

SDG&E 01/25/13 Partial Response
A. 12-10-009 Cleveland National Forest Power Line Replacement Projects PTC
Energy Division Data Request 02 Dated December 20, 2012

GENERAL

Question #1

The Permit to Construct Application (PTC) Application refers to the Preliminary Plan of Development (POD). The POD title makes reference to the CNF Orange and San Diego Counties. However; there is no mention of SDG&E facilities within Orange County in the PTC application and or the 2012 SF 299 or POD. Please clarify.

San Diego Gas & Electric Company (SDG&E) Response:

The Preliminary POD is a document that was prepared by SDG&E in connection with the application submitted in 2005 to the United States Forest Service (USFS) for a Master Special Use Permit (MSUP). The original purpose of the MSUP was to consolidate approximately 70 previously issued use permits and rights-of-way into one master permit for all SDG&E facilities located within the Cleveland National Forest (CNF). Because the CNF includes lands located in both San Diego and Orange counties, and because the MSUP will authorize continued operation and maintenance of SDG&E facilities currently located on CNF lands located in Orange County, the POD title makes reference to Orange County.

With the filing of the POD and updated SF-299, SDG&E's application for an MSUP has been expanded to include the replacement of several (but not all) of SDG&E's existing 69 kilovolt (kV) and 12 kV facilities located in San Diego County (County). The scope of SDG&E's request, therefore, includes both continued operation and maintenance of all of SDG&E's existing 69kV and 12kV facilities located throughout the CNF and replacement of several of the existing lines in San Diego County. The POD does not describe SDG&E's facilities within Orange County in any detail because none of the facilities located in Orange County are proposed to be replaced at this time.

To clarify, although the Orange County facilities are not discussed in detail in the application materials, these facilities and all other existing facilities that are not proposed to be replaced at this time are included in the application wherever reference is made to the continued operation of SDG&E's existing facilities. For example, the updated SF 299 states that the "Proposed Action" includes "Consolidation of over 70 previously issued special use permits and easements on lands within the administrative boundary of the CNF into one MSUP to allow the continued maintenance and operation of more than approximately 50 miles of 69 kV power lines and 12 kV distribution lines and ancillary or appurtenant facilities, as well as approximately 45 miles of existing access roads required to operate and maintain the existing electric lines located within the administrative boundary of the CNF..."

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PRELIMINARY PLAN OF DEVELOPMENT (POD)

General

Question #1

Please provide a letter from the US Forest Service (USFS) indicating that SDG&E has satisfactorily responded to the USFS comments (dated December 7, 2012) on the Preliminary POD.

SDG&E Response:

SDG&E is currently preparing responses to the USFS comments on the Preliminary POD. SDG&E will provide to the California Public Utilities Commission (CPUC) a completeness letter from the USFS, which will indicate that SDG&E has satisfactorily responded to the comments, once the letter has been received.

Question #2

Please provide all supplementary data/information provided to the USFS in response to the USFS December 7, 2012 comment letter.

SDG&E Response:

SDG&E is currently preparing responses to the USFS comments on the Preliminary POD. SDG&E will provide to the CPUC any supplementary data or additional information also provided to the USFS in response to the December 7, 2012, letter once this information has been finalized and the USFS's completeness letter identified in Question #1 has been received.

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Project Description

Question #1

Please consolidate all proposed APMs to minimize environmental effects into one list by resource area.

SDG&E Response:

The following applicant-proposed measures (APMs)—as revised according to comments received in the USFS’s December 7, 2012, letter (with SDG&E’s proposed changes shown in underline/strikeout)—will be included in one consolidated list in the response to the USFS December 7, 2012, comment letter.

SDG&E notes that these APMs comprise ordinary construction and operations restrictions that have been incorporated into the CNF Power Line Replacement Projects (Proposed Projects) description as design features. These APMs reflect measures developed by SDG&E as part of its robust environmental compliance management program for all construction activities and include measures that are routinely incorporated into typical SDG&E construction projects to avoid and minimize environmental impacts and to comply with applicable laws and regulations.

Air Quality

- APM-AIR-01: To the extent feasible, unnecessary construction vehicle and idling time would be minimized. The ability to limit construction vehicle idling time would be dependent upon the sequence of construction activities, and when and where vehicles are needed or staged. Certain vehicles, such as large diesel-powered vehicles, have extended warm-up times following start-up that limit their availability for use. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The Proposed Projects would apply a “common sense” approach to vehicle use; if a vehicle is not required for use immediately or continuously for construction activities, its engine would be shut off.
- APM-AIR-02: To control fugitive dust, SDG&E would apply water or non-toxic soil stabilizers on all unpaved access roads, staging areas, and other work areas if construction activities cause persistent visible emissions of fugitive dust beyond the work area. SDG&E would also cover loads in haul trucks or maintain at least six inches of free-board when traveling on public roads, and apply non-toxic soil stabilizers or water to form and maintain a crust on inactive construction areas (disturbed work areas that are unused for four consecutive days).
- APM-AIR-03: Traffic speeds on unpaved roads would be limited to 15 miles per hour.

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- APM-AIR-04: SDG&E would maintain construction equipment per manufacturing specifications and use low-emission equipment as follows: all off-road and portable construction diesel engines not registered under the California Air Resources Board Statewide Portable Equipment Registration Program, which have a rating of 50 horsepower (hp) or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, Section 2423(b)(1), unless such an engine is not available for a particular item of equipment. In the event that a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless the engine manufacturer indicates that the use of such devices is not practical for that particular engine type.

Cultural

- APM-CUL-01: Prior to construction, all SDG&E, contractor, and subcontractor personnel will receive training regarding the appropriate work practices necessary to effectively implement the APMs and to comply with the applicable environmental laws and regulations, including the potential for exposing subsurface cultural, archaeological, and paleontological resources and how to recognize possible buried resources. This training will include a presentation of the procedures to be followed upon discovery or suspected discovery of cultural and archaeological materials—including Native American remains and their treatment—and of paleontological resources.
- APM-CUL-02: Intensive pedestrian surveys will be conducted prior to construction in those areas within the rights-of-way for which initial survey access was not granted to determine the potential for impacts to cultural resources in these areas. Where possible, engineering design will be re-evaluated to determine whether facilities can be relocated to avoid any cultural resources identified from these additional surveys. If relocation is not feasible, APM-CUL-03 will be implemented to minimize impacts to sensitive cultural resources.
- APM-CUL-03: All potentially National Register-eligible or archaeologically sensitive sites, as defined in the Cultural Resources Survey Report, that will not be directly affected by construction but are within 50 feet of replacement pole locations will be designated as Environmentally Sensitive Areas (ESAs). Potentially eligible resources include those that are recommended eligible, as well as unevaluated sites. Protective fencing or other markers will be erected and maintained to protect these ESAs from inadvertent trespass for the duration of construction in the vicinity. ESAs will not be signed or marked as cultural, historical, or archaeological resources.
- APM-CUL-04: An archaeological or cultural monitor will be present during construction activities that occur within or adjacent to identified archaeological or cultural resource site boundaries, respectively, as identified in the Cultural Resources Survey Report, if the replacement pole requires a foundation or a larger hole than the

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- ~~existing wood pole location to be excavated to ensure conformance with prescribed avoidance measures.~~ The monitor will identify potential archaeological or cultural resources that may be unexpectedly encountered during construction and will have the authority to divert or temporarily halt construction activities in the area of discovery ~~to allow the recovery of archaeological or cultural resources in a timely fashion.~~ When In the event that archaeological or cultural resources are discovered, the monitor will ~~recover them in accordance with professional standards~~ stop work and notify the Principal Investigator (PI), who will inform SDG&E and the USFS Heritage Program Manager (HPM) of the stoppage. The archaeologist, in consultation with the USFS HPM and SDG&E's Cultural Resource Specialist, will determine the significance of the discovered resources. The USFS HPM and SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities are allowed to resume. For significant cultural resources, preservation in-place will be the preferred manner of mitigating for impacts. For resources that cannot be preserved in place, a Research Design and Data Recovery Program will be prepared and carried out to mitigate impacts, with direction provided by the USFS HPM in consultation with the appropriate Tribe(s), if any, and SHPO. No collection of archaeological or cultural resources will occur on USFS property without prior USFS HPM consent. Daily logs will be kept by all monitors, and a monitoring report (with appropriate graphics) which describes the results, analyses, and conclusions of the monitoring program will be prepared at the conclusion of each phase of monitoring. Any new cultural sites or features encountered will be recorded with the South Coastal information Center. Monitors will also identify and delineate a footpath through the archaeological and cultural resource sites for construction crews, as needed.
- APM-CUL-05: SDG&E will implement all applicable site-specific impact avoidance measures identified and described in the Cultural Resources Survey Report, such as ~~limiting access road improvements in~~ avoiding access road improvements within culturally sensitive areas unless improvements are required for safety reasons; replacing new poles within two to four feet of existing pole locations where necessary to avoid sensitive resources; and cutting existing poles off at grade level, where specified and landowner approval is provided. No new poles will be placed within cultural resource boundaries.
 - APM-CUL-06: In consultation with the USFS HPM, SDG&E will develop a Cultural Resources Treatment Plan that includes procedures for protection and avoidance, evaluation and treatment, and the curation of any ~~potentially register-eligible~~ cultural materials collected during construction. Specific protective measures, including a monitoring program, will be defined in the Cultural Resources Treatment Plan to reduce potential adverse impacts on unknown cultural resources to less-than-significant levels.

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- APM-CUL-07: Should any previously unidentified prehistoric or historic artifacts; indicators or examples of cultural, archaeological, or paleontological resources; or potential human remains be discovered during the course of site preparation, grading, excavation, construction, or other activities, all operations within 50 feet of an inadvertent discovery during construction will cease and the PI will contact the USFS HPM and SDG&E's Cultural Resource Specialist. will be contacted should any previously unidentified prehistoric or historic artifacts, indicators or examples of cultural, archaeological, or paleontological resources, or potential human remains be discovered during the course of site preparation, grading, excavation, construction, or other activities. Once the a find has been identified and evaluated, the USFS HPM and SDG&E's Cultural Resource Specialist will determine if additional cultural resources work including, but not limited to, a formal evaluation or Proposed Action redesign are the required treatment in consultation with the United States Forest Service.
- APM-CUL-08: A paleontological monitor will be present for excavation activities conducted at locations with underlying Potential Fossil Yield Classification Class 3 geologic deposits where new steel poles are unable to be installed in the same location as that of the existing wood pole. In the event that fossils are unexpectedly encountered during construction, a qualified paleontologist will have the authority to divert or temporarily halt construction activities in the area of discovery to allow the recovery of fossil remains in a timely fashion. When significant fossils are discovered, the paleontologist will recover them in accordance with professional standards. Fossil remains collected during monitoring and salvage will be cleaned, repaired, sorted, cataloged, and curated in a scientific institution with permanent paleontological collections. The paleontological monitor will follow the procedures outlined in the Paleontological Monitoring and Treatment Plan, which will be prepared and will include information regarding pre-construction field surveys, construction personnel training, necessary permits, research design, monitoring methodology, fossil discovery and recovery protocols, fossil preparation and curation procedures, and the preparation of a final monitoring report.

Hydrology and Water Quality

- APM-HYD-01: All concrete washouts will be conducted either into excavations where the concrete was poured within designated concrete washout stations, or will be captured using a washout recycling system. Crews will not be allowed to dispose of concrete directly onto the ground.
- APM-HYD-02: When construction activities are required adjacent to flowing aquatic resources, sediment barriers will be placed between the work area and flowing water.
- APM-HYD-03: In areas where topsoil has not been salvaged, construction activities will be limited when the environmental monitor determines that the soil is too wet to

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adequately support vehicles and equipment. Where soil conditions are deemed too wet to work, one of the following measures will apply:

- Access will be limited to the minimum area feasible for construction. Where possible, vehicles and equipment will be routed around wet areas so long as the re-route does not cross into sensitive resource areas.
- If wet areas cannot be avoided and soil moisture is too high to strip topsoil, BMPs—including the use of wide-track or low-ground-pressure equipment or installation of prefabricated equipment pads or timber mats—will be implemented for use in these areas to minimize rutting and off-site sedimentation.
- APM-HYD-04: Any areas not surveyed for potentially jurisdictional wetlands or waters due to limited access will be surveyed prior to the start of construction activities and potential impacts will be assessed and the appropriate jurisdictional permits will be obtained as needed.

Noise

- APM-NOI-01: SDG&E will provide notice of the construction schedule to all property owners within 300 feet of the Proposed Action by mail at least one week prior to the start of construction activities. The announcement will state the construction start date, anticipated completion date, and hours of operation, as well as a telephone number to call with questions or complaints during construction.
- APM-NOI-02: Operating equipment will be positioned to maximize the distance to residences and to maintain safe and effective operation.
- APM-NOI-03: All internal combustion engine-driven equipment will be equipped with exhaust mufflers that are in good condition and meet or exceed the manufacturer's specifications. All equipment will be maintained and tuned according to manufacturer recommendations.
- APM-NOI-04: When backup alarms have more than one loudness setting, they will be set to the lowest setting that meets Occupational Safety and Health Administration safety requirements.
- APM-NOI-05: When located within 80 feet of residences, a temporary noise barrier with an effective height of approximately three feet will be placed between residences and stationary noise-generating equipment during use. The effective height is that of the barrier above the line-of-sight between the noise source and the noise-sensitive receiver.
- APM-NOI-06: Helicopters will be required to maintain a height of at least 500 feet when passing over residential areas, except when at temporary construction areas or actively assisting with conductor stringing. All helicopters will be required to

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maintain a lateral distance of at least 500 feet from all schools. No more than 64 flights per day will be conducted.

- APM-NOI-07: Residents who experience construction noise levels that exceed the applicable noise thresholds will be temporarily relocated, on an as-needed basis, for the duration of the activities that will impact them.
- APM-NOI-08: In the event that blasting is required within 325 feet of a residential property line, SDG&E will prepare and provide a blasting plan for the Proposed Projects that is consistent with SDG&E's blasting guidelines to reduce noise and vibration impacts from blasting activities. The blasting contractor will be required to obtain a blasting permit and explosive permit per the San Diego County Regulatory Ordinances.

Visual Resources

- APM-AES-01: When construction has been completed, all temporary work areas will be restored to near pre-construction conditions in accordance with landowner agreements, in order to reduce potential visual contrast with the surrounding landscape setting.
- APM-AES-02: Construction activities will be kept as clean and inconspicuous as practical. Where practical, construction storage and staging will be screened from close-range residential views with opaque fencing.
- APM-AES-03: Non-specular conductors will be installed for new and replacement conductors along the electric line alignments in order to minimize the reflectivity and general visibility of new electric line facilities.
- APM-AES-04: New and replacement poles to be installed along the electric line alignments will be reddish-brown, weathered steel that will appear similar in color to existing wood poles seen in the Proposed Action area and will blend in with the surrounding landscape backdrop.

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Environmental Resource Evaluation

Biological Resources

Question #1

Please provide a copy of SDG&E's most recent NCCP, reflecting updates, if any.

SDG&E Response:

A copy of SDG&E's Natural Community Conservation Plan (NCCP) is provided as Attachment A: SDG&E NCCP.

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Noise

Question #1

The Noise and Vibration Technical Report was provided; however, the ftp site submittal did not include Appendices B and C to this report. Please provide these two appendices electronically.

SDG&E Response:

The Noise and Vibration Technical Report with Appendices B and C is provided as Attachment B: Noise and Vibration Technical Report Appendices, and is included as CNF Noise and Vibration Technical Report.pdf on the Proposed Projects' FTP site.

Question #2

In response to DR#1 SDG&E stated that “noise could increase due to additional transmission or distribution circuits (corona noise). However existing corona noise is not expected to double.” Please provide quantitative analysis to support this statement and compare to San Diego County Noise Ordinance.

SDG&E Response:

The existing 69 kV power lines included under the Proposed Projects consist of three conductors per line with one line per pole; conductors are placed a minimum of 30 feet aboveground in accordance with CPUC General Order 95 requirements. The Proposed Projects will include three conductors per line with one power line per pole, except in those areas where single- to double-circuit conversion is proposed—namely, TL625B between Loveland Substation and the existing Barrett Tap and TL629E between the existing Cameron Tap and Crestwood Substation. Along these two segments, SDG&E proposes to string three conductors per power line, with two power lines per pole (six replacement conductors total). Replacement conductors will also be placed a minimum of 30 feet aboveground to meet the CPUC General Order 95 requirement. The following table provides the corona noise from existing and proposed 69 kV power line configurations, assuming a noise receiver height of five feet that is located five feet from the edge of the nearest 69 kV power line.

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Power Line Type	Number of Lines	Typical Noise Level (L_{eq}^1, dBA²)	Worst-case Noise Level (L_{eq}, dBA)	Noise Level Increase (L_{eq}, dBA)
Existing Single-Circuit 69 kV Power Line	1	9	24	--
Proposed Single-Circuit 69 kV Power Line	1	9	24	0
Proposed Double-Circuit 69 kV Power Line	2	12	27	3

The San Diego County Noise Ordinance establishes one-hour average sound level limits for each land use zoning category. The lowest one-hour average sound level limit for any zone category is 45 dBA. Corona noise from the replacement conductors would not exceed existing corona noise levels in those areas with single-circuit configurations, and would only increase a maximum of 3 dBA in those areas where single- to double-circuit configuration conversions are planned. An increase of 3 dBA is not a significant increase in noise levels, and no corona noise levels are anticipated to exceed 27 dBA, which is within the noise threshold requirements established by the San Diego County Noise Ordinance. As a result, no impact will occur.

Question #3

Please quantify noise expected from helicopter use both during construction and operation/inspections and compare to the San Diego County Noise Ordinance.

SDG&E Response:

As described in the Preliminary POD, helicopters anticipated to be used during construction of the Proposed Projects include, but are not limited to: the Erickson Air Crane, Hughes 500D, Kaman K-MAX, and Bell 206L Long Ranger. Helicopters will operate at a height of approximately 50 feet when delivering equipment and materials and when assisting with the installation and removal of poles and conductors. APM-NOI-06 requires helicopters to maintain a height of at least 500 feet when traveling over residential areas, except when at temporary construction areas or when actively assisting with construction activities. The following table displays, by helicopter type, the maximum speed and resulting noise at ground level that can be anticipated during construction activities.

¹ “ L_{eq} ” is defined as equivalent sound level.

² “dBA” is defined as the A-weighted sound pressure level.

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Helicopter	Maximum Speed (miles per hour)	Noise Level During Construction (L_{max}^3, dBA at 50 feet aboveground)	Noise Level During Flight ($L_{eq}(8)^4$, dBA at 500 feet aboveground)
Erickson Air Crane	131.7	102	< 75 ⁵
Hughes 500D	154.7	102	< 75
Kaman K-MAX	92.0	102	< 75
Bell 206L Long Ranger	128.6	102	< 75

Sources: Erickson Air Crane, Inc., 2012; MD Helicopters, 2011; KAMAN Corporation, 2013; Bell Helicopter, 2011

In the Noise and Vibration Technical Report, included in Attachment B: Noise and Vibration Technical Report, helicopter usage at any one construction site was assumed not to exceed 30 minutes per day at a noise level of 90 dBA at approximately 200 feet. The report concluded that residential locations within approximately 280 feet of construction will likely experience noise levels exceeding San Diego County’s construction noise threshold of 75 dBA over an eight-hour period. However, because helicopter usage during construction is typically limited to areas that cannot be easily accessed by heavy surface equipment, helicopter noise impacts to residences are not anticipated.

The San Diego County Noise Ordinance provides generally applicable limitations on construction noise, which is limited to an average of 75 dBA over an eight-hour period when measured at the boundary line of the property where the noise source is located, or on any occupied property where the noise is being received. Construction noise is prohibited outside the hours of 7:00 a.m. to 7:00 p.m. and is prohibited on Sundays and holidays. The San Diego County Noise Ordinance also limits impulsive noise at the property lines of the receiving occupied property; impulsive noise produced cannot exceed a maximum of 82 dBA more than 25 percent of the time (i.e., for more than 15 minutes in any one-hour measurement period).

The San Diego County Noise Ordinance establishes a variance process for non-emergency work on public utility facilities, pursuant to which deviations from construction noise restrictions can be permitted. Under Section 36.423 of the San Diego County Noise Ordinance, in the event that certain construction activities cannot conform to the prescribed noise limits or hours for construction activities, the County noise control officer may grant a variance allowing deviations from those requirements. This variance process expressly applies to non-emergency work on public utility facilities. Deviations from San Diego County Noise Ordinance requirements can be appropriate depending on the potential noise impacts to each potentially affected property, the value to the community of the work proposed to be performed, and other similar factors. Where construction activities may expose residences to noise levels exceeding an eight-hour average noise level of 75 dBA—

³ “ L_{max} ” is defined as the maximum sound level.

⁴ “ $L_{eq}(8)$ ” is defined as the average equivalent sound level over eight hours.

⁵ This noise level assumes no more than 64 over flights per day.

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such as where helicopter-set steel replacement poles are located within approximately 280 feet of residential property lines—SDG&E will meet and confer with the County to discuss temporarily deviating from the requirements of the San Diego County Noise Ordinance. Where appropriate, SDG&E will implement ordinary construction restrictions identified in consultation with the county, such as installing sound barriers or relocating residents, to minimize potential exposure to construction noise levels exceeding the established threshold.

For helicopters traveling over residential areas, assuming two flights per day and maintaining a height of at least 500 feet, the average noise level is estimated to be less than 50 dBA over an eight-hour period. For two over flights per hour, the average noise level is estimated to be less than 60 dBA over an eight-hour period. The actual number of over flights to be conducted, however, will depend upon the specific flight paths identified prior to construction from the designated helicopter landing zones and staging areas to the pole work areas designated for helicopter-set steel replacement poles. For every doubling of over flights, there will be an approximately 3-dBA increase in noise exposure over an eight-hour period. Therefore, the San Diego County Noise Ordinance's construction noise limit of 75 dBA over an eight-hour period will not be exceeded if the number of over flights does not exceed 64 per day. To ensure this threshold is not exceeded as a result of over flights, APM-NOI-06 has been revised to limit the number of helicopter flights to less than 64 per day during construction, as described in response to Project Description Question #1.

Because helicopter use during operation and maintenance activities for the Proposed Projects will occur in a similar manner and frequency as that which is currently performed for the 69 kV power lines included in the Proposed Projects, no additional noise impacts from helicopter use during operation and maintenance activities are anticipated to occur.

Question #4

In response to DR#1 SDG&E indicated that blasting and vibration were considered in the noise technical report. However review of the noise technical report does not confirm this. Please confirm that noise and vibration blasting has been included in the quantitative analysis provided in the Noise Technical Report. Alternatively, please identify potential blasting noise and vibration levels as an alternative method for steel pole installation and include a discussion of the noise and vibration impacts associated with the undergrounding (jack-and-bore or trenching construction). Compare to County's noise limits (both Leq(8) and impulsive noise level limits) and applicable vibration thresholds.

SDG&E Response:

Blasting activities, and the resulting noise and vibration impacts associated with these activities, were considered during preparation of the Noise and Vibration Technical Report, included as Attachment B: Noise and Vibration Technical Report Appendices. Because these activities are not anticipated to occur for construction of the Proposed Projects—steel poles requiring foundations will be constructed using micro-pile foundations, which are typically drilled rather than blasted into bedrock—this information was ultimately not included in the final Noise and Vibration Technical Report. Further, blasting activities and the methods used to conduct blasting are highly site-specific and depend on a number of

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local factors, including the size of the area to be excavated using blasting, the underlying geologic stratigraphy, and the number and frequency of blasting events required to successfully complete the excavation portion of construction. No blasting is currently anticipated to be required for steel pole installation as part of the Proposed Projects; however, in response to the CPUC's question, the following assessment of potential noise impacts from blasting activities is provided, assuming a typical charge weight of approximately 0.5 pounds is used to construct direct-bury replacement steel poles.

Impulsive blasting noise levels from a typical charge weight of approximately 0.5 pounds will be approximately 82 dBA at 800 feet. The duration of blasting is typically measured in fractions of a second or in multiple seconds. The San Diego County Noise Ordinance thresholds for impulsive noise are 82 dBA at the property line or other occupied areas of residential, village zoning, or civic use land uses for more than 15 minutes in an hour; and 85 dBA at the property line or other occupied areas of agricultural, commercial, or industrial land uses for more than 15 minutes in an hour. Blasting is not expected to occur for more than 15 minutes in any hour. Therefore, any potential noise impacts from blasting will not exceed the San Diego County Noise Ordinance impulsive noise thresholds. Further, the average noise level for blasting over eight hours will be approximately 69 dBA at 30 feet, which is below the construction noise threshold of 75 dBA.

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The San Diego County vibration limit for infrequent events⁶ in residential areas is a peak particle velocity (PPV)⁷ of 0.01 inches per second root mean squared (RMS).⁸ For an approximately 0.5 pound charge, distances within approximately 325 feet of the blast may exceed the vibration limit. In the event that blasting is required within 325 feet of any residential property line, SDG&E will implement APM-NOI-08, which requires a blasting plan as well as blasting and explosives permits from the County of San Diego consistent with SDG&E guidelines to reduce noise and vibration impacts, as described in response to Project Description Question #1. As previously described in response to Noise Question #3, SDG&E will also implement other ordinary construction restrictions identified in consultation with the County, where necessary, to minimize potential noise and vibration impacts from construction activities where potential levels are likely to exceed the San Diego County Noise Ordinance thresholds.

Jack-and-bore construction is anticipated to be required at one location for the TL629 Proposed Project—underneath Old Highway 80 between pole Z489535 and Crestwood Substation—to avoid potential impacts to this historic highway. Jack-and-bore equipment to be used for this portion of construction will depend on the final Proposed Project design, but is likely to include the use of a guided boring machine; these machines are typically powered by engines generating approximately 100 hp. Jack-and-bore construction beneath Old Highway 80 is anticipated to require no more than five days to complete; assuming the guided boring machine operates for eight hours per day during this time period, eight-hour noise levels of 75 dBA would be exceeded only within 150 feet from the jack-and-bore activities. There are no residential properties or other potentially sensitive receptors within 300 feet of the location of potential jack-and-bore construction activities, and no occupied structures within 150 feet of the location of these activities; therefore, these levels will not exceed the eight-hour threshold established by the San Diego County Noise Ordinance.

The PPV for jack-and-bore construction will be approximately 0.005 inches per second RMS at 100 feet, which is below the San Diego County vibration limit of 0.01 for infrequent events in residential areas.

⁶ “Infrequent events” is defined as fewer than 70 vibration events per day.

⁷ “PPV” is defined as the peak particle velocity in inches per second of a vibrational wave.

⁸ “RMS” is defined as the square root of the sum of the square of a set of values. This allows the total energy of a wave form that oscillates about zero to be summed.

ATTACHMENT A: SDG&E NCCP

ATTACHMENT B: NOISE AND VIBRATION TECHNICAL REPORT APPENDICES