

ED10-SDGE 04/21/2015 Partial Response 1
A.14-04-011 SXPQ 230kV Transmission Line CPCN Project
Energy Division Data Request 10 Dated April 8, 2015
Questions 1 (partial) - 13

Please note that attachments to Questions 3, 11 and 12 contain information considered confidential under the provisions of PUC Section 583 and G.O. 66-C as well as other applicable Federal and State Laws and Regulations and Non-Disclosure Agreements.

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1	Data Request #3, Response #11	<p>Clarify if the existing EMF calculated values provided for TL 13811 and TL 13820 in Segment A account for the existing 69kV and 230 kV lines present in Segment A. If they do not, provide existing EMF calculated values that represent the combined existing transmission both north and south of the Chicarita Substation.</p> <p>The EMF reduction on the north side of Segment D is substantial and will likely be questioned by the public. Provide an explanation for the modeling of EMF for each Segment, including the inputs to EMF modeling such as the existing and future current amounts and direction, line phasing and height above ground.</p>	<p>The calculated values provided previously for Segment A account for all power and transmission lines in the segment at present.</p> <p>For this response, SDG&E assumes the statement "the EMF reduction on the north side of Segment D is substantial" to refer to a comparison of existing and proposed magnetic field values that it has provided previously.</p> <p>The Magnetic Field Management Plan filed with SDG&E's application explains the modeling for each segment of the proposed Project, including power flow direction, line phasing and height above ground.</p> <p>Per SDG&E Standards for 230 kV transmission lines and 138 kV / 69 kV power lines, either double circuit or single circuit with no distribution underbuild or single distribution underbuild, minimum height above ground (HAG) is 30 feet from lowest circuit wire to ground per GO-95 Design Standards, and 35 feet from lowest circuit wire for double underbuild. For the modeling of the proposed Project, SDG&E used these standard HAG values to calculate baseline milligauss values.</p> <p>In D.06-01-042, the Commission acknowledged that "the modeling methodology provided in the utility design guidelines... accomplishes its purpose, which is to measure the relative differences between alternative mitigation measures. Thus, the modeling indicates relative differences in magnetic field reductions between different transmission line construction methods, but does not measure actual environmental magnetic fields."</p> <p>The calculated values of existing magnetic field values provided previously for Segments A, C and D account for all power and transmission lines in the proposed route at present, and their existing placement, power flow direction, current amounts, heights above ground and line phasing.</p> <p>Attachment ED10 – Q1 Input Tables includes Table 1 providing power flow direction, current amounts and line phasing used to model the proposed Project, and Table 2 providing power flow direction, current amounts, average heights above ground and line phasing used to model the existing conditions.</p>

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		<p>Also provide tabular or graphical modeling output for EMF for both the proposed project and each of the alternatives, which provides values across the entire width of the right-of-way. This should including alternative underground duct banks and Segment D without the 69 kV power line.</p>	<p>To accomplish the modeling requested for this part, SDG&E first needs to assemble the following information for each alternative:</p> <ul style="list-style-type: none"> • Pole details such as conductor spacing, pole-top configurations, etc. • Plan-and-profile drawings that identify height-above-ground of attached conductors • Circuit placement on poles or in underground ducts • Circuit phasing • Widths of easements or rights-of-way • Proposed pole spacing across the right-of-way • Underground duct package placement within the right-of-way • Power flow directions and amperages based on in-service year • Land use along all segments, including identifying adjacent properties with schools, licensed day-care centers, hospitals and residential use <p>For the underground modeling, SDG&E would have to create "typical" cross-section magnetic field profiles, requiring a full engineering analysis for each route to understand (1) where the duct packages and vaults could be placed without conflicting with existing utilities and (2) right-of-way widths for each street. For the alternative routes, there could be several "typical" cross-sections. Also, it is possible that some streets might not accommodate the duct package as designed for the proposed Project, requiring a different design.</p> <p>At a minimum, it would take 6-8 weeks to assemble all of the information before beginning the modeling. Modeling could take 6-8 weeks, or longer, depending on the complexity of the underground routes and allowing for thorough review by SDG&E Engineering.</p> <p>Additional time would be required should the Commission request that magnetic field reduction measures be applied to the models, as land use analysis would have to be applied to each model to prioritize low-cost field reduction.</p> <p>Finally, SDG&E is essentially being asked to develop models for five new</p>

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			<p>projects, even though the information such modeling would provide is unnecessary for a CEQA analysis of the proposed project and the alternatives. SDG&E will comply with the request, however, we have serious concerns with the inclusion of this additional information in the draft EIR. Furthermore, SDG&E believes that the issuance of the draft EIR should not wait for the results of the modeling that has been requested, given the significant time required to complete the analysis (please see above).</p> <p>As noted in the CPUC’s own guidance, although an EIR will typically provide information regarding EMF associated with a proposed project, it does not consider magnetic fields in the context of CEQA and determination of environmental impacts because there is no agreement among scientists that EMF creates a potential health risk, and there are no adopted CEQA standards for defining health risk from EMF. Including a comparison of the EMF calculations for the proposed project and each of the alternatives would invite an improper comparison of their relative significance, even though there is no agreed-upon methodology for comparison, nor any adopted standard of significance. An EIR should provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. <i>See</i> 14 Cal. Code Regs §15151. Requiring EMF data for each alternative does nothing to further this purpose; rather, by including EMF information for each of the alternatives, in addition to that already provided for the proposed project, the EIR would improperly take the focus away from the required discussion of actual environmental impacts and their relative significance between the proposed project and the alternatives.</p> <p>Furthermore, because there are no adopted CEQA standards regarding EMF, any analysis of the relative merits of the alternatives based on supposed EMF impacts would be misleading and speculative. An EIR should avoid speculation: when no legal or regulatory standards for significance are available, an EIR should not contain a meaningless analysis. An EIR may instead conclude that no accepted methodology or standards exist to measure an impact, and such a finding may be upheld if supported by evidence and analysis showing that a reliable method for assessing an impact is not</p>

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			available. See <u>Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.</u> (1993) 6 Cal. 4 th 1112, 1138.
2	N/A	Provide GIS data and graphically depict the locations of all underground gas pipelines and underground utilities (including electrical distribution) in Segment B of the proposed project.	Refer to Attachment ED10 – Q2(a)_Segment B UG Utility GIS Data and Attachment ED10 – Q2(b)_Segment B Detailed Route Map.
3	Data Request #8, Responses #3 thru #7	<p>Provide GIS data and graphically depict the locations of underground gas pipelines and underground electrical distribution lines in proximity to the underground 230-kV and 69-kV alternatives.</p> <p>The written responses to DR #8, Q3, 4, 5, 6, and 7 indicate that the alternative underground 230-kV transmission line and 69 kV power line alignments may be infeasible due to conflicts with steel gas pipelines; specifically, "...steel natural gas mains are parallel with a majority of the proposed alternative miles." This comment implies that underground transmission and power lines cannot be installed parallel to steel natural gas mains. If this is the case provide information on any regulations or operating constraints that preclude such installations. Clarify if other types of conflicts would render an alternative infeasible, such as any minimum required spacing, both lateral and vertical, or any other requirement that could not be mitigated. The steel natural gas mains are not depicted on the maps showing utilities near the alternative alignments. Provide the locations of these steel natural gas mains for further analysis. Similarly, underground electrical distribution lines are not shown on the maps. Provide the locations of any other</p>	<p>SDG&E does not consider the alternative underground alignments infeasible on the grounds of existing steel natural gas pipelines and electric distribution underground facilities. SDG&E's comments were intended to emphasize that the preliminary engineering provided for Data Request 8 did not account for potential design and cost impacts as a result of utility relocations or AC interference on adjacent facilities. From a construction and maintenance perspective, SDG&E Gas Engineering requires a minimum of 5 feet from the edge of the electric transmission trench to the edge of the nearest parallel gas pipe with 3 feet of undisturbed soil between the facilities. AC interference mitigation may require greater separation, but this separation would have to be determined through a detailed analysis of the proposed alignments. The greater of these two separations will drive the feasibility of finding a route through each of the streets proposed in the alternative alignments.</p> <p>GIS data for underground utilities along the underground alternative route is provided as Attachment ED10 – Q3(a)_Alternative Alignment UG Utilities GIS Data and Attachment ED10 – Q3(b) contains a map of the underground gas and distribution utilities. Note that attachments Q3(a) and Q3(b) are considered CONFIDENTIAL.</p>

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		underground utilities that could conflict with the alternatives.	
4	Data Request #8, Responses #4 thru #6	<p>Provide preliminary engineering for the Alternative 4, 5, and 6 Segment C overhead transmission line from SDG&E’s Right-of-Way east of I-805 to Peñasquitos Substation.</p> <p>The preliminary engineering provided on March 25, 2015 only includes the area from Sycamore Substation to SDG&E’s right-of-way adjacent to I-805. Preliminary engineering is required for Segment C (approximately Carroll Canyon Road to Peñasquitos Substation) to evaluate the feasibility and potential impacts of Alternatives 4, 5, and 6.</p>	<p>Segment C of Alternatives 4, 5, and 6 consists of two major elements:</p> <ul style="list-style-type: none"> • Consolidation of two existing 230-kV transmission lines currently located on 230-kV tubular steel poles and placement on one position on the same 230-kV structures. • Placement of new 230-kV aluminum conductor on existing double circuit 230-kV tubular steel poles. <p>The existing 230kV structures on Segment C would remain and would be used in place to support the new 230kV line. A detailed analysis of the existing structures including structural adequacy has not been completed due to lack of current LiDAR data for this corridor; therefore some modifications / replacement of the existing structures in line could be required. It is assumed that no new transmission line structures would be required between the new cable pole and the Peñasquitos Substation.</p> <p>Exhibits displaying the existing facilities in the 23013 transmission line corridor have been provided separately (Attachment ED10 – Q4) with cross sections at four locations along the line from Carrol Canyon Road to Penasquitos Substation.</p>
5	Data Request #8, Response #10	<p>For Segment D, identify the minimum distance required between the existing H-Frame and the new double circuit 69 kV steel poles.</p> <p>The March 25, 2015, response to this data request did not specify the requested minimum distance between the existing H-Frame and the new double circuit 69 kV steel poles.</p>	<p>The minimum distance required between the existing H-frame structures and the new double-circuit 69kV steel tubular poles is 40 feet (between centerlines). This would be the minimum required distance to enable portions of construction, specifically foundation installation, to be completed without taking outages on the existing line.</p>
6	N/A	<p>Provide the locations of existing FAA hazard marker balls and structure lighting in Segments A, C, and D. Describe the color and size of lighting that would be used where lighting may be installed on the proposed structures.</p>	<p>The three locations of existing marker balls are tabulated below and shown in Attachment ED10 – Q6(a). After reviewing the SDG&E database it has been identified that there are no structure lightings installed on existing structures in this corridor.</p>

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#	Ref Source, Page #	Data Need	SDGE Response																								
			<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2" style="text-align: center;">Segment</th> <th colspan="2" style="text-align: center;">From</th> <th colspan="2" style="text-align: center;">To</th> </tr> <tr> <th style="text-align: center;">Latitude</th> <th style="text-align: center;">Longitude</th> <th style="text-align: center;">Latitude</th> <th style="text-align: center;">Longitude</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">A</td> <td style="text-align: center;">32.94749285</td> <td style="text-align: center;">-117.1041087</td> <td style="text-align: center;">32.95175911</td> <td style="text-align: center;">-117.1064034</td> </tr> <tr> <td style="text-align: center;">C</td> <td style="text-align: center;">32.95309965</td> <td style="text-align: center;">-117.1689691</td> <td style="text-align: center;">32.95817172</td> <td style="text-align: center;">-117.1689727</td> </tr> <tr> <td style="text-align: center;">D</td> <td style="text-align: center;">32.93946486</td> <td style="text-align: center;">-117.1689636</td> <td style="text-align: center;">32.93736645</td> <td style="text-align: center;">-117.1727477</td> </tr> </tbody> </table> <p>Lighting on proposed structures where required would be in accordance with the FAA Advisory circular 70/7460-1 K. Lighting on structures less than 150’ above ground level would be model L-810, a dual steady burn red light. Lighting on structures greater than 150’ above ground level would be model L-864 which is a flashing red beacon light. Attachment ED10 – Q6(b) includes additional detail on these types of lighting. Actual lighting may vary from the above based on final determinations from FAA and subsequent discussion between SDG&E and FAA.</p>	Segment	From		To		Latitude	Longitude	Latitude	Longitude	A	32.94749285	-117.1041087	32.95175911	-117.1064034	C	32.95309965	-117.1689691	32.95817172	-117.1689727	D	32.93946486	-117.1689636	32.93736645	-117.1727477
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7	Data Request #8, Responses #3 thru #7	Provide a corrected Alternative Routes Overview Map that includes the complete Segment B alignment for Alternative 2 – Pomerado Road to Miramar Area North.	Refer to Attachment ED10 – Q7_Alternative Routes Overview Map.																								
8	Data Request #8, Responses #5 and #6	Provide preliminary engineering for two cable poles and an overhead crossing of Interstate 15 near the Pomerado Road bridge crossing for the Pomerado Road to Miramar Road Area North and Pomerado Road to Miramar Road Alternatives.	Crossing of I-15 for the Pomerado to Miramar Area North and Pomerado to Miramar Road alternatives would be accomplished by placing two new cable poles outside of the CalTrans ROW and two interset structures within CalTrans ROW (refer to map in Attachment ED10 – Q8). Preliminary design data for the poles is provided in the table below:																								

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9	Data Request #8, Response #7	Describe the intended future need for keeping the existing H-frame poles. Under the 69-kV underground alternative and under the proposed project segment D, these poles would be removed to reduce aesthetic impacts of the proposed project. Is SDG&E reconsidering this part of the proposed project?	<p>Within SDG&E's Proposed Project, the existing H-frame structures would be replaced with new double steel monopole structures.</p> <p>Under the 69-kV underground alternative for Segment D, one or both of the existing 69 kV lines would be relocated underground. If only one of the 69 kV lines were to be relocated underground, then the remaining 69 kV line would need to remain overhead on the existing H-frame structures. If both 69 kV lines were to be relocated underground, then the existing h-frame structures (and de-energized line) would remain in place for potential future use and/or future projects. These structures are an existing asset to SDG&E and its ratepayers and are more valuable in place than being removed. Keeping the existing H-frame structures would eliminate any ground disturbance at the existing H-frame locations.</p>															
10	Data Request #5, Response	Provide a detailed description of the physical components, siting requirements, and construction timeframe for the	The CAISO just approved the Mission-Penasquitos 230 kV Project in March 2015, in its final 2014-15 Transmission Plan. As such, this future project has not been evaluated by															

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	#11	<p>Mission-Peñasquitos 230 kV Circuit Project.</p> <p>This project was not included in the cumulative project list provided by SDG&E in response to DR #5. The CAISO 2014-2015 Transmission Plan identifies this project as including construction of "...a new 230 kV section to access Peñasquitos 230 kV substation from Peñasquitos junction" and "...using a de-energized portion of TL23001..."</p>	<p>SDG&E and no design information is available.</p> <p>As part of SDG&E's evaluation in the future of the proposed project, SDG&E would determine project feasibility, construction timing and potential design alternatives.</p>
11	N/A	<p>Provide the correct GIS mapping and supporting documentation for the locations of SDI- 13082 and SDI-14123.</p> <p>In our call with SDG&E on March 26, 2015 to discuss remaining cultural resource sites that required evaluation for potential eligibility on the California Register of Historic Resources, SDG&E cultural technical specialists noted that the locations of these two resources were incorrectly depicted in recorded site maps. SDG&E agreed to provide in short order documentation demonstrating that the locations of these resources do not overlap with proposed project impact areas. That documentation has not yet been provided by SDG&E.</p>	<p>Attachment ED10 – Q11(a) contains the previous Site Record forms for SDI-13082 and SDI-14123. Attachment ED10 – Q11(b) contains an excerpt from the 1996 SR-56 assessment report that further details SDI-13082. Attachments ED10 – Q11(c) and Q11(d) contain updated site record forms for SDI-13082 and SDI-14123, respectively. Finally, Attachment ED10 – Q11(e) contains GIS data for the updated locations of SDI-13082 and SDI-14123. All Q11 attachments are considered CONFIDENTIAL due to the nature of the cultural resources described.</p>
12	N/A	<p>Provide the cultural resource evaluation of SDI-18277.</p> <p>In our call with SDG&E on March 26, 2015 to discuss remaining cultural resource sites that required evaluation for potential eligibility on the California Register of Historic Resources, SDG&E stated that its own cultural resources consultant would evaluate this particular site and that the results of this evaluation would be provided in short order. This evaluation has not yet been provided by SDG&E.</p>	<p>Attachment ED10 – Q12_Eval of SDI-18277 contains the results of the testing of SDI-18277. Attachment ED10 – Q12 is considered to be CONFIDENTIAL.</p>
13	N/A	<p>Provide GIS for revised limits of work in Segments C and</p>	<p>Attachment ED10 – Q13(a) contains updated GIS data for project work areas that includes</p>

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		<p>D. In our call with SDG&E on March 12, 2015 Panorama identified discrepancies in the GIS showing the limits of work within existing disturbed areas in Segments C and D; some of the areas that SDG&E defined as “existing disturbance” are mapped as habitat types in the vegetation GIS data set. Panorama also submitted a follow-up email to SDG&E identifying where these discrepancies occur. During the call, SDG&E indicated that the limits of work discrepancies would be reviewed and GIS showing corrections to the limits of work would be provided. This data set has not yet been provided by SDG&E.</p>	<p>the revised existing structure work areas for Segments C and D. Attachment ED10 – Q13(b) contains an updated DEIR Table 2.4-1 based upon the GIS data in Attachment ED10 – Q13(a). The GIS data in Q13(a) was updated from the GIS data provided the CPUC.</p>