

DATA NEEDS #1 FOR PETITION FOR MODIFICATION #1

PG&E FULTON-FITCH MOUNTAIN RECONDUCTORING PROJECT –  
A.15-12-005; D.17-12-012

Table 1 Data Needs #1 for Petition for Modification #1

ID	Applicant References	Issue	Data Need	PG&E Response
<b>Proposed Modifications</b>				
PD-01	<b>Supplemental PEA:</b> Appendix A	<b>Detailed Workspaces and Facility Locations</b> The Supplemental PEA Project Description describes the number of pole work areas, guard structure work areas, and pull sites that would be needed. Appendix A, Detailed Project Plan, identifies many of these areas. GIS data is needed for all workspaces and facilities identified in Appendix A.	a. Provide GIS data detailing the locations of the revised work areas, access roads, and facility locations identified in Appendix A.	a. GIS data will be provided confidentially, with the understanding it can be used to create maps.
PD-02	<b>Supplemental PEA:</b> 2.3.2.1 Southern Segment	<b>Clarity Regarding Possible Clearance Conflicts</b> The Supplemental PEA Project Description indicates that the replacement TSPs would provide adequate clearance. The new TSPs would be installed a short distance away from the existing locations, which could cause new clearance issues with structures. It is not clear whether any previously undisclosed clearance conflicts would occur as a result of the project revisions.	a. Identify all possible clearance conflicts and their specific locations on a map or via GIS data.	a. The proposed pole replacements will not introduce new clearance violations above-grade. A USA underground survey will be completed to ensure that no conflicts occur with below-grade facilities. No potential conflicts are known at this time.
PD-03	<b>Supplemental PEA:</b> 2.4.2.9 Ground Disturbance	<b>Cut-and-Fill Volumes and Material Management</b> The Supplemental PEA Project Description notes that cut-and-fill	a. Quantify the increased cut-and-fill volumes for each new facility, such as at each new pole and at PS-6.	a. Approximate quantities for cut-and-fill are provided in the table below. PG&E has updated the estimated volume of cut-and-fill material as shown in the table.

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	3.6 Geology, Soils, and Mineral Resources	volumes would increase as a result of the project revisions. In Section 3.6.2 of the Supplemental PEA (Question b), it is noted that pole installation would generate an additional 1,000 cubic yards of cut-and-fill material. Additional details are needed regarding cut-and-fill volumes and material management activities.	b. Describe material management activities and stockpiling locations for cut-and-fill materials. Clarify if material would be stockpiled at pole locations or off-hauled for disposal.	<table border="1" data-bbox="1593 326 2282 557"> <thead> <tr> <th colspan="4">Cut-and-Fill Volumes (cubic yards)</th> </tr> <tr> <th>Location</th> <th>Cut</th> <th>Fill</th> <th>Net</th> </tr> </thead> <tbody> <tr> <td>PS-6</td> <td>400</td> <td>400</td> <td>0</td> </tr> <tr> <td>TSP (21)</td> <td>2,750</td> <td>300</td> <td>2,450</td> </tr> <tr> <td><b>Total</b></td> <td><b>3,150</b></td> <td><b>700</b></td> <td><b>2,450</b></td> </tr> </tbody> </table> <p data-bbox="1540 605 2489 776">b. Most of the cut-and-fill materials will be stored at location and managed in accordance with the SWPPP until they are off-hauled for disposal. Some of the material from the pole stockpiles will be transferred to PS-6 to use as fill for the crane pad, and some of the material will be used to backfill old holes. Any soils transferred to PS-6 at Shiloh Ranch Regional Park will be tested for hazardous materials prior to transfer.</p>	Cut-and-Fill Volumes (cubic yards)				Location	Cut	Fill	Net	PS-6	400	400	0	TSP (21)	2,750	300	2,450	<b>Total</b>	<b>3,150</b>	<b>700</b>	<b>2,450</b>
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PD-04	<b>Supplemental PEA:</b> 2.4.2 Work Areas and Access; 2.4.12 Schedule and Timing	<b>Active Pole Work Areas</b> A description of each work area and the schedule is provided in the Supplemental PEA Project Description. Additional details are needed regarding the number of poles where construction activities could occur within the same workday.	<p data-bbox="1002 800 1518 1003">a. Provide the number of pole work areas where construction activities could occur within the same workday. During a site visit, PG&amp;E stated no more than 3 pole locations (combined existing and proposed) would be active at any given time. Please confirm.</p> <p data-bbox="1002 1011 1518 1092">b. Describe the proximity of the work areas and the phasing of concurrent work activities.</p>	<p data-bbox="1540 800 2489 857">a. Typically, two pole work areas would be active in one day. Up to three pole locations could be active under atypical conditions.</p> <p data-bbox="1540 865 2489 1011">b. Digging holes and setting foundations will occur concurrently. The digging crew will move in advance of the foundation setting crew, and the two crews generally will not be working on adjacent poles. Roads won't be completely closed for these activities, but lane closures will be required as described below in TRA-02.</p> <p data-bbox="1540 1019 2489 1252">At least six weeks after foundations are set, a crew to set the TSPs and a crew to reconductor the 60 kV and the de-energized 230 kV overbuild will begin work. These crews will typically work concurrently at adjacent poles. Following reconductoring and re-energization of the 60 kV and 230 kV overbuild, the other 230 kV circuit will be de-energized. One crew will set arms on the new poles and transfer the second 230 kV circuit to the new structures. A second crew will remove the old TSPs. These crews will also typically work concurrently at adjacent poles.</p>																				
PD-05	<b>Supplemental PEA:</b> 2.7 EMF	<b>Number of Structures</b> The Supplemental PEA Project Description indicates that 39 structures are being raised by five feet taller than otherwise required. However,	a. Explain the discrepancy between the 39 structures identified in Section 2.7 and the 21 TSPs proposed for replacement.	a. We are sorry for the confusion. Only 21 additional poles will be replaced in the proposed revised project. The EMF analysis was redone for the entire project, and an additional 18 poles in the Northern Segment were identified to be raised 5 feet. Their revised heights remain within the range described in																				

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		only 21 TSPs are proposed for replacement as part of the revised project.		the PEA and IS/MND, and no changes to the original project plans are required.
PD-06	<b>Supplemental PEA:</b> 2.4.8 Water Use	<b>Water Use</b> The Supplemental PEA Project Description indicates that no changes are anticipated to water use. The use of concrete trucks will require concrete washout and washout fluid, and a greater disturbance area would require additional dust suppression.	a. Clarify the potential for additional water use and provide estimated volumes.	a. Concrete washout will occur at previously identified staging areas. PG&E provided a high (conservative) estimate of the water needed for the project in the PEA and does not anticipate exceeding the estimate, even given the additional new use. Dust suppression will not be needed at the pole excavation sites. Dust suppression at PS-6 was previously accounted for in the PEA.
PD-07	<b>Supplemental PEA:</b> 2.4.12 Schedule and Timing	<b>Schedule</b> The schedule in the Supplemental PEA Project Description identifies duration of work by construction activity. A detailed schedule by work area in the is also needed to evaluate potential impacts on receptors adjacent work areas.  PG&E has informed the CPUC that the schedule for work identified in the PFM would be postponed from winter 2018 to winter 2019.	a. Provide the estimated duration of workdays at each work area by filling out Table A in Attachment A.  b. Confirm the schedule for work identified in the PFM would be postponed by exactly one year and all other schedule details would remain the same or provide a revised schedule.	a. This information has been provided.  b. Confirmed.
PD-08	<b>Supplemental PEA:</b> 2.4.12 Schedule and Timing	<b>Workforce</b> The number of crewmembers needed at any one time to conduct each construction activity was not revised in Table 2.4-1: Revised Construction Equipment and Duration of Use of the Supplemental PEA Project Description. The same values are used in the IS/MND Project Description.	a. Verify that the number of crewmembers would remain the same as described in the Final IS/MND.	a. Confirmed.
PD-09		<b>Heavy Lift Helicopter Use</b>	a. Clarify the approach for using light and heavy-lift helicopters in the Southern	a. As discussed at the site meeting with the CPUC, PG&E has modified the project plan to avoid the use of heavy lift helicopter in the Southern Segment.

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		<p>The Supplemental PEA Project Description states heavy-lift helicopter will be used for up to 5 days to transport workers and materials at Poles 20 to 23.</p> <p>Heavy lift helicopters would generate excessive noise levels that may be avoided by using ground equipment where suitable access exists. During a site visit with PG&amp;E project personnel, a modified approach was discussed that would avoid the need for heavy lift helicopters by using ground equipment.</p>	<p>Segment. Identify specific pole locations where each type would be used and the total days of use and hours of use per day. Provide estimated trips for each activity.</p> <p>b. Identify any additional work space and access roads that would be required if helicopters were not used, such as at Poles 20 to 23.</p>	<p>No heavy lift helicopter will be used in the Southern Segment. Instead, PG&amp;E will use the light helicopter at pole locations 21-23 to transport workers and materials between LZ-2 or LZ-3 and the nearby poles. The light helicopter will be used about 6 hours a day for approximately 12 days. The light helicopter will fly workers approximately 8 trips/day and materials approximately 42 trips/day, for a total of approximately 50 trips/day. Each trip will take about 3 minutes from LZ to the pole, typically under a minute at the pole, and 3 minutes back to the LZ.</p> <p>a. No additional work spaces or access roads will be required.</p>
<b>Recreation</b>				
REC-01	<p><b>Supplemental PEA:</b> 2.4.2.1 Proposed and Alternate Sites</p>	<p><b>Shiloh Ranch Regional Park</b> Pole 23, PS-6, and a vehicle turnaround are located in southwest corner of Shiloh Ranch Regional Park. PG&amp;E indicated that grading plans for the area may have changed and the trail could be realigned following construction. Additional information is needed regarding earthwork in Shiloh Ranch Regional Park as well as coordination information with the County parks district.</p>	<p>a. Provide the grading plan for proposed earthwork and road/trail realignment in the park.</p> <p>b. Provide a site-specific restoration/recontouring plan that shows how the park and trail would be addressed following construction. The plan should address any County specifications.</p> <p>c. Provide coordination information with County parks district including comments that were addressed on the final grading and restoration plans.</p>	<p>a. A grading plan for the proposed earthwork and road/trail realignment will be prepared and provided when available. A meeting between PG&amp;E and the County parks district took place last week, and we will continue to work with them to develop the restoration plans</p> <p>b. A site-specific restoration/recontouring plan will be provided to the CPUC when it is available.</p> <p>c. Coordination information with County parks district will also be provided.</p>
<b>Geology and Soils</b>				
GEO-01	<p><b>Geotechnical Report</b></p>	<p><b>Geotechnical Investigation Report</b> A geotechnical report was provided detailing geologic and seismic hazards.</p>	<p>a. Revise the geotechnical report to address pole replacement in the Southern Segment, making special note of risks from unstable soils, expansive soils, and liquefaction.</p>	<p>a. A separate geotechnical investigation has been performed to address the pole replacement in the Southern Segment and the report will be provided shortly.</p> <p>b. No geotechnical investigation was conducted in Fulton Substation because no structures will be replaced within the substation.</p>

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			b. Provide the Fulton Substation geotechnical investigation noted in the Geotechnical Investigation Report.	
<b>Traffic and Transportation</b>				
TRA-01	<b>Supplemental PEA:</b> 3.15.3 Impact Analysis	<b>Construction Trips</b> The impact analysis in the Supplemental PEA states that the estimated maximum daily construction vehicle trips for construction activities associated with the proposed pole replacements would remain the same as the approved project. The estimated maximum daily construction vehicle trips for the approved project was a conservative estimate, however, the additional truck trips associated with pole removal and replacement may exceed this number.	a. Please review Tables B and C (attached). b. Describe how construction vehicles would be routed through the Southern Segment via US 101 to staging areas and specific pole sites.	a. Tables B and C are updated. b. Construction vehicles will exit Highway 101 at either the River Road or Airport Boulevard exits. Poles south of Old Redwood Highway would typically be accessed from Lavell Road off of the River Road exit. Poles north of Old Redwood Highway on Faught Road would typically be accessed using the Airport Boulevard exit. In accordance with existing Mitigation Measure Traffic-1, construction vehicles will avoid the intersection of Faught Road and Old Redwood Highway during weekday peak commute periods.
TRA-02	<b>Supplemental PEA:</b> 2.4.7 Traffic Control	<b>Lane and Road Closures</b> The Supplemental PEA Project Description indicates that lane and road closures would be needed during pole replacement.	a. Describe the purpose and need of full road closures and why partial lane closures would not be enough with the new pole replacement activities. b. Provide a detailed schedule with the duration and sequencing of both lane and road closures as construction progresses along the Southern Segment. Note peak commute periods described in the IS/MND that would be avoided or could not be avoided per MM Traffic-1: Construction Traffic Management. The schedule should include specific work periods and weekdays that correspond to	a. Due to the size of the tubular steel poles and the equipment needed to safely transport and install them, as well to the need to keep one circuit of the 230 kV energized throughout construction, full road closures are required for setting and removing the poles. The TSP tubes are long and heavy, and require two cranes to set them (one to hold the pole, and the other with a worker attachment to set arms). Because one circuit of the 230 kV will remain energized throughout construction, crews will need the full width of the road to safely maneuver the poles into place, set the arms, install insulators, and transfer conductor. Partial lane closures will be used for other activities. b. A detailed schedule will be provided with the Traffic Management Plans. In summary, partial lane closures will be required at each pole location for digging holes and setting foundations; these will be needed for up to a total of one week at each location, for approximately a day or two at a time. Likewise, site restoration and clean-up will require partial lane closures for up to approximately 3 days at a time and a total of up to one week at each pole location. Typically, two adjacent pole locations will be worked at the

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			<p>anticipated clearance schedules in the winter of 2019.</p> <p>c. Clarify if closures could occur at simultaneous at multiple locations. If so, describe the potential scenarios and considerations to traffic management.</p> <p>d. Clarify if closures would be required at night when work would not be occurring.</p> <p>e. Provide a detailed Traffic Management Plan for each lane and road closure segment, which includes maps of the affected area and proposed detour routes. Note the requirements for detour routes in MM Traffic-1. The Traffic Management Plan should clearly define the following on maps:</p> <ul style="list-style-type: none"> <li>- Existing and proposed TSPs</li> <li>- Existing street ROW, including lane and shoulder widths</li> <li>- Extent of lane and roadway closure areas, including parking loss, where work areas would be located</li> <li>- Access points to be maintained (see below)</li> </ul> <p>f. Verify that access would be maintained to all driveways, communities, schools, and parks. Describe any escorting procedures or momentary access delays that may be necessary for safety purposes.</p>	<p>same time. Partial lane closures will be set up a block at a time and will occur 7 am – 6 pm, which includes peak commute times. With partial lane closures, traffic will be able to flow through in both directions.</p> <p>Full road closures of up to 3 days at a time will be required to install and remove TSPs and to transfer or install conductor. Alternate routes are readily available and will not divert traffic very far. Roads will generally be closed for 24 hours. For road closing, flaggers will be stationed and through traffic will be detoured around the closed area during working hours. Following construction work hours, signs will be posted to limit road access to local traffic only and detour signs for alternate routes will remain posted. Local traffic will be flagged through during construction work hours.</p> <p>c. For full road closures, two adjacent poles will be worked on at one time. No other full road closures are expected. For lane closures or partial lane closures, these limited closures could occur at multiple locations if one crew is digging a hole or another is delivering rock or material or pouring concrete. Traffic would be flagged around the active construction work areas.</p> <p>d. For full road closures, roads will be closed overnight in most cases. If possible in some areas, the crane might be pushed ahead to open a lane in order to allow vehicle passage.</p> <p>e. Traffic Management Plans will be provided when completed.</p> <p>f. Generally, contractors will maintain access into driveways. When driveways must be temporarily blocked for safety reasons (e.g. to maneuver a TSP into place or while boom trucks are working overhead), PG&amp;E's customer service outreach specialist will coordinate with affected residents to arrange specific times for vehicles to safely enter or exit the closed work area. Pedestrian access though closed roads will be maintained. Pedestrians will be escorted through the work zone. Access to communities will be maintained, though road closures will detour vehicles into other community access points. Access will always be provided for emergency vehicles. Dates of work will be coordinated with schools. The parking lot on the north side of Mark West School will remain open at all times. Road closures for parks will be scheduled for low usage periods to the extent feasible.</p>

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<b>Noise</b>				
NOI-01	<b>Supplemental PEA:</b> 2.4.11 Equipment and Workforce	<b>Construction Noise</b> Table 2.4-1 Revised Typical Construction Equipment and Duration identifies the following construction equipment that were not included in the Final IS/MND: <ul style="list-style-type: none"> <li>• Compactor</li> <li>• Highway digger or production digger</li> <li>• Back truck</li> <li>• Backhoe with hydraulic jack attachment</li> </ul>	a. Provide estimates for cumulative noise levels during construction ( $L_{max}$ and 1-hour $L_{eq}$ ) at a reference distance of 50 feet for each piece of new equipment included in Table 2.4-1.	a. Noise levels at a reference distance of 50 feet for each piece of new equipment are provided in Table NOI-01 below.
<b>Utilities</b>				
UTL-01	<b>Supplemental PEA:</b> 2.4.4.2 Pole Installation	<b>Underground Utilities</b> The Supplemental PEA Project Description mentions co-located utilities, which could be disturbed by earthmoving activities. Ground-disturbing activity associated with the pole replacement has the potential to disrupt underground utilities and create hazards for residents.	a. Provide information and maps showing the locations of co-located utilities.	a. A USA underground survey will be conducted prior to construction. The USA survey will reveal underground utilities so they can be avoided.
UTL-02	<b>Supplemental PEA:</b> 3.8 Hazards and Hazardous Materials	<b>Gas Pipeline</b> The Supplemental PEA Project Description notes that pole replacement would occur in proximity to a PG&E gas distribution pipeline. During a site visit with PG&E project personnel, the CPUC was informed that PG&E's engineering team was in the process of determining grounding	a. Describe the grounding plan for the gas pipeline that meets CPUC Rules and Regulations. b. Describe the grounding process including the types of equipment, materials, and workspaces that would be used.	a. PG&E is developing a grounding plan for pole structures in the proximity of the gas pipeline. The grounding plan will be included as an element of the pole design. It will be provided to the CPUC when complete. b. Typically, copper pole grounds and grounding wire are installed in the excavated pole hole prior to pouring concrete for the foundation. PG&E will provide details of the grounding once the Grounding Plan is complete.

DATA NEEDS #1 FOR PETITION FOR MODIFICATION #1

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		requirements for the pipeline to address the new poles.		



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## ATTACHMENTS

**Table A Workdays for Each Work Area**

Stage/Period	Staging Areas	Poles	Pull Sites	Mid-Span Work Areas	Guard Structures
<b>Southern Segment</b>					
Site Development	14	0	21	0	7
Dig and Set TSP Foundations	28	7	28	0	0
Set TSPs, Reconductor 60 kV, and Transfer Geysers #12	56	7	56	7	0
Transfer Geysers #17, Remove Old TSPs	56	7	56	7	0
Cleanup and Restoration	14	4	21	0	7
<b>Segment Total</b>	<b>168</b>	<b>25</b>	<b>182</b>	<b>14</b>	<b>14</b>

**Table B Total Vehicle Trips for Each Work Area**

Stage/Period	Staging Areas	Poles	Pull Sites	Mid-Span Work Areas	Guard Structures
<b>Southern Segment</b>					
Site Development	75	0	75	0	20
Dig and Set TSP Foundations	420	420	0	0	0
Set TSPs, Reconductor 60 kV, and Transfer Geysers #12	315	315	315	10	0
Transfer Geysers #17, Remove Old TSPs	315	315	315	10	0
Cleanup and Restoration	75	5	75	0	20
<b>Segment Total</b>	<b>1200</b>	<b>1055</b>	<b>780</b>	<b>20</b>	<b>40</b>

**Table C Estimated Maximum Daily Construction Traffic**

Southern Segment	Daily Construction Vehicle Trips		Daily Worker Vehicle Trips		Total Daily Trips		
	Peak Hour	Non-Peak Hour	Peak Hour	Non-Peak Hour	Peak Hour	Non-Peak Hour	Total
Draft IS/MND	200	200	42	0	242	200	442
Final IS/MND	50	50	42	0	92	50	142
PFM	200	185	42	15	242	250	442

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**Table NOI-01:  $L_{max}$  and 1-hour  $L_{eq}$  at 50 Feet from New Equipment**

Equipment	$L_{max}$ at 50 feet	1-hour $L_{eq}$ at 50 feet	Usage Factor
Back truck <sup>a</sup>	74	71	40%
Backhoe with hydraulic jack attachment <sup>b</sup>	82	76	25%
Compactor	83	77	20%
Flat-bed trailer and truck <sup>a</sup>	74	71	40%
Forklift or grade-all	83	80	40%
Highway digger or production digger <sup>c</sup>	84	77	20%
<sup>a</sup> Based on flat-bed truck <sup>b</sup> Based on hydraulic jack attachment <sup>c</sup> Based on auger drill rig Source: U.S. DOT. 2008. "Federal Highway Administration's Roadway Construction Noise Model. Software Version 1.1." December 8.			