D.8 Noise

This section addresses potential noise impacts resulting from construction and operation of the Proposed PROJECT. Section D.8.1 provides a description of the existing noise setting/affected environment, and applicable noise ordinances and limitations are introduced in Section D.8.2. An analysis of the ECO Substation, Tule Wind, and ESJ Gen-Tie projects impacts/environmental effects and a discussion of mitigation are provided in Section D.8.3. Project alternatives are described in Sections D.8.4 through D.8.7; Section D.8.8 provides mitigation monitoring, compliance, and reporting information. Section D.8.9 addresses residual effects of the project and Section D.8.10 lists the references cited in this section.

D.8.1 Environmental Setting/Affected Environment

This section provides a description of ambient noise levels and sensitive noise receptors near the various components of the proposed ECO Substation, Tule Wind, and ESJ Gen-Tie projects, as well as the Campo, Manzanita, and Jordan wind energy projects. Due to the close proximity of these wind energy projects to the ECO Substation, Tule Wind, and ESJ Gen-Tie projects, a similar noise setting is assumed.

Methodology and Assumptions

This section provides a description of the existing noise environment for the Proposed PROJECT area. Ambient noise data and baseline information reviewed for this section include San Diego Gas and Electric's (SDG&E's) Proponent's Environmental Assessment (PEA) for the ECO Substation Project (SDG&E 2009); Tule Wind Project Draft Noise Analysis Report (HDR 2010); and Audible Noise Performance for the Construction Activities Associated with the Energia Sierra Juarez U.S. Gen-Tie Project (Burns & McDonnell 2009).

D.8.1.1 General Characteristics of Community Noise

To describe environmental noise and to assess project impacts on areas that are sensitive to community noise, a measurement scale that simulates human perception is customarily used. The basic terminology and concepts of noise are described in this section. Technical terms are defined in Table D.8-1.

Table D.8-1
Definitions of Technical Terms Related to Noise

Term	Definition
Ambient noise level	This is the composite of noise from all sources near and far; the normal or existing level of environmental noise at a given location.
A-weighted sound level	The sound pressure level in decibels as measured on a sound level meter using the A-weighted

Table D.8-1 (Continued)

Term	Definition
(dBA)	filter network; the A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Community noise equivalent level (CNEL)	CNEL is the average equivalent A-weighted sound level during a 24-hour day, and it is calculated by adding 5 dB to sound levels in the evening (7 p.m. to 10 p.m.) and adding 10 dB to sound levels in the night (10:00 p.m. to 7:00 a.m.).
Decibel (dB)	This is a unit for measuring sound pressure level equal to 10 times the logarithm to the base 10 of the ratio of the measured sound pressure squared to a reference pressure, which is 20 micropascals.
Equivalent noise level (L_{eq})	This is the sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period. L_{eq} is designed to average all loud and quiet sound levels occurring over a time period.

Sound (noise) levels are measured in decibels (dB). Table D.8-2 depicts common sound levels for various noise sources. Community noise levels are measured in terms of A-weighted sound level. The A-weighted scale of frequency sensitivity accounts for the sensitivity of the human ear, which is less sensitive to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria.

Table D.8-2
Typical Sound Levels Measured in the Environment and Industry

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet flyover at 1,000 feet		
	— 100 —	
Gas lawnmower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	— 70 —	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	— 60 —	
		Large business office
Quiet urban daytime	— 50 —	Dishwasher in next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	— 20 —	

Table D.8-2 (Continued)

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 2009, p. 2-21.

People are generally more sensitive and annoyed by noise during the evening and nighttime. Thus, another noise descriptor used in community noise assessments, the community noise equivalent level (CNEL), was introduced. The CNEL scale represents a time-weighted 24-hour average noise level based on the A-weighted sound level. CNEL accounts for the increased noise sensitivity during the evening (7 p.m. to 10 p.m.) and nighttime hours (10 p.m. to 7 a.m.) by adding 5 dB and 10 dB, respectively, to the average sound levels occurring during these hours. Another noise descriptor, termed the day-night average sound level (L_{dn}), is also used. The L_{dn} is similar to CNEL except there is no penalty for the noise level occurring during the evening hours.

Human activities cause community noise levels to be widely variable over time. For simplicity, sound levels are usually best represented by an equivalent level over a given time period (L_{eq}). The L_{eq}, or equivalent sound level, is a single value (in dBA) for any desired duration, which includes all of the time-varying sound energy in the measurement period, usually 1 hour.

Community noise levels are usually closely related to the intensity of nearby human activity. Noise levels are generally considered low when ambient levels are below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. In wilderness areas, the L_{dn} noise levels can be below 35 dBA. In small towns or wooded and lightly used residential areas, L_{dn} is more likely to be around 50 or 60 dBA. Levels around 75 dBA are more common in busy urban areas, and levels up to 85 dBA occur near major freeways and airports. Although people often accept the higher levels associated with very noisy urban residential and residential–commercial zones, they nevertheless are considered adverse to public health.

D.8.1.2 Noise Environment and Sensitive Noise Receptors in the Project Area

The existing noise environment of the ECO Substation, Tule Wind, and ESJ Gen-Tie project areas includes rural, public, semipublic, and agricultural land uses. Traffic along freeways, highways, and local roadways also contributes to the existing noise environment. Due to the various land uses and noise sources, different levels of noise are present near the ECO Substation, Tule Wind, and ESJ Gen-Tie project areas. Ambient noise levels tend to be lowest in the open, undeveloped areas that comprise much of southeastern San Diego County (County).

Noise levels in the vicinity of the ECO Substation, Tule Wind, and ESJ Gen-Tie projects are typically the highest near major transportation facilities (Interstate 8 (I-8), State Route 94 (SR-94), and Old Highway 80) serving the area.

ECO Substation Project

Noise measurements were conducted for the ECO Substation Project to determine the existing ambient noise levels within the project study area. A 25-hour noise survey was conducted at the following locations:

- Proposed ECO Substation 500 kilovolt (kV) and 230 kV/138 kV yards and Southwest Powerlink (SWPL) Loop-In site
- Downtown Jacumba
- Boulevard Substation Rebuild site.

Sensitive noise receptors are facilities or areas (e.g., residential areas, hospitals, schools) where excessive noise levels would be considered an annoyance. Noise-sensitive receptors are distributed throughout the project study area, and a description of the existing noise environment and sensitive noise receptors associated with the project components is presented as follows.

ECO Substation 500 kV/230 kV/138 kV Yards and SWPL Loop-In

The proposed ECO Substation 500 kV and 230 kV/138 kV yards and the SWPL Loop-In site are surrounded by undeveloped, rural residential land. In addition, an informal network of unpaved, dirt access roads is also located in the general vicinity of the site. The nearest residence, a single mobile home, is located approximately 2,600 feet northwest of the proposed site and is adjacent to I-8. The County has no permit history regarding this residence, and therefore, it is an illegal land use. Old Highway 80 is located approximately 1,500 feet west of the site and provides local access to I-8. The primary sources of noise in the study area include motor vehicles traveling along I-8, Old Highway 80, or the unpaved dirt roads common in the vicinity.

Based on the noise measurements, the L_{dn} at the ECO Substation 500 kV and 230 kV/138 kV yards and SWPL Loop-In site was 46 dBA (SDG&E 2009). The background L_{90} sound level (i.e., 90% of the time the noise level is greater) at this location was 37 dBA during daytime hours and 30 dBA during nighttime hours, respectively (SDG&E 2009).

138 kV Transmission Line

The proposed 138 kV transmission line traverses a variety of land uses including undeveloped, rural residential and public/semipublic uses east of the proposed ECO Substation 500 kV and 230 kV/138 kV yards and SWPL Loop-In site; developed and undeveloped, rural residential uses

near the community of Jacumba; and developed and undeveloped, rural residential uses between the community of Jacumba and Boulevard. Along the alignment, the proposed transmission line crosses several roadways including Carrizo Gorge Road, Old Highway 80, and Tule Jim Road, and there are approximately 14 homes located within 500 feet of the transmission line right-of-way (ROW). These residences are identified in Section D.4, Land Use and Planning, and in Table D.4-2, Existing Residences Within 1,000 feet of the 138 kV Transmission Line.

As indicated in the August 2009 PEA, existing sound levels were measured near the intersection of Jacumba Street and Old Highway 80 in the community of Jacumba. The noise measurements indicate the L_{dn} at this location was 60 dBA (SDG&E 2009). In addition, the background L_{90} sound level at this location was 43 dBA during daytime hours and 32 dBA during nighttime hours, respectively (SDG&E 2009). Downtown Jacumba was selected as the noise measurement location representative of the noise environment along the proposed 138 kV transmission line because Jacumba represents the largest concentrated residential area near the proposed alignment (SDG&E 2009). For examples of rural area background noise levels see Table D.8-3.

Boulevard Substation Rebuild

The Boulevard Substation Rebuild site is surrounded by rural residential development and undeveloped land. The substation rebuild site is located south of a nearby single-family residence and Old Highway 80; north of a single-family residence; west of two single-family residences; and east of two single-family residences, undeveloped land, and the existing Boulevard Substation. The nearest sensitive receptors are two single-family residences located 500 feet northwest and 600 feet south of the proposed rebuild site, respectively.

Existing sound levels were measured at the Boulevard Substation Rebuild site location approximately 50 feet from the noise-generating equipment. Noise levels were measured at the site and not at the nearest sensitive receptor because of access restrictions and represent a worst-case scenario since the nearest residence to the noise-generating equipment is 65 feet from this equipment (SDG&E 2010). The measured noise level was 64 dBA L_{dn} at this site (SDG&E 2009). In addition, the background L_{90} sound level at this location was 57 dBA during daytime and nighttime hours (SDG&E 2009). The sound levels at the site are relatively constant due to the presence of the existing Boulevard Substation.

Tule Wind Project

The Tule Wind Project is located within a rural area with approximately 20 homes scattered throughout the proposed power generating/transmission corridor area. The primary noise source along the southern portion of the Tule Wind Project site is traffic along I-8. Intermittent noise is also generated by sporadic vehicular traffic along the local roads in the area including McCain Valley Road and Ribbonwood Road and occasional aircraft overflights. The closest homes and

campground areas are located approximately 900 feet or more from the proposed transmission corridor, wind turbines, and ancillary facilities.

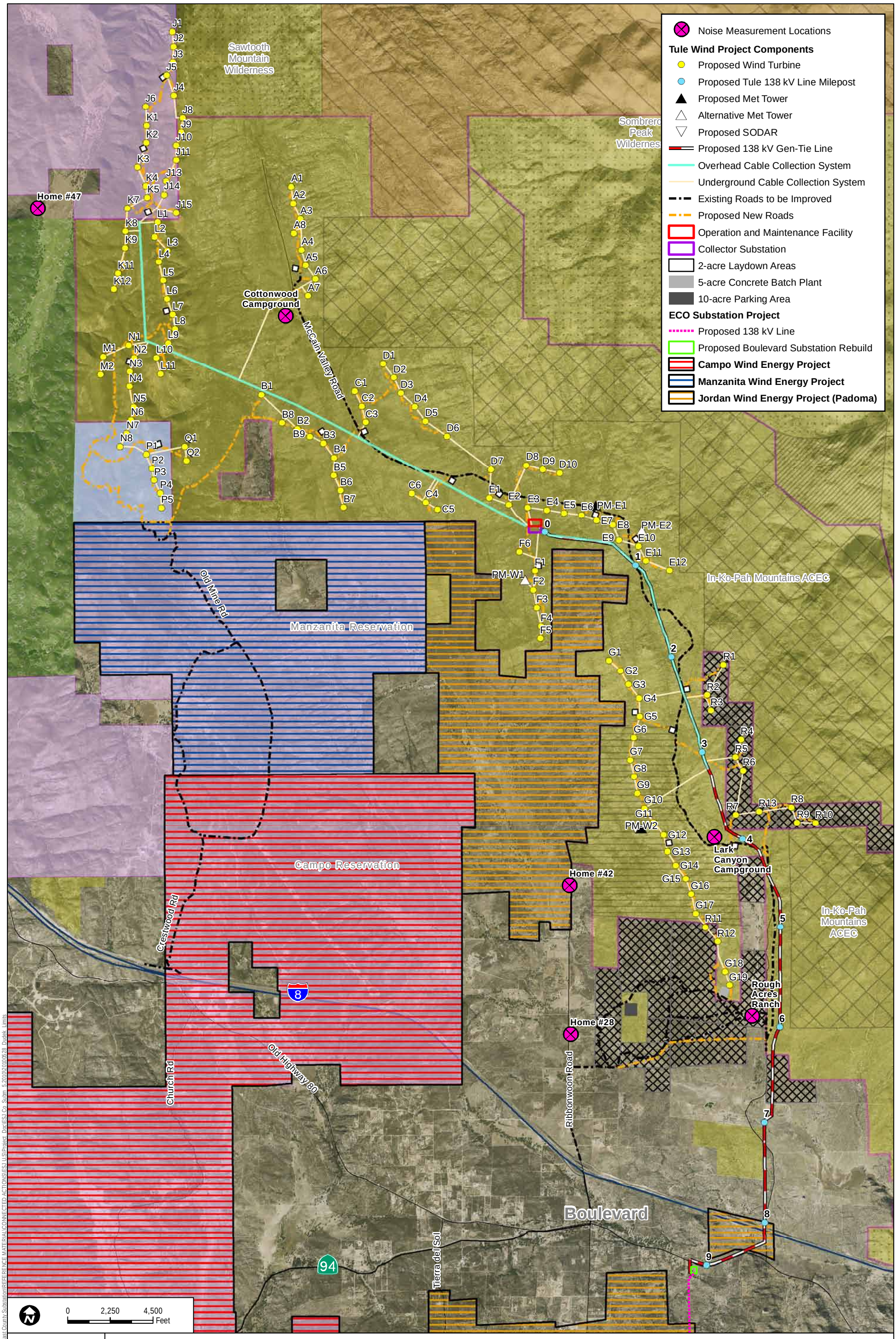
Existing noise levels were measured at six sites throughout the project area. Monitoring locations were selected for areas that are considered representative of the project's existing ambient noise environment. The noise monitoring locations are shown in Figure D.8-1.

Ambient noise in the project area is dominated by noise from traffic on I-8 and vehicular traffic on local roads, wind, and occasional aircraft overflights. The ambient sound levels throughout the project area are typical for a rural setting. Based on 24-hour monitoring data, the existing CNEL within the project area ranged from 45 dBA to 54 dBA. Ambient hourly equivalent noise levels in the project area ranged from 32 dBA to 58 dBA. The measured daytime sound levels for the project area averaged 48 dBA. The quietest hours typically took place during evening and nighttime hours. The greatest noise levels in the project area typically occurred during early morning hours. A summary of the measured existing noise levels are depicted in Table D.8-3.

Table D.8-3
Existing Noise-Level Summary

Monitoring Location	Hourly L_{eq} (day) dBA			Hourly L_{eq} (night) dBA		
	Average	*Lowest*	*Highest*	*Average*	*Lowest*	*Highest*
Cottonwood Campground	42	32	49	45	32	55
Lark Canyon Campground	44	33	49	34	33	35
Home #28	51	45	55	45	39	51
Home #42	50	34	56	44	34	49
Home #47	49	35	54	43	32	53
Rough Acres Ranch	52	33	58	43	33	49

Source: HDR 2010.



DUDEK

SOURCE: HDR 2010

FIGURE D.8-1

Noise Measurement Locations

6168-01

East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects - EIR/EIS

P:\300 Environmental\6168 East County Substation\REFERENCE MATERIAL\CONNECTED ACTIONS\ESJ U.S.Project Doc\ESJ Co Subm 5.2010\20100528 Dudek Limits

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ESJ Gen-Tie Project

Existing noise measurements were not performed for the ESJ Gen-Tie Project area. There are no sensitive receptors located within 2,000 feet of the proposed gen-tie or transmission towers/monopoles. Due to the project's close proximity to the proposed ECO Substation 500 kV and 230 kV/138 kV yards, a similar existing noise environment as detailed for the ECO Substation 500 kV and 230 kV/138 kV yards and SWPL Loop-In site is assumed.

The ESJ Gen-Tie Project is primarily surrounded by privately owned, undeveloped land. Several unnamed dirt roads occasionally used by the U.S. Border Patrol to patrol the U.S.–Mexico border (located approximately 130 feet south of the southernmost ESJ Gen-Tie Project transmission tower/monopole) are located in the vicinity. The stringing areas and gen-tie tower access road of the proposed ESJ Gen-Tie Project would be accessible by a legal property access road providing a connection to Old Highway 80, located approximately 2,500 feet west of the proposed ESJ Gen-Tie 230 kV gen-tie stringing area and the northernmost ESJ Gen-Tie Alternative Route A2 transmission tower/monopole. Extending to the U.S.–Mexico border, the Jacumba Mountains occur immediately east of the ESJ Gen-Tie Project area. The primary sources of noise in the study area are traffic along I-8, Old Highway 80, and border patrol vehicles traveling adjacent to the international border or along the unpaved dirt roads located in the vicinity.

According to SDG&E, the measured L_{dn} at the ECO Substation 500 kV and 230 kV/138 kV yards and SWPL Loop-In site (located just north of the northernmost ESJ Gen-Tie Project transmission tower/monopole site) was 46 dBA, and the background L_{90} sound level was 37 dBA during daytime hours and 30 dBA during nighttime hours (SDG&E 2009). Vehicular traffic on I-8 and Old Highway 80 accounted for the majority of the noise occurring in the project area (SDG&E 2009). Due to the proximity of the ECO Substation and SWPL Loop-In project sites to the ESJ Gen-Tie Project site, a similar noise environment is assumed. However, the existing L_{dn} at the ESJ Gen-Tie Project site may be less than that measured at the ECO Substation 500 kV and 230 kV/138 kV yards since the site is located farther south from I-8 and Old Highway 80. The closest sensitive receptor to the project would be a single mobile home located approximately 2,300 feet to the west. Access to the ESJ Gen-Tie line would be along the ROW starting at the ECO Substation.

D.8.2 Applicable Regulations, Plans, and Standards

Environmental noise is typically regulated by local governments. The State of California requires local jurisdictions to regulate environmental noise in their General Plan document. However, in 1974, the U.S. Environmental Protection Agency (EPA) published guidelines on recommended maximum noise levels to protect public health and welfare. The following discussion summarizes the federal and state recommendations and the local requirements as they relate to

environmental noise. In addition to the federal recommendations identified below, the Campo and Manzanita wind energy projects may be subject to tribe-specific policies and plans.

D.8.2.1 Federal Regulations

U.S. Environmental Protection Agency

The EPA has indicated that residential noise exposure of 55 dBa to 65 dBA is acceptable when analyzing land use compatibility (EPA 1981); however, these guidelines are not regulatory. With regard to noise exposure and workers, the federal Occupational Safety and Health Administration (OSHA) establishes regulations to safeguard the hearing of workers exposed to occupational noise (29 CFR 1910.95). OSHA specifies that sustained noise over 85 dBA (8-hour time-weighted average) can be a threat to workers' hearing, and if worker exposure exceeds this amount, the employer shall develop and implement a monitoring plan (29 CFR 1910.95 (d) (1)).

D.8.2.2 State Laws and Regulations

The State of California requires each local government to perform noise surveys and implement a noise element as part of its general plan. Generally speaking, noise levels less than 60 CNEL are acceptable for all land uses, including residences, schools, and other noise-sensitive receptors. Noise levels greater than 70 CNEL are normally unacceptable for most noise-sensitive land uses, and levels between 60 and 70 CNEL are usually considered conditionally acceptable because the structures where the receptors reside normally provide some level of insulation (OPR 2003, Appendix C).

D.8.2.3 Regional Policies, Plans, and Regulations

County of San Diego General Plan – Noise Element

The County Noise Element about Noise-Sensitive Land Uses (NSLU)

Project implementation will result in the exposure of any on- or off-site, existing or reasonably foreseeable future NSLU to exterior or interior noise (including noise generated from the project, together with noise from roads, railroads, airports, heliports, and all other noise sources) in excess of 60 dB (CNEL), or an increase of 10 dB (CNEL) over pre-existing noise.

Road Construction Projects

According to the existing San Diego County General Plan's Noise Element, the exterior noise level due to vehicular traffic impacting a noise sensitive area should not exceed 60 dB, except if the existing or projected noise level without the project is 58 dB or greater, a 3 dB increase is allowed up to the maximum permitted by the Federal Highway Administration Standards, or if the project permanently increases the noise levels by 10 dBA CNEL (County of San Diego 2006).

Use of Direct and Cumulative Thresholds

Direct noise impacts occur where existing noise conditions and the project-related noise contributions will combine to exceed the standards of the County Noise Element at exterior NSLU. It is more likely to occur in locations where existing noise levels are elevated or approach the applicable criterion of 60 CNEL for an exterior NSLU. It is considered a significant direct impact when: "New projects combine to generate more than double the existing sound energy of a documented noisy site" (County of San Diego 2009a).

Cumulative noise impacts may occur where other permitted or planned projects will combine to exceed the standards of the Noise Element. It is more likely to occur in locations where existing noise levels are elevated or approach the applicable criterion of 60 CNEL for an exterior NSLU. Two examples of cumulative effects are: (1) major residential developments in a region generate sufficient project-related traffic to affect significantly existing or planned NSLU, and (2) wind farms or long-term construction activities from several projects are in close proximity to existing or planned NSLU with future conditions exceeding 60 CNEL. It may also be considered a significant cumulative impact when new projects combine to generate more than double the existing sound energy of a documented noisy site. With an identified significant cumulative impact, the analysis also needs to determine whether the project's contribution is "cumulatively considerable."

A "cumulatively considerable" contribution requiring mitigation or design measures is identified whenever: (1) more than 50% of the change can be attributed to the project or (2) more than a 1 dB increase from the project was identified in the model analysis.

County of San Diego Noise Ordinance

Operational Performance Standards

Section 36.404 of the County of San Diego Code of Regulatory Ordinances (2009b) contains sound-level limits specific to receiving land uses. Sound-level limits are in terms of a 1-hour average sound level. The allowable noise limits depend upon the County's zoning district and time of day. The majority of the Proposed PROJECT would be located on or traverse land zoned S-92, as shown on Figure D.4-4 in Section D.4, Land Use. The applicable 1-hour sound-level limit for the S-92 zone is 50 dBA between 7 a.m. and 10 p.m. and 45 dBA between 10 p.m. and 7 a.m. Table D.8-4 lists the sound-level limits for San Diego County.

Table D.8-4
San Diego County Noise Ordinance Sound-Level Limits

Zone	Applicable Limit 1-Hour Average Sound Level (dB)		
	7 a.m. to 7 p.m.	*7 p.m. to 10 p.m.*	*10 p.m. to 7 a.m.*
R-S, RD, R-R, R-HM, A-70, A-72, S-80, S-81, S-87, S-88(residential, agricultural or civic use), S-90, S-92, R-V, and R-U use regulations with a density of less than 11 dwelling units per acre	50	50	45
R-RO, R-C, R-M, C-30, S-86, R-V, R-U and V5 use regulations with a density of 11 or more dwelling units per acre	55	55	50
S-94, V4, all other commercial zones, and S-88 (commercial use)	60	60	55
V1	60	55	55
V2	60	55	50
V3	70	70	65
M-50, M-52, M-54, and S-88 (industrial use)	70	70	70
S-82, M-58, all other industrial zones, and S-88 (extractive use or use only allowed in an M56 or M58 zone)	75	75	75

Source: County Of San Diego 2009b.
Notes: If the measured ambient level exceeds the applicable limit noted in the table, the allowable 1-hour average sound level will be the ambient noise level. The ambient noise level will be measured when the alleged noise violation source is not operating.
The sound-level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts; provided, however, that the 1-hour average sound-level limit applicable to extractive industries, including but not limited to borrow pits and mines, will be 75 dB at the property line, regardless of the zone where the extractive industry is actually located.
Fixed-location, public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise-level limits of this section, measured at or beyond 6 feet from the boundary of the easement upon which the equipment is located.

Construction Noise Standards

Section 36.409 of the County of San Diego Noise Ordinance (2009b) sets limits on the time of day and days of the week that construction can occur, as well as setting noise limits for construction activities. In summary, the ordinance prohibits operating construction equipment on:

- Mondays through Saturdays except between the hours of 7 a.m. and 7 p.m.
- Sundays and days appointed by the president, governor, or Board of Supervisors for a public fast, Thanksgiving, or other holiday.

In addition, the code requires that between the hours of 7:00 a.m. and 7:00 p.m. no equipment shall be operated so as to cause an 8-hour average construction noise level in excess of 75 dBA 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.

The County of San Diego Noise Ordinance Section 36.410 (2009b) includes applicable limitations for impulsive noise. Specifically, except for emergency work or work on a public road project, no person shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level (as described in the following significance thresholds) when measured at the boundary line of the property, where the noise source is located, or on any occupied property where the noise is received for 25% (15 minutes) during a 1-hour time period. The maximum sound level depends on the use being made of the occupied property. Construction-related noise in excess of the following significance thresholds would be considered significant:

- More than 82 dBA maximum sound pressure level for residential, village zoning, or civic land use
- More than 85 dBA maximum sound pressure level for agricultural, commercial, or industrial land use.

County Guidelines for Vibration and Groundborne Noise Impacts

The County of San Diego Department of Planning and Land Use (2009a) has published guidelines for determining the significance of groundborne vibration and noise impacts for use during the preparation of California Environmental Quality Act (CEQA) documents. Vibration is considered significant if project implementation will expose specific uses (organized into three categories) to groundborne vibration or noise equal to or in excess of levels determined by the Federal Transit Administration's (FTA's) Transit Noise and Vibration Impact Assessment (FTA 2006). County Guidelines are provided in Table D.8-5.

Table D.8-5
Guidelines for Determining the Significance of
Groundborne Vibration and Groundborne Noise Impacts

Land Use Category[1]	Groundborne Vibration Impact Levels (inches/second root mean square)		Groundborne Noise Impact Level (dB re 20 micropascals)	
	Frequent Events[2]	*Occasional or Infrequent Events[3]*	*Frequent Events[1]*	*Occasional or Infrequent Events[2]*
Category 1: Buildings where low ambient vibration is essential for interior operations (research and manufacturing facilities with special vibration constraints)	0.0018[4]	0.0018[4]	Not Applicable (N/A)[5,6]	N/A[4,5]
Category 2: Residences and buildings where people normally sleep (hotels, hospitals, residences, and other sleeping facilities)	0.0040	0.010	35 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use (schools, churches, libraries, other institutions, and quiet offices)	0.0056	0.014	40 dBA	48 dBA

Table D.8-5 (Continued)

Source: FTA 2006.
Notes:
1. For Categories 2 and 3 with occupied facilities, isolated events such as blasting are significant when the peak particle velocity (PPV) exceeds 1 inch per second. Nontransportation vibration sources such as impact pile drivers or hydraulic breakers are significant when their PPV exceeds 0.1 inch per second. More specific criteria for structures and potential annoyance were developed by the California Department of Transportation (Caltrans2004) and will be used to evaluate these continuous or transient sources in San Diego County.
2. "Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category.
3. "Occasional or Infrequent Events" are defined as fewer than 70 vibration events per day. This combined category includes most commuter rail systems.
4. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration sensitive manufacturing or research will require detailed evaluation to define acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the heating, venting, and air-conditioning (HVAC) systems and stiffened floors.
5. Vibration-sensitive equipment is not sensitive to groundborne noise.
6. There are some buildings such as concert halls, TV and recording studios, and theaters that can be very sensitive to vibration and noise but do not fit into any of these categories. The County of San Diego has established guidelines for these special buildings.

D.8.3 Environmental Effects

D.8.3.1 Definition and Use of CEQA Significance Criteria/Indicators under NEPA

Significance of noise impacts depends on whether the project would increase noise levels above the existing ambient levels by introducing new sources of noise. The following significance criteria are based on the CEQA checklist identified in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). Under CEQA, noise impacts would be considered significant if the Proposed PROJECT would result in:

- Conflict with applicable noise restrictions or standards imposed by regulatory agencies
- Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels
- A substantial permanent increase in ambient noise levels above levels existing without the project at sensitive receptor locations
- A substantial temporary or periodic increase in ambient noise levels above levels existing without the project at sensitive receptor locations.

Noise Significance Thresholds

Exceedence of any one of the following County standards will generally be considered a significant impact related to noise as a result of project implementation, in the absence of substantial evidence to the contrary:

1. The County Noise Element: Project-Generated Airborne Noise (County of San Diego 2006)

a. The project will generate noise levels above 60 dBA CNEL at NSLU.

b. The project will increase the noise level by 10 dBA CNEL over pre-existing noise at NSLU.

c. The project-related noise contributions generate more than 3 dBA CNEL above the existing noise conditions and will combine to exceed 60 CNEL at exterior noise NSLU.

d. The project and permitted or planned projects will generate more than 3 dBA CNEL and will combine to exceed 60 CNEL at exterior noise NSLU. If the noise impact is significant, as outlined in the previous sentence, a cumulatively considerable contribution requiring mitigation would occur when more than a 1 dBA CNEL increase results from the project.

2. The County Noise Ordinance: Project – Generated Airborne Noise (County of San Diego 2009b)

   a. Non-Construction Noise: The limit previously specified in Table D.8-4.

   b. At or beyond the property line: If the measured ambient noise level exceeds the applicable limit in Table D.8-4, the allowable 1-hour average sound level shall be the 1-hour average ambient noise level, plus 3 dBA.

   c. Construction Noise: Noise generated by construction activities related to the project will exceed an 8-hour average sound level of 75 dBA between the hours of 7:00 a.m. and 7:00 p.m. 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.

   d. Impulsive Noise: Construction-related noise in excess of the following significance thresholds would be considered significant:

      i. More than 82 dBA maximum sound pressure level for residential, village zoning, or civic land use where the noise is received for 15 minutes or more during a one-hour time period

      ii. More than 85 dBA maximum sound pressure level for agricultural, commercial, or industrial land use where the noise is received for 15 minutes or more during a 1-hour time period.

Use of Vibration Thresholds

Project implementation will expose the uses previously listed in Table D.8-5 to groundborne vibration or groundborne noise levels equal to or in excess of the levels shown.

D.8.3.2 Applicant Proposed Measures

ECO Substation Project

SDG&E proposed Applicant Proposed Measures (APMs) ECO-NOI-1 through ECO-NOI-4, which include limits on construction and other noise-inducing activities in their PEA, in order to reduce impacts related to noise (as described in Section B.3.4, ECO Substation Project Applicant Proposed Measures, of this Environmental Impact Report/Environmental Impact Study (EIR/EIS)).

Tule Wind Project

Pacific Wind Development proposed APMs TULE-NOI-1 through TULE-NOI-17 to reduce impacts related to noise (as described in Section B.4.4, Tule Wind Project Applicant Proposed Measures, of this EIR/EIS).

ESJ Gen-Tie Project

Energia Sierra Juarez U.S. Transmission, LLC, proposed APM ESJ-NOI-1, which limits the hours construction activities are performed, to reduce impacts related to noise (as described in Section B.5.4, ESJ Gen-Tie Project Applicant Proposed Measures, of this EIR/EIS).

Campo, Manzanita, and Jordan Wind Energy Projects

At the time this EIR/EIS was prepared, the project proponents for these three wind energy projects have not developed project-specific APMs.

D.8.3.3 Direct and Indirect Effects

Table D.8-6 lists the impacts identified for the ECO Substation, Tule Wind, and ESJ Gen-Tie projects, along with the classifications of impacts under CEQA. Cumulative effects are analyzed in Section F of this EIR/EIS.

Table D.8-6
Noise Impacts Identified for
ECO Substation, Tule Wind, and ESJ Gen-Tie Projects

Impact No.	Description	Classification
ECO Substation – Noise Impacts		
ECO-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
ECO-NOI-2	Construction activity would temporarily cause groundborne vibration.	Class III
ECO-NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	Class II
ECO-NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III

Table D.8-6 (Continued)

Impact No.	Description	Classification
Tule Wind – Noise Impacts		
Tule-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
Tule-NOI-2	Construction activity would temporarily cause groundborne vibration.	Class I
Tule-NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	Class II
Tule-NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III
ESJ Gen-Tie – Noise Impacts		
ESJ-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class III
ESJ-NOI-2	Construction activity would temporarily cause groundborne vibration.	Class III
ESJ-NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	Class II
ESJ-NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III
Proposed PROJECT (COMBINED including Campo, Manzanita, and Jordan Wind Energy)		
NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
NOI-2	Construction activity would temporarily cause groundborne vibration.	Class I
NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	Class II
NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact NOI-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.

ECO Substation Project

ECO Substation

Construction activities associated with the proposed ECO Substation would include clearing, grading, and paving of access roads; clearing, excavating, and grading of the 230 kV and 500 kV yards; and installing equipment and facilities. Construction activities would require the temporary use of various types of noise-generating construction equipment, including bulldozers, graders, backhoes, drill rigs, augers, flatbed boom trucks, rigging and mechanic trucks, air compressors and generators, mobile cranes, concrete trucks, pole trailers, man lifts, and impact equipment. Wire-stringing operations would require pullers, tensioners, and cable reel trailers. Helicopters would be used to string the sock line and install transmission structures. The typical noise levels generated by some of the construction equipment that would be used are depicted in Table D.8-7.

Table D.8-7
Construction Equipment Noise Emission Levels

Equipment	Typical Noise Level (dBA) 50 feet from source
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jackhammer	88
Loader	85
Paver	89
Pile-driver (Impact)	101
Pile-driver (Sonic)	96
Pneumatic Tool	85
Pump	76
Rail Saw	90
Rock Drill	98
Roller	74
Saw	76
Scarifier	83
Scraper	89
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Truck	88

Source: FTA 2006.

Based on the equipment identified, the 8-hour construction noise level is anticipated to be approximately 80 dB at a distance of 50 feet from the construction equipment (SDG&E 2009). The property line of the nearest residence would be approximately 500 feet southwest of the site. At this location, the 8-hour average construction sound level would range up to 60 dB. Therefore, noise generated by construction activities conducted during daytime hours (between 7 a.m. and 7 p.m.) would not result in adverse impacts and, under CEQA, would result in less-than-significant noise impacts (Class III).

Construction activities may be required beyond the hours stipulated in the County Noise Ordinance to allow for materials delivery at night and to comply with the Caltrans weight limits on state highways. In addition, the construction schedule may be periodically dictated by the California Independent System Operator (CAISO) if system outages are required to perform work. These outages often occur at night and are scheduled to avoid peak-usage hours. The work would be coordinated with the County's chief of the Code Enforcement Division so that activities comply with the local noise ordinance to the extent feasible. The nighttime construction noise levels could be above the ambient noise level and would occur outside the hours of construction permitted under Section 36.408 of the County Noise Ordinance. Therefore, SDG&E would partially mitigate for the nighttime noise impacts with implementation of APM ECO-NOI-1, which will ensure that nighttime construction activities would not cause noise that would exceed an hourly average of 45 dB when measured at the border of the nearest residence. If this standard cannot be met, SDG&E will communicate this to the County in advance. However, since the nighttime construction impacts cannot be fully mitigated, impacts would remain adverse. Under CEQA, these impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Southwest Powerlink Loop-In

The major sources of SWPL Loop-In construction noise would be heavy equipment used to clear and grade the access roads and install foundations for each tower. In addition, helicopters may be used to install structures and conductors. The noise level generated from operating a rock drill or a helicopter is approximately 95 dBA at a distance of 30 feet and 200 feet, respectively. Rock-drilling activity may occur approximately 4 hours per day, and helicopter activity is not expected to exceed 10 minutes at any one location. Noise-sensitive receptors located within approximately 210 feet of rock-drilling activities or 235 feet of helicopter activities may experience an 8-hour average noise level in excess of 75 dBA. However, the property line of the closest residence is approximately 1,320 feet northwest of the site. At this distance, the 8-hour average construction noise level would be less than 60 dBA (SDG&E 2009). Therefore, noise impacts resulting from construction of the SWPL Loop-In would not be adverse and, under CEQA, would be considered less than significant (Class III).

138 kV Transmission Line

The major sources of construction noise along the majority of the 138 kV transmission line would be heavy equipment used to clear and grade access roads and the installation of foundations for tangent poles. In areas where there is limited access or where sensitive resources may inhibit ground-based activity, helicopters may be used intermittently to assist with the installation of transmission line poles and conductors. The noise level generated by a helicopter is 95 dBA at 200 feet. There are five residences with property boundaries located within approximately 235 feet of helicopter use that may experience temporary noise levels due to helicopter use in excess of a 75 dBA average between 7 a.m. and 7 p.m. APMs NOI-1, NOI-2, and NOI-3 will partially mitigate these impacts by limiting construction activities to the hours and sound levels permitted by the San Diego County Noise Ordinance (or coordinate any exceptions with the County), requiring that property owners be notified prior to construction and requiring either limiting the location of helicopter use to avoid more densely populated areas or relocating residents temporarily during helicopter use. Implementation of APM ECO-NOI-3 would ensure that no residents within 235 feet would be exposed to any helicopter noise by limiting the location of helicopter use and by relocating residents where helicopter use cannot be avoided. Impacts to sensitive noise receptors along the 138 kV transmission line ROW due to helicopter noise would not be adverse if the residents agree to relocation, as described in APM ECO-NOI-3. However, because it is not known whether residents would agree to temporary relocation, the helicopter noise impact is considered adverse and cannot be reliably mitigated. Under CEQA, noise impacts from helicopter use are considered significant and may not be mitigated to a level that is considered less than significant (Class I).

Blasting activities may be required to facilitate excavation in areas where rocks are found. Blasting activities would typically involve drilling multiple 2-inch-diameter holes into the rock to a depth between 40 inches and 15 feet, so that the pole holes can ultimately be excavated to a depth of approximately 15 feet. Charges, typically weighing between 2.5 and 5 pounds each, would then be inserted into each hole. The charges would then be detonated sequentially, limiting the blasting-related noises to one individual charge at a time. Smaller charges and/or multiple blasting operations may be used to further limit blasting-related noise levels at individual pole holes. Based upon the previous assumptions, any blasting occurring without mitigation would exceed the County's impulsive noise standard at the boundary of any parcel used for agricultural purposes at a distance of approximately 1,100 feet, and for residential purposes at a distance of approximately 1,550 feet. Assuming that 5-pound charges will be used and soil, rubberized blankets, and/or steel plates will be placed over the area to be blasted to reduce the noise, the resulting noise level would be 85 dBA at a distance of 430 feet and 82 dBA at a distance of 600 feet (SDG&E 2009). However, blasting noise would not exceed the County's

impulsive noise standard because blasting would not occur for more than 25% (15 minutes) during a 1-hour period due to the short time duration of a blast.

Furthermore, with implementation of APM ECO-NOI-4, the use of explosives to assist with the excavation of rock will be prohibited within 600 feet of the boundary of any occupied parcels zoned for residential use and within 430 feet of the boundary of any occupied parcels zoned for agricultural use. Also, with implementation of Mitigation Measure NOI-1, impacts from blasting would be reduced though the preparation and implementation of a blasting plan. The blasting plan would be site specific and would include specific measures taken at each blasting location to reduce impacts to nearby residences. As described in APM ECO-NOI-4, if blasting cannot be avoided, SDG&E will temporarily relocate residents while blasting occurs to mitigate for blasting-related impacts. Impacts to sensitive noise receptors along the 138 kV transmission line ROW due to blasting noise would not be adverse if the residents agree to relocation, as described in APM ECO-NOI-4 and Mitigation Measure NOI-1. However, because it is not known whether residents would agree to temporary relocation, blasting noise impacts are considered adverse and cannot be reliably mitigated. Under CEQA, noise impacts from blasting are considered significant and may not be mitigated to a level that is considered less than significant (Class I).

MM NOI-1 **Blasting Plan.** The applicant will prepare a blasting plan that will reduce impacts associated with construction-related noise and vibrations related to blasting. The blasting plan will be site specific, based on general and exact locations of required blasting and the results of a project-specific geotechnical investigation. The blasting plan will include a description of the planned blasting methods, an inventory of receptors potentially affected by the planned blasting, and calculations to determine the area affected by the planned blasting. Noise calculations in the blasting plan will account for blasting activities and all supplemental construction equipment.

The blasting plan will include a schedule to demonstrate, where feasible, construction blasting to occur infrequently enough that it will not exceed the County's impulsive noise standard because blasting would not occur for more than 25% (15 minutes) during a 1-hour period due to the short time duration of a blast. Where this is not possible, other construction blasting would be coordinated with impacted building occupants to occur in their absence, or at other acceptable times, to avoid nuisance or annoyance complaints. If necessary, the applicant will temporarily relocate impacted residents on an as-needed basis for the duration of the blasting activities.

To ensure that potentially impacted residents are informed, the applicant will provide notice by mail to all property owners within 300 feet of the project at least 1 week prior to the start of construction activities.

Blasting would be completed between 7 a.m. and 7 p.m. to be compliant with County noise ordinances.

A rock-anchoring or min-pile system may be used to reduce the risk of damage to structures during blasting activities. Fair compensation for lost use will be provided to the property owner. If adversely affected, structures shall be restored to an equivalent condition, and fair compensation for lost use will be provided to the owner.

If necessary, portable noise barriers to reduce excessive noise impacts shall be used between the source and affected, occupied properties. Noise barriers that break the line of sight would provide 5 dB attenuation. Increasing the height of the barrier would increase the attenuation of the barrier. A 5 dBA to 10 dBA attenuation is considered reasonably feasible.

Supplemental construction equipment, such as drill rigs, may be used to support blasting. At a distance of 80 feet, drill rig noise emissions are approximately 75 dBA Leq. Drill rigs, without mitigation, have the potential to cause temporary noise impacts if used less than 80 feet from the property line of an occupied residence. The blasting plan will include measures to reduce noise impacts resulting from the use of drill rigs at less than 80 feet from a property line. Such measures may include temporary noise barriers or limited hours of operation to reduce the impact to within the County standard.

Supplemental construction equipment, such as drill rigs, may be used to support blasting and geotechnical activities. At a distance of 80 feet, drill rig noise emissions are approximately 75 dBA L_{eq}. Drill rigs, without mitigation, have the potential to cause temporary noise impacts if used less than 80 feet from the property line of an occupied residence (HDR 2010). No sensitive receptor property boundaries are located within 80 feet of the proposed 138 kV transmission line (SDG&E 2009). Therefore, no adverse impacts would occur due to rock drilling, and under CEQA, impacts would be considered less than significant (Class III).

Boulevard Substation Rebuild

Construction activities at the Boulevard Substation rebuild site would include clearing, grading, and installation of equipment and facilities. Construction activities at the existing Boulevard Substation would involve the removal of all equipment and fencing. Based on the anticipated

construction equipment, the average noise level would range up to approximately 75 dBA at the adjacent residential property line (SDG&E 2009). This noise level would comply with the County's construction noise-level limit and result in an adverse but less-than-significant noise impact (Class III).

Tule Wind Project

The project is proposing roadway improvements and new roadways to facilitate the delivery of large equipment and cranes. This access will require a roadway connecting Ribbonwood Road to Rough Acres Ranch and then to McCain Valley Road. This roadway improvement would connect with a private road. Additional roadway access for the turbines located on the mountain ridge on the Ewiiaapaayp Band of Kumeyaay Indians tribal land in the western portion of the project area would be provided from the Crestwood Road exit on I-8 and would run through the Campo and Manzanita Indian Reservations, although an agreement has not been completed at this time.

A typical day during the peak of the construction period would generate approximately 200 truck trips, which would include the transportation of turbines, movement of heavy equipment, transport of material and concrete, as well as trips for pump trucks and subcontractor trucks. A total of 325 peak daily workers are expected to be working in the project area during the peak construction period, approximately 125 on-site construction employees and 200 delivery truck drivers.

Ribbonwood Road is the primary interchange with the I-8 proposed for the project; thus, the majority of the construction traffic would use Ribbonwood Road. Depending on the location of the construction work zone, some trips may also require use of McCain Valley Road. To access McCain Valley Road, drivers would use Ribbonwood Road and Old Highway 80. Also, construction traffic may access the western portion of the project site by using the Crestwood Road interchange with I-8 and traveling on Crestwood Road and Old Mine Road.

Existing traffic-related noise levels in the area range from 47 to 68 dBA CNEL. Project-related traffic noise levels, during the peak of project construction, would range from 47 to 57 dBA CNEL. Modeling of existing, project-related, and existing plus project-related average daily traffic volumes were calculated, and the existing plus project noise levels during the peak of the project construction are anticipated to range from 50 dBA to 69 dBA CNEL at the closest noise sensitive areas of residences adjacent to McCain Valley Road, Old Highway 80, and Ribbonwood Road.

Direct roadway noise impacts would be considered significant if the project increases noise levels for a noise-sensitive land above the County 60 dBA CNEL standard; except if the existing noise level without the project is 58 dBA or greater, a 3 dBA increase is allowed up to the

maximum permitted by the Federal Highway Administration Standards or if the project permanently increases the noise levels by 10 dBA CNEL. The project creates an increase of more than 3 dBA CNEL along a segment of Ribbonwood Road north of I-8, but does not increase the existing noise levels above the 60 dBA CNEL County threshold to noise-sensitive areas (HDR 2010). Based on the modeled results prepared by HDR, no traffic-related roadway impacts are anticipated due to project-related traffic (HDR 2010).

Blasting may be required during construction. The noise associated with blasting activities would be similar to that previously described for the ECO Substation Project. If the use of explosives cannot be avoided, temporary adverse noise impacts due to blasting and blasting support equipment are anticipated. The implementation of a site-specific blasting plan through the implementation of Mitigation Measure NOI-1, which supersedes APM NOI-3, would mitigate impacts to area residents. Supplemental construction equipment, such as drill rigs, may be used to support blasting and geotechnical activities. At a distance of 80 feet, drill rig noise emissions are approximately 75 dBA L_{eq}. Drill rigs, without mitigation, have the potential to cause temporary noise impacts if used less than 80 feet from the property line of an occupied residence.

With implementation of APM Tule-NOI-2, the applicant will develop and implement a site-specific noise mitigation plan prior to construction. Implementation of APM Tule-NOI-2 and Mitigation Measure NOI-1 would mitigate noise impacts resulting from blasting and drill rig use. Impacts to sensitive noise receptors along the 138 kV transmission line ROW due to blasting noise would not be adverse if the residents agree to relocation, as described in APM ECO-NOI-4 and Mitigation Measure NOI-1. However, because it is not known whether residents would agree to temporary relocation, the blasting and drill rig noise impact is considered adverse and cannot be reliably mitigated. Under CEQA, noise impacts from blasting and drill rig use are considered significant and may not be mitigated to a level that is considered less than significant (Class I).

Construction noise has been evaluated for the various anticipated construction activities (i.e., roadway, transmission line, underground utilities, tower base, and cement batch plant). The resulting 8-hour average construction noise levels have been calculated to range up to 99 dBA at the property lines of nearby properties and are summarized in Table D.8-8. As indicated in the table, the construction noise would exceed an 8-hour average sound level of 75 dBA at several residences associated with the transmission line and roadway construction activities. The construction noise would result in an adverse and unmitigable noise impact. Partial mitigation of the noise impacts would occur with implementation of APMs Tule-NOI-2, Tule-NOI-4, and Tule-NOI-6 through Tule-NOI-16, and Mitigation Measure NOI-1. Under CEQA, impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Table D.8-8
Noise Level Results for Construction and Batch Plant Operation

Receptors		Noise Level Results per Condition									
		Roadway Construction		*Underground Utilities Construction*		*Tower Base Construction*		*138 kV Transmission Line Construction (Including Alternatives)*		*Batch Plant Operation*	
Receptor Name	Homes Represented[1]	Distance to Property (feet)	Level (L_{eq})	Distance to Property (feet)	Level (L_{eq})	Distance to Property (feet)	Level (L_{eq})	Distance to Property (feet)	Level (L_{eq})	Distance to Property (feet)	Level (L_{eq})
Receptors 1A	Home 1	387	67	4,659	44	4,511	46	1,001	60	3,379	46
Receptors 2A	Home 2	13	97	820	59	623	63	30	90	525	63
Receptors 3A	Home 3-26 (23)	13	97	820	59	623	63	30	90	492	63
Receptors 4A	Home 27	13	97	6,529	41	8,038	41	1,165	58	5,840	42
Receptors 5A	Homes 28-29 (2)	180	74	7,546	39	8,202	41	49	86	6,962	40
Receptors 6A	Home 30	164	75	7,218	40	7,710	41	49	86	6,693	41
Receptors 7A	Home 31	387	67	7,218	40	7,218	42	49	86	6,562	41
Receptors 8A	Home 32	5,315	45	5,348	42	5,151	45	4,593	46	7,546	39
Receptors 9A	Home 42	4,511	46	4,265	44	4,265	46	4,101	47	8,202	39
Receptors 10A	Homes 33 and 44 (2)	82	81	8,858	38	9,186	40	459	66	8,038	39
Receptors 11A	Homes 34,35 and 43 (3)	10	99	9,186	38	9,514	39	49	59	8,202	39
Receptors 12A	Home 36	2,657	51	2,822	48	8,366	40	2,477	52	8,038	39
Receptors 13A	Homes 37-41 (4)	39,370	27	4,429	44	3,937	47	49	86	3,773	45
Receptors 14A	Home 47	2,543	51	2,133	50	2,297	52	26,247	31	49,213	23
Receptor 1B	N/A[2]	—	—	—	—	—	—	49	85	—	—
Receptor 2B	N/A[2]	—	—	—	—	—	—	49	85	—	—
Receptor 3B	N/A[2]	—	—	—	—	—	—	49	85	—	—
Receptor 4B	N/A[2]	—	—	—	—	—	—	49	85	—	—
Receptor 5B	N/A[2]	—	—	—	—	—	—	82	81	—	—
Receptor 6B	N/A[2]	—	—	—	—	—	—	82	81	—	—
Receptor 7B	N/A[2]	—	—	—	—	—	—	82	81	—	—

Table D.8-8 (Continued)

Receptors		Noise Level Results per Condition									
		Roadway Construction		*Underground Utilities Construction*		*Tower Base Construction*		*138 kV Transmission Line Construction (Including Alternatives)*		*Batch Plant Operation*	
Receptor Name	Homes Represented[1]	Distance to Property (feet)	Level (L_{eq})	Distance to Property (feet)	Level (L_{eq})	Distance to Property (feet)	Level (L_{eq})	Distance to Property (feet)	Level (L_{eq})	Distance to Property (feet)	Level (L_{eq})
Receptor 8B	N/A[2]	—	—	—	—	—	—	82	81	—	—
Receptor 9B	N/A[2]	—	—	—	—	—	—	82	81	—	—
Receptor 10B	N/A[2]	—	—	—	—	—	—	105	78	—	—
Receptor 11B	N/A[2]	—	—	—	—	—	—	105	78	—	—
Receptor 12B	N/A[2]	—	—	—	—	—	—	98	79	—	—
Receptor 13B	N/A[2]	—	—	—	—	—	—	98	79	—	—
Receptor 14B	N/A[2]	—	—	—	—	—	—	98	79	—	—
Receptor 15B	N/A[2]	—	—	—	—	—	—	98	79	—	—
Receptor 16B	N/A[2]	—	—	—	—	—	—	49	85	—	—
Receptor 17B	N/A[2]	—	—	—	—	—	—	49	85	—	—
Receptor 18B	N/A[2]	—	—	—	—	—	—	49	85	—	—
Receptor 19B	N/A[2]	—	—	—	—	—	—	98	79	—	—
Receptor 20B	N/A[2]	—	—	—	—	—	—	98	79	—	—
Receptor 21B	N/A[2]	—	—	—	—	—	—	49	85	—	—
Receptor 22B	N/A[2]	—	—	—	—	—	—	49	85	—	—
Receptor 23B	N/A[2]	—	—	—	—	—	—	49	85	—	—
Receptor 24B	N/A[2]	—	—	—	—	—	—	82	81	—	—
Receptor 25B	N/A[1]	—	—	—	—	—	—	82	81	—	—
Receptor 26B	N/A[2]	—	—	—	—	—	—	98	79	—	—
Receptor 27B	N/A[2]	—	—	—	—	—	—	98	79	—	—
Receptor 28B	N/A[2]	—	—	—	—	—	—	115	78	—	—
Receptor 29B	N/A[2]	—	—	—	—	—	—	98	79	—	—

Table D.8-8 (Continued)

Receptors		Noise Level Results per Condition									
		Roadway Construction		*Underground Utilities Construction*		*Tower Base Construction*		*138 kV Transmission Line Construction (Including Alternatives)*		*Batch Plant Operation*	
Receptor Name	Homes Represented[1]	Distance to Property (feet)	Level (L_{eq})	Distance to Property (feet)	Level (L_{eq})	Distance to Property (feet)	Level (L_{eq})	Distance to Property (feet)	Level (L_{eq})	Distance to Property (feet)	Level (L_{eq})
Receptor 30B	N/A[2]	—	—	—	—	—	—	98	79	—	—
Receptor 31B	N/A[2]	—	—	—	—	—	—	115	78	—	—
Receptor 32B	N/A[2]	—	—	—	—	—	—	98	79	—	—
Receptor 33B	N/A[2]	—	—	—	—	—	—	115	78	—	—
Receptor 34B	N/A[2]	—	—	—	—	—	—	66	83	—	—
Receptor 35B	N/A[2]	—	—	—	—	—	—	66	83	—	—
Receptor 36B	N/A[2]	—	—	—	—	—	—	66	83	—	—
Receptor 37B	N/A[2]	—	—	—	—	—	—	82	81	—	—
Receptor 38B	N/A[2]	—	—	—	—	—	—	82	81	—	—
Receptor 39B	N/A[2]	—	—	—	—	—	—	49	85	—	—
Receptor 40B	1	—	—	—	—	—	—	135	77	—	—
Receptor 41B	1	—	—	—	—	—	—	278	71	—	—
Receptor 42B	1	—	—	—	—	—	—	180	74	—	—
Receptor 43B	1	—	—	—	—	—	—	98	80	—	—
Total Impacted Parcels per Condition		6		0		0		47		0	

Source: HDR 2010.
Notes: Bold and shaded cells denote a noise impact.
[1]Home locations are shown on Figure 13 of the Tule Wind Project Draft Noise Analysis Report, HDR, June 2010.
[2] At the time of analysis, the number of homes per parcel was not determined.

Since decommissioning is expected to occur in approximately 30 years, it is difficult to predict what sensitive receptors will be located in the Tule Wind project vicinity. Assuming that conditions in 30 years would be similar to current conditions, noise impacts from decommissioning activities would likely be similar to project construction noise. Impacts related to noise would be addressed through applicable noise standards that would be enforced through the approval of decommissioning activities by the Bureau of Land Management (BLM) and the County at the time of decommissioning. Since blasting may be required and it is unknown whether residents close to blasting activities would agree to relocate, noise impacts would be considered adverse and unmitigable, and under CEQA would also be significant and would not be mitigable to a level considered less than significant (Class I).

ESJ Gen-Tie Project

The construction activities associated with the ESJ Gen-Tie Project would be similar to the transmission line noise impacts previously discussed for the ECO Substation. There are no residential properties in close proximity to the proposed ESJ Gen-Tie transmission lines. The property line of the closest residence would be located approximately 1,500 feet from construction activities. At this distance, based on the anticipated construction equipment, the 8-hour average noise level would be less than 60 dB, and the construction activities would not result in an adverse noise impact. The applicant is also incorporating APM ESJ-NOI-1 into the proposed ESJ Gen-Tie Project to ensure that construction-related noise would remain in compliance with County requirements. Under CEQA, noise impacts would be less than significant (Class III).

Proposed PROJECT

There are many sensitive receptors in the vicinity of the Proposed PROJECT site likely to be affected by construction noise related to development of the Proposed PROJECT, as well as the Campo, Manzanita, and Jordan wind energy projects. However, Proposed PROJECT construction noise would not impact sensitive receptors at a greater level than each individual project because these projects are located in different areas and would impact different sensitive receptors. As a result, the level of noise impact for the Proposed PROJECT would be similar to that previously described for each of the individual projects. APMs ECO-NOI-1 through ECO-NOI-4, TULE-NOI-2, TULE_NOI-4, TULE-NOI-5 through TULE-NOI-16, and ESJ-NOI-1, along with Mitigation Measure NOI-1, would be implemented as part of the Proposed PROJECT. However, even with mitigation, the construction noise from the Proposed PROJECT would result in an adverse and unmitigated noise impact as a result of nighttime construction, blasting, and helicopter operations associated with the ECO Substation portion of the project, and blasting and drill rig operations, and roadway and transmission line construction associated with the Tule Wind portion of the project. While components of the Campo and Manzanita wind

energy projects located on tribal lands would not be subject to the County of San Diego Noise Ordinance, segments of transmission line for these projects are anticipated to traverse County of San Diego lands and would be subject to local noise regulations. Therefore, construction noise impacts for those segment are expected to be similar to those identified for construction of the ECO Substation and Tule Wind transmission lines. Given its proximity to the Tule Wind Project and because the project would be located on County jurisdictional lands, the Jordan wind energy project is expected to result in similar construction noise impacts the Tule Wind Project. Under CEQA, impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Impact NOI-2: Construction activity would temporarily cause groundborne vibration.

ECO Substation Project

Based on calculations, vibration levels beyond 25 feet from construction activities are below the damage threshold for older and newer residential buildings (SDG&E 2009). Vibration levels beyond 200 feet from construction activities are below the damage threshold for fragile buildings. Residences within approximately 100 feet of most construction activities could exceed the County's annoyance threshold for frequent events (SDG&E 2009).

No residences are within 100 feet of the any of the proposed ECO Substation Project components, and no residential structures would be within 25 feet of construction activities (SDG&E 2009); therefore, construction-related groundborne vibration would not result in an adverse impact, and under CEQA, impacts would be considered less than significant (Class III).

Tule Wind Project

Construction and decommissioning could include activities that may temporarily expose people to adverse impacts resulting from groundborne vibration. Blasting may be required in some areas to remove rock. General areas or exact locations will be identified by results of a geotechnical investigation. Implementation of Mitigation Measure NOI-1 would mitigate these impacts through the preparation and implementation of a blasting plan that would ensure that potentially impacted residents were notified and that other mitigating actions are identified and implemented, such as relocating residents, anchoring structures, and/or providing compensation. The groundborne vibration from construction and decommissioning related blasting would cause adverse impacts that would be mitigated with implementation of Mitigation Measure NOI-1. However, because it is not known whether residents would agree to temporary relocation, blasting vibration impacts are considered adverse and cannot be reliably mitigated. Under CEQA, vibration impacts from blasting are considered significant and may not be mitigated to a level that is considered less than significant (Class I).

ESJ Gen-Tie Project

As previously indicated, there are no residential properties in close proximity to the proposed ESJ Gen-Tie project. The construction activities would not result in an adverse impact due to groundborne vibrations. Under CEQA, construction-related vibrations would result in a less-than-significant impact (Class III).

Proposed PROJECT

There are many sensitive receptors in the vicinity of the Proposed PROJECT site that are likely to be affected by construction groundborne vibration related to development of the Proposed PROJECT including the Campo, Manzanita, and Jordan wind energy projects. However, Proposed PROJECT construction groundborne vibration would not impact sensitive receptors at a greater level than each individual project because these projects are located in different areas and would impact different sensitive receptors. Therefore, groundborne vibration as a result of construction of the Proposed PROJECT would be adverse, and with implementation of Mitigation Measure NOI-1 would remain adverse. Under CEQA, construction-related vibration impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I) due to blasting activities.

Impact NOI-3: Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.

ECO Substation Project

ECO Substation

The substation noise levels were modeled to determine the future noise level associated with the facility. The primary source of operating noise at the ECO Substation would be the on-site transformers. The transformers located at the ECO Substation are modeled as National Electrical Manufacturers Association (NEMA)-rated 68/70/71 dBA. The 1-hour average 45 dBA noise contour would be located within the station property line; thus, no noise-sensitive areas would be exposed to noise levels above 45 dBA (SDG&E 2009). Therefore, operation of the ECO Substation would not result in an adverse impact from corona noise, and under CEQA, corona noise impacts from operations would be less than significant (Class III).

Southwest Powerlink Loop-In

The corona hum from a 500 kV line typically would produce noise levels up to 36 dBA when measured at the edge of the transmission line ROW during dry conditions (SDG&E 2009). Corona levels (and audible noise levels) are highest during heavy rain, when the conductors are wet, but the noise generated by the rain would likely be greater than the noise generated by corona; thus, the

increased corona-related noise would not be noticeable. In foul weather conditions, water droplets and fog can produce corona discharges from high voltage lines that are typically 5 dBA higher than fair weather conditions, but they can be 20 dBA higher than usual. Because noise levels generally decrease in intensity by 6 dBA for each doubling of distance from the source, the corona noise during poor weather conditions is expected to be less than 34 dBA at the nearest sensitive receptor and the closest privately held residential parcel available for development; both are 2,000 feet from the SWPL Loop-In (SDG&E 2009). However, the noise level at the ROW may exceed the County's noise ordinance criteria, thus resulting in an adverse impact that would be mitigated with implementation of Mitigation Measure NOI-2. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

MM NOI-2 **Conductor configuration selection to address noise impacts.** As part of the project's design selection process and prior to construction, the proper conductor configuration shall be selected so that the corona noise does not exceed the County's noise ordinance limits along the transmission line corridor measured during worst-case weather conditions at or beyond 6 feet from the boundary of the easement upon which the transmission line is located.

138 kV Transmission Line

Corona and audible noise are usually not a design issue for transmission lines at 138 kV (SDG&E 2009). Corona noise levels at the ROW would be below the County's noise ordinance limits. Thus, the corona noise would not result in an adverse impact, and under CEQA, impacts would be considered less than significant (Class III).

Boulevard Substation Rebuild

The primary source of operating noise at the rebuilt Boulevard Substation would be the on-site transformers. The distribution transformers at the Boulevard Substation are modeled as NEMA-rated 68/70/71 dBA. The daytime operation 1-hour-average 50 dBA sound level and the nighttime operation 1-hour-average 45 dBA sound level would be within the station property. Thus, no noise-sensitive areas would be exposed to noise levels above 50 dBA during daytime hours or above 45 dBA during nighttime hours. As a result, operation of the rebuilt Boulevard Substation would comply with the County's noise ordinance criteria and would not result in an adverse impact. Under CEQA, corona noise at the Boulevard Substation would cause a less-than-significant noise impact (Class III).

Tule Wind Project

The 138 kV project transmission line and poles would be located within a 100-foot ROW easement. The proposed transmission line would have three conductors supported by insulators

on single-shaft steel poles that would either be galvanized or coated with a weathered steel finish to resemble wood.

Based on the corona noise model, using a typical 138 kV single-circuit transmission line configuration, transmission line noise would comply with the County's noise ordinance requirements at the 100-foot ROW. Corona noise levels under wet weather conditions at the ROW are calculated to be 26 dBA below the County nighttime noise-level limits (HDR 2010). The corona noise would not result in an adverse impact, and under CEQA, impacts would be considered less than significant (Class III).

In the analysis of wind turbine noise, HDR modeled noise from 134 GE 1.5XLE turbines. The turbine locations include 97 wind turbines on BLM land, 17 turbines on tribal lands, 7 turbines on state lands, and 13 wind turbines on private parcels (Rough Acres Ranch). Wind turbine project-related noise levels range from 33 dBA to 49 dBA, as shown in Table D.8-9. Without mitigation, assuming all turbines installed at 1.5 megawatt (MW), the project would exceed maximum allowable noise limits for nighttime noise of 45 dBA (refer to Table D.8-4) at two property boundaries, Homes 1 and 2, by 2 dB and 4 dB, respectively. If 3.0 MW turbines are used, additional residences may be adversely impacted. With implementation of Mitigation Measure NOI-3, which supersedes APMs TULE-NOI-1, TULE-NOI-2, and TULE-NOI-5, the noise impact would be adverse and mitigated. Under CEQA, noise from turbine operations would be significant but would be mitigated to a less than significant level (Class II).

Table D.8-9
Wind Turbine Noise Levels at Residences within 1 Mile of Proposed Turbine Locations

Noise Source Identification (Proposed Turbine)	Receptor[1]	Distance to Property Line (feet)	Noise Level Leq (dBA)
R12	Home1	1,583	47
G19	Home 2	884	49
G19	Home 27	5,928	37
G19	Home 28	7,633	37
G19	Home 30	7,331	37
G17	Home 31	5,969	39
G14	Home 32	5,014	41
G19	Home 33	8,316	35
G19	Home 34	8,859	35
G19	Home 36	8,598	33
G19	Home 39	2,376	42
G13	Home 42	4,445	42
K12	Home 47	2,191	41

Source: HDR 2010.
[1]Home locations are shown on Figure 5 of the Tule Wind Project Draft Noise Analysis Report, HDR, June 2010.

MM NOI-3 **Site-specific noise mitigation plan.** Prior to construction, a site-specific noise mitigation plan will be developed to ensure that noise from turbines will not adversely impact surrounding residences. The noise mitigation plan will ensure that operation of the turbines will comply with County General Plan Policy 4b and County Noise Ordinance Section 34.404. Mitigation of the turbine noise may include revising the turbine layout, curtailment of nighttime use of selected turbines, utilization of an alternate turbine manufacturer, and implementation of noise reduction technology.

The plan will also demonstrate how the project will maintain the turbines so that they will be kept in good running order throughout the operational life of the project and will not create noise levels due to deterioration that would violate County standards.

ESJ Gen-Tie Project

Audible noise values were calculated for the ESJ Gen-Tie lines under foul weather conditions using the Corona and Field Effects Program noise model (Burns & McDonnell 2009). The proposed transmission line is located away from residences, businesses, and other receptors. During most of the year, in fair weather, the audible noise level at the edge of the ROW would not exceed 28 dBA.

The corona noise modeling indicates that during wet weather conditions for the 500 kV configuration, conductor selection is a factor concerning the audible noise-level limit. At the property line of the closest occupied parcel, the noise level would be 39 dBA or less under wet weather conditions with either a 2-conductor, 2,156 kcmil Bluebird configuration, or a 3-conductor, 795 kcmil Drake configuration. However, the noise level at the ROW may exceed the County's noise ordinance criteria if other configurations are implemented, such as a single conductor Bluebird configuration or a 2-conductor cardinal configuration, which would result in audible noise levels of 55 dBA and 46 dBA, respectively (Burns & McDonnell 2009). Implementation of Mitigation Measure NOI-3 will result in an adverse but mitigated noise impact. Under CEQA, impacts from corona noise from a 500 kV transmission line would be significant but would be mitigated to a less-than-significant level (Class II).

Corona and audible noise are usually not a design issue for transmission lines at 230 kV or below. Either of the proposed 230 kV conductor configurations would meet the County's noise criteria (Burns & McDonnell 2009). Therefore, corona noise impacts resulting from a 230 kV transmission line would not be adverse, and under CEQA, impacts would be less than significant (Class III).

Proposed PROJECT

There are many sensitive receptors in the vicinity of the Proposed PROJECT site that are likely to be affected by corona noise from operations of the transmission lines and noise from other project components. There are also two residences in the vicinity of turbines that would be adversely impacted by noise from 1.5 MW turbines, as well as additional residences that may be impacted by 3.0 MW turbines. Implementation of Mitigation Measures NOI-2 and NOI-3 would be implemented as part of the Proposed PROJECT and would mitigate turbine and corona noise impacts. The Campo, Manzanita, and Jordan wind energy projects would also result in operational corona nose along their respective transmission lines, although the precise location of these lines is unknown. The corona noise impact resulting from these projects is anticipated to be similar to the impacts identified for the Proposed PROJECT. Under CEQA, impacts would be significant but would be mitigated to less than significant levels (Class II).

Impact NOI-4: Routine inspection and maintenance activities would increase ambient noise levels.

ECO Substation Project

ECO Substation

A temporary or periodic increase in noise would result from maintenance crews visiting the substation several times a week, vegetation clearance as needed, and a major maintenance inspection that would take place annually. These activities would not generate substantial noise and would not result in an adverse impact. Under CEQA, impacts would be less than significant (Class III).

Southwest Powerlink Loop-In

Construction of the SWPL Loop-In would not require any significant changes to the current operation and maintenance activities for the existing SWPL line. Thus, it would not result in an adverse impact, and under CEQA, impacts would be less than significant (Class III).

138 kV Transmission Line

The noise associated with maintenance of the transmission lines would include vegetation clearance, as needed, and annual inspections and maintenance procedures to maintain service continuity. Routine land or helicopter inspections of the 138 kV transmission line would take place after it has been put into service. The length of time required for inspections at any one location would be short in duration, lasting a few minutes at each tower. Some noise-sensitive receptors may experience a periodic, temporary, short-term increase in noise. Because this noise increase would be temporary and short term, lasting only a few minutes, it is not anticipated to exceed the County's noise ordinance criteria at any one receptor location. As a result, noise from

these operations and maintenance activities would not result in an adverse impact, and under CEQA, impacts would be less than significant (Class III).

Boulevard Substation Rebuild

Reconstruction of the Boulevard Substation would not require any significant changes to the current operation and maintenance activities at the existing substation. Preventive maintenance for the expanded substation would continue with approximately the same crew sizes and frequency as the existing substation with the visits lasting for longer durations. Therefore, noise levels due to operation and maintenance would not change significantly and would not result in an adverse impact. Under CEQA, impacts would be less than significant (Class III).

Tule Wind Project

A temporary or periodic increase in noise would result from maintenance crews inspecting and maintaining the substations and turbines. Post-construction, the project is expected to be supported by up to 12 permanent full-time employees. The noise report did not model vehicular trips for the operations due to the anticipated low generation of traffic associated with operation activities. Also, operational traffic would occur during normal business hours. No impacts due to operational traffic noise are anticipated. Also, routine land or helicopter inspections of the 138 kV transmission line would be similar to those previously described for the ECO Substation Project. These activities would not generate substantial noise and would not result in adverse impacts. Under CEQA, impacts would be less than significant (Class III).

ESJ Gen-Tie Project

A temporary or periodic increase in noise would result from maintenance crews inspecting the transmission lines similar to those previously described for the ECO Substation Project. These activities would not generate substantial noise and would not result in adverse impacts. Under CEQA, impacts would be less than significant (Class III).

Proposed PROJECT

Proposed PROJECT noise impacts due to routine inspection and maintenance would not impact sensitive receptors at a greater level than each individual project because these projects are located in different areas and would impact different sensitive receptors. The specific extent of noise effects resulting from the Campo, Manzanita, and Jordan wind energy projects routine inspection and maintenance are unknown at this time but are anticipated to be similar to those resulting from the Proposed PROJECT. As a result, the level of noise from routine inspection and maintenance activities would not result in adverse impacts, and under CEQA, impacts would be less than significant (Class III).

D.8.4 ECO Substation Project Alternatives

Table D.8-10 summarizes the impacts and classification of the impacts under CEQA that have been identified for the ECO Substation Project alternatives.

Table D.8-10
Noise Impacts Identified for ECO Substation Project Alternatives

Impact No.	Description	Classification
ECO Substation Alternative Site		
ECO-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
ECO-NOI-2	Construction activity would temporarily cause groundborne vibration.	Class III
ECO-NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	Class II
ECO-NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III
ECO Partial Underground 138 kV Transmission Route Alternative		
ECO-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
ECO-NOI-2	Construction activity would temporarily cause groundborne vibration.	Class III
ECO-NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	Class II
ECO-NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III
ECO Highway 80 138 kV Transmission Route Alternative		
ECO-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
ECO-NOI-2	Construction activity would temporarily cause groundborne vibration.	Class III
ECO-NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	Class II
ECO-NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III
ECO Highway 80 Underground 138 kV Transmission Route Alternative		
ECO-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
ECO-NOI-2	Construction activity would temporarily cause groundborne vibration.	Class III
ECO-NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	Class II
ECO-NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III

D.8.4.1 ECO Substation Alternative Site

Environmental Setting/Affected Environment

The environmental setting under this alternative is similar to the proposed ECO Substation Project as described in Section D.13.1.1 because this alternative would only shift the proposed ECO Substation site 700 feet to the east.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects addressed in Section F of this EIR/EIS)*

Impact NOI-1: Construction noise from the ECO Substation alternative site would be less than the proposed ECO Substation. This is because the closest residential property line would be approximately 550 feet farther away as compared with the proposed ECO Substation site. These construction activities would result in an adverse but a less-than-significant Class III noise impact during daytime hours. Construction activities during nighttime hours would result in a significant and unmitigated Class I noise impact. Under this alternative, the overall construction noise impacts resulting from the ECO Substation Project would be adverse and unmitigated due to blasting and helicopter activities and nighttime construction. Partial mitigation would include implementation of APMs ECO-NOI-1 through ECO-NOI-4 and Mitigation Measure NOI-1. Under CEQA, impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Impact NOI-2: Construction vibration from the ECO Substation alternative site would be less than the Proposed ECO Substation because residents would be farther away from the construction activities as compared with the proposed ECO Substation site. Under this alternative, the construction activities would not result in adverse groundborne vibration impacts along the substation site alternative and the overall ECO Substation Project. For this alternative, under CEQA, the construction vibration impacts resulting from the ECO Substation Project would be less than significant (Class III).

Impact NOI-3: Corona noise and operational noise from the substation site alternative would be similar to the proposed ECO Substation site. Thus, with implementation of Mitigation Measure NOI-2, the overall impacts resulting from the ECO Substation Project would be adverse but mitigated. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact NOI-4: Routine inspection and maintenance activities would be similar to the proposed ECO Substation site. These activities would not generate substantial noise and would not result in adverse noise impacts along the substation site alternative and the overall ECO Substation Project. Under CEQA, impacts from routine inspection and maintenance noise would be less than significant (Class III).

D.8.4.2 ECO Partial Underground 138 kV Transmission Route Alternative

Environmental Setting/Affected Environment

With the exception of the underground installation of the proposed 138 kV transmission line between milepost (MP) 9 and the rebuilt Boulevard Substation, components of this alternative

would be the same as those identified for the ECO Substation Project. Under this alternative, from MP 9 to the rebuilt Boulevard Substation, the proposed 138 kV transmission line would be installed underground (instead of on overhead transmission poles) along the same route as the proposed ECO Substation Project.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact NOI-1: Compared with the proposed ECO Substation Project, construction impacts associated with this alternative would include open trenching along the 138 kV route as opposed to installation of the poles. The resulting 8-hour average construction noise level associated with undergrounding is anticipated to range from approximately 65 dB to 75 dB at a distance of 50 feet. No occupied property boundaries are located within 50 feet of the underground portion of the route. Thus, the noise impact along this portion of the route would be adverse but less than significant (Class III). With this alternative, the overall construction noise impacts resulting from the ECO Substation Project would include adverse and unmitigated noise impacts (Class I) due to rock drilling, helicopter flights, and nighttime construction. Partial mitigation would include implementation of APMs ECO-NOI-1 through ECO-NOI-4, as well as Mitigation Measure NOI-1. Under CEQA, impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Impact NOI-2: Open trenching would include the use of backhoes, excavators, and trucks. This type of equipment does not generate significant vibration, and no residences would be in very close proximity to this equipment. Therefore, construction activities for this alternative would result in an adverse but less-than-significant Class III vibration impact. With this alternative, the overall construction vibration impacts resulting from the ECO Substation Project would not be adverse. Under CEQA, impacts from construction-related groundborne vibrations would be less than significant (Class III).

Impact NOI-3: This alternative would eliminate the corona noise in the area where the 138 kV transmission line would be installed underground. Thus, along the underground portion of the transmission line there would be no impact. With this alternative, the overall corona noise impacts resulting from the ECO Substation Project could exceed the County's noise ordinance limits due to corona noise associated with the 500 kV transmission line. Thus, with implementation of Mitigation Measure NOI-2, the overall impacts resulting from the ECO Substation Project would be adverse but mitigated. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact NOI-4: Routine inspection and maintenance activities would be less than the proposed ECO Substation Project along the underground portion of the transmission line. These activities

would not generate substantial noise and would not result in an adverse noise impact along the underground portion of the transmission line and the overall ECO Substation Project. Under CEQA, for this alternative, impacts would be less than significant (Class III).

D.8.4.3 ECO Highway 80 138 kV Transmission Route Alternative

Environmental Setting/Affected Environment

With the exception of the Old Highway 80 138 kV transmission line route alternative, components of this alternative would be the same as those identified for the proposed ECO Substation Project. From the intersection of the SWPL transmission line and Old Highway 80 (approximately 1.5 miles northwest of Jacumba), this alternative would expand and use an existing utility ROW and overbuild an existing distribution line for approximately 4.8 miles along Highway 80 to the rebuilt Boulevard Substation.

Land uses along the affected segment of Old Highway 80 (the ECO Highway 80 138 kV transmission route alternative) include an auto salvage yard and a closed motel and restaurant. Also, approximately 44 rural residences are adjacent to Old Highway 80 and would be located within 1,000 feet of this alternative.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact NOI-1: Standard construction activities and equipment would be similar to the proposed ECO Substation Project. Therefore, the construction equipment noise levels would be similar to the proposed ECO Substation Project. Residential properties directly adjacent to the alternative route 80 construction corridor would be exposed to noise levels exceeding an 8-hour average sound level of 75 dB. It is anticipated that some of this construction noise can be mitigated with implementation of APMs ECO-NOI-1 through ECO-NOI-4, as well as Mitigation Measure NOI-1. However, with this alternative, the overall construction noise impacts resulting from the ECO Substation Project would include adverse and unmitigated noise impacts due to blasting, helicopter flights, and nighttime construction. Partial mitigation would include implementation of APMs ECO-NOI-1 through ECO-NOI-4, as well as Mitigation Measure NOI-1. Under CEQA, impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Impact NOI-2: The construction equipment that would be used for this alternative does not generate significant vibration, and no residences would be in very close proximity to this equipment. Therefore, construction activities for this alternative would not result in adverse groundborne vibration impacts. Under CEQA, for this alternative, impacts from groundborne vibrations would be less than significant (Class III).

Impact NOI-3: This alternative would result in similar corona noise as the proposed ECO Substation Project. Thus, the corona noise associated with the 138 kV transmission line would comply with the County's noise ordinance requirements at the edge of the ROW and would not result in adverse impacts (under CEQA, impacts from the 138 kV transmission line would be less than significant (Class III)). However, the overall corona noise impacts resulting from the ECO Substation Project could exceed the County's noise ordinance limits due to corona noise associated with the 500 kV transmission line. With implementation of Mitigation Measure NOI-2, the overall impacts resulting from the ECO Substation Project would be adverse but mitigated. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact NOI-4: Routine inspection and maintenance activities would be similar to the proposed ECO Substation Project. These activities would not generate substantial noise and would not result in an adverse impact. Under CEQA, for this alternative, impacts would be less than significant (Class III).

D.8.4.4 ECO Highway 80 Underground 138 kV Transmission Route Alternative

Environmental Setting/Affected Environment

With the exception of the Old Highway 80 underground route alternative, components of this alternative would be the same as those identified for the proposed ECO Substation Project. From the intersection of the SWPL transmission line and Old Highway 80, this alternative would place the 138 kV transmission line underground adjacent to Old Highway 80 (expanding and using an existing utility ROW) and would follow the roadway north and west to the rebuilt Boulevard Substation.

The environmental setting adjacent to the affected segment of Old Highway 80 associated with this alternative would be the same as previously identified for the ECO Highway 80 138 kV Transmission Route Alternative.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact NOI-1: Compared with the proposed ECO Substation Project, construction impacts associated with this alternative would include open trenching along the 138 kV route as opposed to installation of the poles. The resulting 8-hour average construction noise level associated with underground installation could exceed 75 dBA at the adjacent properties. Some construction activities would result in adverse impacts that would be mitigated with implementation of APMs ECO-NOI-1 through ECO-NOI-4 and Mitigation Measure NOI-1. However, also under this alternative, other construction noise impacts resulting from the ECO Substation Project would be

adverse and unmitigated due to blasting, helicopter flights, and nighttime construction. Partial mitigation would include implementation of APMs ECO-NOI-1 through ECO-NOI-4 and Mitigation Measure NOI-1. Under CEQA, for this alternative, impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Impact NOI-2: Open trenching would include the use of backhoes, excavators, and trucks. This type of equipment does not generate significant vibration, and no residences would be in very close proximity to this equipment. Therefore, similar to the proposed ECO Substation Project, under this alternative, construction activities would not result in adverse groundborne vibration impacts. Under CEQA, for this alternative, impacts would be less than significant (Class III).

Impact NOI-3: This alternative would eliminate the corona noise in the area where the 138 kV transmission line would be installed underground. Thus, there would be no corona noise impact associated with the underground portion of the 138 kV transmission line under this alternative. The overall corona noise impacts resulting from the ECO Substation Project could exceed the County's noise ordinance limits due to corona noise associated with the 500 kV transmission line. With implementation of Mitigation Measure NOI-2, the overall impacts resulting from the ECO Substation Project would be adverse but mitigated. Under CEQA, for this alternative, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact NOI-4: Under this alternative, routine inspection and maintenance activities would be less than the proposed ECO Substation Project. These activities would not generate substantial noise and would not result in an adverse noise impact. Under CEQA, for this alternative, impacts would be less than significant (Class III).

D.8.5 Tule Wind Project Alternatives

Table D.8-11 summarizes the impacts and classification of the impacts under CEQA that have been identified for the Tule Wind Project alternatives.

Table D.8-11
Noise Impacts Identified for Tule Wind Project Alternatives

Impact No.	Description	Classification
Tule Wind Alternative 1, Gen-Tie Route 2 with Collector Substation/ O&M Facility on Rough Acres Ranch		
Tule-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
Tule-NOI-2	Construction activity would temporarily cause groundborne vibration.	Class I
Tule-NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	Class II
Tule-NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III

Table D.8-11 (Continued)

Impact No.	Description	Classification
Tule Wind Alternative 2, Gen-Tie Route 2 Underground with Collector Substation/O&M Facility on Rough Acres Ranch		
Tule-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
Tule-NOI-2	Construction activity would temporarily cause groundborne vibration.	Class I
Tule-NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	Class II
Tule-NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III
Tule Wind Alternative 3, Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch		
Tule-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
Tule-NOI-2	Construction activity would temporarily cause groundborne vibration.	Class I
Tule-NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	Class II
Tule-NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III
Tule Wind Alternative 4, Gen-Tie Route 3 Underground with Collector Substation/O&M Facility on Rough Acres Ranch.		
Tule-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
Tule-NOI-2	Construction activity would temporarily cause groundborne vibration.	Class I
Tule-NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	Class II
Tule-NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III
Tule Wind Alternative 5, Reduction in Turbines		
Tule-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
Tule-NOI-2	Construction activity would temporarily cause groundborne vibration.	Class I
Tule-NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	Class II
Tule-NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III

D.8.5.1 Tule Wind Alternative 1, Gen-Tie Route 2 with Collector Substation/O&M Facility on Rough Acres Ranch

Environmental Setting/Affected Environment

Under this alternative, the Tule Wind Project's collector substation and operations and maintenance (O&M) facility would be relocated from BLM-administered land in the McCain National Cooperative Land and Wildlife Management Area to County of San Diego jurisdictional land on Rough Acres Ranch. Proposed turbines would be located in the same area identified in the proposed Tule Wind Project. The relocation of the collector substation and O&M facility to Rough Acres Ranch would result in a shorter proposed 138 kV transmission line

route and a longer overhead cable collector system. The environmental setting would be similar to that previously identified for the originally proposed Tule Wind Project.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact NOI-1: The sensitive receptors located closest to the project alternative area are the residents along McCain Valley Road and residents in the community of Boulevard located south of I-8. Compared with the proposed Tule Wind Project, this alternative would be similar in construction activities, worker crews, construction schedule and decommissioning activities. Therefore, impacts associated with temporary construction and decommissioning noise would be similar to those identified for the proposed Tule Wind Project in Section D.8.3.3. Thus, with this alternative, the noise level would exceed the County's 8-hour average sound level of 75 dBA associated with the transmission line construction noise activities at the same residential locations as the proposed Tule Wind Project. APMs TULE-NOI-2, TULE-NOI-4, and TULE-NOI-6 through TULE-NOI-16, and Mitigation Measure NOI-1 would partially reduce the noise impacts resulting from this alternative. However, the construction and decommissioning noise would remain adverse and unmitigable. Under CEQA, for this alternative, impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Impact NOI-2: Under this alternative, blasting during construction and decommissioning could cause groundborne vibration that would generally be short term in duration but could cause adverse impacts to nearby residents. Implementation of Mitigation Measure NOI-1 would mitigate these impacts through the preparation and implementation of a blasting plan. However, because it is not known whether residents would agree to relocate, adverse vibration impacts related to blasting activities cannot be reliably mitigated. Under CEQA, for this alternative, impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Impacts NOI-3 and NOI-4: would reflect impact findings previously discussed for the proposed Tule Wind Project. Operational corona noise and routine inspection and maintenance activities associated with the project would be negligible. Impacts from turbine operations would be adverse but mitigated with implementation of Mitigation Measure NOI-3. Therefore, this alternative would not expose sensitive receptors to adverse corona noise or turbine noise impacts with implementation of Mitigation Measures NOI-2 and NOI-3 or adverse routine inspection and maintenance related noise impacts. Under CEQA, for this alternative, noise impacts to sensitive receptors associated with Impact NOI-3 would be significant and mitigated to a less than significant level (Class II). Under CEQA, for this alternative, noise impacts associated with Impact NOI-4 would be less than significant (Class III).

D.8.5.2 Tule Wind Alternative 2, Gen-Tie Route 2 Underground with Collector Substation/O&M Facility on Rough Acres Ranch

Environmental Setting/Affected Environment

Section D.8.5.1 describes the existing environmental setting relevant to noise associated with the relocation of the collector substation and O&M facility to Rough Acres Ranch and the subsequent shortened 138 kV transmission line route and extended collector cable system. Because this alternative would only place the alternate 138 kV transmission line underground, the existing noise environmental setting would be the same as described in Section D.8.5.1.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact NOI-1: Construction activities associated with the trenching and relocated collector substation and the rebuilt Boulevard Substation would be greater under this alternative as compared with the proposed Tule Wind Project. This is due to open trenching for approximately 4.1 miles along the gen-tie line alignment. Although the 138 kV transmission line associated with this alternative would be shorter in length than that of the overhead gen-tie line associated with the proposed Tule Wind Project, open trenching would be more widespread than excavation for transmission line poles.

The additional trenching activity required to place the alternative 138 kV transmission line underground would slightly increase construction noise when compared with the proposed Tule Wind Project, resulting from the trenching equipment operating along a linear corridor. As shown in Table D.8-11, the construction noise level would be expected to exceed the County's construction noise ordinance criteria due to transmission line construction. Implementation of APMs TULE-NOI-2, TULE-NOI-4, and TULE-NOI-6 through TULE-NOI-16, and Mitigation Measure NOI-1 would partially reduce the noise impacts resulting from this alternative. However, the construction noise would remain a significant and unmitigated noise impact (Class I).

Impact NOI-2: Under this alternative, blasting during construction and potentially during decommissioning could cause groundborne vibration that would generally be short term in duration but could cause adverse impacts to nearby residents. Implementation of Mitigation Measure NOI-1 would mitigate these impacts through the preparation and implementation of a blasting plan. However, because it is not known whether residents would agree to relocate, adverse vibration impacts related to blasting activities cannot be reliably mitigated. Under CEQA, for this alternative, impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Impacts NOI-3 and NOI-4: Impacts NOI-3 and NOI-4 would reflect impact findings previously discussed for the proposed Tule Wind Project. Operational corona noise and routine inspection and maintenance activities associated with the project would be negligible. Impacts from turbine operations would be adverse but mitigated with implementation of Mitigation Measure NOI-3. Therefore, this alternative would not expose sensitive receptors to adverse corona noise or turbine noise impacts with implementation of Mitigation Measures NOI-2 and NOI-3, or adverse routine inspection and maintenance related noise impacts. Under CEQA, for this alternative, noise impacts to sensitive receptors associated with Impact NOI-3 would be significant and mitigated to a less than significant level (Class II). Under CEQA, for this alternative, noise impacts associated with Impact NOI-4 would be less than significant (Class III).

D.8.5.3 Tule Wind Alternative 3, Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch

Environmental Setting/Affected Environment

Under this alternative, the Tule Wind Project's collector substation and O&M facility would be relocated from BLM-administered land in the McCain National Cooperative Land and Wildlife Management Area to County of San Diego jurisdictional land on Rough Acres Ranch. Proposed turbines would be located in the same area identified in the proposed Tule Wind Project. The relocation of the collector substation and O&M facility to Rough Acres Ranch would result in a shorter proposed 138 kV transmission line route (approximately 5.4 miles) and a longer overhead cable collector system. The environmental setting would remain the same as described in Section D.8.5.1

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact NOI-1: Construction and decommissioning activities resulting from this alternative would temporarily increase noise along the proposed alternative route as a result of heavy construction equipment and additional vehicles along Ribbonwood Road and Old Highway 80. Sensitive receptors at or near project components that could be temporarily disturbed during construction and decommissioning of the Tule Wind Alternative Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch include commercial businesses, public facilities (Boulevard Volunteer Fire Department and San Diego County Sheriff's Department Substation-Boulevard), a school (Clover Flat Elementary), a motel (Lux Inn), and rural residences. Construction noise levels were calculated for the receptors south of I-8. The property boundaries of all receptors (parcels) south of I-8 are located within 105 feet or less of the construction area. The noise level at all of the parcels within this analysis and south of I-8 would exceed an 8-hour average sound level of 75 dBA associated with the transmission line

construction noise activities. The resulting noise levels associated with the construction of the transmission line at all the parcels south of I-8 are shown in Table D.8-12. Construction noise levels for the residences north of I-8 were previously depicted in Table D.8-8. Noise resulting from decommissioning activities is assumed to be similar to construction related noise, though the distance to sensitive receptors may change, resulting in different noise impacts.

As indicated in Tables D.8-8 and D.8-12, the construction and decommissioning noise level would be expected to exceed the County's construction noise ordinance criteria due to transmission line construction. APMs TULE-NOI-2, TULE-NOI-4, and TULE-NOI-6 through TULE-NOI-16, and Mitigation Measure NOI-1 would partially reduce the adverse noise impacts resulting from this alternative. However, construction and decommissioning noise would remain an adverse and unmitigated noise impact. Under CEQA, for this alternative, construction noise impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Table D.8-12
Noise Level Results for Parcels South of I-8

Receptors South of I-8		
	Transmission Line Construction	
Receptor Name	*Distance to Construction Area (feet)*	*Level (L_{eq})*
Receptor 1B	49	**85**
Receptor 2B	49	**85**
Receptor 3B	49	**85**
Receptor 4B	49	**85**
Receptor 5B	82	**81**
Receptor 6B	82	**81**
Receptor 7B	82	**81**
Receptor 8B	82	**81**
Receptor 9B	82	**81**
Receptor 10B	105	**78**
Receptor 11B	105	**78**
Receptor 12B	98	**79**
Receptor 13B	98	**79**
Receptor 14B	98	**79**
Receptor 15B	98	**79**
Receptor 16B	49	**85**
Receptor 17B	49	**85**
Receptor 18B	49	**85**
Receptor 19B	98	**79**
Receptor 20B	98	**79**
Receptor 21B	49	**85**

Table D.8-12 (Continued)

Receptors South of I-8		
	Transmission Line Construction	
Receptor Name	*Distance to Construction Area (feet)*	*Level (L_{eq})*
Receptor 22B	49	**85**
Receptor 23B	49	**85**
Receptor 24B	82	**81**
Receptor 25B	82	**81**
Receptor 26B	98	**79**
Receptor 27B	98	**79**
Receptor 28B	115	**78**
Receptor 29B	98	**79**
Receptor 30B	98	**79**
Receptor 31B	115	**78**
Receptor 32B	98	**79**
Receptor 33B	115	**78**
Receptor 34B	66	**83**
Receptor 35B	66	**83**
Receptor 36B	66	**83**
Receptor 37B	82	**81**
Receptor 38B	82	**81**
Receptor 39B	49	**85**
Receptor 40B	135	**77**
Receptor 41B	278	**71**

Source: HDR 2010.
Note: Bold and shaded cells denote a noise impact.

Impact NOI-2: Under this alternative, blasting during construction and decommissioning could cause groundborne vibration that would generally be short term in duration but could cause adverse impacts to nearby residents. Implementation of Mitigation Measure NOI-1 would mitigate these impacts through the preparation and implementation of a blasting plan. However, because it is not known whether residents would agree to relocate, adverse vibration impacts related to blasting activities cannot be reliably mitigated. Under CEQA, for this alternative, impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Impacts NOI-3 and NOI-4: Impacts NOI-3 and NOI-4 would reflect impact findings previously discussed for the proposed Tule Wind Project. Operational corona noise and routine inspection and maintenance activities associated with the project would be negligible. Impacts from turbine operations would be adverse but mitigated with implementation of Mitigation Measure NOI-3. Therefore, this alternative would not expose sensitive receptors to adverse corona noise or

turbine noise impacts with implementation of Mitigation Measures NOI-2 and NOI-3, or adverse routine inspection and maintenance related noise impacts. Under CEQA, for this alternative, noise impacts to sensitive receptors associated with Impact NOI-3 would be significant and mitigated to a less than significant level (Class II). Under CEQA, for this alternative, noise impacts associated with Impact NOI-4 would be less than significant (Class III).

D.8.5.4 Tule Wind Alternative 4, Gen-Tie Route 3 Underground with Collector Substation/O&M Facility on Rough Acres Ranch

Environmental Setting/Affected Environment

Section D.8.5.3 describes the existing noise setting associated with the Tule Wind Alternative Gen-Tie Route 3 with Collector Substation/O&M Facility of Rough Acres Ranch. Because this alternative would only place the 138 kV gen-tie line underground, the existing noise setting would be the same as described in Section D.8.5.3.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact NOI-1: Additional trenching activity associated with this alternative required to place the alternative 138 kV transmission line underground would slightly increase construction-generated noise when compared with the proposed Tule Wind Project. As previously shown in Table D.8-11, the construction noise level would be expected to exceed the County's construction noise ordinance criteria due to transmission line construction. APMs TULE-NOI-2, TULE-NOI-4, and TULE-NOI-6 through TULE-NOI-16, and Mitigation Measure NOI-1 would partially reduce the adverse noise impacts resulting from this alternative. However, the construction noise would remain an adverse and unmitigated noise impact. Under CEQA, for this alternative, construction and decommissioning noise impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Impact NOI-2: Under this alternative, blasting during construction or decommissioning could cause groundborne vibration that would generally be short term in duration but could cause adverse impacts to nearby residents. Implementation of Mitigation Measure NOI-1 would mitigate these impacts through the preparation and implementation of a blasting plan. However, because it is not known whether residents would agree to relocate, adverse vibration impacts related to blasting activities cannot be reliably mitigated. Under CEQA, for this alternative, impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Impacts NOI-3 and NOI-4: Impacts NOI-3 and NOI-4 would reflect impact findings previously discussed for the proposed Tule Wind Project. Operational corona noise and routine inspection

and maintenance activities associated with the project would be negligible. Impacts from turbine operations would be adverse but mitigated with implementation of Mitigation Measure NOI-3. Therefore, this alternative would not expose sensitive receptors to adverse corona noise or turbine noise impacts with implementation of Mitigation Measures NOI-2 and NOI-3 or adverse routine inspection and maintenance related noise impacts. Under CEQA, for this alternative, noise impacts to sensitive receptors associated with Impact NOI-3 would be significant and mitigated to a less than significant level (Class II). Under CEQA, for this alternative, noise impacts associated with Impact NOI-4 would be less than significant (Class III).

D.8.5.5 Tule Wind Alternative 5, Reduction in Turbines

Environmental Setting/Affected Environment

The environmental setting under this alternative would be the same as described in Section D.8.1. This alternative to the proposed Tule Wind Project is essentially the same with the exception that this alternative would remove 62 turbine locations (11 turbines on County jurisdictional land abutting the BLM In-Ko-Pah Mountains ACEC and 51 turbines adjacent to wilderness areas on the western side of the project site).

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact NOI-1: Temporary construction and decommissioning noise under this alternative would be reduced when compared with the proposed Tule Wind Project due to the reduction in turbines and resulting reduction in construction of access roads and the length of necessary cable collector system, and the construction schedule would likely be shortened (original proposed Tule Wind Project construction schedule is expected to take between 18 and 24 months). With this alternative, the adverse construction and decommissioning related noise impacts would be reduced because fewer turbines would be constructed, thus, resulting in no noise impact at these locations. However, the overall construction noise impact would remain adverse due to roadway and transmission line construction and decommissioning activities. With implementation of APMs TULE-NOI-2, TULE-NOI-4, and TULE-NOI-6 through TULE-NOI-16, and Mitigation Measure NOI-1 the construction and decommissioning noise would be an adverse and unmitigated noise impact. Under CEQA, for this alternative, construction and decommissioning noise impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Impact NOI-2: Under this alternative, blasting during construction and decommissioning could cause groundborne vibration that would generally be short term in duration but could cause adverse impacts to nearby residents. Implementation of Mitigation Measure NOI-1 would mitigate these impacts through the preparation and implementation of a blasting plan. However,

because it is not known whether residents would agree to relocate, adverse vibration impacts related to blasting activities cannot be reliably mitigated. Under CEQA, for this alternative, impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I).

Impacts NOI-3 and NOI-4: Impacts NOI-3 and NOI-4 would reflect impact findings previously discussed for the proposed Tule Wind Project. Operational corona noise and routine inspection and maintenance activities associated with the project would be negligible. Therefore, this alternative would not expose sensitive receptors to adverse corona noise impacts with implementation of Mitigation Measure NOI-2, or adverse routine inspection and maintenance related noise impacts. Under CEQA, for this alternative, noise impacts to sensitive receptors associated with Impact NOI-3 would be significant and mitigated to a less than significant level (Class II). Under CEQA, for this alternative, noise impacts associated with Impact NOI-4 would be less than significant (Class III).

D.8.6 ESJ Gen-Tie Project Alternatives

Table D.8-13 summarizes the impacts and classification of the impacts under CEQA that have been identified for the ESJ Gen-Tie Project alternatives.

Table D.8-13
Noise Impacts Identified for ESJ Gen-Tie Project Alternatives

Impact No.	Description	Classification
ESJ 230 kV Gen-Tie Underground Alternative		
ESJ-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class III
ESJ-NOI-2	Construction activity would temporarily cause groundborne vibration.	Class III
ESJ-NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	No Impact
ESJ-NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III
ESJ Gen-Tie Overhead Alternative Alignment		
ESJ-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class III
ESJ-NOI-2	Construction activity would temporarily cause groundborne vibration.	Class III
ESJ-NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	Class II
ESJ-NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III
ESJ Gen-Tie Underground Alternative Alignment		
ESJ-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class III
ESJ-NOI-2	Construction activity would temporarily cause groundborne vibration.	Class III

Table D.8-13 (Continued)

Impact No.	Description	Classification
ESJ-NOI-3	Permanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components.	No Impact
ESJ-NOI-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III

D.8.6.1 ESJ Gen-Tie 230 kV Gen-Tie Underground Alternative

Environmental Setting/Affected Environment

Section D.8.1.2 describes the existing setting associated with the ESJ Gen-Tie Project. This alternative would shift the project approximately 700 feet to the east. The existing noise setting would be the same as described in Section D.8.1.2

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact NOI-1: Compared with the proposed ESJ Gen-Tie Project, construction impacts associated with this alternative would be greater due to open trenching along the gen-tie route as opposed to installation of lattice towers or monopoles. The resulting noise impacts associated with underground installation would be greater than excavating for gen-tie structure installation. The property line of the closest residences would be located more than 2,200 feet away from project components. At this distance, the 8-hour average construction noise level would be less than 60 dB, and the construction noise impacts would not be adverse. With this alternative, the overall construction noise impacts resulting from the ESJ 230 kV Gen-Tie Project would not be adverse and, under CEQA, would be less than significant (Class III).

Impact NOI-2: The closest home would be located more than 3,000 feet away from project components. At this distance, the construction vibration would not be perceptible, and the construction vibration impacts would not be adverse. With this alternative, the overall construction vibration impacts resulting from the ESJ 230 kV Gen-Tie Project would not be adverse and, under CEQA, would be less than significant (Class III).

Impact NOI-3: This alternative would place the transmission line underground; thus, there would not be audible corona noise. Therefore, there would be no impact from corona noise associated with this alternative.

Impact NOI-4: Under this alternative, routine inspection and maintenance activities would be minimal and less than the proposed ESJ 230 kV Gen-Tie project and would not result in an adverse noise impact. With this alternative, the overall construction inspection and maintenance

activities from the ESJ 230 kV Gen-Tie Project would not be adverse and, under CEQA, would be less than significant (Class III).

D.8.6.2 ESJ Gen-Tie Overhead Alternative Alignment

This alternative would not affect the impact conclusions resulting from the implementation of the proposed Tule Wind Project as discussed in Section D.8.3.3. This alternative assumes the implementation of the ECO Substation Alternative Site and that the noise impacts identified in Section D.8.4.1 (ECO Substation Alternative Site) would occur.

Environmental Setting/Affected Environment

Section D.8.1.2 describes the existing setting associated with the proposed ESJ Gen-Tie Project, which considers both a 500 kV and a 230 kV gen-tie option. This alternative would shift the project approximately 700 feet to the east. The existing noise setting would be the same as described in Section D.8.1.2.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impacts NOI-1 through NOI-4: Impacts NOI-1 through NOI-4 would be similar to impact findings previously discussed in Section D.8.3.3 for the proposed ESJ Gen-Tie Project. As a result, the level of noise and vibration impact would be similar to those previously described. Therefore, construction noise, groundborne vibration, and routine inspection and maintenance activities would result in an adverse but less-than-significant (Class III) impact. Corona noise from operations of the transmission lines and noise from other project components would result in a significant and mitigated (Class II) noise impact with implementation of Mitigation Measure NOI-2, which will ensure that the proper conductor configuration will be implemented for compliance with County noise ordinance requirements.

D.8.6.3 ESJ Gen-Tie Underground Alternative Alignment

This alternative would not affect the impact conclusions resulting from the implementation of the proposed Tule Wind Project as discussed in Section D.8.3.3. This alternative assumes the implementation of the ECO Substation Alternative Site and that the noise impacts identified in Section D.8.4.1 (ECO Substation Alternative Site) would occur.

Environmental Setting/Affected Environment

Sections D.8.1 and D.8.2 describe the existing setting associated with the proposed ESJ Gen-Tie Project, which considers both a 500 kV and a 230 kV gen-tie option. This alternative would shift the 230 kV gen-tie approximately 700 feet to the east and would place it underground.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impacts NOI-1 and NOI-2: Impacts NOI-1 and NOI-2 would be similar to impact findings previously discussed in Section D.8.6.1 for the ESJ Gen-Tie Alternative Undergrounding 230 kV Gen-Tie Transmission Line. As a result, the level of noise and vibration impact would be similar to that previously described. Therefore, construction noise and groundborne vibration would not result in adverse impacts, and under CEQA, impacts from construction-related noise and groundborne vibrations would be less than significant (Class III).

Impact NOI-3: This alternative would place the transmission line underground; thus, there would not be audible corona noise. Therefore, there would be no impact from corona noise associated with this alternative.

Impact NOI-4: Impact NOI-4 would be similar to impact findings previously discussed in Section D.8.3.3 for the proposed ESJ Gen-Tie Project. As a result, the level of noise impact would be similar to that previously described. Therefore, routine inspection and maintenance activities would not result in an adverse noise impact, and under CEQA, impacts would be less than significant (Class III).

D.8.7 No Project/No Action Alternatives

D.8.7.1 No Project Alternative 1 – No ECO Substation, Tule Wind, or ESJ Gen-Tie, Campo, Manzanita, or Jordan Wind Energy Projects

Environmental Impacts/Environmental Effects

Impacts NOI-1 through NOI-4: Under the No Project Alternative 1, the ECO Substation, Tule Wind, and ESJ Gen-Tie projects, as well as the Campo, Manzanita, and Jordan wind energy projects, would not be built, and the existing conditions would remain at these sites.

Noise and vibration impacts resulting from the Proposed PROJECT would not occur.

D.8.7.2 No Project Alternative 2 – No ECO Substation Project

Environmental Impacts/Environmental Effects

Impacts NOI-1 through NOI-4: Under the No Project Alternative 2, the ECO Substation Project would not be built, and the Tule Wind and ESJ Gen-Tie projects would be constructed. Under the No Project Alternative 2, SDG&E would likely upgrade an existing substation or construct an entirely new substation to interconnect planned renewable energy generation in southeastern San Diego County. Noise and vibration impacts resulting from other

interconnection upgrades and transmission options could be similar to those identified for the ECO Substation Project and would vary depending on location of facility upgrades and new transmission options.

The Tule Wind and ESJ Gen-Tie projects would be constructed and would interconnect with an existing substation or with a new substation expected to be proposed by SDG&E. Impacts associated with the Tule Wind and ESJ Gen-Tie projects would be expected to be similar to those described in Section D.8.3.3, including temporary construction impacts that would be considered significant and unmitigated (Class I) as a result of blasting. Some impacts could vary, depending on the point of interconnection and the resulting gen-tie route and length of the Tule Wind and ESJ Gen-Tie projects.

D.8.7.3 No Project Alternative 3 – No Tule Wind Project

Environmental Impacts/Environmental Effects

Impacts NOI-1 through NOI-4: Under the No Project Alternative 3, the Tule Wind Project would not be built, and the existing conditions on the project site would remain. The construction activities would be reduced when compared with the Proposed PROJECT. However, despite a reduction in construction activities, temporary construction impacts would still be considered significant and unmitigated (Class I) as a result of blasting, helicopter operations, and nighttime construction associated with the ECO Substation portion of the project. Corona noise from operations would be expected to be similar to that described for the Proposed PROJECT.

D.8.7.4 No Project Alternative 4 – No ESJ Gen-Tie Project

Environmental Impacts/Environmental Effects

Impacts NOI-1 through NOI-4: Under the No Project Alternative 4, the ESJ Gen-Tie Project would not be built, and the existing conditions on the project site would remain. Construction-related impacts associated with the proposed ECO Substation and Tule Wind projects would also occur under this alternative. If the proposed ESJ Gen-Tie Project were not constructed, it is likely that an alternative gen-tie would be constructed. The impacts associated with this gen-tie would be expected to be similar to those described in Section D.8.3.3, but could vary depending on length of gen-tie line and the location pursued. Temporary construction impacts would still be considered significant and unmitigated (Class I) as a result of blasting, helicopter operations, and nighttime construction associated with the ECO substation, as well as roadway and transmission line construction and turbine noise associated with the Tule Wind Project. Corona noise from operations would be expected to be similar to that described for the Proposed PROJECT.

D.8.8 Mitigation Monitoring, Compliance, and Reporting

Table D.8-14 presents the mitigation monitoring, compliance, and reporting program for noise for the ECO Substation, Tule Wind, and ESJ Gen-Tie projects. Section D.8.9 provides the residual effects.

The proposed Campo, Manzanita, and Jordan wind energy projects would require preparation of a mitigation monitoring, compliance, and reporting program following project-specific environmental review and evaluation under all applicable environmental regulations once sufficient project-level information has been developed.

Table D.8-14
Mitigation Monitoring and Compliance Reporting–ECO Substation, Tule Wind, and ESJ Gen-Tie Projects–Noise

ECO Substation Project	
Mitigation Measure	**MM NOI-1 Blasting Plan** SDG&E will prepare a blasting plan that will reduce impacts associated with construction-related noise and vibrations related to blasting. The blasting plan will be site specific, based on general and exact locations of required blasting and the results of a project-specific geotechnical investigation. The blasting plan will include a description of the planned blasting methods, an inventory of receptors potentially affected by the planned blasting, and calculations to determine the area affected by the planned blasting. Noise calculations in the blasting plan will account for blasting activities and all supplemental construction equipment. The blasting plan will include a schedule to demonstrate, where feasible, construction blasting to occur infrequently enough that it will not exceed the County's impulsive noise standard because blasting would not occur for more than 25% (15 minutes) during a 1-hour period due to the short time duration of a blast. Where this is not possible, other construction blasting would be coordinated with impacted building occupants to occur in their absence, or at other acceptable times, to avoid nuisance or annoyance complaints. If necessary, the applicant will temporarily relocate impacted residents on an as-needed basis for the duration of the blasting activities. To ensure that potentially impacted residents are informed, the applicant will provide notice by mail to all property owners within 300 feet of the project at least 1 week prior to the start of construction activities. Blasting would be completed between 7 a.m. and 7 p.m. to be compliant with County of San Diego noise ordinances. A rock anchoring or min-pile system may be used to reduce the risk of damage to structures during blasting activities. Fair compensation for lost use will be provided to the property owner. If adversely affected, structures shall be restored to an equivalent condition, and fair compensation for lost use will be provided to the owner. If necessary, the use of portable noise barriers to reduce excessive noise impacts shall be used between the source and affected occupied properties. Noise barriers that break the line of sight would provide 5 dB attenuation. Increasing the height of the barrier would increase the attenuation of the barrier. A 5 dBA to 10 dBA attenuation is considered reasonably feasible. Supplemental construction equipment, such as drill rigs, may be used to support blasting. At a distance of 80 feet, drill rig noise emissions are approximately 75 dBA L_{eq}. Drill rigs,

Table D.8-14 (Continued)

	without mitigation, have the potential to cause temporary noise impacts if used less than 80 feet from the property line of an occupied residence. The blasting plan will include measures to reduce noise impacts resulting from the use of drill rigs at less than 80 feet from a property line. Such measures may include temporary noise barriers or limited hours of operation to reduce the impact to within the County standard.
Location	138 kV Transmission Line
Monitoring/Reporting Action	Plan prepared prior to construction. California Public Utilities Commission (CPUC) and Bureau of Land Management (BLM) will ensure that these measures are carried out during project construction.
Effectiveness Criteria	Achieve minimum 5 dBA to 10 dBA noise reduction
Responsible Agency	CPUC/BLM
Timing	Plan prepared prior to construction and in effect throughout construction
Mitigation Measure	**MM NOI-2 Conductor configuration selection to address noise impacts** As part of the project's design selection process, the proper conductor configuration shall be selected so that the corona noise does not exceed the County's noise ordinance limits along the transmission line corridor measured during worst-case weather conditions at or beyond 6 feet from the boundary of the easement upon which the transmission line is located.
Location	SWPL Loop-In
Monitoring/Reporting Action	CPUC will ensure that these measures are carried out prior to project construction.
Effectiveness Criteria	Achieve minimum 5 dBA to 10 dBA noise reduction
Responsible Agency	CPUC
Timing	Prior to construction
Tule Wind Project	
Mitigation Measure	**MM NOI-1 Blasting Plan** Iberdrola Renewables will prepare a blasting plan that will reduce impacts associated with construction-related noise and vibrations related to blasting. The blasting plan will be site specific, based on general and exact locations of required blasting and the results of a project-specific geotechnical investigation. The blasting plan will include a description of the planned blasting methods, an inventory of receptors potentially affected by the planned blasting, and calculations to determine the area affected by the planned blasting. Noise calculations in the blasting plan will account for blasting activities and all supplemental construction equipment. The blasting plan will include a schedule to demonstrate, where feasible, construction blasting to occur infrequently enough that it will not exceed the County's impulsive noise standard because blasting would not occur for more than 25% (15 minutes) during a 1-hour period due to the short time duration of a blast. Where this is not possible, other construction blasting would be coordinated with impacted building occupants to occur in their absence, or at other acceptable times, to avoid nuisance or annoyance complaints. If necessary the applicant will temporarily relocate impacted residents on an as-needed basis for the duration of the blasting activities. To ensure that potentially impacted residents are informed, the applicant will provide notice by mail to all property owners within 300 feet of the project at least 1 week prior to the start of construction activities. Blasting would be completed between 7 a.m. and 7 p.m. to be compliant with County noise ordinances. A rock anchoring or min-pile system may be used to reduce the risk of damage to structures during blasting activities. Fair compensation for lost use will be provided to the property

Table D.8-14 (Continued)

	owner. If adversely affected, structures shall be restored to an equivalent condition, and fair compensation for lost use will be provided to the owner. If necessary, portable noise barriers to reduce excessive noise impacts shall be used between the source and affected occupied properties. Noise barriers that break the line of sight would provide 5 dB attenuation. Increasing the height of the barrier would increase the attenuation of the barrier. A 5 dBA to 10 dBA attenuation is considered reasonably feasible. Supplemental construction equipment, such as drill rigs, may be used to support blasting. At a distance of 80 feet, drill rig noise emissions are approximately 75 dBA L_{eq}. Drill rigs, without mitigation, have the potential to cause temporary noise impacts if used less than 80 feet from the property line of an occupied residence. The blasting plan will include measures to reduce noise impacts resulting from the use of drill rigs at less than 80 feet from a property line. Such measures may include temporary noise barriers or limited hours of operation to reduce the impact to within the County standard.
Location	Throughout project where blasting is necessary
Monitoring/Reporting Action	BLM, San Diego County, California State Lands Commission (CSLC), Bureau of Indian Affairs (BIA), and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, will ensure that these measures are carried out during project construction.
Effectiveness Criteria	Achieve minimum 5 dBA to 10 dBA noise reduction
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Plan prepared prior to construction and in effect throughout construction
Mitigation Measure	**MM NOI-3 Site-specific noise mitigation plan** Prior to construction, a site-specific noise mitigation plan will be developed to ensure that noise from turbines will not adversely impact surrounding residences. The noise mitigation plan will ensure that operations of the turbines will comply with County General Plan Policy 4b and County Noise Ordinance Section 34.404. Mitigation of the turbine noise may include revising the turbine layout, curtailment of nighttime use of selected turbines, utilization of an alternate turbine manufacturer, and implementation of noise reduction technology. The plan will also demonstrate how the project will maintain the turbines so that they will be kept in good running order throughout the operational life of the project and would not create noise levels due to deterioration that would violate County standards.
Location	Turbines
Monitoring/Reporting Action	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, will ensure that these measures are carried out during project design.
Effectiveness Criteria	Meet County's noise ordinance limits measured at adjacent property lines
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to final selection/location of turbines and throughout operation of the project
ESJ Gen-Tie Project	
Mitigation Measure	**MM NOI-2 Conductor configuration selection to address noise impacts** As part of the project's design selection process, the proper conductor configuration shall be selected so that the corona noise does not exceed the County's noise ordinance limits along the transmission line corridor measured during worst-case weather conditions at or beyond 6 feet from the boundary of the easement upon which the transmission line is located.
Location	500 kV Transmission Line
Monitoring/Reporting Action	San Diego County will ensure that these measures are carried out during project design.

Table D.8-14 (Continued)

Effectiveness Criteria	Meet County's noise ordinance limits measured at or beyond 6 feet from the boundary of the easement upon which the transmission line is located
Responsible Agency	County of San Diego
Timing	Prior to final selection of transmission line conductors

D.8.9 Residual Effects

Implementation of the mitigation measures presented in Section D.8.8 would not mitigate the impacts in Table D.8-15 because full mitigation or noise and vibration impacts from blasting activities cannot be reliably mitigated when it is not known whether nearby residents that may be impacted would relocate if necessary to fully mitigate for impacts. Under CEQA**,** the following impacts would be significant and cannot be mitigated to a level that is considered less than significant. No alternative has been provided that would reduce these temporary impacts.

Table D.8-15
Significant and Unmitigable Impacts

ECO Substation – Class I Impacts		
Impact No.	***Description***	***Status after Mitigation***
ECO-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Construction noise associated with helicopter use, blasting, and nighttime construction would create a significant but temporary unmitigable noise impact.
Tule Wind – Class I Impacts		
Tule-NOI-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Construction noise would create a significant but temporary unmitigable noise impact if otherwise impacted residents do not agree to relocate.
Tule-NOI-2	Construction activity would temporarily cause groundborne vibration	Construction noise would create a significant but temporary unmitigable groundborne vibration impact if otherwise impacted residents do not agree to relocate.

In the areas where project construction may occur simultaneously with other development, the combined effects of noise generated by the Proposed PROJECT including the Campo, Manzanita, and Jordan wind energy projects and other development would adversely impact noise-sensitive receptors from both direct impacts determined for the Proposed PROJECT as well as the addition of any noise to this already significant impact. Therefore, construction noise associated with the Proposed PROJECT including the Campo, Manzanita, and Jordan wind energy projects would yield residual effects.

D.8.10 References

14 CCR 15000–15387 and Appendix A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

29 CFR 1910.95. Occupational Health and Safety Standards, "Occupational Noise Exposure."

Burns & McDonnell. 2009. *Audible Noise Performance for the Construction Activities Associated with the Energia Sierra Juarez U.S. Gen-Tie Project, October 2009.*

Caltrans (California Department of Transportation). 2004. *Transportation- and Construction-Induced Vibration Guidance Manual*. June 2004.

Caltrans. 2009. Technical Noise Supplement, Traffic Noise Analysis Protocol. November 2009.

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County of San Diego. 2009a. "Guidelines for Determining Significance–Noise." Land Use and Environment Group, Department of Planning and Land Use, Department of Public Works. January 27, 2009.

County of San Diego. 2009b. Code of Regulatory Ordinances. Title 3: Public Safety, Morals, and Welfare; Division 6: Conduct Disturbing Community Harmony; Chapter 4: Noise Abatement and Control; Section 36.401 et seq. January 9, 2009.

EPA (U.S. Environmental Protection Agency). 1974. "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety" Office of Noise Abatement and Control, U.S. Environmental Protection Agency. March 1974.

EPA. 1981. *Noise Effects Handbook: A Desk Reference to Health and Welfare Effects of Noise*. Office of Noise Abatement and Control, U.S. Environmental Protection Agency. Revised July 1981.

FTA (Federal Transit Administration). 2006. "Transit Noise and Vibration Impact Assessment." U.S. Department of Transportation, Office of Planning and Environment. May 2006.

HDR, Inc. 2010. *Tule Wind Project Draft Noise Analysis Report*. August.

OPR (California Governor's Office of Planning and Research). 2003. General Plan Guidelines. October 2003. Accessed at http://www.opr.ca.gov.

SDG&E (San Diego Gas and Electric). 2009. *Proponent's Environmental Assessment for the East County 500/230/138 kV Substation Project*. Volume II. August 2009.

SDG&E. 2010. Response A.09-08-003 East County Substation (ECO) PTC, Energy Division Data Request 11, Dated August 6. SDGE-ED-011: Q1-2.