

PG&E’s Sanger Substation Expansion Project Data Response # 2

Sanger Substation Expansion Project

<i>No.</i>	<i>Reference</i>	<i>Description of data being requested</i>	<i>PG&E Response</i>
Project Description			
1	Section 2.3.1, “Substation System”	<p>Provide details on what is meant by “12 kv systems.”</p> <p>The PEA states that the existing substation has two 12 kv systems. Provide detail on what is meant by two “12 kv systems.” List what is considered part of a “12 kv system.”</p>	This description should be clarified to indicate that there are two 12 kv buses that connect to each of the two distribution banks that support the outgoing distribution lines. The 12 kv distribution system supports residential and commercial customers in the area.
2	Section 2.5.8, “Expanded Substation Construction”; March 3 rd Data Response, Item 12.	<p>Provide details on the extent of the subsurface ground grid and conduit chases.</p> <p>The PEA states that there would be excavation for the subsurface ground grid and conduit chases. Data Response Item 12 from March 3, 2016, notes that excavation for foundations would be 4 to 6 feet below finish grade. Clarify whether that depth would also account for excavation of the subsurface ground grid and conduit chases. Also specify approximately how much of the substation area would be excavated for these components.</p>	Yes, the depth of foundations will be 4-6 feet below finish grade. The ground grid will be approximately 1.5 feet below finish grade, and the conduit duct banks approximately 4 feet below grade. The excavation area for the ground grid is 22,000 square feet and the conduit duct banks will be approximately 2,500 square feet.
3	Table 2-1, “Typical Construction Equipment”	<p>Provide an estimate of concrete to be imported.</p> <p>The PEA notes that concrete would be imported for foundations. Provide an estimate of the volume of concrete that would be imported.</p>	This information is not yet available.

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4	PEA pages 2-1 and 2-2, Section 2.5.3.	<p>Clarify work that would be done to the existing transfer bus.</p> <p>The PEA states on page 2-1 that the existing 115-kV transfer bus and related equipment will be removed after the new facilities are in service. Likewise, Section 2.5.3 mentions that the main and transfer bus would be removed. Page 2-2 of the PEA also mentions that the new substation work would involve elevating the existing 115-kV transfer bus to meet minimum vertical clearance. These statements seem to conflict by indicating the transfer bus would be removed and also elevated; clarify what would be done to the existing transfer bus.</p>	<p>The existing transfer bus is being removed. The last statement meant that the new transfer bus will have a greater minimum vertical clearance than the one being removed. PG&E apologizes for the confusion.</p>
5	PEA Section 2.5.1, “Expanded Substation”	<p>Provide an estimate of additional lighting needed for the expanded substation.</p> <p>The PEA states there will be security lighting at the substation site. If available, provide an estimate of the additional lighting needed when compared to the existing substation.</p>	<p>The existing substation has 47 lights. The expanded substation will have approximately 60 additional lights.</p>
6	Section 2.5.1, “Expanded Substation”; January 7 th Data Response, Item 12.	<p>State during which construction phase the telecommunications work would be completed. Estimate how much trenching would be required and whether trenching would be required in East Jensen Avenue.</p> <p>The PEA describes telecommunications work. PG&E’s Data Response Item 12 from January 7 provides additional detail on the route of the telecommunications line. State during which construction phase the telecommunications work would be completed. Provide an estimate of how much trenching would be required for the new underground work. State whether trenching would be required across East Jensen Avenue.</p>	<p>The telecom facilities will be installed in Phase 3 of construction. The plan for these facilities has changed; rather than installing the fiber path from AT&T that was originally outlined in the PEA (p. 2-10), PG&E is now proposing to eliminate that option and instead install a microwave tower on the substation site to provide superior telecommunication reliability and readily-available maintenance. Installing the microwave tower will also reduce schedule and environmental risk to the project, eliminating the dependency on AT&T’s schedule and construction. The tower will be approximately 80-100 feet tall within the fence of the newly expanded site, at the location highlighted in yellow on the attached Attachment A diagram. The foundation for this microwave tower will be approximately 42 inches thick</p>

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			<p>and cover an area of approximately 25 X 25 feet. The new microwave path will communicate directly with Fence Meadow Repeater Station, an existing PG&E facility approximately 30 miles northeast of Sanger Substation, and will not require other upgrades at the receiving end, since this infrastructure is already in place.</p> <p>Please note that there has also been a further substation design update to allow for relocation and enlargement of the two MPAC buildings (highlighted in orange on Attachment A). MPAC building #2 has been moved south adjacent to MPAC building #3 to avoid routing larger and longer main AC and DC power cables to them. Other changes will include a shift of the transformers' terminations from the southernmost bay to the three positions north (highlighted in blue on Attachment A) so that additional steel structures do not have to be installed to extend the 115 kV buses. These minor design revisions remain within the fenced area/proposed footprint of the expanded substation, and no new or additional impacts are anticipated. PG&E will provide further details about the MPAC buildings and new substation plan and profile views to replace Figures 2-4 and 2-5 as soon as they are available.</p>

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7	PEA Section 2.5.7, “Access Road Construction”	<p>Provide more detail about permanent access roads and construction access roads.</p> <p>The PEA states that there would be two temporary roads from South McCall Avenue. On the site visit, PG&E indicated that there may be two temporary access roads to the proposed expanded substation site to facilitate truck maneuvering within the site. Provide a description of and GIS information regarding where this loop may be located within the proposed expanded substation site. State how many trucks could be present within the substation site loop at one time.</p>	<p>The two proposed driveways that connect to McCall Avenue north of the existing substation entrance will be the temporary roads/access for the expanded substation. During grading and foundations, these driveways will serve as the temporary access. The construction vehicles and equipment will drive all over the expanded site to perform civil tasks such as grading and foundations. Once the civil grading and foundations are complete, the temporary driveways and internal roadway will be made permanent. It is anticipated that there may be two to four dump trucks for soil inhaul or out haul in the expanded substation at any one time. Additionally, there may be up to 12-15 standard vehicles within the expanded substation site during construction. GIS data on the proposed permanent driveway/internal substation roadway configuration will be provided confidentially per PUC Section 583.</p>
8	PEA Section 2.5.9, “Power Line Reconfiguration/ Interconnection Construction”	<p>Describe how wood poles would be removed.</p> <p>Up to 24 wood poles would be removed. Describe how they would be removed, including what equipment would be used.</p>	<p>Prior to bringing down the poles, bucket trucks will be used to elevate workers to remove cross arms and wires. A boom truck will be used to loosen old poles as needed and pull the old wood poles directly out of the ground. All holes will be filled with imported fill. All old poles, associated hardware, and any other debris will be removed from the project area. Any chemically treated wood poles would be disposed of in accordance with applicable rules and regulations.</p>
9	PEA Section 2.5.9.3, “Stringing Conductor”	<p>Describe how pull and tension sites would be prepped.</p> <p>Describe the process of preparing a pull and tension site, including equipment and activities involved (e.g., vegetation removal, soil compaction).</p>	<p>To prepare pull and tension sites, vegetation/trees would be removed with a backhoe. Compaction of soil will not occur for pull sites. Water trucks may be used for dust suppression during pull and tensioning activities.</p>

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10	PEA Section 2.5.2, “Power Line Reconfiguration”	<p>Provide more detail about topped wood poles locations.</p> <p>The PEA states that a number of wood poles may not be removed but may be shortened to allow the distribution lines to remain in place. During the site visit, PG&E commented that these wood poles would be located west of the existing and proposed expanded substation. Provide the proposed number and locations of topped wood poles in GIS format.</p>	<p>This information is not yet available because the design is still being developed. Preliminary information has identified four poles that may be shortened, including three located west of the expanded substation and one located east of the substation. GIS data for these poles will be provided confidentially per PUC Section 583. When additional design information is available, it will be provided.</p>
11	PEA Section 2.5, “Proposed Project Facilities”	<p>Clarify any capacity increases that the proposed project would provide.</p> <p>The PEA describes the purpose and components of the proposed expanded substation. Clarify whether the proposed project would provide availability for the interconnection of any additional generation projects that may be proposed within the general area of Sanger. Confirm whether the proposed project would be configured such that additional bays can be added to accommodate additional generation projects.</p>	<p>Additional generation projects could be interconnected into Sanger Substation in the future. As indicated previously, there is room for additional bays that could be installed to interconnect new generation. However, PG&E is not aware of any new generation projects that are proposing to connect into Sanger Substation.</p>
12	PEA Section 2.3.1, “Substation System”	<p>Provide applicant’s design standards for 115-kV substations.</p> <p>The PEA states that the existing 115 kV facilities no longer meet PG&E utility standards. Please provide PG&E design standards for 115 kV substations.</p>	<p>PG&E will utilize a design for the expanded substation that is similar to what was recently used at Mendota Substation. A design drawing will be provided to CPUC staff confidentially per Section 583.</p>

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13	PEA Section 2.5.3, "Removing Existing Substation Facilities"	<p>Provide more detail about SF₆ circuit breakers that would be removed.</p> <p>The PEA states that eight SF₆ circuit breakers would be replaced once the new facility is completed. Since these circuit breakers could not be moved for use in the proposed expanded substation due to service continuity, clarify whether these circuit breakers could be utilized elsewhere. Provide the estimated age of these breakers and clarify whether they would be utilized as spares or relocated elsewhere as replacements for aging oil-filled breakers.</p>	<p>Five of the existing SF₆ breakers (vintage 2004 or newer) will be retained and incorporated into PG&E's surplus inventory. These breakers can be used by PG&E somewhere else in case of an emergency, or for a temporary installation. The remaining three SF₆ breakers (1998, 1999 vintage) are too old to be kept as surplus. These breakers will be scrapped, and spare parts in good condition will be retained.</p>