. 101-109, November/December.</p> <p>b. No noticeable increase in operational noise from Fitch Mountain Substation is expected from the proposed modifications.</p>
Conductor	At Line ¹		Ground Level ²																														
	Dry	Wet	Dry	Wet																													
Existing 230 kV (bundled)																																	
Proposed 230 kV (unbundled)																																	
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Proposed 60 kV (unbundled)																																	
Recreation (REC)																																	
REC-01	PEA: 3.15 Recreation Other: Response to DR #1 (REC-01)	<p>Trail and park closures</p> <p>During a site visit with CPUC and PG&E on January 22, 2016, PG&E stated they were in the process of coordinating project activities the Sonoma County Regional Parks Department. No further information has been provided to date.</p>	<p>a. Provide a summary of outreach efforts and coordination with park management officials for Sonoma County and the Town of Windsor, including any agreements and outcomes.</p>																														
Traffic and Transportation (TT)																																	
TT-01	PEA: 2.0 Project Description	<p>Construction within the Caltrans ROW</p> <p>The PEA describes reconductoring over SR 101 and PG&E has identified temporary</p>	<p>a. Provide GIS data for work areas within the Caltrans ROW as described in PD-11.</p> <p>b. Provide specific details about the</p>	<p>a. Guard structure work areas could extend into the Caltrans right-of-way. Support guys for the guard poles would be installed within the fence line of the Caltrans right-of-way. Guard structures require on average a 0.06-acre work area; the work area will be configured to minimize or avoid environmental impacts prior to</p>																													

DATA NEEDS #2 – SEPTEMBER 12, 2016

ID	Applicant References	Issue	Data Need	PG&E Response
	<p>3.16 Transportation and Traffic</p> <p>Other: Caltrans Notice of Application (NOA) response letter (dated January 11, 2016) PG&E reply to NOA responses letter (January 21, 2016) Response to DN #1 (NS-01)</p>	<p>guard structure poles that would be installed in the median of the highway. APM TRA-2 specifies that encroachment permits would be obtained for work within the Caltrans ROW, and any traffic management plans would be developed as required in the encroachment permits. Caltrans submitted a letter to the CPUC in commenting on PG&E's Notice of Application filing for the project (dated January 11, 2016). PG&E replied to Caltrans' comments in a letter dated January 21, 2016 and stated that that "the only ground disturbance within the State ROW will be in the median, where a temporary pole will be installed." In response to DN #1 (NS-01), PG&E stated that night time work will be required for installing and removing guard structures and netting across SR 101, and that Caltrans will require the crossing work to be performed at night during early morning hours, which will limit the impacts to traffic on the highway traffic and safety risks.</p>	<p>proposed guard structure design that would be installed over SR 101, including information on the number of poles on either side and in the median, the height of netting installed on top, and how long it would remain in place.</p> <p>c. State if lane closures on the SR 101 would include one or both lanes in each direction, and if traffic flow could be temporary stopped in one or both directions, such as when netting is installed and removed. If both lanes could be closed in same direction, provide the approximate duration that traffic would be stopped.</p> <p>d. Confirm that the guard structure over SR 101 would allow unimpeded traffic flow during construction in the Southern Segment, other than when the guard structure would be installed and removed.</p> <p>e. Provide the approximate number of nights that highway traffic would be impacted, such as during lane closures to install and remove the guard structure poles and netting.</p>	<p>construction.</p> <p>b. Preliminary plans for guarding SR 101 included installing a pole structure in the median between north and south bound lanes; however, PG&E is proposing instead to install two guard poles with an approximately 12' cross-arm on either side of the highway to support a net across the highway; the height of the poles and cross arm elevation would be determined through discussion with Caltrans. The supporting guys for the guard poles would likely be installed within the Caltrans right-of-way. PG&E would install k rails and crash barrels along the road edge on both north and south bound lanes. The guard structure would be in place for approximately two months.</p> <p>c. Lane closures for both north and south bound lanes would be required when netting is installed and removed. If possible, PG&E will set the guard poles during the week to shorten the duration of lane closure; however, for safety reasons, netting can only be done overnight, with the preference being to install or remove netting on a Saturday night. Typical lane closures for netting are from 2-4 hours. Prior to lane closures, PG&E will coordinate closely with Caltrans and the California Highway Patrol (CHP). CHP generally does a rolling stop for mid-night lane closures. Partial lane closures may be required for installing k rails and crash barrels. These lane closures would affect the outer lane of traffic for a total of two days.</p> <p>d. Confirmed.</p> <p>e. Two nights of complete lane closure for netting; two days of partial lane closure for guard poles.</p>
Utilities (UT)				
<p>UT-01</p>	<p>PEA: 2.5.2.2 Shiloh-Fitch Segment 3.17 Utilities and Service Systems</p>	<p>Existing utility lines The PEA Project Description states that there is an existing utility line collocated on a three-pole structure, and that approximately 33 guard structures would be used to prevent conductor from sagging onto other utility lines or roads during reconductoring. The PEA Utilities and Service Systems section states that "PG&E has conducted existing utilities surveys as part of its feasibility study and routing analysis. Based on these surveys and during detailed design, PG&E will design the project to have no permanent impact on power, natural gas, communications systems, or any other utilities that are specifically documented." No information has been provided for non-PG&E existing utility lines.</p>	<p>a. Provide the results of utility surveys described in the PEA.</p> <p>b. Provide linear GIS data with the locations of all existing utility lines in the ROW that includes information on the type of utility, size and capacity, owner and operator name, and position (i.e., overhead or underground) for each line.</p> <p>c. Identify the existing utility line that is attached to the three-pole structure (Pole 63) that would be topped and left in place, including the owner/operator.</p>	<p>a. During the engineering design process, PG&E visited the project area and identified utilities along the alignment that could be impacted by the project. The Project Description identifies and describes these facilities in sections 2.3.1, 2.5.1.1, 2.5.2.2, and 2.7.7.2. No other utilities were identified.</p> <p>a. This level of detailed information was not collected, nor was GIS data developed. Approximate coordinates for the distribution crossings and electroliers are:</p> <ol style="list-style-type: none"> 1. Distribution crossing in violation: 38.509N, -122.760W 2. Electrolier: 38.510N, -122.760W 3. Electrolier: 38.511N, -122.760W <p>b. PG&E is the owner/operator of the 12 kV feeder line to Pole 63.</p>
Cumulative (CI)				
<p>CI-01</p>	<p>PEA: 3.18 3.18 Mandatory Findings of Significance and Cumulative Impact</p>	<p>Cumulative projects list In response to DR #1 (CI-01), PG&E provided some information regarding the Windsor Substation Project, and stated that PG&E is still seeking information about</p>	<p>a. Provide a list of all PG&E projects proposed within 2 miles of the project alignment including information on the type of project, summary description, and scheduled timeframe, for each project.</p>	<p>a. There is one PG&E project proposed within 2 miles of the project alignment.</p> <p>PG&E Windsor Substation Project <u>Project Type:</u> Construction of new substation and reconductoring/rebuilding</p>

DATA NEEDS #2 – SEPTEMBER 12, 2016

ID	Applicant References	Issue	Data Need	PG&E Response
	Analysis	cumulative projects, and will forward the additional information when complete. No additional information has been provided to date. Information on other PG&E projects in the vicinity of the proposed project is needed for the cumulative impacts analysis.	b. Provide location data (map or coordinates, and linear details where applicable) of any PG&E projects within 2 miles of the project alignment.	<p><u>Summary Description:</u> Construction of a new three-bank, 115/12 kV distribution substation adjacent to Old Redwood Highway at the northern end of the Town of Windsor, west of Highway 101. Between the new substation and Windsor River Road, reconductoring/rebuilding of approximately 1.8 miles of existing distribution line along Old Redwood Highway and approximately 1.5 miles of the existing Fulton No. 1 60 kV power line.</p> <p><u>Scheduled Timeframe:</u> October 2016 through December 2017</p> <p>b. See attachment "Location Map of PG&E Windsor Substation.pdf."</p>