SDG&E TL 6975 San Marcos to Escondido Project (A.17-11-010)
Energy Division Data Request #1 Date April 23, 2018
SDG&E Response #1 Date May 15, 2018

REPORT OVERVIEW

On March 16, 2018the CPUC deemed the application for the TL 6975 San Marcos to Escondido Project (A.17-11-010) complete. The Energy Division requires additional data to prepare a complete and adequate analysis of the potential environmental effects of the Project in accordance with the requirements of CEQA.

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1	Please provide GIS *shapefiles* for the existing and new rights-of-way and spur roads provided in Appendix 3-A, Power Line Route Mapbook.	Please see Attachment 1, TL 6975 Shapefiles: Existing and New Rights-Of-Way and Spur Roads.
2	For the benefit of the lay reader, please define such industry-specific terms as A-frame, SF_6 circuit breaker, franchise, etc. To provide clearer guidance, we will send a list of such terms via e-mail.	Franchise Agreement: A franchise agreement is a binding contract between the utility company and either a municipal agency or a county within the state. The agreement establishes specific rights within the public right-of-way to extend and maintain utility-owned facilities. SDG&E operates under a franchise agreement with each municipality as well as the County of San Diego for the extension or new installation of gas and electric facilities. Under these agreements, SDG&E pays a franchise fee to governmental agencies within its territory. A-Frame: Structure used to terminate a transmission line and support the line's connection to the substation bus. SF6 Circuit Breaker: Protective device used to stop electrical current flow that uses Sulfur-Hexafluoride as a medium to prevent arcing within the breaker.
3	For project background, why was	The 138 kV transmission line in question [TL13811] had connected three substations together: Shadow Ridge Substation, North County Metering Substation and Escondido Substation. The section of TL13811 that connected Escondido Substation to the other two substations has been de-energized by opening the transmission line at both ends. This was done to accommodate the removal of the 138 kV bus at Escondido Substation. Originally, Escondido Substation consisted of a 230 kV bus, a 138 kV

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	the line in Segment 3 de-energized?	bus and a 69 kV bus. The 230kV bus was connected to the 69kV bus through two 230/69 kV transformers and the 138kV bus was connected to the 69 kV bus through a single transformer. An assessment of the 138/69 kV transformer showed that the transformer was undersized. SDG&E considered replacing the 138/69 kV transformer with a larger transformer, but found that power flowed from the 230 kV bus to the 138 kV bus through 69 kV bus. This is inefficient and, consequently, SDG&E determined that it would be more cost effective to remove the 138/69 kV transformer and de-energize TL13811 from Escondido Substation to North County Metering Substation.
4	Please provide a pole inventory list in the geographic order from the San Marcos Substation to the Escondido Substation. The PEA Project Description also made references to poles and structures designated by number (e.g., Pole 68, Structure 86). Please include this numbering convention in the pole inventory.	Please see Attachment 2, Pole Inventory.
5	Please provide more information on the dimension of the new poles. The simulated pole characteristics will need to be representative of the actual design dimensions and other pole characteristics.	Please see Attachment 2, Pole Inventory.

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	Information provided to date indicates a range of pole heights throughout the Project alignment. The CPUC requests the heights of each pole [in tabular form], in the same inventory that is request in Item 2.	
6	Please confirm that micropiles will not be used for the proposed Project. If that is the case, any discussion of micropoles will be removed from the Project Description.	The Proposed Project currently does not include installation of micropile poles. However, micropile poles cannot be excluded until final engineering is complete.
7	Please provide a clearer and more detailed Profile Elevation view of the San Marcos substation. That provided in Attachment 2A of Deficiency Response #1 is not clear. To assist, an example view is included as Attachment A.	Please see Attachment 3, SM Sub Plan Profile. An additional page was added to the original attachment with a clearer profile view and with the enclosing wall displayed.

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	Also, for the visual analysis, the wall enclosing the substation should be shown.	
8	Please provide the remaining photo views noted in Deficiency Response #1, Attachment 3A, that were not included in Attachment 3B. We would like a full set of photos taken at the sites shown in Attachment 3A.	Please see Attachment 4, Existing Alignment Photo Set, for a complete set of pictures from each of the 46 photo viewpoints.
9	Please provide CalEEMod input files to support our use of the newest version of CalEEMod 2016.3.2.	Please see Attachment 5, TL 6975 Project CalEEMod.
10	What is the estimated *width*, *depth*, and *volume* of the pole foundations and the trenches used for installation of any underground conduit? Ranges are provided in the PEA Project Description. If these are to be relied upon,	The pier foundation sizes are anticipated to be the following for the 33 total pier foundation poles: 12 ft diameter x 40ft deep=4,523 cubic feet (11 pier foundation poles) 10 ft diameter x 34 ft deep=2,670 cubic feet (11 pier foundation poles) 8ft diameter x 26 ft deep=1,306 cubic feet (11 pier foundation poles)

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	the analysis will assume the worst-case condition.	
11	What are the contents within the conductors (if any) being removed from the site, as described in Response #12 to Deficiency Letter #2?	There are two types of existing conductor which will be removed by this project. ACSR conductor which is aluminum and steel wires and all copper conductor which is stranded copper wire.
12	Please provide more information on the nature of the existing equipment or materials that currently require the oil containment wall at the Escondido Substation. We understand the existing oil circuit breaker would be replaced with a gas circuit breaker. Please explain this component and the nature of the gas used.	A circuit breaker is used to stop the flow of electrical current. Oil and SF6 gas are used as mediums within the circuit breaker to prevent arcing as they are non-conductive. The oil used is mineral oil and SF6 gas is Sulfur Hexafluoride which are both industry standards for circuit breakers.
13	Please confirm the potential for the use of a helicopter during construction. The PEA Project Description	There are potential locations where a helicopter may be used to facilitate construction within Segment 2. Please refer to response #10 in Deficiency Response #2:

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	sometimes characterizes this use "if necessary" and yet states that a helicopter will be used for Segment 2.	At this time, SDG&E anticipates that all poles and towers where work is proposed would be accessible with truck and/or crane. However, once the construction contractor selected for the Proposed Project conducts a constructability review, there may be the need to install structures via helicopter. Locations where helicopter may be necessary include: • Location 52 to location 54.3 • Location 63 to location 64 to location 65
14	If necessary, provide an estimate of the duration of helicopter use during *operation* activities.	Approximately 1 hour twice a year for routine inspection work. Unplanned and unpredictable events, such as fault patrols, will be approximately 1 hour for each occurrence.
15	The type and model of helicopter that will be used during construction	K-Max and Astar or equivalent is a light/medium helicopter that may be used for construction operations.
16	Please explain the order of Project construction. We understand that the Project would be constructed in three phases, or passes, along the alignment: 1) new pole installation, 2) moving existing circuits to the new poles, 3) reconductoring/re-energizing. When in the process would substation work occur?	Typical construction order is to establish construction yards followed by grading and building access for any sites that require it to drill holes and set bases of the direct buried structures and drill holes and place concrete for the foundations. After that is completed, the pole tops would be set and existing wire would be temporarily transferred to the new poles. Once a complete segment of pole is set, the existing conductor will be removed and the new conductor will be pulled in and energized. Lastly the old poles will be removed where possible or topped above the third-party communication wires until the communication company transfers their facilities to the new poles. The substation work could be completed at any time throughout the project but will be coordinated to reduce outage impacts to the system and must be completed prior to the energization of the new transmission line. Outage constraints on the existing electric system may require the construction sequencing and phasing to change upon start of construction.

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17	Are the wooden poles to be removed [chemically] treated? If so, with what?	The treatment type of wood poles varies by year of installation and technique chosen at the time. Types of treatments that may be found within the wood poles to be removed may include: Penta-oil, Creosote, Chemonite, and Chromated Copper.
18	What is the current construction phasing schedule? It appears that the project phasing presented in PEA Table 3-10 differs with that presented in PEA Table 3-12. This needs to be consistent, particularly for the efficacy of the air quality model. Please confirm this, as well.	Upon review of the TL6975 CalEEMod construction assumptions, we identified some duration inconsistencies (e.g., number of construction days and total hours) between the Air Quality model and PEA Table 3-10: Estimated Construction Equipment and Personnel and Table 3-12: Proposed Construction Schedule. As such, we are hereby resubmitting PEA Table 3-10 and Table 3-12, which have been revised to reflect the correct construction assumptions that were used in the project's CalEEMod assumptions. Please see Attachment 6, TL 6975 PEA Corrected Tables 3-10 and 3-12 for a redline version of the revised PEA Tables.
19	Type and number of construction equipment that would be used during any one phase, as well as the hours of use.	Please refer to Attachment 7, TL 6975 Equipment and Haul Truck Trips per Phase, for a listing of the type and number of construction equipment.
20	Please describe the use and delivery of water during construction (e.g., dust control, port-a-potties, etc.).	Water will be used for various activities including dust control on roads, washing off equipment, pad grading, grout mixing, pole backfill and concrete wash out. Water will be delivered to the site using water trucks.

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21	Total number of haul trips per phase and their approximate one-way trip lengths.	Please refer to Attachment 7, TL 6975 Equipment Haul Truck Trips per Phase. This attachment outlines the total number of haul trips per phase and approximate trip lengths. The project phases overlap, and therefore, the information has been provided by phase and date.
22	Number of work and vendor daily trips and their approximate one-way trip lengths.	There will be no vendors visiting the sites that are outside of the contract crews currently listed in Table 3-10 of the PEA. All trips have been accounted for in Table 3-10 of the PEA and request 18, in this response.
23	Location of historic structures near project construction areas, so that any may be considered in the vibration analysis.	No known historic structures/addresses have been recorded near the project construction areas, based on information from the SCIC and previous cultural survey. In addition, in response to a clarification provided by the CPUC and ESA through email correspondence on April 27, 2018, historic topographic maps and historic aerial photos of the San Marcos and Escondido substations were reviewed. According to the maps and photos, at least the southeastern half of the San Marcos substation was constructed between 1967 and 1980. Historic aerials indicate that the Escondido substation had been constructed by 1953, expanded by 1964, and expanded again between 1967 and 1980. SDG&E is in the process of completing an historic evaluation report for TL6975 that will include the substations. The report is anticipated to be completed by June 30th.
24	How much dewatering may occur and how much discharge is it estimated to create?	Dewatering related to pier foundation installation is estimated to not exceed 550 cubic yards (CY)/111,000 gallons. No dewatering is anticipated for distribution trench work as groundwater is not encountered at the depths where this work would occur at approximately 4 feet in depth.
25	Will any tree trimming or removal be required as a part of construction?	Please refer to response #11 in Deficiency Request #2: At this time, no tree removal is anticipated for the Proposed Project because almost the entire alignment is within franchise or an existing transmission corridor. However, if tree removal is required as determined closer to construction of the Proposed Project, SDG&E will follow the requirements of General Order (GO)-95 related to vegetation removal. In accordance with tree and power line clearance requirements in Public Resources Code 4293, Title 14, Section 1256 of the CCR and CPUC GO 95, SDG&E will trim trees and vegetation to manage fire, electrical reliability, and safety hazards. Regular inspection, regardless of habitat type, is necessary to maintain proper line clearances.

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26	Please provide the location of the Kearny and Icon 3PL yards. We will need clearer information as to the use of these yards for this project.	The Kearny Yard is located at 5488 Overland Avenue, San Diego, CA 92123 and is part of the SDG&E Kearny C&O Center. The Icon 3PL Yard is located at 12332 Vigilante Road, Lakeside, CA 92040. These yards would be used for material storage (i.e. conductor, poles) prior to being transported to one of the project's staging yards.
27	Will marker balls be used on TL 6975 and, if so, where and what is the status of FAA review?	No marker balls will be installed on TL 6975. The FAA review was completed on 10/19/17.

ATTACHMENT 1: TL 6975 Shapefiles: Existing and New Rights-Of-Way and Spur Roads

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ATTACHMENT 2: Pole Inventory

ATTACHMENT 3: SM Sub Plan Profile

ATTACHMENT 4: Existing Alignment Photo Set

ATTACHMENT 5: TL 6975 Project CalEEMod

ATTACHMENT 6: TL 6975 PEA Corrected Tables 3-10 and 3-12

ATTACHMENT 7: TL 6975 Equipment and Haul Truck Trips per Phase