

D.8 Noise – Contents

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D.8 Noise

This section addresses noise issues and impacts related to the Proposed Project and alternatives. Sections D.8.1 and D.8.2 provide a description of the affected environment and regional setting. The applicable noise regulations are introduced in Section D.8.3. Impact analyses for the Proposed Project and alternatives are presented in Sections D.8.5 and D.8.6, respectively.

D.8.1 Regional Setting and Approach to Data Collection

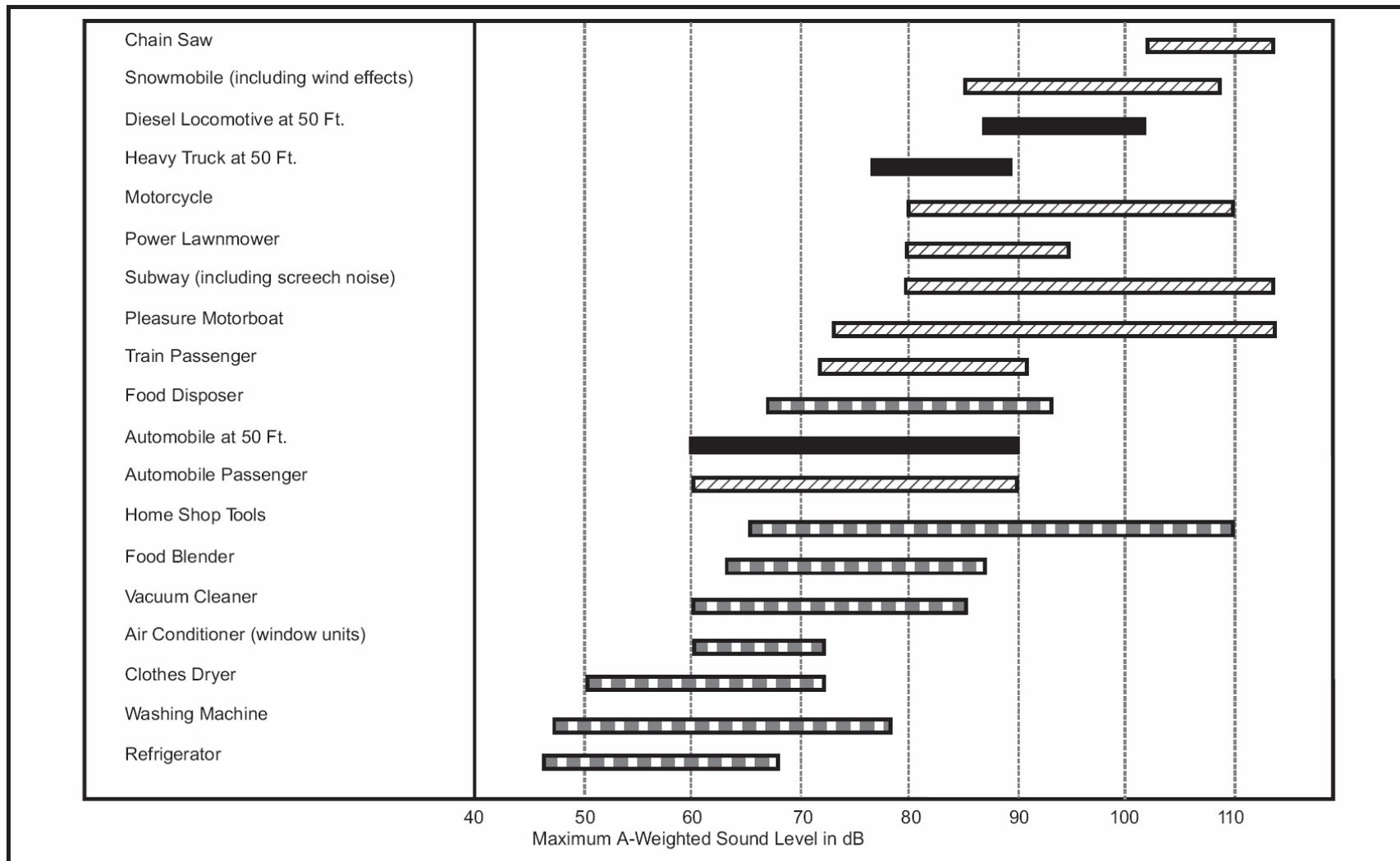
D.8.1.1 General Characteristics of Community Noise

Community noise is the composite of ambient environmental noise from sources near and far. To describe environmental noise and to assess impacts on areas sensitive to community noise, a frequency weighting measure that simulates human perception is customarily used. The frequency weighting scale known as A-weighting best reflects the human ear's reduced sensitivity 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 community noise goals. Decibels are logarithmic units that conveniently compare the wide range of sound intensities to which the human ear is sensitive. Figure D.8-1 illustrates typical ranges of common sounds heard in the community noise environment.

Natural conditions and the consequences of human activities cause noise levels to vary widely over time. For simplicity, sound levels are usually best represented by an equivalent level over a given time period (Leq) or by an aggregated level occurring over a 24-hour day-night period (Ldn). The Leq, or equivalent sound level, is a single value for any desired duration, which includes all of the time-varying sound energy in the measurement period, usually one hour. The Ldn, or day-night sound level, is equal to the 24-hour equivalent sound level (in dBA) with a 10-dBA penalty applied to nighttime sounds occurring between 10:00 p.m. and 7:00 a.m. The community noise equivalent level (CNEL) is a metric similar to Ldn in that it is a 24-hour equivalent level in dBA that includes a 5 dBA penalty to evening sounds (between 7:00 p.m. and 10:00 p.m.) along with the 10 dBA nighttime penalty.

Community noise levels are usually closely related to the intensity of nearby human activity. Figure D.8-2 illustrates the typical noise levels of varying types of land use. 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 pristine wilderness areas, the Ldn noise levels can be below 35 dBA. In small towns or wooded and lightly used residential areas, the Ldn 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 to be adverse to public health.

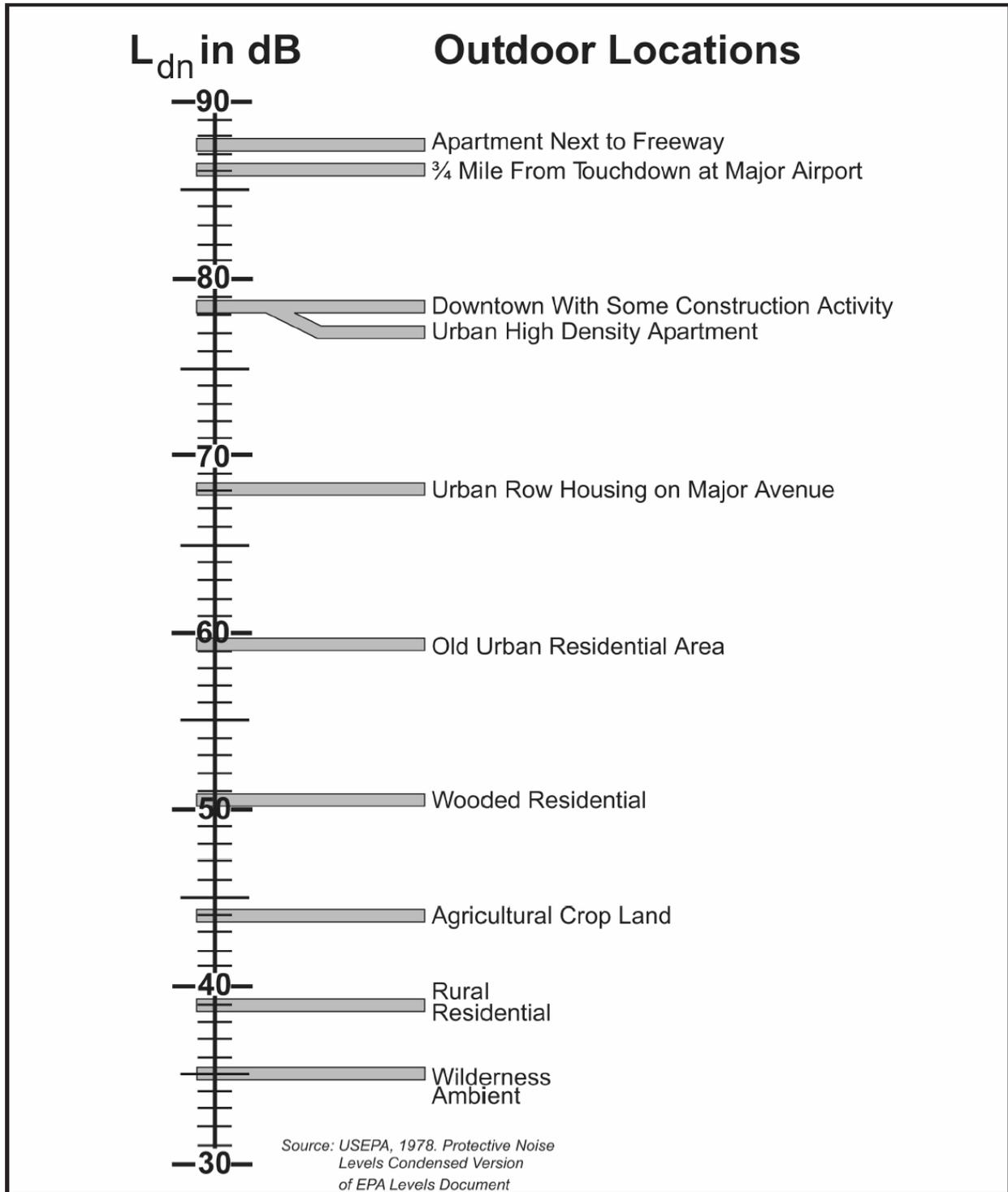
Surrounding land uses dictate what future noise levels would be considered acceptable or unacceptable. Lower levels are expected in rural or suburban areas than what would be expected for commercial or industrial zones. Nighttime ambient levels in urban environments are about seven decibels lower than the corresponding daytime levels. In rural areas away from roads and other human activity, the day-to-night difference can be considerably less. Areas with full-time human occupation that are subject to nighttime noise are often considered objectionable because of the likelihood of disrupting sleep. Noise levels above 45 dBA at night can result in the onset of sleep interference effects. At 70 dBA, sleep interference effects become considerable (U.S. EPA, 1974).



MEASUREMENT LOCATION	
Outdoors	
Operator/Passenger	
In Home	

Source: USEPA, 1978.
Protective Noise Levels
Condensed Version of
EPA Levels Document

Sunrise Powerlink Project
Figure D.8-1
Typical Range of Common Sounds
Heard in the Environment



Sunrise Powerlink Project

Figure D.8-2
Outdoor Day/Night Sound Levels in Different Areas

D.8.1.2 Noise Environment

A wide range of noise sources occur in the project area. Wilderness areas, rural communities, and unpopulated lands are the quietest, although noise on BLM lands can be sporadically elevated in localized areas during periods of off-road or off-highway vehicle (ORV or OHV) use, shooting, or other activities. Noise levels in urban and suburban areas are higher and mainly influenced by on-road traffic or aircraft.

Natural noise levels absent human activity are generally low. Unpopulated natural areas are expected to be as low as 35 to 50 dBA, and ambient levels tend to be below 50 dBA in the recreational and open areas administered by BLM and California State Parks. Noise levels in the region are the highest (over 80 dBA) adjacent to major transportation facilities like freeways and highways (such as I-8, I-15, or SR56) or other major arterials or roads (such as San Vicente Road, Poway Road, Scripps Poway Parkway, or Rancho Peñasquitos Boulevard). There are two rural airstrips, two small airports, and two military airports within three miles which create substantial noise near the project route.

Where high-voltage power transmission lines exist, the noise from corona discharge and similar associated electrical phenomena can be heard as a crackling or hissing sound. Existing transmission lines create corona noise. This noise increases with the voltage of the line, undersized conductors, irregularities on the conductor surface caused either by age or moisture, or wet ambient meteorological conditions, when high humidity, fog, or rain occur.

Transformers generally are the major sources of audible noise within a substation. Transformer sources of noise are core noise, load noise, cooling pump noise, and fan noise. The predominant noise from a transformer is a hum that emanates from the core of the transformer, which is comprised of sound in the frequency range of 75 Hertz (Hz) to 1,200 Hz, within that perceptible by the human ear.

Noise in the project area may originate from:

- Traffic on major roadways or railroads
- Occasional ORV and OHV use or other recreational activities
- Intermittent military, border patrol, and civilian aircraft traffic
- Natural sources such as wind, rain, thunder, and wildlife
- Equipment or activity associated with existing land uses, most notably agricultural, commercial, industrial, or utility infrastructure, including existing transmission lines and substations

D.8.1.3 Noise-Sensitive Receptors

Noise-sensitive receptors are land uses (e.g., residential areas, hospitals, schools, certain recreation areas that involve passive enjoyment, etc.) where excessive noise would conflict with the intended use, for example by conveying annoyance. Few homes or other occupied receptors are near the Proposed Project ROW in the Imperial Valley and Anza-Borrego Links, but there are several wilderness and recreation areas. Along with the suburban and urban areas of the Central, Inland Valley, and Coastal Links, noise-sensitive receptors near the Proposed Project include rural residences, higher-density residences, schools, hospitals, and parks. Certain wildlife may also be sensitive to noise, especially if noise disrupts the ability to sense predators or causes displacement of resident or migratory species, as discussed in Section D.2.10.

D.8.2 Environmental Setting for the Proposed Project

The consistency of the Proposed Project with applicable plans and policies is addressed in Section D.16, where there is specific discussion of each issue warranting further evaluation. Appendix 2 (Policy Screening Report) lists all plans and policies applicable to the Proposed Project, and presents the preliminary screening evaluation of these policies.

D.8.2.1 Imperial Valley Link

Ambient Noise Levels. The Proposed Project route traverses BLM lands and various private properties in Imperial County. The Proposed Project would pass near the City of El Centro (MPs 4 to 20) and then cross mostly BLM land, with some private lands. Low noise levels under 50 dBA generally occur on these lands, which are used for grazing and other agricultural purposes with scattered rural residences. Noise levels are occasionally elevated due to aircraft associated with the NAF El Centro Desert Range and the Ocotillo Airport at Split Mountain Road and to SR78 in Ocotillo Wells (approximately 2.5 miles of the proposed route at MP 61). SDG&E conducted measurements to characterize background noise levels and found 67.9 dBA Ldn, which is an elevated level from a location at West Worthington Road and Huff Road outside of El Centro, probably influenced by on-road or aircraft traffic noise (SDG&E, 2006).

Noise-Sensitive Receptors. The noise-sensitive receptors nearest to this portion of the route are scattered residences outside of Seeley (about 300 feet from the route) and south of Ocotillo Wells (at the edge of the ROW). There are also farming residences scattered throughout the area. These receptors are generally buffered by the open space created by agricultural operations and undeveloped federal lands. Table D.8-1 summarizes the locations of the noise-sensitive receptors in the Imperial Valley Link.

Table D.8-1. Noise-Sensitive Receptors and Noise Levels – Imperial Valley Link

Location	Jurisdiction of Receptor(s)	Description of Receptor(s)	Within Approximate Distance (ft)	Existing Noise (dBA)
MP 4-20	County of Imperial	Residential, rural scattered (W. Evan Hewes Highway, Seeley and El Centro outskirts)	300	=
MP 13.4	County of Imperial	Residential, West Worthington Road and Huff Road	500	Ldn: 67.9 Leg: 53.7 (10pm to 7am)
MP 44-49	NPS, BLM, County of Imperial	Primitive Campground, Juan Bautista de Anza National Historic Trail	1000	=
MP 57-58	County of San Diego	Residential, rural scattered (South of Ocotillo Wells, Borrego Wells, Split Mountain Road)	250	=
MP 59-61	County of San Diego	Residential, rural scattered (Borrego Wells, Split Mountain Road)	Edge of ROW	Leg: 55.5 (7am to 7pm)

Notes: Distances from route to receptors are approximate minimum distances. Existing noise levels are lowest observed Leq during SDG&E measurements, usually nighttime, and Ldn where available (SDG&E, 2006).

D.8.2.2 Anza-Borrego Link

Ambient Noise Levels. The project route through ABDSP occurs on open space and recreational lands with few noise sources. Results of a 24-hour survey conducted by SDG&E at Tamarisk Grove Campground (Ldn of 52.4 dBA) were typical of a natural area in proximity to a rural highway. Sound levels in Grapevine Canyon monitored over a 1-to-2 hour short-term daytime period (Leq of 65.2 dBA) were higher relative to typical rural sound levels due to all terrain vehicle (ATV) activity in the area (SDG&E, 2006). Given the natural surroundings, existing noise levels within ABDSP away from traffic can be as low as 35 to 50 dBA.

Noise-Sensitive Receptors. The nearest noise-sensitive receptors are the Tamarisk Grove and Yaqui Well campgrounds at the junction of SR78 and S3, near MP 74.8, and homes within and near Grapevine Canyon. Because recreational users of Anza-Borrego Desert State Park including hikers, campers, or other naturalists have unrestricted public access to areas within and at the edge of the Proposed Project ROW, the nearest noise-sensitive locations are at the edge of the ROW. Other portions of this alignment cross open space, and no noise-sensitive receptors are present. Table D.8-2 summarizes the locations of the sensitive receptors in the Anza-Borrego Link.

Table D.8-2. Noise-Sensitive Receptors and Noise Levels – Anza-Borrego Link

Location	Jurisdiction of Receptor(s)	Description of Receptor(s)	Within Approximate Distance (ft)	Existing Noise (dBA)
MP 61-75	State Parks, County of San Diego	Anza-Borrego Desert State Park	Edge of ROW	=
MP 74-76	State Parks, County of San Diego	Anza-Borrego Desert State Park, Tamarisk Grove Campground and Yaqui Well Campground	Edge of ROW	Ldn: 52.4 Leq: 45.1 (10pm to 7am)
MP 75-83	State Parks, County of San Diego	Anza-Borrego Desert State Park	Edge of ROW	Leq: 65.2 (7am to 7pm)
MP 83-84	State Parks, County of San Diego	Anza-Borrego Desert State Park, San Felipe Hills Wilderness Study Area, Residential (Grapevine Canyon)	225	=

Notes: Distances from route to receptors are approximate minimum distances. Existing noise levels are lowest observed Leq during SDG&E measurements, usually nighttime, and Ldn where available (SDG&E, 2006).

D.8.2.3 Central Link

Ambient Noise Levels. Sound levels from 24-hour surveys conducted by SDG&E at the site of the proposed Central East Substation (45.4 dBA Ldn) and along Mesa Grande Road from MPs 103.5-106.1 (55.5 Ldn) are typical of levels for these rural locations away from heavier traffic such as that on SR78 (SDG&E, 2006). Higher noise levels may occasionally occur near three private airstrips in this link. Two airstrips are within 2.5 miles of the Proposed Project, at 24227 Mesa Grande Road and off Ponchetti Road about 2 miles south of Mesa Grande Road. The third airstrip is off Black Canyon Road, more than 4 miles west of MP 101.5.

Noise-Sensitive Receptors. Residences are near the project route within and near Grapevine Canyon, along Mesa Grande Road, and along SR78. These receptors are partially shielded by the topography of the area. The proposed Central East Substation site is within about 1,000 feet of residences, but

accessing the site would involve grading a road within about 200 feet of a residence. Table D.8-3 summarizes the locations of the sensitive receptors in the Central Link.

Table D.8-3. Noise-Sensitive Receptors and Noise Levels – Central Link

Location	Jurisdiction of Receptor(s)	Description of Receptor(s)	Within Approximate Distance (ft)	Existing Noise (dBA)
MP 84-88	BLM, County of San Diego	San Felipe Hills Wilderness Study Area, Residential (Grapevine Canyon)	200	=
MP 88-89	BLM, County of San Diego	San Felipe Hills Wilderness Study Area	200	=
MP 90-91	County of San Diego	Residential, rural scattered (S22)	1000	=
MP 92	County of San Diego	Residential, rural scattered (S2, Central East Substation, access road for Central East Substation)	200	Ldn: 45.4 Leq: 32.6 (10pm to 7am)
MP 99-102	County of San Diego	Santa Ysabel Reservation, Residential (SR79)	300	=
MP 102-104	County of San Diego	Residential, rural scattered (Mesa Grande Road)	900	=
MP 106-108	County of San Diego	Residential, rural scattered (Mesa Grande Road)	700	Ldn: 55.5 Leq: 48.0 (10pm to 7am)
MP 109-110	County of San Diego	Residential, rural scattered (Highway SR78)	1000	=

Notes: Distances from route to receptors are approximate minimum distances. Existing noise levels are lowest observed Leq during SDG&E measurements, usually nighttime, and Ldn where available (SDG&E, 2006).

D.8.2.4 Inland Valley Link

Ambient Noise Levels. Noise levels in the Inland Valley Link vary from low in rural residential areas and open space to elevated near the traffic of suburban roads around Ramona and the San Diego Country Estates. The measured background noise level from 24-hour surveys conducted by SDG&E at the southwest corner of Gunn Stage Road and Watt Road was 56.0 dBA Ldn (SDG&E, 2006). Sound levels measured in this area are typical of those that would occur along moderately busy roads in residential areas.

Noise-Sensitive Receptors. Residences are scattered in rural areas near Mount Gower County Open Space Preserve (Starlight Mountain Estates) and become more dense in San Diego Country Estates along the northwest side of Gunn Stage Road. Residences on the northwest side of the corridor are less than 25 feet from the project route. Residences are also near the project route in the vicinity of the Sycamore Canyon Substation. Noise-sensitive recreational land uses include the Mount Gower, Barnett Ranch, and Sycamore Canyon Open Space Preserves. Table D.8-4 summarizes the locations of the sensitive receptors in the Inland Valley Link.

Table D.8-4. Noise-Sensitive Receptors and Noise Levels – Inland Valley Link

Location	Jurisdiction of Receptor(s)	Description of Receptor(s)	Within Approximate Distance (ft)	Existing Noise (dBA)
MP 111-116	County of San Diego	Residential, rural scattered	200	=
MP 116-117	BLM, County of San Diego	Mount Gower County Open Space Preserve, Equestrian Center	Edge of ROW	=
MP 117-118	BLM, County of San Diego	Mount Gower County Open Space Preserve, Residential (Starlight Mountain Estates, Oak Hollow Road)	150	=
MP 118-119	BLM, County of San Diego	Equestrian Center, Residential (San Diego Country Estates, Gunn Stage Road)	25	<u>Ldn: 56.0</u> <u>Leq: 48.3</u> <u>(10pm to 7am)</u>
MP 119-120	County of San Diego	Barnett Elementary School, San Vicente Golf Club, Residential (San Diego Country Estates, San Vicente Road)	25	=
MP 120-121	County of San Diego	San Vicente Golf Club, Residential (San Vicente Road)	450	=
MP 122-126	County of San Diego	Barnett Ranch Open Space Preserve, Residential	300	=
MP 131-134	County of San Diego	Sycamore Canyon County Open Space Preserve, Goodan Ranch County Park, Residential	Edge of ROW	=
MP 135-137	County of San Diego	Residential, single-family (Sycamore Canyon)	200	=

Notes: Distances from route to receptors are approximate minimum distances. Existing noise levels are lowest observed Leq during SDG&E measurements, usually nighttime, and Ldn where available (SDG&E, 2006).

D.8.2.5 Coastal Link

Ambient Noise Levels. Background noise levels in the Coastal Link vary, but are typical of suburban and moderately busy areas. Measurements from 24-hour surveys conducted by SDG&E showed 57.7 dBA (Ldn) at Spring Canyon Park, south of MP 140.6, and 56.4 dBA (Ldn) at the Black Mountain Road Church and School, south of MP 143.6. Measured background noise levels were 54.6 dBA (Ldn) at West Chase Park (MP 144) and 58.1 dBA (Ldn) at the south side of Peñasquitos Substation (SDG&E, 2006).

Noise-Sensitive Receptors. Noise-sensitive land uses occur on the edge of the ROW for the easternmost overhead portion of the Coastal Link (MPs 136.3-142.3) within Districts 14 through 20 of Scripps Ranch and in Rolling Hills Estates. Between MPs 142.3-143.9, where the Proposed Project would be underground, the nearest noise-sensitive receptors are residences within Rancho Peñasquitos. Religious facilities and an elementary school are near the south side of the proposed corridor within approximately 250 feet from the corridor. Residences are also located along Park Village Road and West Chase Park adjacent to the proposed underground route, MPs 143.9-146.6. Homes are somewhat further from the route between MPs 146.7-149.9, along Carmel Mountain Road and Ocean Air Drive. Table D.8-5 summarizes the locations of the sensitive receptors in the Coastal Link.

Table D.8-5. Noise-Sensitive Receptors and Noise Levels – Coastal Link

Location	Jurisdiction of Receptor(s)	Description of Receptor(s)	Within Approximate Distance (ft)	Existing Noise (dBA)
MP 137-139	County of San Diego	Residential, single-family (Sycamore Canyon)	Edge of ROW	=
MP 139-140	City of San Diego, City of Poway	Cypress Canyon Park, Residential (Pomerado Road, Scripps Ranch Districts 14 through 20, Rolling Hills Estates)	Edge of ROW	Ldn: 54.4 Leq: 42.5 (10pm to 7am)
MP 140-141	City of San Diego	Thurgood Marshall Middle School, Dingeman Elementary School, Residential (Miramar Ranch North)	Edge of ROW	=
MP 141-142	City of San Diego	Ellen Browning Scripps Elementary School, Spring Canyon Park, Residential (Scripps Poway Road, Chicarita)	Edge of ROW	Ldn: 57.7 Leq: 49.2 (10pm to 7am)
MP 142-143	City of San Diego	Religious Facility, KinderCare Learning Center, Residential (single-family and multi-family, Rancho Peñasquitos)	Edge of ROW	Ldn: 56.4 Leq: 46.0 (10pm to 7am)
MP 143-144	City of San Diego	Religious Facility, Views West Park, Residential (Rancho Peñasquitos)	100 to 250	Ldn: 51.5 Leq: 43.9 (10pm to 7am)
MP 144-145	City of San Diego	Los Peñasquitos Canyon Preserve, Residential (single-family, Park Village Road and West Chase Park)	300	Ldn: 54.6 Leq: 44.4 (10pm to 7am)
MP 145-146	City of San Diego	Los Peñasquitos Canyon Preserve, Peñasquitos Creek Park, Residential (single-family, Park Village Road and West Chase Park)	100	=
MP 146-147	City of San Diego	Los Peñasquitos Canyon Preserve, Residential (single-family)	100	=
MP 147-149	City of San Diego	Los Peñasquitos Canyon Preserve	Edge of ROW	=
MP 149-150	City of San Diego	Sage Canyon Elementary School, Los Peñasquitos Canyon Preserve, Torrey Hills Neighborhood Park, Residential (single-family, Carmel Mountain Road, Ocean Air Drive)	100	Ldn: 58.1 Leq: 47.5 (10pm to 7am)

Notes: Distances from route to receptors are approximate minimum distances. Existing noise levels are lowest observed Leq during SDG&E measurements, usually nighttime, and Ldn where available (SDG&E, 2006).

D.8.2.6 Other System Upgrades – Impacts and Mitigation Measures

Sycamore Canyon to Elliot 69 kV Reconductor. Surrounding land uses from Sycamore Canyon Substation to MP SE7 include undeveloped park and recreation land. noise-sensitive receptors along the last mile of the existing 69 kV line and around Elliot Substation consist of single-family residences along Rueda Drive and Pallon Way. Table D.8-6 summarizes the locations of the sensitive receptors near the Sycamore Canyon to Elliot corridor.

San Luis Rey Substation. Surrounding land uses in the City of Oceanside are a mix of residential, open space, transportation facilities, and commercial. Noise-sensitive residential uses are adjacent to the substation and substation access roads.

South Bay Substation. The immediate surroundings of the South Bay Substation are not noise-sensitive. Industrial land uses and Interstate 5 surround the site and the nearest residences are to the south and east, east of I-5.

Table D.8-6. Noise-Sensitive Receptors – Other System Upgrades

Location	Jurisdiction of Receptor(s)	Description of Receptor(s)	Within Approximate Distance (ft)
MP SE7-SE8	City of San Diego	Residential (single-family, Rueda Drive and Pallon Way)	100

Notes: Distances from route to receptors are approximate minimum distances.

D.8.3 Applicable Regulations, Plans, and Standards

Regulating environmental noise is generally the responsibility of local governments. The U.S. Environmental Protection Agency (U.S. EPA), however, has published guidelines on recommended maximum noise levels to protect public health and welfare (U.S. EPA, 1974), and the State of California maintains recommendations for local jurisdictions in the General Plan Guidelines published by the Governor’s Office of Planning and Research (OPR, 2003). The following summarizes the federal and State recommendations and the local requirements.

D.8.3.1 Federal

There are no federal noise standards that directly regulate environmental noise or community noise. Federal laws protect workers from excessive noise exposure, and the federal Occupational Safety and Health Administration (OSHA) establishes regulations to safeguard the hearing of workers exposed to occupational noise (29 CFR Section 1910.95, Code of Federal Regulations). Table D.8-7 provides a summary of recommended noise levels for protecting public health and welfare with an adequate margin of safety.

Table D.8-7. Examples of Protective Noise Levels Recommended by U.S. EPA

Effect	Maximum Level	Exterior or Interior Area
Hearing loss	Leq(24) < 70 dB	All areas.
Outdoor activity interference and annoyance	Ldn < 55 dB	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.
	Leq (24) < 55 dB	Outdoor areas where people spend limited amounts of time, such as schoolyards, playgrounds, etc.
Indoor activity interference and annoyance	Ldn < 45 dB	Indoor residential areas.
	Leq(24) < 45 dB	Other indoor areas with human activities such as schools, etc.

Source: U.S. EPA, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Section 4, Identified Levels of Environmental Noise In Defined Areas. March 1974.

Leq(24) = the sound energy averaged over a 24-hour period.

Ldn = the Leq with a 10 dB nighttime penalty.

D.8.3.2 State

The State of California requires each local government to perform noise surveys and implement a noise element as part of its general plan (OPR, 2003). Table D.8-8 shows the State guidelines for evaluating the compatibility of various land uses as a function of noise exposure.

Table D.8-8. Land Use Compatibility for Community Noise Environment

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE - L _{dn} or CNEL (db)							
	50	55	60	65	70	75	80	
Residential – Low-Density Single Family, Duplex, Mobile Home	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
Residential – Multi-Family	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
Transient Lodging – Motels, Hotels	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
Schools, Libraries, Churches, Hospitals, Nursing Homes	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
Auditorium, Concert Hall, Amphitheaters	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
Sports Arena, Outdoor Spectator Sports	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
Playgrounds, Neighborhood Parks	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
Office Buildings, Business Commercial and Professional	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
Industrial, Manufacturing, Utilities, Agriculture	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
Normally Acceptable	Normally Acceptable. Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.							
Normally Acceptable	Conditionally Acceptable. New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.							
Normally Acceptable	Normally Unacceptable. New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.							
Normally Acceptable	Clearly Unacceptable. New construction or development should generally not be undertaken.							

Source: State of California General Plan Guidelines, Office of Planning and Research (OPR), October 2003.

D.8.3.3 Local

Local governments aim to protect the population from intrusive noise. Many communities specifically restrict disturbing noises at night. Typically, local ordinances stipulate that sources should not cause more than 55 to 65 dBA at receiving residential property lines or sensitive areas during daytime hours (7 a.m. to 10 p.m.) or 45 to 55 dBA during nighttime hours (10 p.m. to 7 a.m.). A day-night standard set at these levels would be roughly equivalent to an upper limit of 65 dBA Ldn or CNEL. Daytime construction activities are usually exempt from such limits.

The sections below summarize the applicable local policies, rules, and regulations for the Proposed Project. The consistency of the Proposed Project with applicable plans and policies is addressed in Section D.16, where there is specific discussion of each issue warranting further evaluation. See also Appendix 2 (Policy Screening Report) for a more complete review of policies established for noise protection and their full citations.

Unincorporated Imperial County

Noise generating sources in Imperial County are regulated under the County of Imperial Codified Ordinances, Title 9, Division 7 (Noise Abatement and Control). Noise limits are established in Chapter 2 of this ordinance. Under Imperial County Code Section 90702.00 Subsection A, average hourly noise in residential areas is limited to 50 to 55 dBA from 7 a.m. to 10 p.m., and to 45 to 50 dBA from 10 p.m. to 7 a.m. The most stringent limitation effectively prohibits sources that cause more than 53 dBA CNEL on a day-night basis.

Imperial County Code Section 90702.00 Subsection C addresses compliance for transmission facilities:

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 Subsection A of this section, measured at or beyond six feet from the boundary of the easement upon which the equipment is located.

The Imperial County General Plan (2003) Noise Element includes, under Section IV Implementation Programs and Policies:

Construction Noise Standards (Imperial County Policy C3)

- Construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB Leq, when averaged over an eight hour period, and measured at the nearest sensitive receptor.
- In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB Leq when averaged over a one hour period.
- Construction equipment operation shall be limited to the hours of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. Saturday. No commercial construction operations are permitted on Sunday or holidays.

Increase of Ambient Noise Levels (Imperial County Policy C4)

- If the future noise level after a project is completed will be within the “normally acceptable” noise levels shown in the Noise/Land Use Compatibility Guidelines (Table D.8-8), but will result in an increase of 5 dB CNEL or greater, “the project will have a potentially significant noise impact and mitigation measures must be considered.”

- If the future noise level after a project is completed will be greater than the “normally acceptable” noise levels shown in the Noise/Land Use Compatibility Guidelines, “a noise increase of 3 dB CNEL or greater shall be considered a potentially significant noise impact and mitigation measures must be considered.”

Unincorporated San Diego County

San Diego County Code of Regulatory Ordinances. Noise generating sources in San Diego County are regulated under the San Diego County Code of Regulatory Ordinances, Section 36.404, 36.410, and 36.414. Under Section 36.404 of this rule, average hourly noise in residential areas is limited to 50 to 55 dBA from 7 a.m. to 10 p.m., and to 45 to 50 dBA from 10 p.m. to 7 a.m. These limits effectively prohibit sources that cause more than 53 dBA CNEL on a day-night basis. These levels apply at or beyond six feet from the boundary of the easement for the transmission line.

Section 36.410 (Construction Equipment) prohibits construction equipment operation between the hours of 7 p.m. of any day and 7 a.m. of the following day, and limits daytime average construction noise levels to 75 dBA. This section also prohibits construction activities on Sundays and holidays.

Section 36.414 (General Noise Regulations) regulates general nuisance noise and defines schools, courts, churches, and hospitals as sensitive receptors.

County of San Diego General Plan. The San Diego General Plan establishes the community noise equivalent level (CNEL) as the appropriate unit of measure for the cumulative effects of community noise. The CNEL is the energy average noise level in dBA over a 24-hour period with a 5-decibel penalty assigned to evening noise (7 p.m. to 10 p.m.) and a 10-decibel penalty assigned to nighttime noise (10 p.m. to 7 a.m.). San Diego County does not presently have noise performance standards in its Zoning Ordinance.

City of San Diego

City of San Diego Municipal Code. Noise generating sources within the City of San Diego are regulated under Chapter 5 (Public Safety, Morals and Welfare), Article 9.5 (Noise Abatement and Control) of the San Diego Municipal Code. Under the most restrictive standard of Section 59.5.0401 of this rule, average hourly noise in residential areas is limited to 50 dBA from 7 a.m. to 7 p.m., to 45 dBA from 7 p.m. to 10 p.m., and to 40 dBA from 10 p.m. to 7 a.m.

Section 59.5.0404 (Construction Equipment) prohibits construction equipment operation between the hours of 7 p.m. of any day and 7 a.m. of the following day, and limits average noise levels to 75 decibels during this 12-hour period. This section also regulates construction activities on Sundays and holidays. Nighttime construction noise would be allowed upon approval of the City Noise Abatement and Control Administrator.

City of San Diego Multiple Species Conservation Program Subarea Plan. This plan specifies that noise impacts resulting from uses in or adjacent to the Multi-Habitat Planning Area (MHPA) should be minimized, and excessive noise adjacent to breeding areas of sensitive species must be mitigated and curtailed during breeding season.

Rancho Peñasquitos Community Plan. This plan specifies that the southern portion of the neighborhood of Ridgewood and the adjacent Los Peñasquitos Canyon Preserve are sensitive areas where wildlife corridors must be protected from excessive noise.

City of Poway

City of Poway Municipal Code. Noise generating sources in the City of Poway are regulated under the Poway Municipal Code, Chapter 8.08, Noise Abatement and Control. Under the most restrictive standard of Section 8.08.040 of this rule, average hourly noise in residential areas is limited to 40 dBA regardless of time of day. In high density residential zones, the noise limit from 7 a.m. to 7 p.m. is 55 dBA, from 7 p.m. to 10 p.m. is 50 dBA, and from 10 p.m. to 7 a.m. is 45 dBA.

Table D.8-9. Poway Noise Requirements

Duration	Limit (dB)
Up to 15 minutes	90
Up to 30 minutes	87
Up to 1 hour	84
Up to 2 hours	81
Up to 4 hours	78
Average over 8 hours	75

Source: Poway Municipal Code Section 8.08.100

Poway Municipal Code Section 8.08.100 (Construction Equipment) prohibits construction equipment operation between the hours of 7 p.m. of any day and 7 a.m. of the following day, and limits average noise levels to 75 decibels for more than 8 hours during this period. This section also regulates construction activities on Sundays, holidays, and certain Mondays. Equipment noise levels must comply with the limits over various durations as shown in Table D.8-9.

Poway also prohibits (Section 8.08.110) the handling or transportation of any container or construction material in any public place that creates a disturbing, excessive, or offensive noise.

D.8.3.4 Regulation of Construction-Related Vibration

Groundborne vibration is not commonly regulated by local municipalities. Although the San Diego County Zoning Ordinance has established limits on groundborne vibration (Section 6314), vibration that is caused by short-term, temporary construction is exempt from the standards. The City of San Diego Municipal Code restricts vibration from industrial facilities (Chapter 14, Article 1, Division 6). No other standards would apply to groundborne vibration related to construction.

Environmental Impacts and Mitigation Measures for the Proposed Project

D.8.4 Significance Criteria and Approach to Impact Assessment

D.8.4.1 Significance Criteria

Significance of noise or vibration impacts depends on whether the project would increase noise levels above the existing ambient levels by introducing new sources of noise. Noise impacts would be considered significant if:

- The Proposed Project would conflict with applicable noise restrictions or standards imposed by regulatory agencies.
- The Proposed Project would expose persons to or generate excessive groundborne vibration or groundborne noise levels.
- Operation of the Proposed Project would result in a substantial permanent increase in ambient noise levels (more than five dBA) above levels existing without the project at sensitive receptor locations.
- The Proposed Project would result in a substantial temporary or periodic increase in ambient noise levels above levels existing without the project at sensitive receptor locations.

Use of Noise Thresholds. Given that environmental noise levels vary widely over time, a three dBA change is the minimum change in environmental noise that is perceptible and recognizable by the human ear. An increase in day-night environmental noise levels of more than 5 dBA (Ldn or CNEL) is considered to be a substantial increase and a significant impact. Intermittent noise sources are temporary or periodic, and they may also cause a significant impact over shorter durations if increases over 5 dBA could occur.

Use of Vibration Thresholds. No vibration-sensitive land uses (e.g., high-precision manufacturing facilities or research facilities with optical and electron microscopes) were identified during project area surveys. As such, the significance threshold for “excessive” groundborne vibration depends on whether a nuisance, annoyance, or physical damage to any structure could occur.

D.8.4.2 Applicant Proposed Measures

Applicant Proposed Measures (APMs) were identified by SDG&E in its CPCN Application to the CPUC. Table D.8-10 presents the APMs that are relevant to noise. Additional APMs related to biological resources would minimize noise disturbances to raptors and other birds (BIO-APM-27 and -28 in Section B, Project Description). The impact analysis assumes that all APMs will be implemented as defined in the table; additional mitigation measures are recommended in this section if it is determined that APMs do not fully mitigate the impacts for which they are presented.

Table D.8-10. Applicant Proposed Measures – Noise

APM No.	Description
NOI-APM-1	<p>Provide notice prior to construction by mail to all sensitive receptors and residences within 300 feet of construction sites, staging areas, and access roads. The announcement shall state specifically where and when construction will occur in the area. Notices shall provide tips on reducing noise intrusion, for example, by closing windows facing the planned construction.</p> <p>SDG&E would identify and provide a public liaison person before and during construction to respond to concerns of neighboring receptors, including residents, about noise construction disturbance. Procedures for reaching the public liaison officer via telephone or in person would be included in the above notices. SDG&E would also establish a toll free telephone number for receiving questions or complaints during construction and develop procedures for responding to callers.</p>
NOI-APM-2	SDG&E will coordinate with ABDSP to minimize potential construction noise impacts at Tamarisk Grove campground during peak times of use.

D.8.4.3 Impacts Identified

Table D.8-11 lists the impacts identified for the Proposed Project, along with the significance of each impact. Detailed discussions of each impact and the specific locations where each is identified are presented in the following sections. Impacts are classified as Class I (significant, cannot be mitigated to a level that is less than significant), Class II (significant, can be mitigated to a level that is less than significant), Class III (adverse, but less than significant), and Class IV (beneficial).

Table D.8-11. Impacts Identified – Proposed Project – Noise

Impact No.	Description	Impact Significance
Proposed Project		
N-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
N-2	Construction activity would temporarily cause groundborne vibration.	Class II, III

Table D.8-11. Impacts Identified – Proposed Project – Noise

Impact No.	Description	Impact Significance
N-3	Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components.	Class I, III
N-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class I
Proposed Project – Future Expansion		
N-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
N-2	Construction activity would temporarily cause groundborne vibration.	Class II
N-3	Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components.	Class I
N-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class I
Proposed Project – Connected Actions		
N-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	No Impact; Class I, III
N-2	Construction activity would temporarily cause groundborne vibration.	No Impact; Class II, III
N-3	Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components.	No Impact; Class I, III
N-4	Routine inspection and maintenance activities would increase ambient noise levels.	No Impact; Class I, III

Overview of Construction Impacts

Construction of the Proposed Project would involve the short-term use of heavy equipment such as backhoes, cranes, loaders, dozers, graders, excavators, compressors, generators, and various trucks for mobilizing crew, transporting construction material and debris, line work, and site watering. Helicopters would also be needed to transport construction materials and to string the conductors for the overhead line. Construction of foundations for new towers and poles would require use of drill rigs, large augers, and rock drills for the cast-in-place piles at each tower location. Pile driving would not be needed. Spur roads and access roads would require use of the earthmoving equipment.

Construction noise is usually made up of intermittent peaks and continuous lower levels of noise from equipment cycling through use. Noise levels associated with individual pieces of equipment would generally range between 70 and 90 dBA (U.S. DOT, 2006). Maximum instantaneous construction noise levels would range from 80 to 90 dBA at 50 feet from any work site. This means that construction noise at 200 feet from work could range up to 78 dBA, and that beyond 1,000 feet levels from multiple pieces of equipment operating simultaneously would not exceed 70 dBA. Noise levels for typical pieces of construction equipment (at 50 feet) are specified in Table D.8-12.

Blasting may be required in the Anza-Borrego, Central, Inland Valley, and Coastal Links, which would cause intense impulse noise and groundborne vibration. Other routine construction activities, such as trucks traveling on uneven surfaces, would also result in some minor amounts of groundborne vibration, though vibration from these sources would attenuate rapidly and would not be perceptible outside of the construction ROW. Blasting would be used where needed to remove hard rock, (Project Description Section B.4.5.1 Table B-8) in a manner that would involve less work and disturbance than rock-drilling, -breaking, or -hammering. Impulse (instantaneous) noise from blasts could range up to 140 dBA at the blast location or over 90 dBA for receptors within 500 feet. Blasting would be very brief in duration (milli-

seconds), and the noise would dissipate with distance. Blasting produces less noise and vibration than comparable non-blasting methods to remove hard rock. Non-blasting methods include track rig drills, rock breakers, jack hammers, rotary percussion drills, core barrels, and rotary rock drills with rock bits, which would require much more time to excavate approximately the same amount of rock as blasting. Blasting and its noise and vibration effects on nearby land uses and structures would be managed with a blasting plan for each site. The plan would include the blasting methods, surveys of existing structures and other built facilities, and distance calculations to estimate the area of effect of the blasting.

Helicopters would be used in areas where access is limited (e.g., no suitable access road, limited pad area to facilitate onsite structure assembly area) or there are environmental constraints to accessing the project area with standard construction vehicles and equipment. Heavy-duty and light-duty helicopters would be needed for the Anza-Borrego, Central, and Inland Valley Links. Project activities which would be facilitated by helicopters include delivery of construction laborers, equipment and materials to structure sites, structure placement (except tubular steel poles), hardware installation, and wire stringing operations. Noise from project-related helicopters would occur at the heliports where trips originate and at project fly yards. Helicopter use is generally subject to a lift plan for safe operation. (See Project Description Sections B.4.4.2, Helicopter Construction, and B.4.5, Staging Areas, for a description of helicopter activities and locations of fly yards.) Helicopters would generate noise levels of 89 dBA to 99 dBA at 50 feet.

Locations of construction noise would include the project route and access routes, structure sites, pull sites, staging and maintenance areas, fly yards, and substation sites. The off-site noise would include commuting workers and trucks and helicopters moving material to and from the work sites. Workers would likely meet at temporary yards and then travel to the construction sites in crews. (See the Project Description, Section B.4.5, Staging Areas, Table B-12, for a description of yards along the proposed route.) Haul trucks would make trips to bring the lattice tower pieces, conductor line, and other materials to the construction sites and remove demolished tower debris and excavated material and wastes from the ROW. The peak noise levels associated with passing trucks and commuting worker vehicles along access routes would be approximately 75 dBA to 88 dBA at 50 feet.

Ability of Local Noise Ordinances to Minimize Construction Impacts. Noise ordinances usually allow construction activities without a noise limit if occurring during normal daytime, weekday hours. Where local ordinances limit construction noise, SDG&E would obtain approval from the jurisdiction before commencing work within those localities. Local approval would be needed for work outside of the daytime, weekday hours when SDG&E needs to take advantage of low nighttime electrical draw periods or to cross major roads and highways. SDG&E would be required to comply with variance procedures established by local authorities when a variance is needed.

Table D.8-12. Typical Noise Levels for Construction Equipment

Equipment	Typical Noise Levels (dBA, at 50 feet)
Front loaders	85
Backhoes, excavators	80-85
Tractors, dozers	83-89
Graders, scrapers	85-89
Trucks	88
Concrete pumps, mixers	82-85
Cranes (movable)	83
Cranes (derrick)	88
Forklifts	76-82
Pumps	76
Generators	81
Compressors	83
Pneumatic tools	85
Jack hammers, rock drills	98
Pavers	89
Compactors	82
Drill rigs	70-85
Helicopter (in flight at 200 feet)	95

Sources: Adapted from U.S. DOT, 2006; SDG&E, 2006.

Overview of Operational Impacts

The long-term impacts that would occur as a result of the Proposed Project would be associated with three types of noise: audible noise due to the corona effect of the transmission lines; noise from activities for routine inspection and maintenance of the new facilities; and noise from new facilities at the substations.

Audible Noise from the Corona Effect. Corona discharge associated with high-voltage power transmission is heard near an energized line as a crackling or hissing sound. SDG&E estimates this noise to be about 50 dBA for a 500 kV line during wet weather near the ROW edge and under 40 dBA near the ROW edge for the overhead 230 kV transmission lines. The proposed 500 kV line would cause no more than 45 dBA Leq at the edge of ROW during any daytime or nighttime hour. Table D.8-13 shows the audible corona noise levels that would be caused by the proposed line.

Noise from Routine Inspection and Maintenance Activities. Routine patrol, inspection, and maintenance of the transmission lines, insulator washing, vegetation management, and access road repair would be accomplished with either periodic ground access (trucks and other equipment) or occasional helicopter fly-overs. The frequency of patrols along the proposed corridor would not change when compared to patrols that SDG&E conducts along existing transmission lines. Maintenance of transmission lines would be performed on an as-needed basis, and would include maintenance of access roads and erosion/drainage control structures and occasional repairs for damage by environmental conditions or vandalism. The light-duty helicopters and crew trucks that would be used during inspection activities would typically generate noise levels under 80 dBA at 200 feet and 75 dBA at 50 feet, respectively. Equipment used for maintenance of the lines and access roads would generate noise levels similar to those that would occur during construction.

Table D.8-13. Expected Audible Noise Levels at Edge of Transmission Line ROW

MP	Location	kV	CNEL South Edge ROW (dBA)	CNEL North Edge ROW (dBA)
0.0-4.0	N1-N2, Imperial Valley Link (Parallel Southwest Powerlink)	500	51	45
4.0-20.4	N2-N6, Imperial Valley Link(Agricultural Lands)	500	52	51
20.4-40.2	N6-N60, Imperial Valley Link(Parallel Imperial Irrigation District)	500	51	51
40.2-50.1	N60-N49, Imperial Valley Link (Parallel Highway 78)	500	51	51
50.1-54.2	N49-N38, Imperial Valley Link (South of Ocotillo Wells)	500	51	51
54.2-68.2	N38-N12, Imperial Valley Link – East Anza-Borrego Desert State Park	500	51	52
68.2-77.9	N12-N74, Imperial Valley Link – Central Anza-Borrego Desert State Park	500	52	52
77.9-89.9	N74-N16A, Anza-Borrego Desert State Park – Central East Substation	500	51	52
89.9-110.8	N16A-N20B, Central Link	230	30	35
110.8-117.2	N20B-N77, Inland Valley Link to San Diego Country Estates	230	36	36
117.2-121.9	N77-N51, Inland Valley Link, San Diego Country Estates (Underground)	230	0	0
121.9-123.4	N51-N27, Inland Valley Link	230	34	34
123.4-136.3	N27-N28, Inland Valley Link	230	35	36
136.3-142.3	N28-N29, Coastal Link	230	31	32
142.3-146.6	N29-N72B, Coastal Link (Underground)	230	0	0
146.6-149.9	N72B-N34, Coastal Link	230	26	25

Source: SDG&E Response to Data Request NOI-1, 12/15/06.

Noise from New Facilities at Substations. Noise from transformers, reactors, circuit breakers, and other equipment at substations is primarily a low-frequency humming sound. Fans and ventilation equipment at substation facilities also contribute to substation noise, and occasionally louder impulse noises occur during switching of a breaker. Substation noise commonly ranges around 50 to 60 dBA outside of the substation fence line.

D.8.5 Imperial Valley Link Impacts and Mitigation Measures

The existing noise-sensitive receptors near the Imperial Valley Link include rural residences generally exposed to low ambient noise levels, as shown in Table D.8-1.

Construction Impacts

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels in the vicinity of the proposed overhead line, along the project route, and along all transport access routes. During the anticipated nine months necessary to build the Imperial Valley Link, concurrent construction activity would be necessary with multiple crews at separate locations. Night work would be necessary to cross I-8 and other roads or to avoid periods of high electrical demand. The projected maximum intermittent noise levels would range from 80 to 90 dBA at 50 feet from a work site up to 99 dBA near helicopter operations for installing the line or certain structures.

Imperial County policies and San Diego County ordinances indicate that at sensitive receptors, eight-hour average construction noise levels exceeding 75 dBA would violate the goals of the Imperial County General Plan and the San Diego County noise ordinance. The noise from construction would exceed 75 dBA at any location within 200 feet of work sites. Adjacent to staging and maintenance areas, fly yards, and substation sites, noise would occur over an extended length of time and exceed the Imperial County policy of 75 dBA averaged over a one hour period. For work sites within 200 feet of sensitive land uses, these levels would also be a substantial temporary increase in noise levels over the levels existing without the project. Nighttime construction is generally prohibited by local standards, and if necessary near sensitive receptors, it would result in a substantial temporary increase in noise levels.

SDG&E would implement NOI-APM-1 to notify all sensitive receptors within 300 feet of work sites. Although NOI-APM-1 includes steps to notify the affected community, this impact would be significant without additional measures. Instead of the notification process suggested in NOI-APM-1, Mitigation Measure L-1a (see Section D.4, Land Use) would be appropriate and more comprehensive. This measure would alert sensitive receptors to the likelihood of a noise impact, but it would not eliminate the possibility of the construction noise violating policies in the local general plan. For circumstances where construction activity must occur within 200 feet of sensitive receptors, additional mitigation would be required to avoid a violation of the local standards, but substantial noise increases would continue to occur. By establishing best management practices for activities likely to violate local noise standards, Mitigation Measure N-1a, in combination with the notification required by Mitigation Measure L-1a, would reduce this impact to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I). Note that the full text of all mitigation measures is presented in Appendix 12.

Mitigation Measures for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise. SDG&E shall comply with local noise rules, standards, and/or ordinances by implementing the following noise-suppression techniques and variance standards set by local authorities. SDG&E shall apply for and obtain a variance for construction activities that must occur outside of the daytime hours allowed by local ordinances or within 200 feet of noise-sensitive receptors. At a minimum, SDG&E shall employ the following noise-suppression techniques to avoid possible violations of local rules, standards, and ordinances:

- Confine construction noise to daytime, weekday hours (e.g., 7:00 a.m. to 7:00 p.m.) or an alternative schedule established by the local jurisdiction or land use manager
- On construction equipment, use noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer
- Install temporary sound walls or acoustic blankets to shield adjacent residences. These sound walls or acoustic blankets shall have a height of no less than 8 feet, a Sound Transmission Class (STC) of 27 or greater, and a surface with a solid face from top to bottom without any openings or cutouts
- Route construction traffic away from residences and schools, where feasible
- Minimize unnecessary construction vehicle use and idling time. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. A “common sense” approach to vehicle use shall be applied; if a vehicle is not required for use immediately or continuously for construction activities, its engine shall be shut off. (Note: certain equipment, such as large diesel-powered vehicles, require extended idling for warm-up and repetitive construction tasks.)

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class III)

Vibration levels from construction equipment and activities would be perceptible in the immediate vicinity of the construction sites. Perceptible vibration could be experienced by residents or workers inside structures within 50 feet of trucks traveling over uneven surfaces. Rock drilling would be the activity to most likely to cause excessive groundborne vibration, and the level of groundborne vibration that could reach sensitive receptors would depend on what equipment is used and the soil conditions surrounding the construction site. Absent advance notification, a nuisance or annoyance could occur with perceptible vibration, but physical damage would not occur because no vulnerable structures would be close enough to the drilling. Blasting is not expected to be necessary in the Imperial Valley Link. The notification process suggested in NOI-APM-1 would reduce the likelihood of a nuisance or annoyance occurring. With notification, the impacts from construction-related groundborne vibration would be adverse but not excessive. This impact would be less than significant in the Imperial Valley Link (Class III).

Operational Impacts

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class I)

The proposed 500 kV transmission line would cause a permanent noise increase due to the corona effect. Audible power line noise would be generated from corona discharge, which is usually experienced as a random crackling or hissing sound. The potential for noise from corona discharge is greatest with high voltage lines during wet weather or near inconsistencies or cuts in the metal surface of the line itself. The precise location of highest possible corona noise cannot be known until after commencing operation. This is because conductor surface defects, damage, and inconsistencies influence corona.

As shown in Table D.8-13, the highest noise level at the edge of the ROW of the Proposed Project in the Imperial Valley Link would be 51 to 52 dBA CNEL, during rain and fog (SDG&E, 2006). This level of corona noise at the edge of the transmission line ROW would comply with Imperial County and San Diego County standards, which effectively prohibit noise sources exceeding 53 dBA CNEL at residential property boundaries. Under the Imperial County General Plan (2003) Noise Element, any increase in ambient noise of 5 dBA or more would be considered a substantial noise increase. In this way, the Proposed Project would conflict and be inconsistent with the applicable noise standards established by Imperial County. This would occur at the edge of the transmission line ROW where natural existing noise levels could be as low as 35 dBA, which would result in a significant impact for residences near the El Centro outskirts, West Worthington Road, and Split Mountain Road. For other areas along the majority of the Imperial Valley Link, noise-sensitive receptors are located further than 500 feet to the ROW edge. ~~For these locations, and the~~ this increase caused by corona noise would be less than 5 dBA and compliant with the local standards. For the rural residences at the ROW edge near the El Centro outskirts, West Worthington Road, and Split Mountain Road, this increased noise would be a significant impact.

The arid environment ensures that high levels of corona noise would not be a common occurrence, but there are few options for mitigating this noise source. Audible corona noise is a function of conductor design and configuration. Changing the Proposed Project's design and configuration would likely trigger other environmental impacts (e.g., taller towers would impact visual resources). Corona noise is also affected by the condition of the conductor and insulators. Because damage to the conductor during construction would undermine the load-carrying capability of line, SDG&E would be expected to properly handle the conductor during construction to avoid damage that could exacerbate corona effect. Mitigation Measure N-3a would help to minimize the nuisance experienced at residences at the edge of the ROW to the extent feasible, but the noise increase would remain and create an infrequent but significant and unavoidable impact (Class I).

Mitigation Measure for Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components

N-3a **Respond to complaints of corona noise.** SDG&E shall respond to third-party complaints of corona noise generated by operation of the transmission line by investigating the complaints and by implementing feasible and appropriate measures (such as repair damaged conductors, insulators, or other hardware). As part of SDG&E's repair inspection and maintenance program, the transmission line shall be patrolled, and damaged insulators or other transmission line materials, which could cause excessive noise, shall be repaired or replaced.

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Helicopter and ground-level inspection and maintenance, including insulator washing, access road repair, and emergency response, would result in temporary periodic increases in noise levels above existing levels at sensitive receptor locations. During this activity, light-duty helicopters would generate noise levels of under 80 dBA at 200 feet, and crew trucks would cause levels of approximately 75 dBA at 50 feet. Insulator washing and access road repair may also involve noise at levels identical to transmission line construction from sources like water trucks or earthmoving equipment. Inspection and maintenance noise would be intermittent over the life of the line, occurring at least once a year and more often where insulator washing and vegetation management would be needed. Helicopters and other equipment within 200 feet of sensitive receptors would periodically cause a substantial increase in noise over conditions occurring without the Proposed Project that would be significant. Because the need for emergency response cannot be predicted, advance notification or restricting the noise from work to daytime hours would not be practical, resulting in a significant and unavoidable impact (Class I).

Modifications to Imperial Valley Substation

Modifications to the Imperial Valley Substation would cause construction and operational noise, but construction would not involve equipment that would substantially increase ambient noise levels at any sensitive receptor (Impact N-1, Class III), and a groundborne vibration impact (Impact N-2) would not occur. There are no sensitive receptors within 1,000 feet from the existing substation. The additional equipment would be similar to existing equipment at this substation and would not include transformers, generally the major source of noise within a substation. Noise from operating the new substation equipment (Impact N-3) and noise from maintenance activities (Impact N-4) would not change notably from existing conditions or adversely affect any noise-sensitive receptors, and therefore these impacts would be less than significant (Class III).

D.8.6 Anza-Borrego Link Impacts and Mitigation Measures

Existing noise-sensitive receptors along the Anza-Borrego Link include Anza-Borrego Desert State Park, its campgrounds (Tamarisk Grove and Yaqui Well), and some rural residences, as shown in Table D.8-2.

Construction Impacts

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels in the vicinity of the proposed overhead line, along the project route, and along all transport access routes. Within the Anza-Borrego Link, nighttime construction would not be needed. The noise-sensitive areas within the park adjacent to the ROW, the San Felipe Hills Wilderness Study Area, and residences that are located within about 225 feet of the route would be impacted by construction noise. Maximum intermittent noise levels would range from 80 to 90 dBA at 50 feet from a work site, to 99 dBA near helicopter operations for installing the line or certain structures. Within ABDSP and the remainder of the Anza-Borrego Link, the San Diego County construction noise limit of 75 dBA would apply. Construction noise would adversely affect passive enjoyment of ABDSP and wildlife including listed or sensitive species (addressed in Section D.2.10). Implementation of NOI-APM-1 includes steps to notify the residences, but this impact would be significant without additional measures.

Blasting is not anticipated in the Anza-Borrego Link, although it may be necessary in the western portion due to hard rock conditions. Any blasting would be subject to a blasting plan, described in Section D.8.4.3, and intense peak noise levels (up to 140 dBA at the blast location or over 90 dBA for receptors within 500 feet) would occur, but this would not cause a violation of the San Diego County 75 dBA limit, which is based on an average throughout the day. Blasting would be very brief in duration (milliseconds), and the noise would dissipate before reaching distant sensitive receptors. SDG&E would implement NOI-APM-2 specifically to address construction noise disturbances at Tamarisk Grove Campground. Even with NOI-APM-1 and NOI-APM-2, temporary noise increase experienced by campgrounds and other adjacent noise-sensitive locations in the Anza-Borrego Link would be substantial and a significant impact. Establishing best management practices, Mitigation Measure N-1a, in combination with the notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I). The full text of all mitigation measures is presented in Appendix 12.

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

Vibration levels from construction equipment, rock drilling, and blasting would be perceptible in the immediate vicinity of Anza-Borrego Link construction sites. SDG&E expects that rock blasting may be necessary between MPs 69.7 and 74.8 in this link. The level of groundborne vibration that could reach sensitive receptors would depend on what equipment is used, the method of blasting, and soil conditions between the vibration source and receptors. SDG&E proposes to manage blasting and its effects on nearby land uses and structures through a detailed blasting plan for each site. The plan would include the blasting methods, surveys of existing structures and other built facilities, and distance calculations to estimate the area of effect of the blasting. In some locations, a rock anchoring or mini-pile system would be used if adjacent structures could be damaged as a result of blasting. Absent advance notification, a nuisance or annoyance could occur with perceptible vibration, and damage to existing nearby structures could occur. The notification process suggested in NOI-APM-1 would reduce the likelihood of a nuisance or annoyance occurring, but impacts would still be significant because blasting could result in physical damage of vulnerable structures. Mitigation Measure L-1a (see Section D.4, Land Use) would be appropriate and more comprehensive than NOI-APM-1. This measure would alert sensitive receptors to the likelihood of vibration impacts, which would avoid a nuisance or annoyance. The impact of potential physical damage to vulnerable structures would be significant. With a measure to avoid blasting where damage could occur and restore structures damaged by blasting, as in Mitigation Measure N-2a, the impacts from construction-related groundborne vibration would be adverse but not excessive, and this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

L-1a Prepare Construction Notification Plan.

N-2a Avoid blasting where damage to structures could occur. Blasting shall be managed with a plan for each site. The plan shall include the blasting methods, surveys of existing structures and other built facilities, and distance calculations to estimate the area of effect of the blasting. Blasting shall not be allowed where damage to vulnerable structures could occur, and a

rock anchoring or mini-pile system shall be used if adjacent structures could be damaged as a result of blasting or any construction method used as an alternative to blasting. If any structure is inadvertently adversely affected by construction vibration, the structure shall be restored to conditions equivalent to those prior to blasting. SDG&E shall then fairly compensate the owner of any damaged structure for lost use.

Operational Impacts

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class I)

The proposed 500 kV transmission line would cause a permanent noise increase due to the corona effect. The maximum expected day-night noise level at the ROW edge during wet conditions (rain or fog) would be 52 dBA CNEL (Table D.8-12) and 45 dBA Leq during any hour. The nighttime limit of 45 dBA Leq established by the San Diego County Code of Regulatory Ordinances would not be exceeded, and the Proposed Project would not conflict and would be consistent with the San Diego County noise standards. However, in the natural areas of ABDSP and nearby San Felipe Hills Wilderness Study Area where existing noise levels could be as low as 35 dBA, project-related levels of audible corona noise would cause a substantial permanent increase of more than 5 dBA. Corona noise caused by operation of the Proposed Project would substantially elevate the current ambient noise levels within 500 feet of the 500 kV edge of ROW. This would adversely affect passive enjoyment of ABDSP and wildlife including listed or sensitive species (addressed in Section D.2.10). For the noise-sensitive park and campgrounds, this would be a significant increase.

There are few options for mitigating this noise source. Audible corona noise is a function of conductor design and configuration, which could be changed but would likely trigger other environmental impacts (e.g., taller towers would impact visual resources). Mitigation Measure N-3a would help to minimize the nuisance experienced by recreational users of ABDSP to the extent feasible, but the substantial noise increase would remain and create an infrequent but significant and unavoidable impact within the park (Class I).

Mitigation Measure for Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components

N-3a Respond to complaints of corona noise.

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Inspection and maintenance, including insulator washing, access road repair, and emergency response, would involve occasional helicopter, truck, or earthmoving equipment activity along the ROW. Because maintenance activities would involve noise at levels identical to transmission line construction, helicopters and other equipment within 200 feet of sensitive receptors would periodically cause a substantial increase in noise over conditions occurring without the Proposed Project. This would result in a significant and unavoidable impact (Class I).

D.8.7 Central Link Impacts and Mitigation Measures

Existing nearby noise-sensitive receptors for the Central Link include residences in and near Grapevine Canyon, along Mesa Grande Road, and along SR78 near Santa Ysabel, as shown in Table D.8-3.

Construction Impacts

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels in the vicinity of the proposed overhead line, along the project route, and along all transport access routes. During the anticipated 13 to 14 months necessary to build the Central Link, concurrent construction activity would be necessary with multiple crews at separate locations. Between MPs 99 to 110, the proposed transmission line would cross rural residential lands, and at the edge of the ROW, short-term construction noise would exceed 75 dBA. Construction noise would impact the San Felipe Hills Wilderness Study Area and residences within 200 feet of work sites in Grapevine Canyon and near the proposed Central East Substation site, where grading for the access road would be within about 200 feet of rural residences. Maximum intermittent noise levels would range from 80 to 90 dBA at 50 feet from a work site up to 99 dBA near helicopter operations for installing the line or certain structures. Project-related construction would be subject to the limits of the San Diego County Code of Regulatory Ordinances, which prohibits construction noise at a residential property line over 75 dBA weekdays from 7 a.m. to 7 p.m. Construction noise would also adversely affect wildlife including listed or sensitive species (addressed in Section D.2.10). Implementation of NOI-APM-1 includes steps to notify the residences, but this impact would be significant without additional measures.

Blasting is likely to be needed along the entire length of the Central Link. Blasting would be subject to a blasting plan, described above, and intense peak noise levels (up to 140 dBA at the blast location or over 90 dBA for receptors within 500 feet) would occur, but this would not cause a violation of the 75 dBA limit, which is based on an average throughout the day. Blasting would be very brief in duration (milliseconds), and the noise would dissipate quickly with distance. Although NOI-APM-1 includes steps to notify the affected community, this impact would be significant without additional measures. Instead of the notification process suggested in NOI-APM-1, Mitigation Measure L-1a (see Section D.4, Land Use) would be appropriate and more comprehensive. Establishing best management practices, Mitigation Measure N-1a, in combination with the notification required by Mitigation Measure L-1a, would reduce this impact to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I).

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

Vibration levels from construction equipment, rock drilling, and blasting would be perceptible in the immediate vicinity of Central Link construction sites. SDG&E proposes to manage blasting and its effects on nearby land uses and structures through a detailed blasting plan for each site. The plan would include the blasting methods, surveys of existing structures and other built facilities, and distance calculations to estimate the area of effect of the blasting. The notification process suggested in NOI-APM-1 would reduce the likelihood of a nuisance or annoyance occurring, but impacts would still be significant because blasting could result in physical damage of vulnerable structures. Mitigation Measure L-1a (see Section D.4, Land Use) would be appropriate and more comprehensive than NOI-APM-1, but the impact of potential physical damage to existing structures would be significant. With a measure that restores struc-

tures damaged by blasting, as in Mitigation Measure N-2a, the impacts from construction-related ground-borne vibration would be adverse but not excessive, and this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

- L-1a Prepare Construction Notification Plan.**
- N-2a Avoid blasting where damage to structures could occur.**

Operational Impacts

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class I)

The proposed 500 kV and 230 kV transmission lines in the Central Link would cause a permanent noise increase due to audible corona. The maximum expected corona noise from the 500 kV portion would be 52 dBA CNEL and 45 dBA Leq during any hour at the ROW edge. The double-circuit 230 kV transmission lines east of the Central East Substation would cause much lower audible noise levels, up to 36 dBA CNEL (Table D.8-12). The nighttime limit of 45 dBA Leq established by the San Diego County Code of Regulatory Ordinances would not be exceeded at the ROW edge, and the Proposed Project would not conflict and would be consistent with the San Diego County noise standards. However, in the natural areas from ABDSP, through Grapevine Canyon to the proposed Central East Substation, where existing noise levels are expected to be well below 50 dBA CNEL, corona noise from the 500 kV segment would cause a substantial permanent increase of more than 5 dBA. For noise-sensitive locations within 500 feet of the 500 kV ROW edge, including the San Felipe Hills Wilderness Study Area and residential properties in Grapevine Canyon, this would be a significant increase. The wilderness study area and residences in Grapevine Canyon would experience this impact because the noise from the 500 kV line would be substantial compared to the existing quiet background noise levels, which could be as low as 35 dBA. This would adversely affect passive enjoyment of the wilderness and wildlife including listed or sensitive species (addressed in Section D.2.10). Mitigation Measure N-3a would help to minimize the nuisance experienced by residences near the ROW edge to the extent feasible, but the substantial noise increase would remain and create an infrequent but significant and unavoidable impact (Class I).

Mitigation Measure for Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components

- N-3a Respond to complaints of corona noise.**

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Inspection and maintenance, including insulator washing, access road repair, and emergency response, would involve occasional helicopter, truck, or earthmoving equipment activity along the ROW. Because increased noise would occur at levels identical to transmission line construction, helicopters and other equipment within 200 feet of sensitive receptors would periodically cause a substantial increase in noise over conditions occurring without the Proposed Project. This would result in a significant and unavoidable impact (Class I).

Proposed Central East Substation

The proposed Central East Substation would cause construction and operational noise that could affect nearby receptors, but a groundborne vibration impact (Impact N-2) would not occur.

Construction Impacts

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction of the proposed substation in unincorporated San Diego County would require grading of 106 acres, including a 40-acre fenced pad. Construction noise impacts would be similar to those of transmission line construction because similar equipment would be involved. The projected maximum intermittent noise levels would range from 80 to 90 dBA at 50 feet from a work site. Intensive grading and access road construction would occur and access road traffic would be within about 200 feet of a residence. Implementation of NOI-APM-1 includes steps to notify the residences. Although NOI-APM-1 includes steps to notify the affected community, this impact would be significant without additional measures. Instead of the notification process suggested in NOI-APM-1, implementation of Mitigation Measure L-1a and Mitigation Measure N-1a would be required to reduce this impact to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I).

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Operational Impacts

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

The Central East Substation would introduce permanent noise sources such as transformers, reactors, circuit breakers, and other equipment to an existing rural and natural setting. The characteristic noise caused by the substation would be a low-frequency humming sound with occasionally louder impulse sounds during switching of a breaker. SDG&E proposes to install low-noise transformers at the Central East Substation to achieve a maximum noise level of 45 dBA at the substation property line. This level would comply with San Diego County standards. The nearest residential property would be about 1,000 feet from the substation equipment, and SDG&E predicts that with low-noise transformers, the resultant substation noise at the property line would be approximately 40 dBA. Substation noise would include a dominant “hum” around 60 Hz that would be audible given the very low ambient noise, but the total noise level would not substantially increase the existing low noise levels of the natural setting (45.4 dBA Ldn). Because the permanent increase in ambient noise from operation of the substation would not exceed 5 dBA at the nearest residence, the substation would not cause a significant impact (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Routine inspection and maintenance, including occasional emergency repairs, of the new Central East Substation would occasionally cause minor noise at the substation and along the access road to the substation. The light-duty crew trucks that would be used during inspection activities would typically generate noise levels under 75 dBA at 50 feet. Because maintenance activities would occasionally involve noise at levels identical to substation construction, maintenance would periodically cause a substantial increase in noise over conditions occurring without the Proposed Project. This would result in a significant and unavoidable impact (Class I).

D.8.8 Inland Valley Link Impacts and Mitigation Measures

Existing noise-sensitive receptors in the Inland Valley Link include rural residences, the Mount Gower Open Space Preserve, rural residences in Starlight Mountain Estates, suburban residences in San Diego Country Estates, and open space preserves, as shown in Table D.8-4. Many homes are within 200 feet of the project route.

Construction Impacts

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels in the vicinity of the proposed overhead line, along the project route, at locations of excavation, and along all transport access routes. During the anticipated 12 months necessary to build the Inland Valley Link, concurrent construction activity would be necessary with multiple crews at separate locations. Within 200 feet of the ROW, short-term construction noise may exceed 75 dBA, which would impact numerous residences in Starlight Mountain Estates, San Diego Country Estates, and near Sycamore Canyon. Recreational lands in the Mount Gower, Barnett Ranch, and Sycamore Canyon Open Space Preserves would also be disrupted. Maximum intermittent noise level would range from 80 to 90 dBA at 50 feet from a work site up to 99 dBA near helicopter operations for installing the line or certain structures. Project-related construction would be subject to the limits of the San Diego County Code of Regulatory Ordinances, which prohibits construction noise at a residential property line over 75 dBA weekdays from 7 a.m. to 7 p.m. Implementation of NOI-APM-1 includes steps to notify the residences and other sensitive receptors, but this impact would be significant without additional measures.

Blasting would be needed along the Inland Valley Link between MPs 117.2 and 117.4 and between MPs 123.4 and 136.3. Any blasting would be subject to a blasting plan, described above, and intense peak noise levels (up to 140 dBA at the blast location or over 90 dBA for receptors within 500 feet) would occur, but this would not cause a violation of the 75 dBA limit, which is based on an average throughout the day. Furthermore, blasting would be very brief in duration (milliseconds), and the noise would dissipate quickly with distance. Although NOI-APM-1 includes steps to notify the affected community, this impact would be significant without additional measures. Instead of the notification process suggested in NOI-APM-1, Mitigation Measure L-1a (see Section D.4, Land Use) would be appropriate and more comprehensive. Establishing best management practices, Mitigation Measure N-1a, in combination with the notification required by Mitigation Measure L-1a, would reduce this impact to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I).

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

Vibration levels from construction equipment, rock drilling, and blasting would be perceptible, especially between MPs 117.2 and 117.4 and between 123.4 and 136.3. SDG&E proposes to manage blasting and its effects on nearby land uses and structures through a detailed blasting plan for each site. The plan would include the blasting methods, surveys of existing structures and other built facilities, and distance calculations to estimate the area of effect of the blasting. The notification process suggested in NOI-APM-1 would reduce the likelihood of a nuisance or annoyance occurring, but impacts would still be significant because blasting could result in physical damage of vulnerable structures. Mitigation Measure L-1a would be more comprehensive (see Section D.4, Land Use), but the impact of potential physical damage to existing structures would be significant. With a measure that restores structures damaged by blasting, as in Mitigation Measure N-2a, the impacts from construction-related groundborne vibration would be adverse but not excessive, and this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

L-1a Prepare Construction Notification Plan.

N-2a Avoid blasting where damage to structures could occur.

Operational Impacts

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

The proposed overhead double-circuit 230 kV transmission lines in the Inland Valley Link would **cause create** a **new** permanent noise **increase source** of up to 36 dBA CNEL at the ROW edge (Table D.8-12) due to audible corona. No audible noise would be created by the underground segments. Overhead transmission line noise at 36 dBA CNEL would not violate San Diego County standards or cause a substantial (more than 5 dBA) **noise** increase for any nearby noise-sensitive receptor (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Inspection and maintenance, including insulator washing, access road repair, and emergency response, would involve occasional helicopter, truck, or earthmoving equipment activity along the ROW. Because increased noise would occur at levels identical to transmission line construction, helicopters and other equipment within 200 feet of sensitive receptors would periodically cause a substantial increase in noise over conditions occurring without the Proposed Project. This would result in a significant and unavoidable impact (Class I).

D.8.9 Coastal Link Impacts and Mitigation Measures

Existing noise-sensitive receptors in the Coastal Link include suburban residential areas, schools, and religious facilities in the jurisdiction of San Diego County, the City of Poway, and the City of San Diego, as shown in Table D.8-5. Many are within approximately 200 feet of the project route. The Rancho Peñasquitos Community Plan specifies that the southern portion of the neighborhood of Ridgewood and the adjacent Los Peñasquitos Canyon Preserve are noise-sensitive due to wildlife. The effects of project-related noise on wildlife including listed or sensitive species are addressed in Section D.2.10.

Construction Impacts

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels in the vicinity of the proposed overhead line, along the project route, at locations of excavation, and along all transport access routes. During the anticipated 9 to 10 months necessary to build the Coastal Link, concurrent construction activity would be necessary with multiple crews at separate locations. Within 200 feet of the ROW, short-term construction noise may exceed 75 dBA, which would impact numerous residences through the areas of Scripps Ranch, Rolling Hills Estates, Miramar Ranch North, and Rancho Peñasquitos, including the Los Peñasquitos Canyon Preserve. Maximum intermittent noise level would range from 80 to 90 dBA at 50 feet from a work site up to 99 dBA near helicopter operations for installing the line or certain structures. Project-related construction would be subject to the limits of the San Diego County and City of San Diego construction noise limits of 75 dBA weekdays from 7 a.m. to 7 p.m. Implementation of NOI-APM-1 includes steps to notify the residences and other sensitive receptors, but this impact would be significant without additional measures.

Blasting is likely to be needed within the first seven miles of the Coastal Link. Any blasting would be subject to a blasting plan, described above, and intense peak noise levels (up to 140 dBA at the blast location or over 90 dBA for receptors within 500 feet) would occur, but this would not cause a violation of the 75 dBA limit, which is based on an average throughout the day. Furthermore, blasting would be very brief in duration (milliseconds), and the noise would dissipate quickly with distance. Although NOI-APM-1 includes steps to notify the affected community, this impact would be significant without additional measures. Instead of the notification process suggested in NOI-APM-1, Mitigation Measure L-1a (see Section D.4, Land Use) would be appropriate and more comprehensive. Establishing best management practices, Mitigation Measure N-1a, in combination with the notification required by Mitigation Measure L-1a, would reduce this impact to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I). The full text of all mitigation measures is presented in Appendix 12.

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

Vibration levels from construction equipment, rock drilling, and blasting would be perceptible, especially between MPs 136.3 and 143.9, where blasting is expected to be needed in the Coastal Link. SDG&E proposes to manage blasting and its effects on nearby land uses and structures through a detailed blast-

ing plan for each site. The plan would include the blasting methods, surveys of existing structures and other built facilities, and distance calculations to estimate the area of effect of the blasting. The notification process suggested in NOI-APM-1 would reduce the likelihood of a nuisance or annoyance occurring, but impacts would still be significant because blasting could result in physical damage of vulnerable structures. Mitigation Measure L-1a (see Section D.4, Land Use) would be appropriate and more comprehensive than NOI-APM-1, but the impact of potential physical damage to existing structures would be significant. With a measure that restores structures damaged by blasting, as in Mitigation Measure N-2a, the impacts from construction-related groundborne vibration would be adverse but not excessive, and this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

- L-1a Prepare Construction Notification Plan.**
- N-2a Avoid blasting where damage to structures could occur.**

Operational Impacts

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

The proposed overhead 230 kV transmission line in the Coastal Link would **cause create** a **new** permanent noise **increase source** of up to 32 dBA CNEL at the ROW edge (Table D.8-12) due to audible corona. No audible noise would be created by the underground segments. The resulting overhead transmission line noise would not violate any local standards or cause a substantial (more than 5 dBA) **noise** increase for any nearby noise-sensitive receptor, and this impact would be less than significant (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Inspection and maintenance, including insulator washing, access road repair, and emergency response, would involve occasional helicopter, truck, or earthmoving equipment activity along the ROW. Because increased noise would occur noise at levels identical to transmission line construction, helicopters and other equipment within 200 feet of sensitive receptors would periodically cause a substantial increase in noise over conditions occurring without the Proposed Project. This would result in a significant and unavoidable impact (Class I).

Modifications to Sycamore Canyon Substation

Upgrades to the existing Sycamore Canyon Substation would occur within the fenced area, approximately 1,000 feet away from the nearest residence. Construction and operational noise would be sufficiently distant so that it would not cause any local ordinance to be violated or any substantial change in noise levels at sensitive receptors. Modifications to Sycamore Canyon Substation would cause construction and operational noise. Construction noise (Impact N-1) would adversely affect nearby receptors, but would be sufficiently distant to avoid a significant impact (Class III). A groundborne vibration impact (Impact N-2) would not occur at any sensitive location because of sufficient distance.

Noise from operating the new substation equipment (Impact N-3) and noise from maintenance activities (Impact N-4) would not change notably from existing conditions or adversely affect any noise-sensitive receptors, and therefore both of these operational impacts would be less than significant (Class III).

Modifications to Peñasquitos Substation

Upgrades to the existing Peñasquitos Substation would occur within the fenced area of the substation, which is adjacent to and must be accessed by passing numerous residences. Construction of the modifications would result in a significant impact by causing substantial noise increases at nearby residences (Impact N-1). Establishing best management practices, Mitigation Measure N-1a, in combination with the notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase at adjacent residences would be significant and unavoidable (Class I). A groundborne vibration impact (Impact N-2) would not occur.

Noise from operating the new substation equipment (Impact N-3) and noise from maintenance activities (Impact N-4) would not change notably from existing conditions or adversely affect any noise-sensitive receptors, and therefore these impacts would be less than significant (Class III).

D.8.10 Other System Upgrades – Impacts and Mitigation Measures

Reconductor Sycamore Canyon to Elliot 69 kV Line

Reconductoring this existing line would result in construction noise impacts similar to those of the proposed 230 kV transmission line but with less equipment and over a shorter duration. Nearby sensitive receptors include residences shown in Table D.8-6. Construction of the modifications would result in a significant impact by causing substantial noise increases at nearby residences (Impact N-1). By establishing best management practices, Mitigation Measure N-1a, in combination with the notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase at adjacent residences would be significant and unavoidable (Class I). A groundborne vibration impact (Impact N-2) would not occur.

Noise from operating the upgraded transmission line (Impact N-3) and noise from maintenance activities (Impact N-4) would not change notably from existing conditions or adversely affect any noise-sensitive receptors, and therefore these impacts would be less than significant (Class III).

Modifications to San Luis Rey Substation

Upgrades to the existing San Luis Rey Substation would occur within the fenced area of the substation, which is adjacent to and must be accessed by passing numerous residences. Construction of the modifications would result in a significant impact by causing substantial noise increases at nearby residences (Impact N-1). By establishing best management practices, Mitigation Measure N-1a, in combination with the notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase at adjacent residences would be significant and unavoidable (Class I). A groundborne vibration impact (Impact N-2) would not occur.

Noise from operating the new substation equipment (Impact N-3) and noise from maintenance activities (Impact N-4) would not change notably from existing conditions or adversely affect any noise-sensitive receptors, and therefore these impacts would be less than significant (Class III).

Modifications to South Bay Substation

Upgrades to the existing South Bay Substation would occur within the fenced area, which is not near noise-sensitive land uses. Construction and operational noise would be sufficiently distant so that it would not cause any local ordinance to be violated or any substantial change in noise levels at sensitive receptors.

Construction would not involve equipment that would substantially increase ambient noise levels at any sensitive receptor (Impact N-1), and thus the impact would be less than significant (Class III). A ground-borne vibration impact (Impact N-2) would not occur.

Noise from operating the new substation equipment (Impact N-3) and noise from maintenance activities (Impact N-4) would not adversely affect any noise-sensitive receptors, and therefore these impacts would be less than significant (Class III).

D.8.11 Future Transmission System Expansion

The Proposed Project would facilitate the possible future construction of additional 230 kV and 500 kV transmission lines. These lines are not proposed at this time, but because the construction of the Proposed Project would include a substation and create new transmission corridors that could be used by these additional circuits, impact analysis is presented in this EIR/EIS. The 230 kV expansion facilities are addressed in Sections D.8.11.1 and D.8.11.2; the 500 kV expansion facilities are addressed in Sections D.8.11.3 and D.8.11.4.

D.8.11.1 Environmental Setting – 230 kV Future Transmission System Expansion

As described in Section B.2.7, the Central East Substation that would be built as a part of the Proposed Project would accommodate up to six 230 kV circuits. Only two circuits are proposed by SDG&E at this time, but construction of additional 230 kV circuits out of the Central East Substation may be required within the next 10 years. This section considers the impacts of construction and operation of these potential future transmission lines. Based on information provided by SDG&E, there are four substation endpoints and five routes that would be most likely for these future lines; each is addressed below. Figure B-12a illustrates the potential routes of each of the 230 kV transmission lines.

The 230 kV Future Transmission System Expansion would be located entirely within San Diego County, where noise is regulated by San Diego County Code of Regulatory Ordinances and local jurisdictions (Section D.8.3.3).

Central East Substation to Sycamore Canyon or Peñasquitos Substation

The new 230 kV line would most likely follow the proposed SRPL project route from the Central East Substation to Sycamore Canyon Substation or Peñasquitos Substation. Therefore, the environmental setting for the new 230 kV line would be the same as for the proposed SRPL project, which is described in Section D.8.2.3 (Central Link), Section D.8.2.4 (Inland Valley Link), and Section D.8.2.5 (Coastal Link).

Central East Substation to Mission Substation

The new 230 kV line would most likely follow the proposed SRPL project route from the Central East Substation to the Sycamore Canyon Substation. Therefore, the environmental setting for the future 230 kV line would be the same as for the proposed SRPL project from these locations. At the Sycamore Canyon Substation, the 230 kV line would turn southwest and would most likely follow an existing 69 kV transmission line corridor that runs between Sycamore Canyon and Elliot Substations. Approximately 6.0 miles of the Grazing Land are associated with the existing 69 kV transmission line corridor between the Sycamore Canyon and Elliot Substations. Installation of a future 230 kV line between the Sycamore Canyon and Elliot Substations would occur entirely on undeveloped land under the jurisdic-

tion of the Department of Defense (i.e., MCAS Miramar). From Elliot Substation, the route would continue southwest for an additional 4.0 miles within the existing 69 kV corridor, through Mission Trails Regional Park, and crossing I-15 to terminate at the existing Mission Substation, located at 9060 Friars Road, which is 0.9 miles north of I-8 and 0.25 miles west of I-805.

Ambient Noise Levels. Noise levels along the corridor from Sycamore Canyon Substation to Mission Substation vary from low in undeveloped park and recreation areas to elevated levels near the traffic of suburban roads, residential, and commercial areas.

Noise-Sensitive Receptors. Surrounding land uses from Sycamore Canyon Substation to milepost SE7 include undeveloped park and recreation land. Noise-sensitive receptors around Elliot Substation consist of single-family residences along Rueda Drive and Pallon Way. The Admiral Baker Golf Course, Mission Trails Regional Park, and residences between the Elliot and Mission Substations are noise-sensitive receptors adjacent to this Future Expansion.

Central East Substation to Los Coches Substation

The future 230 kV line would most likely follow the proposed SRPL project route from the Central East Substation to 1.0 mile south of the Creelman Substation (MP 122.2) in the Town of Ramona. Therefore, the environmental setting for the future 230 kV transmission line would be the same as for the proposed SRPL project from these locations. At MP 122.2, the future expansion 230 kV line could turn south following the existing Creelman-Lakeside 69 kV corridor through unincorporated San Diego County and then 1.6 miles through largely hilly open space on the Barona Reservation east of the San Vicente Reservoir and west of the Barona Creek Golf Club, the Barona Valley Resort and Casino, and Oak Oasis Open Space Preserve. The route would then pass through or adjacent to Louis A. Stelzer County Park, cross the San Diego River and terminate at the existing Los Coches Substation 0.3 miles northwest of Lake Jennings near Lake Jennings County Park and the community of Lakeside.

Ambient Noise Levels. Noise levels along the corridor from Creelman Substation to Los Coches Substation vary from low in open space and rural residential areas to elevated levels near the traffic of suburban roads, residential, and commercial areas near the community of Lakeside.

Noise-Sensitive Receptors. Surrounding land uses from Creelman Substation to Los Coches Substation include noise-sensitive rural residences, a golf course, a county park, and suburban residences.

Central East Substation to Escondido Substation

Northern Route. From the proposed Central East Substation, the future 230 kV transmission line route would travel west through Vista Irrigation District land paralleling the proposed SRPL route for approximately 6.6 miles to its intersection with SR79. At SR79 the line would diverge from the proposed SRPL route and would head north parallel to SR79 for approximately 1.2 miles to the intersection of Highway S2 with SR79 at the existing Warner Substation. From there the route would parallel the existing 69 kV corridor west across open space owned by Vista Irrigation District north of Lake Henshaw and then it would turn southwest, following the northwest edge of the lake to SR76.

At SR76 the route would turn west-northwest paralleling SR76 for 13.3 miles following the existing Warners-Rincon 69 kV transmission corridor across and/or bordering parcels of the Cleveland National Forest for approximately 4 miles and across La Jolla Reservation for 6 miles, crossing Cedar Creek, Plaisted Creek and Potrero Creek, and then into Rincon Substation, which is just north of the Rincon Reservation at the Highway S6 intersection with SR76. The hilly route along SR76 is primarily agricultural/open space with scattered rural residences.

At Rincon Substation the route would diverge from SR76 and would follow the existing Rincon-Escondido 69 kV corridor, generally parallel to Highway S6 south, crossing Potrero Creek, San Luis Rey River and a tributary to Paradise Creek, through the Rincon Reservation for 3 miles passing through some medium density single family residential and commercial land uses. South of the Rincon Reservation, the route would turn west in the Valley Center Substation area generally paralleling Highway S6, passing on the west side of Hellhole Canyon County Open Space Preserve (approximately 0.30 miles from the ROW), and then would turn south on the east side of Highway S6 for 1.6 miles before turning southwest, crossing Highway S6, and entering the City of Escondido after approximately 0.75 miles. The new line could run adjacent to or cross Daley Ranch near Escondido. In the City of Escondido, the route would turn south and then southwest for approximately 8 miles following the existing 69 kV corridor into Escondido Substation.

Ambient Noise Levels. Noise levels along this corridor vary from low in open space and rural residential areas to elevated levels near the traffic of suburban roads, residential, and commercial areas in the City of Escondido.

Noise-Sensitive Receptors. Noise-sensitive land uses between the Warner Substation and Rincon Substation include rural residences and wilderness. From the Rincon Substation to the Escondido Substation, the noise-sensitive areas include Indian reservation land, medium density residences, urban residences, and a county park.

Southern Route. The southern route between the Central East and Escondido Substations would likely follow the Proposed Project route from the Central East Substation to the Chicarita Substation, at which point the southern route would diverge and head north, following an existing 69 kV corridor into the Escondido Substation. Jurisdictions traversed by or adjacent to the southern route between Chicarita Substation and Escondido Substation include the County of San Diego and City of Escondido.

Ambient Noise Levels. Noise levels along this corridor vary from low in open space and rural residential areas to elevated levels near the traffic of suburban roads, residential, and commercial areas around Ramona, the San Diego Country Estates, other communities in the County of San Diego, and the City of Escondido.

Noise-Sensitive Receptors. Residences in rural areas near Mount Gower County Open Space Preserve (Starlight Mountain Estates) and in San Diego Country Estates would be adjacent to this corridor. noise-sensitive recreational land uses between the Central East and Chicarita Substations include the Mount Gower, Barnett Ranch, and Sycamore Canyon Open Space Preserves. Noise-sensitive land uses traversed by or adjacent to the southern route between Chicarita Substation and Escondido Substation include parks and recreation/open space and residential uses.

D.8.11.2 Environmental Impacts – 230 kV Future Transmission System Expansion

The future transmission expansion projects, if constructed, would be built by SDG&E because they are located within SDG&E's service territory. While it is likely that SDG&E would implement APMs similar to those that are included in the Sunrise Powerlink application, this cannot be assumed because SDG&E has not submitted an application to construct these projects. This analysis recommends mitigation measures similar to those that are recommended for the Proposed Project.

Construction Impacts

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels in the vicinity of the Future Expansion project areas and along all transport access routes. To build the Future Expansion, concurrent construction activity could be necessary with multiple crews at separate locations. Construction noise would impact residences within 200 feet of work sites, where grading for access roads would be within about 200 feet of rural residences. Recreational lands in open space areas, wilderness, and parks would also be disrupted. Maximum intermittent noise level would range from 80 to 90 dBA at 50 feet from a work site up to 99 dBA near helicopter operations for installing the line or certain structures. Project-related construction would be subject to the limits of the San Diego County Code of Regulatory Ordinances, which prohibits construction noise at a residential property line over 75 dBA weekdays from 7 a.m. to 7 p.m. Construction noise would adversely affect passive enjoyment of recreational areas and wildlife including listed or sensitive species (addressed in Section D.2.10).

Blasting may be needed along certain segments of the Future Expansion project routes, especially in central and western San Diego County. Blasting would need to be subject to a blasting plan and intense peak noise levels would occur, but because each blast would be very brief in duration, this would not cause a violation of the 75 dBA limit, which is based on an average throughout the day.

By causing substantial noise increases, the construction noise impact would be significant without additional measures. Mitigation would need to be implemented including notification to residences and sensitive receptors, including land managers of recreational areas, such as Mitigation Measures L-1a (Prepare construction notification plan) and N-1a (Implement Best Management Practices for construction noise). The measures would reduce the impact to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable for nearby sensitive receptors (Class I). The full text of all mitigation measures is presented in Appendix 12.

Mitigation Measures for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

Vibration levels from construction equipment, rock drilling, and blasting would be perceptible to receptors in the immediate vicinity of any Future Expansion construction sites. To manage blasting and its effects on nearby land uses and structures, a detailed Blasting Plan would be developed for each Future Expansion site. These plans would include the blasting methods, surveys of existing structures and other built facilities, and distance calculations to estimate the area of effect of the blasting. The likelihood of a nuisance or annoyance occurring would be significant, and the potential for physical damage to existing structures would also be significant for any blasting. With the notification plan of Mitigation Measure L-1a the likelihood of a nuisance or annoyance would be reduced, and with a blasting plan that restores structures damaged by blasting, as in Mitigation Measure N-2a, the impacts from construction-related groundborne vibration would be adverse but not excessive, and this impact would be reduced to a less than significant level (Class II).

Mitigation Measures for Impact N-2: Construction activity would temporarily cause groundborne vibration

- L-1a Prepare Construction Notification Plan.**
- N-2a Avoid blasting where damage to structures could occur.**

Operational Impacts

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class I)

The Future Transmission System Expansion 230 kV transmission lines would cause a permanent noise increase due to audible corona. Depending on the ultimate configuration and location of the lines, levels up to and possibly over 40 dBA are expected. The nighttime limit of 45 dBA Leq established by the San Diego County Code of Regulatory Ordinances would not be exceeded with the addition of the Future Expansion 230 kV lines, but a substantial (more than 5 dBA) increase would occur for nearby noise-sensitive receptors in very quiet areas. For noise-sensitive residential and recreational uses, this would be a significant increase. There are few options for mitigating this noise source. Mitigation Measure N-3a would help to minimize the nuisance to the extent feasible. The impact would occur for noise-sensitive receptors at the edge of the transmission line ROW where natural existing noise levels could be as low as 35 dBA, and this increased noise would be an infrequent but significant and unavoidable impact (Class I).

Mitigation Measure for Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components

- N-3a Respond to complaints of corona noise.**

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Inspection and maintenance, including emergency response, would involve occasional helicopter, truck, or earthmoving equipment activity along the ROW. Because this activity would involve occasionally increased noise at levels identical to transmission line construction, helicopters and other equipment within 200 feet of sensitive receptors would periodically cause a substantial increase in noise over conditions occurring without the Proposed Project. This would result in a significant and unavoidable impact (Class I).

D.8.11.3 Environmental Setting – 500 kV Future Transmission System Expansion

As described in Section B.2.7 and illustrated in Figure B-12b, the potential Future 500 kV Circuit would connect the proposed Central East Substation to the Southern California Edison (SCE) transmission system at a new substation north of Interstate 15 (I-15), about 20 miles west of SCE's Valley Substation.

Ambient Noise Levels. Noise levels along this corridor vary from low in open space and rural residential areas to elevated levels near the traffic of suburban roads, residential, and commercial areas within the jurisdiction of the County of San Diego, County of Riverside, La Jolla Band of Luiseño Indians, Rincon Band of Luiseño Indians, and San Pasqual Band of Mission Indians.

Noise-Sensitive Receptors. Residences in the unincorporated areas of San Diego and Riverside Counties, some recreational uses, and tribal lands would be adjacent to this corridor. Tribal areas are considered noise-sensitive because they may have residential uses and may be used for passive enjoyment of the

land. noise-sensitive recreational land uses would be encountered within the national forest including: the Tanaja trailhead, where the line would cross the parking lot and be within 300 feet of trailhead; the Horsethief trail, where the line would cross the trail; the El Cariso Campground, within about 500 feet of the line; the Wildomar Campground, within about 0.5 miles of the line; and the San Mateo Canyon Wilderness, which would be within 300 feet of the line. The remainder of the route within national forest land provides a rural and natural setting but is not noise-sensitive.

Applicable Regulations, Plans, and Standards

The 500 kV Future Transmission System Expansion would be located in San Diego County and Riverside County. San Diego County noise regulations are described in Section D.8.3.3.

Riverside County. Construction noise standards for Riverside County are documented in Title 15.04.020 of the Riverside County Code. Although the code does not set limits on construction noise, it restricts construction activities within one-quarter mile of an occupied residence (property line) to the hours of 6 a.m. to 6 p.m. during the months of June through September. During the months of October through May, such construction activities are restricted to the hours of 7 a.m. through 6 p.m. Exceptions to these standards are allowed with the written consent of the Riverside County building official (Ordinance No. 725, Chapter 1.16, Riverside County Code).

In terms of operational noise, the Riverside County Department of Industrial Hygiene sets worst case noise levels for stationary sources projected to the property line of an occupied residential property at 45 dBA between 10:00 p.m. and 7:00 a.m. (nighttime standard) and 65 dBA between 7:00 a.m. and 10:00 p.m. (daytime standard).

In the Riverside County General Plan (County of Riverside, 2003), noise-sensitive land uses are defined to include schools, hospitals, rest homes, long-term care facilities, mental care facilities, residential uses, places of worship, libraries, and passive recreation areas. The Noise Element Policy N.1.1 specifies that noise-sensitive land uses should be protected from high levels of noise by restricting or relocating noise sources, and Policy N.1.3 establishes the 65 CNEL level as the appropriate trigger level for mitigation.

D.8.11.4 Environmental Impacts – 500 kV Future Transmission System Expansion

Construction Impacts

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels in the vicinity of the Future Expansion project areas and along all transport access routes. To build the Future Expansion, concurrent construction activity could be necessary with multiple crews at separate locations. Construction noise would impact residences within 200 feet of work sites, where grading for access roads would be within about 200 feet of rural residences. Recreational lands in open space areas, wilderness, and parks would also be disrupted. Maximum intermittent noise level would range from 80 to 90 dBA at 50 feet from a work site up to 99 dBA near helicopter operations for installing the line or certain structures. Project-related construction would be subject to the limits of the San Diego County Code of Regulatory Ordinances, which prohibits construction noise at a residential property line over 75 dBA weekdays from 7 a.m. to 7 p.m., and the Riverside County Code, which restricts the hours of construction near residences. Construction noise would adversely affect passive enjoyment of recreational areas and wildlife including listed or sensitive species (addressed in Section D.2.10).

Blasting may be needed along certain segments of the Future Expansion project routes, especially in central and western San Diego County. Blasting would need to be subject to a blasting plan and intense peak noise levels would occur, but because each blast would be very brief in duration, this would not cause a violation of the 75 dBA limit, which is based on an average throughout the day.

By causing substantial noise increases, the construction noise impact would be significant without additional measures. Mitigation would need to be implemented including notification to residences and sensitive receptors, including land managers of recreational areas, such as Mitigation Measures L-1a (Prepare construction notification plan) and N-1a (Implement Best Management Practices for construction noise). The measures would reduce the impact to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable for nearby sensitive receptors (Class I). The full text of all mitigation measures is presented in Appendix 12.

Mitigation Measures for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

Vibration levels from construction equipment, rock drilling, and blasting might be perceptible to receptors in the immediate vicinity of any Future Expansion construction sites. To manage blasting and its effects on nearby land uses and structures, a detailed Blasting Plan would be needed for each site. These plans would need to include the blasting methods, surveys of existing structures and other built facilities, and distance calculations to estimate the area of effect of the blasting. The likelihood of a nuisance or annoyance occurring would be significant, and the potential for physical damage to existing structures would also be significant for any blasting. With the notification plan of Mitigation Measure L-1a the likelihood of a nuisance or annoyance would be reduced, and with a blasting plan that restores structures damaged by blasting, as in Mitigation Measure N-2a, the impacts from construction-related groundborne vibration would be adverse but not excessive, and this impact would be reduced to a less than significant level (Class II).

Mitigation Measures for Impact N-2: Construction activity would temporarily cause groundborne vibration

L-1a Prepare Construction Notification Plan.

N-2a Avoid blasting where damage to structures could occur.

Operational Impacts

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class I)

The Future Transmission System Expansion 500 kV transmission lines would cause a permanent noise increase due to audible corona. Depending on the ultimate configuration and location of the lines, levels between 50 and 55 dBA are expected. The nighttime limit of 45 dBA Leq established by the San Diego County Code of Regulatory Ordinances would be exceeded with the addition of the Future Expansion 500 kV lines, and a substantial (more than 5 dBA) increase would occur for nearby noise-sensitive receptors in very quiet areas. For noise-sensitive residential, recreational, and tribal areas, this would be a significant increase. There are few options for mitigating this noise source. Mitigation Measure N-3a would

help to minimize the nuisance to the extent feasible. The impact would occur for noise-sensitive receptors at the edge of the transmission line ROW where natural existing noise levels could be as low as 35 dBA, and this increased noise would be an infrequent but significant and unavoidable impact (Class I).

Mitigation Measure for Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components

N-3a Respond to complaints of corona noise.

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Inspection and maintenance, including emergency response, would involve occasional helicopter, truck, or earthmoving equipment activity along the ROW. Because this activity would involve occasionally increased noise at levels identical to transmission line construction, helicopters and other equipment within 200 feet of sensitive receptors would periodically cause a substantial increase in noise over conditions occurring without the Proposed Project. This would result in a significant and unavoidable impact (Class I).

D.8.12 Connected Actions and Indirect Effects

Section B.6 describes the other projects that have been found to be related to the Sunrise Powerlink Project. They fall into two categories:

- **Connected Actions.** The ~~four~~ three projects found to be connected to the Sunrise Powerlink Project are the Stirling Energy Systems solar facility, ~~two components of the IID 230 kV transmission system upgrades,~~ the Esmeralda-San Felipe Geothermal Project, and the Jacumba Substation (as a component of the Sempra Rumorosa Wind Energy Project). The first two~~ose~~ projects are addressed in Sections D.8.12.1 ~~and through~~ D.8.12.24. The Draft EIR/EIS also included analysis of two components of the IID 230 kV transmission system upgrades, but this is no longer considered to be a connected action, based on comments from IID. Therefore, this analysis has been deleted and is struck out in this section.
- The Jacumba Substation, originally addressed in Section D.8.12.4, was modified and expanded in Section 2 of the Recirculated Draft EIR/Supplemental Draft EIS, superseding the original analysis. Therefore, the original analysis from the Draft EIR/EIS has been deleted and is struck out in this section. The replacement analysis in the Recirculated Draft EIR/Supplemental Draft EIS includes consideration of the larger, relocated Jacumba Substation as well as other transmission and substation components that would be required to interconnect the Sempra Rumorosa Wind Energy Project (RWEPP) to the SDG&E transmission system.
- **Indirect Effects.** One project, the SCE La Rumorosa Wind Project, was analyzed in the Draft EIR/EIS. This analysis was modified and expanded in Section 2 of the Recirculated Draft EIR/Supplemental Draft EIS, superseding the analysis presented in the Draft EIR/EIS. Therefore, the original analysis from the Draft EIR/EIS has been deleted and is struck out in this section. ~~would create effects as a result of the construction and operation of the Sunrise Powerlink Project. That project is addressed in Section D.8.12.5.~~

D.8.12.1 Stirling Energy Systems Solar Two LLC Project

As agreed in a Power Purchase Agreement (PPA) approved by the CPUC, SDG&E would purchase up to 900 MW of solar power produced at a proposed 8,000-acre Concentrating Solar Power (CSP) facility

in the Imperial Valley (see Section B.6.1). At least 600 MW of this total would be transmitted via the SRPL. Stirling Energy Systems (SES) Solar Two, LLC would construct, own and operate the CSP facility and an associated 230 kV transmission line. The CSP site would be leased by SES from BLM, and additional individual private parcels within the site boundaries would be acquired. The transmission line would be constructed within a new ROW easement just north of and adjacent to the SWPL.

As described in Section B.6, the CPUC and BLM have determined that the Stirling CSP facility and associated 230 kV transmission line are so closely related to the Proposed Project as to be considered “connected actions” under the National Environmental Policy Act (NEPA). Therefore, the Stirling site and transmission line are discussed in this EIR/EIS in order to fully disclose the potential for this project to be constructed as a result of the presence of the SRPL (if it is approved and constructed).

Approval of the SRPL would not result in automatic approval of the Stirling CSP facility or transmission line discussed below, and the project would require SES permit applications to CEC and BLM and compliance with CEQA and NEPA, followed by approvals from the CEC and BLM prior to construction on BLM lands.

Environmental Setting

The Stirling CSP facility would be located entirely within unincorporated Imperial County, where noise is regulated by the Imperial County Code (Section D.8.3.3).

Ambient Noise Levels. The Stirling CSP facility and associated 230 kV transmission line would be located on BLM land and private property. Low noise levels under 50 dBA generally occur on these open lands with scattered rural residences. The unincorporated town of Plaster City, which is located at the northern part of the SES site, has a large gypsum quarry and plant operated by United States Gypsum that greatly raises the ambient noise levels in the surrounding area. This existing noise source is noted in the Imperial County General Plan (2003), but existing noise levels have not been measured near the plant because the area is unpopulated.

Noise-Sensitive Receptors. No noise-sensitive receptors are in the vicinity of the Stirling CSP facility or the 230 kV corridor, and these sites are buffered by undeveloped federal lands.

Environmental Impacts and Mitigation Measures

Construction Impacts

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class III)

Construction and vehicle activity along all transport access routes would cause increased noise impacts, but no noise-sensitive receptors are located near the Stirling CSP facility or the associated 230 kV transmission line. Because of sufficient distance, no noise-sensitive receptors would be affected, and the construction noise impact would not be significant (Class III).

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class III)

Excessive groundborne vibration would not occur at any receptor because of sufficient distance (Class III).

Operational Impacts

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

Operational noise would not cause any local ordinance to be violated or any substantial change in existing noise levels at a noise-sensitive receptor. Operating the Stirling CSP facility or the associated 230 kV transmission line would cause an increase in ambient noise that would be more than 5 dBA, but because of sufficient distance, no receptors would be adversely affected (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class III)

Noise from inspection and maintenance activities would not adversely affect any noise-sensitive receptors because no receptors are located near the Stirling CSP or transmission facilities (Class III).

D.8.12.2 IID Transmission System Upgrades

~~As part of Phase 2 of the Imperial Valley Study Group's development plan (see Section A.4.3), IID would construct a new 230 kV line from the Bannister Substation to a new San Felipe 500/230 kV Substation to interconnect to the proposed Imperial Valley to San Diego 500 kV line (i.e., the Sunrise Powerlink line). This San Felipe Substation could potentially provide an additional interconnection between the IID and CAISO systems, and thus another point for the delivery of renewable resources to Southern California loads. IID would construct, own and operate these upgrades.~~

~~As described in Section B.6, the CPUC and BLM have determined that these IID Transmission System Upgrades are so closely related to the Proposed Project as to be considered "connected actions" under the National Environmental Policy Act (NEPA). Therefore, IID Transmission System Upgrades are discussed in this EIR/EIS in order to fully disclose the potential for a Bannister San Felipe 230 kV transmission line and new San Felipe 500/230 kV Substation to be constructed as a result of the presence of the SRPL (if it is approved and constructed). Mitigation to avoid significant impacts of the IID Transmission System Upgrades projects are identified in the environmental impact analysis below; however, implementation of specific mitigation measures would be executed by IID at the time of project permitting and approval.~~

~~Approval of the SRPL would not result in automatic approval of the IID Transmission System Upgrades discussed below, and the projects would require applications by IID, compliance with CEQA and NEPA, followed by approvals from the BLM prior to construction on BLM lands.~~

Environmental Setting

~~The IID Transmission System Upgrades would be located entirely within unincorporated Imperial County, where noise is regulated by the Imperial County Code (Section D.8.3.3).~~

~~**Ambient Noise Levels.** The 230 kV route would traverse BLM lands and various private properties in Imperial County. Low noise levels under 50 dBA generally occur on these lands that are mostly open space with scattered rural residences. Noise levels are occasionally elevated due to aircraft caused by the NAF El Centro Desert Range and the Ocotillo Airport at Split Mountain Road and SR78 in Ocotillo Wells (northwest of the substation site). Cars traveling along SR78 also cause elevated noise levels.~~

~~**Noise Sensitive Receptors.** noise sensitive wilderness and recreation areas (see Section D.5) would be crossed by the IID Transmission System Upgrades. Noise sensitive receptors around the San Felipe Substation site and along the western end of the transmission line route include scattered rural residences south of Ocotillo Wells, Borrego Wells, and Split Mountain Road. At MP IID-17, the 230 kV transmission line route would pass near the Juan Bautista de Anza National Historic Trail. The residential and recreational receptors are generally buffered by undeveloped federal lands.~~

Environmental Impacts and Mitigation Measures

Construction Impacts

~~**Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)**~~

~~Construction noise would temporarily substantially increase ambient noise levels in the vicinity of the proposed overhead line, along the project route, and along all transport access routes. The projected maximum intermittent noise levels would range from 80 to 90 dBA at 50 feet from a work site. This would result in a significant impact by causing substantial noise increases at nearby residences. Construction noise would also adversely affect passive enjoyment of recreational areas and wildlife including listed or sensitive species (addressed in Section D.2.10).~~

~~For sensitive receptors, eight hour average construction noise levels exceeding 75 dBA would violate the goals of the Imperial County General Plan and the San Diego County noise ordinance. The noise from construction would exceed 75 dBA at any location within 200 feet of work sites. For work sites within 200 feet of sensitive land uses, these levels would also be a substantial temporary increase in noise levels over the levels existing without the project. Nighttime construction is generally prohibited by local standards, and if necessary near sensitive receptors, it would result in a substantial temporary increase in noise levels and a significant impact.~~

~~For circumstances where construction activity must occur within 200 feet of sensitive receptors, additional mitigation would be required to avoid a violation of the local standards and ensure substantial noise increases do not occur. Mitigation would need to be implemented including notification to residences and sensitive receptors, such as Mitigation Measures L-1a (Prepare construction notification plan) and N-1a (Implement Best Management Practices for construction noise). The measures would reduce the impact to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable for nearby sensitive receptors (Class I). The full text of all mitigation measures is presented in Appendix 12.~~

~~**Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances**~~

~~**L-1a — Prepare Construction Notification Plan.**~~

~~**N-1a — Implement Best Management Practices for construction noise.**~~

~~**Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)**~~

~~Vibration levels from construction equipment and activities would be perceptible in the immediate vicinity of the construction sites. Perceptible vibration could be experienced by residents or workers inside structures within 50 feet of trucks traveling over uneven surfaces. Although not expected to be necessary for the IID Transmission System Upgrades, the activities that would be most likely to cause groundborne vibration would be rock drilling or blasting. The level of groundborne vibration that could reach~~

sensitive receptors would depend on what equipment is used and the soil conditions surrounding the construction site. The likelihood of a nuisance or annoyance occurring would be significant, and the potential for physical damage to existing structures would also be significant for any blasting. Thus there would be a significant impact. With the notification plan of Mitigation Measure L-1a the likelihood of a nuisance or annoyance would be reduced, and with a blasting plan that restores structures damaged by blasting, as in Mitigation Measure N-2a, the impacts from construction related ground-borne vibration would be adverse but not excessive, and this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

L-1a Prepare Construction Notification Plan.

N-2a Avoid blasting where damage to structures could occur.

Operational Impacts

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class I)

IID's Bannister-San Felipe 230 kV line. The level of corona noise at the edge of the 230 kV transmission line ROW would comply with Imperial County and San Diego County standards, but a substantial (more than 5 dBA) increase would occur for nearby noise sensitive receptors in very quiet areas. For noise-sensitive residential and recreational uses, this would be a significant increase. There are few options for mitigating this noise source. Mitigation Measure N-3a would help to minimize the nuisance to the extent feasible. The impact would occur for noise sensitive receptors at the edge of the transmission line ROW where natural existing noise levels could be as low as 35 dBA, and this increased noise would be an infrequent but significant and unavoidable impact (Class I).

Mitigation Measure for Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components

N-3a Respond to complaints of corona noise.

San Felipe 500/230 kV Substation. The San Felipe Substation would introduce permanent noise sources such as transformers, reactors, circuit breakers, and other equipment to an existing rural and natural setting. The characteristic noise caused by the substation would be a low frequency humming sound with occasionally louder impulse sounds during switching of a breaker. The nearest residential property would be over 1,000 feet from the substation equipment, and with low noise transformers, and based on data for the proposed Central East Substation, the resultant substation noise at the property line would be approximately 40 dBA. Substation noise would include a dominant "hum" around 60 Hz that would be audible given the very low ambient noise, but the total noise level would not substantially increase the existing low noise levels of the natural setting. Because the permanent increase in ambient noise from operation of the substation would not exceed 5 dBA at the nearest residence, the substation would not cause a significant impact (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

IID's Bannister-San Felipe 230 kV Transmission Line. Helicopter and ground-level inspection and maintenance would cause occasional noise. During this activity, light duty helicopters would generate

~~noise levels of under 80 dBA at 200 feet, and crew trucks would cause levels of approximately 75 dBA at 50 feet. Insulator washing, access road repair, and emergency response may also involve occasionally increased noise from sources like a water truck or earthmoving equipment. Because this activity would involve occasionally increased noise at levels identical to transmission line construction, helicopters and other equipment within 200 feet of sensitive receptors would periodically cause a substantial increase in noise over conditions occurring without the transmission line. This would result in a significant and unavoidable impact (Class I).~~

~~**San Felipe 500/230 kV Substation.** Routine inspection and maintenance, including occasional emergency repairs, of new San Felipe Substation would cause minor noise at the substation and along the access road to the substation. The light duty crew trucks that would be used during inspection activities would typically generate noise levels under 75 dBA at 50 feet. These maintenance activities would periodically cause a substantial increase in existing noise levels at noise-sensitive receptors, resulting in a significant and unavoidable impact (Class I).~~

D.8.12.23 Esmeralda–San Felipe Geothermal Project

An EIS is currently being prepared by BLM to analyze the leasing of geothermal resources exploration, development, and utilization in the Truckhaven Geothermal Leasing Area (Truckhaven) located in western Imperial County, California (refer to Figure B-46). Currently, BLM has non-competitive geothermal lease applications pending for portions of this land, including lease applications from Esmeralda Energy, LLC (Esmeralda); however, the land must first be assessed under NEPA regulations before granting leases. Under the Proposed Action analyzed in the EIS, BLM would approve the pending non-competitive leases and offer competitive leases for all other available lands at Truckhaven.

The Esmeralda–San Felipe Geothermal Project would develop 20 MW of geothermal resources within the Truckhaven Geothermal Leasing Area; however, Esmeralda is not able to submit a project application to BLM for the Esmeralda–San Felipe Geothermal Project until their pending lease applications with BLM for Truckhaven are approved. In the absence of a formal Project application, it is assumed that roughly half of the components identified under the Reasonably Foreseeable Development (RFD) scenario in BLM’s Truckhaven EIS would apply to the Esmeralda–San Felipe Geothermal Project. Additionally, the description of the environmental setting and likely impacts are partially adapted from the Draft EIS for the Truckhaven Geothermal Leasing Area (February 2007). The RFD describes the anticipated development that would occur at Truckhaven to facilitate geothermal resources exploration, development and utilization should the leases be approved by BLM and include new wells, a power plant and transmission lines, as described in Section B.6.3. Geothermal energy uses heat from the earth, extracted through geothermal wells in the form of steam or brine, which is then transported via pipeline and used to drive turbines, which drive electricity generation.

As described in Section B.6, the CPUC and BLM have determined that the Esmeralda–San Felipe Geothermal Project is so closely related to the Proposed Project as to be considered a “connected action” under the National Environmental Policy Act (NEPA). Therefore, the Esmeralda–San Felipe Geothermal Project is discussed in this EIR/EIS in order to fully disclose the potential for a new geothermal plant and associated linears to be constructed as a result of the presence of the SRPL (if it is approved and constructed). Mitigation to avoid significant impacts of the Esmeralda–San Felipe Geothermal Project are identified in the environmental impact analysis below; however, implementation of specific mitigation measures would be executed by Esmeralda at the time of project permitting and approval.

Approval of the SRPL would not result in automatic approval of the Esmeralda–San Felipe Geothermal Project discussed below, and the project would require applications by Esmeralda Energy, LLC, compliance with CEQA and NEPA, followed by approvals from the BLM prior to construction on BLM lands.

Environmental Setting

The Esmeralda–San Felipe Geothermal Project would be located entirely within unincorporated Imperial County, where noise is regulated by the Imperial County Code (Section D.8.3.3).

Ambient Noise Levels. The Esmeralda–San Felipe Geothermal Project would be located in an isolated desert area of northwestern Imperial County. Ambient noise level measurements for Ocotillo Wells SVRA and the Truckhaven Geothermal Leasing Area are low (i.e., 35 to 50 dBA) as characteristic of natural desert areas. However, noise levels are occasionally higher due to any of the following: off-road vehicle (ORV) activity in Ocotillo Wells State Vehicular Recreation Area (SVRA), which overlaps with most of the Truckhaven Lease Area, including the Esmeralda–San Felipe Geothermal Project area; vehicular traffic noise along SR86 and SR78, and to the Imperial County landfill within the Truckhaven Lease Area; and aircraft overflights. Off-road vehicle activities and vehicular traffic within the Ocotillo Wells SVRA are the primary noise sources in Truckhaven.

Noise-Sensitive Receptors. The closest area of noise-sensitive receptors would be within the town of Salton City, located approximately one mile north of the potential BLM geothermal parcels in Truckhaven.

Environmental Impacts and Mitigation Measures

As stated in BLM’s Draft EIS for the Truckhaven Geothermal Leasing Area, the following BMPs and other mitigation measures would be included/considered in Plans of Operation, which are required for surface-disturbing activities, in order to minimize adverse impacts to resources and uses in the Truckhaven Geothermal Leasing Area, which includes the Esmeralda–San Felipe Geothermal Project area:

- The power plants would be sited using terrain to further shield noise impacts to the greatest extent possible.
- Whenever reasonably possible, geothermal well drilling or major facility construction proposed within 1,000 feet of the Ocotillo Wells SVRA boundary should be restricted to non-sleeping hours (7:00 am to 10:00 pm), or appropriate, reasonable methods should be employed to limit the hourly average noise levels at the Ocotillo Wells SVRA to 60 dBA or below. If this is not reasonably possible, the geothermal lessee should provide at least a one-month notice to the Ocotillo Wells SVRA manager of the date scheduled and location of the proposed operation; so the Department of Parks and Recreation can provide and post notice within the OWSVRA of the proposed activity.
- For unscheduled (emergency) operations, the geothermal lessee should immediately contact the Ocotillo Wells SVRA manager; so the Department of Parks and Recreation can provide appropriate notice to the adjacent Ocotillo Wells SVRA users.

Construction Impacts

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class III)

Well Pad Construction. Construction of the proposed facilities would require heavy equipment operations for grading, filling, compacting, and paving. Construction would also require heavy equipment and trucks to access the BLM parcels under development. However, heavy equipment normally generates

lower noise levels than recreational ORVs. After site preparation, noise would be generated by well-boring equipment and by normal construction activities such as the use of power saws, drills, and hammers. Based on the projected construction activities, noise levels would average 60 to 70 dBA at a distance of 50 feet, with maximum intermittent noise levels of about 85 dBA at a distance of 50 feet. Construction noise would be expected to be less than 65 dBA at any distance greater than 500 feet. Well pad construction is estimated at approximately one week per pad site.

Well Drilling and Testing. Noise will be generated from drilling and testing operations at each well pad and would be create both continuous and intermittent noise. Drilling would last approximately 6 weeks with 1 day for flow testing. Noise levels would be approximately 65 dBA at 500 feet.

As described above, the town of Salton City is the closest area of likely sensitive receptors, which is located approximately one mile north of Truckhaven. Because of the distance to noise-sensitive receptors, noise impacts would from construction of the Esmeralda-San Felipe Geothermal Project would be less than significant (Class III). Similarly, because of a sufficient distance to receptors, a groundborne vibration impact (Impact N-2) would not occur.

Operational Impacts

Well operations and energy generation would also contribute to increased noise levels. The principal noise sources would be turbine operations, noise generated from cooling tower, and associated project vehicles. Activities at the proposed well sites and generation plants would be substantially different from existing activities at Truckhaven (i.e., ORV recreation). However, at any distance greater than roughly 0.5 miles, power plant operation would generate noise levels indistinguishable from existing ambient noise levels. The BLM typically sites the power plants using terrain to further shield for noise impacts to the greatest extent possible. Operational noise from the Esmeralda-San Felipe Geothermal Project would not cause any local ordinance to be violated or any substantial change in existing noise levels at noise-sensitive receptors. Operating the power plant (Impact N-3) and noise from activities to maintain the wells and generating equipment (Impact N-4) would not adversely affect any noise-sensitive receptors.

D.8.12.4 Jacumba Substation Project

~~In its testimony during the CPUC's Phase 1 hearings on the need and economics of the Proposed Project, SDG&E staff stated that a new 230/500 kV substation would be required to allow future wind generation projects to transmit generated power via the existing 500 kV Southwest Powerlink (SWPL) transmission line. The SWPL currently has limited available capacity, but if the Sunrise Powerlink Project is approved and constructed, some electricity currently carried by the SWPL will be transmitted via Sunrise, making more capacity available on the SWPL. There are a number of possible new wind generation projects near the Jacumba area (about 5 miles west of the San Diego/Imperial County line), some in San Diego County (Crestwood wind area) and some in Mexico (La Rumorosa wind area). Therefore, the impacts of this substation are evaluated as part of the Proposed Project.~~

~~This 230/500 kV substation would allow incoming transmission lines at 230 kV from wind farms in either the Crestwood or La Rumorosa areas. The power would be transformed to 500 kV in order to allow it to be transmitted via the SWPL to the Miguel Substation in San Diego. The substation is assumed to occupy about 20 acres, and while its location has not been defined by SDG&E, for the purposes of this EIR/EIS it is assumed to be located just east of the point where the Interstate 8 Alternative diverges from the SWPL. Figure B-47, in Section B, Project Description, illustrates the approximate location and size of the substation area. The impacts of this substation are also evaluated as a part of the wind~~

~~component of the Non Wires In Area Renewable Generation Alternative, as defined and analyzed in Section E.5. Approval of the SRPL would not result in automatic approval of the Jacumba Substation discussed below, and the project would require applications by SDG&E, and compliance with CEQA and NEPA.~~

~~Environmental Setting~~

~~The Jacumba Substation would be located in unincorporated San Diego County, where noise is regulated by San Diego County Code of Regulatory Ordinances (Section D.8.3.3).~~

~~**Ambient Noise Levels.** The Jacumba Substation would be located on private property in San Diego County. Low noise levels under 50 dBA generally occur on these lands that are mostly open space. Noise levels are occasionally elevated due to aircraft caused by the NAF El Centro Desert Range and the Jacumba Airport. Cars traveling along Interstate 8 and Old Highway 80 also cause elevated noise levels.~~

~~**Noise Sensitive Receptors.** No residences or otherwise sensitive receptors are located within 1,000 feet of the Jacumba Substation site, which is in a rural and natural setting.~~

~~Environmental Impacts and Mitigation Measures~~

~~Construction of the substation would cause noise from grading and access road construction along with other construction activities similar to those of transmission line construction. Noise from access road traffic would also occur, although not within 1,000 feet of a residence. Because no nearby noise sensitive receptors would be affected, construction noise (Impact N-1, Class III) would not cause any impact. Similarly, a groundborne vibration impact (Impact N-2) would not occur.~~

~~Operational noise would not cause any local ordinance to be violated or any notable change in existing noise levels. Noise from operating the new substation (Impact N-3, Class III) and noise from maintenance activities (Impact N-4, Class III) would not adversely affect any noise sensitive receptors. As the Jacumba Substation would be located next to the existing SWPL transmission line, there would not be a significant increase in corona noise about the existing level (Impact N-3).~~

~~D.8.12.5 SCE La Rumorosa Wind Project~~

~~Environmental Setting~~

~~**United States.** The noise setting for the 1.7 miles of transmission line is presented below. A new 230 kV transmission line would be required to connect the “Rumorosa Wind Developers II” (RWD) to the existing 500 kV SWPL via the Jacumba Substation (about 10 miles north of the existing Tijuana/Mexicali 230 kV transmission line).~~

- ~~• **Ambient Noise Levels.** The 1.7 miles of new 230 kV transmission line would also be located on primarily private property in the San Diego County. Low noise levels under 50 dBA generally occur on these lands that are mostly open space. Noise levels are occasionally elevated due to aircraft caused by the NAF El Centro Desert Range and the Jacumba Airport. Cars traveling along Interstate 8 and Old Highway 80 also cause elevated noise levels.~~
- ~~• **Noise Sensitive Receptors.** No residences or otherwise noise sensitive receptors are located within 1,000 feet of the new ROW site, which is in a rural and natural setting. However, the outskirts of the town of Jacumba is located a little over 1,000 feet from the new ROW.~~

~~**Mexico.** The noise setting for the new wind farm and new transmission line is presented below. A new 230 kV transmission line would be required to connect the RWD to the existing 500 kV SWPL via the Jacumba Substation (about 1.5 miles north of the U.S./Mexico border). This new 230 kV transmission line would follow the existing Tijuana/Mexicali ROW for 20 miles before turning north, northeast until reaching the U.S./Mexico border.~~

- ~~● **Ambient Noise Levels.** Generally low noise levels are expected to occur in the RWD area as the La Rumorosa region is rural. Rural areas or unpopulated lands are the quietest. Unpopulated natural areas are expected to be as low as 35 to 50 dBA, and ambient levels tend to be below 50 dBA in open areas. Near Highway Mexico 2 and the town of La Rumorosa noise levels are expected to be higher, between 60 and 70 dBA. Audible corona noise occurs along the existing Tijuana/Mexicali 230 kV transmission line.~~
- ~~● **Noise Sensitive Receptors.** Noise sensitive receptors within the RWD area include the town of La Rumorosa, limited rural residences, and open space/recreational users within the La Rumorosa region. Along the transmission line route, there are noise sensitive receptors near the town of Luis Echeverria Alvarez, where the transmission route turns north, northeast until reaching the U.S./Mexico border. The nearest noise sensitive receptors would be the recreational open space around La Rumorosa. The setting is otherwise rural and natural without noise sensitive uses.~~

Environmental Impacts and Mitigation Measures

Construction Impacts

~~**Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class III for the United States; Class I for Mexico)**~~

~~**United States.** Construction of the RWD transmission line would substantially increase ambient noise levels through use of heavy machinery. However, this construction noise impact would be temporary, and there are no residences within 1,000 feet of the transmission line route. Therefore, this impact would be less than significant (Class III), and no mitigation is required.~~

~~**Mexico.** Article 16 of the Mexican national rules for the prevention and control of environmental contamination originating by the emission of noise (*Reglamento para la prevención y el control de la contaminación ambiental originada por la emisión de ruido*, or RPCCAR) states that any public or private construction cannot violate the maximum level of noise emission established by the rules. If construction will be beyond the permitted noise level, the responsible party must submit the following information to the Secretary of Health and Assistance (*Secretaría de Salubridad y Asistencia*) fifteen days before the start date: Location and duration of the project; Number and types of noise emitting sources; Location of the noise sources during the duration of the project; and Hours of operation of the noise sources (RPCCAR, 1976).~~

~~Article 29 states that maximum allowable noise levels for vehicles are 79 dBA for vehicles weighing up to 3,000 kg, 81 dBA for vehicles weighing up to 10,000 kg, and 84 dBA for vehicles weighing more than 10,000 kg (RPCCAR, 1976).~~

~~Mexican law also regulates maximum permissible worker exposure to noise and vibration (*Relativo a las condiciones de seguridad e higiene en los centros de trabajo donde se genere ruido*) based on the international norm from the International Standards Organization (ISO 1999-1975) (Union, 2003).~~

~~Construction of the RWD project would substantially increase ambient noise levels in the vicinity of the wind farm, transmission line, and construction access routes. This construction noise impact would be temporary. Construction noise would adversely affect nearby residences to the transmission line and recreational users of the open space areas around the town of La Rumorosa. Mitigation would need to be implemented including notification to residences and sensitive receptors, such as Mitigation Measures L-1a (Prepare construction notification plan) and N-1a (Implement Best Management Practices for construction noise). The measures would reduce the impact to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable for nearby sensitive receptors (Class I).~~

~~*Mitigation Measures for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances*~~

~~L-1a — Prepare Construction Notification Plan.~~

~~N-1a — Implement best management practices for construction noise.~~

~~*Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)*~~

~~**United States and Mexico.** Vibration levels from construction equipment and activities might be perceptible to receptors in the immediate vicinity of the construction sites due to the rocky terrain. Rock drilling and blasting would cause perceptible vibration in the immediate vicinity of construction sites. Perceptible vibration could be experienced by residents or workers inside structures within 50 feet of trucks traveling over uneven surfaces. The likelihood of a nuisance or annoyance occurring and the impact of potential physical damage to existing structures would be significant. With advance notification (Mitigation Measure L-1a) and a blasting plan that restores structures damaged by blasting, as in Mitigation Measure N-2a, the impacts from construction related groundborne vibration would be adverse but not excessive, and this impact would be reduced to a less than significant level (Class II).~~

~~*Mitigation Measures for Impact N-2: Construction activity would temporarily cause groundborne vibration*~~

~~L-1a — Prepare Construction Notification Plan.~~

~~N-2a — Avoid blasting where damage to structures could occur.~~

Operational Impacts

~~*Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)*~~

~~**United States.** The proposed 230 kV transmission line would cause a permanent noise increase due to the corona effect. Audible power line noise would be generated from corona discharge, which is usually experienced as a random crackling or hissing sound. Corona noise from high voltage lines is at its greatest during wet weather or near inconsistencies or cuts in the metal surface of the line itself. The precise location of highest possible corona noise cannot be known until after commencing operation. This is because conductor surface defects, damage, and inconsistencies influence corona noise.~~

~~Noise sensitive receptors are located further than 500 feet to the ROW edge. For these locations, the increase caused by corona noise would be less than 5 dBA and compliant with the local standards. As such, the impact is considered adverse but less than significant (Class III).~~

~~**Mexico.** The transmission line would begin at the U.S./Mexico border just northwest of the town of Jácueme. For the majority of the 7 miles of transmission line located in new ROW, noise sensitive receptors are located further than 500 feet to the ROW edge. For these locations, the increase caused by corona noise would be less than 5 dBA.~~

~~Residential land uses are located in close proximity of the new 230 kV transmission line on the existing Tijuana/Mexicali ROW; however, this area is directly adjacent to the existing 230 kV transmission line. Given the ambient noise levels associated with the existing Tijuana/Mexicali transmission line corona noise, the contribution of the substation corona noise is anticipated to be adverse but less than significant (Class III).~~

~~**Mexico, Wind Turbine Noise.** Noise would be created by the new wind turbine generators due to the rotation of the blades and operation of the generator. As sound spreads out from a noise source, the underlying physics of sound propagation determines that the sound will reduce by 6 dB for each doubling of distance away from the source. In arrangements of new wind turbines where a string of multiple turbines may be parallel with the lot line, a steady sound pressure level of 65 dBA is met at a distance of 170 feet from the property line (Contra Costa County, 2007).~~

~~In Mexico, noise regulations for fixed sources are 68 dBA from six in the morning to ten at night, and 65 dBA from ten at night until six in the morning (RPCCAR, 1976). As there are no noise sensitive receptors within 170 feet from the RWD wind farm facilities, the sound pressure from the wind farm operations would be less than 65 dBA. Therefore, the wind turbine operation noise would be a less than significant impact (Class III). Noise from maintenance activities is discussed under Impact N 4.~~

~~***Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class III for the United States; Class I for Mexico)***~~

~~**United States.** Inspection and maintenance including insulator washing and access road repair would involve occasional helicopter, truck, or earthmoving equipment activity along the transmission line ROW. This infrequent activity would not violate any local noise standards or cause a substantial increase in noise. This impact would be less than significant (Class III).~~

~~**Mexico.** Maintenance activities associated with the RWD project towers/turbines and associated facilities would include primarily ground level inspections and occasional helicopter use for repairs. Ground level inspections would involve vehicle travel to the turbine sites. As presented in the description for the RWD project, it is anticipated that maintenance access to the nacelle will be in the form of ladders inside the towers. Helicopters might be used for repairs involving heavy equipment. These maintenance activities would cause occasional noise. During this activity, light duty helicopters would generate noise levels of under 80 dBA at 200 feet, and crew trucks would cause levels of approximately 75 dBA at 50 feet. Access road repair may also involve occasionally increased noise from sources like a water truck or earthmoving equipment. These maintenance activities would periodically cause a substantial increase in existing noise levels at noise sensitive residences and recreational uses along the transmission line route, resulting in a noise impact that would be significant and unavoidable (Class I).~~

D.8.13 Overall Noise Impacts of Proposed Project

Construction Impacts

Overall noise and vibration impacts of the Proposed Project, Future Transmission System Expansion, and Connected Actions and Indirect Effects are localized, and the specific local impacts are described above.

Construction noise would temporarily substantially increase ambient noise levels in the vicinity of the proposed transmission line, along the project route, and along all transport access routes. Locations of construction noise would include the project route and access routes, structure sites, pull sites, staging and maintenance areas, fly yards, and substation sites. The off-site noise would include commuting workers and trucks and helicopters moving material to and from the work sites. Concurrent construction activity would be necessary with multiple crews at separate locations. Significant noise impacts would occur at many locations, and Mitigation Measure N-1a, in combination with the notification required by Mitigation Measure L-1a, would reduce the impacts to the extent feasible, but the substantial noise increase from construction would continue to be significant and unavoidable (Class I).

Groundborne vibration would occur from equipment, rock drilling, and blasting that would be perceptible in the immediate vicinity of some construction sites. The likelihood of a nuisance or annoyance occurring and the impact of potential physical damage to existing structures would be significant. With a blasting plan that restores structures damaged by blasting, as in Mitigation Measure N-2a, the impacts from construction-related groundborne vibration would be adverse but not excessive, and this impact would be reduced to a less than significant level (Class II).

Modifications to the existing substations and the proposed Central East Substation would result in construction and operational noise. Construction at substations would substantially increase ambient noise levels for sensitive receptors that are near the substations or access roads leading to substations (Impact N-1, Class I). Groundborne vibration impacts (Impact N-2) would not occur at any of the substations.

Operation Impacts

Operational, audible noise from the corona effect of the proposed 500 kV transmission line would cause a permanent noise increase. In the natural areas where existing noise levels could be as low as 35 dBA, project-related levels of audible corona noise would cause a substantial permanent increase of more than 5 dBA, which would be a significant impact. This would adversely affect passive enjoyment of natural areas and wildlife including listed or sensitive species (addressed in Section D.2.10). There are few options for mitigating this noise source. Mitigation Measure N-3a would help to minimize the nuisance to the extent feasible, but the substantial noise increase would remain and create an infrequent but significant and unavoidable impact within ABDSP and for other noise-sensitive receptors within 500 feet of the proposed 500 kV line (Class I).

Noise from routine inspection and maintenance, including insulator washing, access road repair, and emergency response, would involve occasional helicopter, truck, or earthmoving equipment activity along the ROW. Inspection and maintenance noise would be intermittent over the life of the line, occurring at least once a year and more often where insulator washing and vegetation management would be needed. Because maintenance activities would involve noise at levels identical to transmission line construction, helicopters and other equipment within 200 feet of sensitive receptors would periodically cause a substantial increase that would be significant. Because the need for emergency response cannot be predicted, advance notification or restricting the noise from work to daytime hours would not be practical, resulting in a significant and unavoidable impact (Class I).

Noise from operating the new substation equipment at existing substations and at the Central East Substation (Impact N-3) would not change notably from existing conditions or adversely affect any noise-sensitive receptors (Class III). Noise from maintenance activities at existing substations (Impact N-4) would not change notably from existing conditions or adversely affect any noise-sensitive receptors, and therefore these impacts would be less than significant (Class III), but noise from inspection and maintenance, including occasional emergency repairs, at the new Central East Substation would introduce a substantial increase in noise that would be a significant and unavoidable impact (Class I).

Environmental Impacts and Mitigation Measures for Alternatives Along Proposed Project Route

Table D.8-14 summarizes the impacts that have been identified for the alternatives along the Proposed Project route.

Impact No.	Description	Impact Significance
FTHL Eastern Alternative; SDG&E West Main Canal-Huff Road Modification Alternative		
N-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
N-2	Construction activity would temporarily cause groundborne vibration.	No Impact
N-3	Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components.	Class I
N-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class I
SDG&E West of Dunaway Alternative – <i>No Impact</i>		
Partial Underground 230 kV ABDSP SR78 to S2 Alternative		
N-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
N-2	Construction activity would temporarily cause groundborne vibration.	Class II
N-3	Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components.	Class III
N-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class I
Overhead 500 kV ABDSP within Existing ROW Alternative		
N-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
N-2	Construction activity would temporarily cause groundborne vibration.	Class II
N-3	Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components.	Class I
N-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class I
Santa Ysabel Existing ROW Alternative; Santa Ysabel Partial Underground Alternative; Santa Ysabel SR79 All Underground Alternative; SDG&E Mesa Grande Alternative		
N-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
N-2	Construction activity would temporarily cause groundborne vibration.	Class II
N-3	Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components.	Class III
N-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class I

Table D.8-14. Impacts Identified – Alternatives – Noise

Impact No.	Description	Impact Significance
CNF Existing 69 kV Route Alternative – <i>No Impact</i>		
Oak Hollow Road Underground Alternative; San Vicente Road Transition Alternative; Chuck Wagon Road Transition Alternative		
N-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
N-2	Construction activity would temporarily cause groundborne vibration.	Class II
N-3	Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components.	Class III
N-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class I
Pomerado Road to Miramar Area North; Los Peñasquitos Canyon Preserve and Mercy Road Alternative; Black Mountain to Park Village Road Underground Alternative		
N-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
N-2	Construction activity would temporarily cause groundborne vibration.	Class II
N-3	Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components.	Class III
N-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class I
Coastal Link System Upgrade Alternative		
N-1	Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances.	Class I
N-2	Construction activity would temporarily cause groundborne vibration.	Class III
N-3	Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components.	Class III
N-4	Routine inspection and maintenance activities would increase ambient noise levels.	Class III
Top of the World Substation Alternative – <i>No Impact</i>		

D.8.14 Imperial Valley Link Alternatives Impacts and Mitigation Measures

There are three alternatives analyzed in the Imperial Valley Link, the FTHL Eastern Alternative, the SDG&E West of Dunaway Alternative, and the SDG&E West Main Canal–Huff Road Modification Alternative.

The environmental setting for ambient noise levels in the Imperial Valley Link, including alternatives, is as described in Section D.8.2.1.

D.8.14.1 FTHL Eastern Alternative

This alternative was developed by the EIR/EIS team as a way to avoid almost 2 miles within the Flat-Tailed Horned Lizard (FTHL) Management Area. Instead the 500 kV overhead route would follow section lines within agricultural lands and would be approximately 1.5 miles shorter than the proposed route.

Environmental Setting

Noise-Sensitive Receptors. Table D.4-15, Land Use, shows that between MP 2 and 4.6, a total of 3 rural residences are located along Jeffrey Road within 1,000 feet of this alternative ROW.

Environmental Impacts and Mitigation Measures

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

The FTHL Eastern Alternative would cause construction noise impacts identical to those of the proposed 500 kV transmission line but in the vicinity of three otherwise unaffected residences. Construction of the alternative 500 kV line would result in a significant impact by causing substantial noise increases at rural residences. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I). The full text of all mitigation measures is presented in Appendix 12.

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (No Impact)

A groundborne vibration impact would not occur at any sensitive location because of sufficient distance (No Impact).

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class I)

Within 500 feet of the alternative 500 kV ROW, corona noise would cause an ambient noise increase of 5 dBA or more where natural existing noise levels could be as low as 35 dBA, resulting in a significant impact. Mitigation Measure N-3a would help to minimize the nuisance experienced at residences at the edge of the ROW to the extent feasible, but the noise increase would remain and create an infrequent but significant and unavoidable impact (Class I).

Mitigation Measure for Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components

N-3a Respond to complaints of corona noise.

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Noise from occasional inspection and maintenance activities, including emergency response, would be identical to construction noise and would periodically cause a substantial increase in noise over conditions occurring without the alternative resulting in a significant and unavoidable impact (Class I).

D.8.14.2 SDG&E West of Dunaway Alternative

This 6.1-mile alternative was suggested by SDG&E and approved by the proposed land use developer in the area. It would be an overhead 500 kV line, and would be 2.2 miles longer than the Proposed Project.

Environmental Setting

Noise-Sensitive Receptors. No residences or otherwise noise-sensitive receptors are located within 1,000 feet of this alternative ROW.

Environmental Impacts and Mitigation Measures

This alternative would cause construction noise impacts to those of the proposed 500 kV transmission line, except no nearby sensitive receptors would be affected. Construction noise (Impact N-1) would not cause any impact. Similarly, a groundborne vibration impact (Impact N-2) would not occur at any sensitive location because of sufficient distance.

Operational noise would not cause any local ordinance to be violated or any substantial change in existing ambient noise levels at noise-sensitive receptors. Corona noise from operating the upgraded transmission line (Impact N-3) and noise from inspection and maintenance activities (Impact N-4) would not adversely affect any noise-sensitive receptors.

D.8.14.3 SDG&E West Main Canal–Huff Road Modification Alternative

This 4.9-mile alternative would follow the IID Westside Main Canal to the east-northeast, and then turn north on Huff Road. Existing IID 92 kV transmission lines are located on the west side of Huff Road along most of this segment; however, where the IID line would turn northwest, this alternative would continue straight along Huff Road to reconnect with the Proposed Project 0.2 miles south of Wheeler Road (MP 15.9). The lengths of the alternative and the proposed routes would be essentially the same; however, this route would avoid direct effects to the Bullfrog Farms and also to the Raceway development.

Environmental Setting

Noise-Sensitive Receptors. Table D.4-18, Land Use, shows that between MP 2 and 3, one rural residence is located west of Huff Road within 1,000 feet of this alternative ROW.

Environmental Impacts and Mitigation Measures

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

The SDG&E West Main Canal–Huff Road Modification Alternative would cause construction noise impacts identical to those of the proposed 500 kV transmission line but in the vicinity of one otherwise unaffected residence. Construction of the alternative 500 kV line would result in a significant impact by causing substantial noise increases for this residence. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I).

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (No Impact)

A groundborne vibration impact would not occur at any sensitive location because of sufficient distance (No Impact).

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class I)

Within 500 feet of the alternative 500 kV ROW, corona noise would cause an ambient noise increase of 5 dBA or more where natural existing noise levels could be as low as 35 dBA, resulting in a significant impact. Mitigation Measure N-3a would help to minimize the nuisance experienced at the edge of the ROW to the extent feasible, but the noise increase would remain and create an infrequent but significant and unavoidable impact (Class I). The full text of all mitigation measures is presented in Appendix 12.

Mitigation Measure for Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components

N-3a Respond to complaints of corona noise.

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Noise from occasional inspection and maintenance activities would be identical to construction noise and would periodically cause a substantial increase in noise over conditions occurring without the alternative resulting in a significant and unavoidable impact (Class I).

D.8.15 Anza-Borrego Link Alternatives Impacts and Mitigation Measures

Two alternatives are considered in the Anza-Borrego Link: the Partial Underground 230 kV ABDSP SR78 to S2 Alternative (also considered with an All Underground Option) and the Overhead 500 kV ABDSP within Existing ROW Alternative.

The environmental setting for ambient noise levels in the Anza-Borrego Link, including alternatives, is as described in Section D.8.2.2.

D.8.15.1 Partial Underground 230 kV ABDSP SR78 to S2 Alternative

This alternative was developed by the EIR/EIS team and would include installation of a double-circuit bundled 230 kV line (as opposed to an overhead 500 kV with the Proposed Project) that would be installed underground in SR78 through ABDSP. The proposed Central East Substation would not be constructed with this alternative and approximately 2 miles of transmission line (one mile of 500 kV and one mile of 230 kV) to and from that substation would be eliminated. Instead a new 500 kV/230 kV substation would be constructed adjacent to the existing IID San Felipe Substation to accommodate the new transmission line.

There is also an All Underground Option considered for this alternative, in which the entire length of the 230 kV transmission line between the San Felipe Substation and the connection to the Proposed Project would be installed underground in Highways SR78 and S2.

Environmental Setting

Noise-Sensitive Receptors. Table D.4-20, Land Use, shows that approximately 115 noise-sensitive rural residential properties are located within 1,000 feet of this alternative ROW: approximately 100 residences are near the alternative ROW east of ABDSP between MP 0 and 8; one residence occurs within ABDSP (Park Ranger Residence) between MP 18 and 19; and 13 residences occur along S2 near Ranchita and Warner Springs.

Environmental Impacts and Mitigation Measures

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels in the vicinity of the alternative overhead line, along the alternative route, at locations of excavation, and along all transport access routes. Construction and excavation along Old Kane Springs Road, SR78, and S2 would occur within 1,000 feet of approximately 115 rural residences. The construction noise impacts would be identical to those of the proposed 230 kV transmission line, except a longer duration of impact would occur to place the line underground. Blasting would create intense peak noise levels, but it would be subject to a blasting plan, described in Section D.8.4.3. Construction noise would result in a significant impact by causing substantial noise increases at nearby residences. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I).

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

A significant groundborne vibration impact would occur in the immediate vicinity of construction sites, but with notification (Mitigation Measure L-1a) and a blasting plan that restores structures (Mitigation Measure N-2a), this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

L-1a Prepare Construction Notification Plan.

N-2a Avoid blasting where damage to structures could occur.

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

Operational noise would not cause any local ordinance to be violated or any notable change in existing noise levels because the overhead 230 kV line would cause less than 40 dBA in corona noise, and no audible noise would be created by underground segments (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Noise from occasional inspection and maintenance activities would be identical to construction noise and would periodically cause a substantial increase in noise over conditions occurring without the alternative resulting in a significant and unavoidable impact (Class I).

San Felipe Substation

The San Felipe Substation would involve grading and access road construction and access road traffic within 1,000 feet of residences in the Ocotillo Wells area and along Old Kane Springs Road. The nearest noise-sensitive receptors to the San Felipe Substation site would be roughly 30 residences, the nearest approximately 0.6 miles west of the San Felipe Substation.

Construction and operational noise impacts of the proposed Central East Substation would not occur with the San Felipe Substation in this alternative.

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise impacts would be identical to those of the proposed Central East Substation, with the projected maximum intermittent noise levels would range from 80 to 90 dBA at 50 feet from a work site. Access road traffic would occur and access road traffic would be within 200 feet residences, and the construction noise would be significant without additional measures. Implementation of Mitigation Measure L-1a and Mitigation Measure N-1a would be required to reduce this impact to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I).

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (No Impact)

A groundborne vibration impact would not occur at any sensitive location because of sufficient distance (No Impact).

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

The San Felipe Substation would introduce permanent noise sources such as transformers, reactors, circuit breakers, and other equipment to an existing rural and natural setting. Noise from the substation would need to comply with San Diego County standards. Because the nearest residential property would be over 1,000 feet from the substation equipment, the permanent increase in ambient noise from operation of the substation would not exceed 5 dBA at the nearest residence. Thus, the substation would not cause a significant impact (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Routine inspection and maintenance, including occasional emergency repairs, of the San Felipe Substation would occasionally cause minor noise at the substation and along the access roads to the substation. Because maintenance activities would occasionally involve noise at levels identical to substation construction, maintenance would periodically cause a substantial increase in noise over conditions occurring without the Proposed Project. This would result in a significant and unavoidable impact (Class I).

All Underground Option

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels along the route of the All Underground Option, at locations of excavation, and along all transport access routes. Construction noise would result in a significant impact by causing substantial noise increases at the rural residences. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I). The full text of all mitigation measures is presented in Appendix 12.

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

A significant groundborne vibration impact would occur in the immediate vicinity of construction sites, but with notification (Mitigation Measure L-1a) and a blasting plan that restores structures (Mitigation Measure N-2a), this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

L-1a Prepare Construction Notification Plan.

N-2a Avoid blasting where damage to structures could occur.

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

Operational noise would not cause any local ordinance to be violated or any notable change in existing noise levels because no audible noise would be created by the underground lines (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Noise from inspection and maintenance activities, including emergency response, would be identical to construction noise and would periodically cause a substantial increase in noise over conditions occurring without the alternative resulting in a significant and unavoidable impact (Class I).

D.8.15.2 Overhead 500 kV ABDSP within Existing ROW Alternative

The alternative would differ from the proposed route in the Grapevine Canyon area (in the Angelina Springs Cultural District), in the vicinity of Tamarisk Grove Campground, and in a few areas east of Tamarisk Grove Campground along SR78. The alternative would remain within the existing SDG&E 69 kV ROW/easement. This alternative would eliminate towers within State-designated Wilderness. Undergrounding of the existing 69 kV and 92 kV lines would not occur with this alternative; those lines would be underbuilt on Delta lattice towers.

The *East of Tamarisk Grove Campground 150-Foot Option* was suggested by SDG&E in which the alternative would follow the Proposed Project route in the 150-foot proposed alignment, and not the existing ROW, between the eastern Park boundary (MP 60.9) to Tamarisk Grove Campground (MP 74.8) near the SR78/Highway S3 intersection. Similar to the Proposed Project described in Section B.2.2, SDG&E would underbuild and underground the existing 92 kV and 69 kV lines.

Environmental Setting

Noise-Sensitive Receptors. Table D.8-2 shows the noise-sensitive locations for this alternative because this alternative would occur within the existing SDG&E 69 kV ROW.

Environmental Impacts and Mitigation Measures

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

This alternative would result in construction noise impacts identical to those of the proposed 500 kV transmission line, but these impacts would occur over a longer duration. Nearby sensitive receptors are shown in Table D.8-6. Construction noise would result in a significant impact by causing substantial noise increases for campgrounds, recreational users of ABDSP, and residences of Grapevine Canyon. Blasting would create intense peak noise levels, but it would be subject to a blasting plan, described in Section D.8.4.3. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I).

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

- L-1a** Prepare Construction Notification Plan.
- N-1a** Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

A significant groundborne vibration impact would occur in the immediate vicinity of construction sites, but with notification (Mitigation Measure L-1a) and a blasting plan that restores structures (Mitigation Measure N-2a), this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

- L-1a** Prepare Construction Notification Plan.
- N-2a** Avoid blasting where damage to structures could occur.

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class I)

This alternative 500 kV transmission line would cause a permanent noise increase due to the corona effect. In the natural areas of ABDSP where existing noise levels could be as low as 35 dBA, project-related levels of audible corona noise would cause a substantial permanent increase of more than 5 dBA, resulting in a significant impact. Mitigation Measure N-3a would help to minimize the nuisance experienced by recreational users of ABDSP to the extent feasible, but the substantial noise increase would remain and create an infrequent but significant and unavoidable impact within the park (Class I).

Mitigation Measure for Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components

N-3a Respond to complaints of corona noise.

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Noise from occasional inspection and maintenance activities would be identical to construction noise and would periodically cause a substantial increase in noise over conditions occurring without the alternative resulting in a significant and unavoidable impact (Class I).

D.8.16 Central Link Alternatives Impacts and Mitigation Measures

Four Central Link Alternatives are considered in this section: the Santa Ysabel Existing ROW Alternative, the Santa Ysabel Partial Underground Alternative, the Santa Ysabel SR79 All Underground Alternative, and the Mesa Grande Alternative.

The environmental setting for ambient noise levels in the Central Link, including alternatives, is as described in Section D.8.2.3.

D.8.16.1 Santa Ysabel Existing ROW Alternative

This alternative would follow an existing 69 kV transmission line ROW on the west side of SR79 in the northern half and east of SR79, along the toe of the hill slope in the southern portion of the alternative. This route would pass east of the existing Santa Ysabel Substation and continue to follow the existing 69 kV line south of SR78 until it rejoins the proposed corridor.

Environmental Setting

Noise-Sensitive Receptors. Table D.4-24, Land Use, shows that approximately 40 noise-sensitive rural residential properties are located within 1,000 feet of this alternative ROW along SR79. The Mesa Grande and Santa Ysabel Reservations are also adjacent to the ROW. Tribal areas are considered noise-sensitive because they may have residential uses and may be used for passive enjoyment of the land.

Environmental Impacts and Mitigation Measures

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction of the Santa Ysabel Existing ROW Alternative would temporarily substantially increase ambient noise levels in the vicinity of the alternative overhead line, along the alternative route, and along all transport access routes, and the construction noise impacts would be identical to those of the proposed 230 kV transmission line. Construction would result in a significant impact by causing substantial noise increases at nearby residences and tribal lands. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I). The full text of all mitigation measures is presented in Appendix 12.

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

A significant groundborne vibration impact would occur in the immediate vicinity of construction sites, but with notification (Mitigation Measure L-1a) and a blasting plan that restores structures (Mitigation Measure N-2a), this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

L-1a Prepare Construction Notification Plan.

N-2a Avoid blasting where damage to structures could occur.

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

Operational noise would not cause any local ordinance to be violated or any notable change in existing ambient noise levels because the overhead 230 kV line would cause less than 40 dBA in corona noise (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Noise from occasional inspection and maintenance activities would be identical to construction noise and would periodically cause a substantial increase in noise over conditions occurring without the alternative resulting in a significant and unavoidable impact (Class I).

D.8.16.2 Santa Ysabel Partial Underground Alternative

This 230 kV alternative would begin at MP 105.5 where the proposed route would join Mesa Grande Road at the base of the hills at the western side of the Santa Ysabel Valley. The alternative would transition underground at the southern side of Mesa Grande Road and would travel underground in Mesa Grande Road, SR79 and then, south of SR78, following property lines for approximately one mile to rejoin the proposed route at approximately MP 109.5 where it would transition overhead. The route would be 0.7 miles longer than the proposed route.

Environmental Setting

Noise-Sensitive Receptors. Table D.4-26, Land Use, shows that approximately 20 noise-sensitive rural residences are located within 1,000 feet of this alternative ROW along the route of this alternative through Santa Ysabel.

Environmental Impacts and Mitigation Measures

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels along the alternative route, at locations of excavation, and along all transport access routes. Excavation along Mesa Grande Road, SR79, SR78, and existing SDG&E access roads would occur within 1,000 feet of approximately 20 rural residences. The construction noise impacts would be identical to those of the proposed 230 kV transmission line, except a longer duration of impact would occur to place the line underground. Construction noise would result in a significant impact by causing substantial noise increases at nearby residences. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I).

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

A significant groundborne vibration impact would occur in the immediate vicinity of construction sites, but with notification (Mitigation Measure L-1a) and a blasting plan that restores structures (Mitigation Measure N-2a), this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

L-1a Prepare Construction Notification Plan.

N-2a Avoid blasting where damage to structures could occur.

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

Operational noise would not cause any local ordinance to be violated or any notable change in existing ambient noise levels because no audible noise would be created by underground segments (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Noise from occasional inspection and maintenance activities would be identical to construction noise and would periodically cause a substantial increase in noise over conditions occurring without the alternative resulting in a significant and unavoidable impact (Class I).

D.8.16.3 Santa Ysabel SR79 All Underground Alternative

This alternative would diverge from the Proposed Project at MP 100, just south of the crossing of SR78. It would start as an overhead 230 kV line, which would then transition to an underground route on private property, west of SR79. It would be underground along existing dirt roads and within hay fields and SR79 through the Santa Ysabel Valley, rejoining the proposed route south of SR78.

Environmental Setting

Noise-Sensitive Receptors. Table D.4-28, Land Use, shows that approximately 28 noise-sensitive rural residences are located within 1,000 feet of this alternative ROW along the route of this alternative through Santa Ysabel.

Environmental Impacts and Mitigation Measures

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels along the alternative route, at locations of excavation, and along all transport access routes. Areas along the existing 69 kV line would also experience construction noise as the line would optionally be removed. Excavation along private ranching roads, SR79, and existing property lines would occur within 1,000 feet of approximately 28 rural residences. The construction noise impacts would be identical to those of the proposed 230 kV transmission line, except a longer duration of impact would occur to place the line underground. Construction noise would result in a significant impact by causing substantial noise increases at nearby residences. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I). The full text of all mitigation measures is presented in Appendix 12.

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

- L-1a Prepare Construction Notification Plan.**
- N-1a Implement Best Management Practices for construction noise.**

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

A significant groundborne vibration impact would occur in the immediate vicinity of construction sites, but with notification (Mitigation Measure L-1a) and a blasting plan that restores structures (Mitigation Measure N-2a), this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

- L-1a Prepare Construction Notification Plan.**
- N-2a Avoid blasting where damage to structures could occur.**

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

Operational noise would not cause any local ordinance to be violated or any notable change in existing ambient noise levels because no audible noise would be created by underground segments (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Noise from occasional inspection and maintenance activities would be identical to construction noise and would periodically cause a substantial increase in noise over conditions occurring without the alternative resulting in a significant and unavoidable impact (Class I).

D.8.16.4 SDG&E Mesa Grande Alternative

This alternative to a one-mile portion of the proposed overhead 230 kV route was proposed by the landowner and also by SDG&E in order to reduce the visibility of the overhead line west of Mesa Grande Road. It would diverge from the proposed route at MP 102.2, and rejoin it before MP 104.

Environmental Setting

Noise-Sensitive Receptors. Table D.4-30, Land Use, shows that three noise-sensitive rural residential properties are located within 1,000 feet of this alternative ROW, and the Santa Ysabel Reservation is within 1,000 feet of the ROW. Tribal areas are considered noise-sensitive because they may have residential uses and may be used for passive enjoyment of the land.

Environmental Impacts and Mitigation Measures

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction of the SDG&E Mesa Grande Alternative would temporarily substantially increase ambient noise levels in the vicinity of the alternative overhead line, along the alternative route, and along all transport access routes, and it would result in construction noise impacts identical to those of the proposed 230 kV transmission line. Construction would result in a significant impact by causing substantial noise increases at nearby residences and tribal lands. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I).

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

- L-1a Prepare Construction Notification Plan.**
- N-1a Implement Best Management Practices for construction noise.**

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

A significant groundborne vibration impact would occur in the immediate vicinity of construction sites, but with notification (Mitigation Measure L-1a) and a blasting plan that restores structures (Mitigation Measure N-2a), this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

- L-1a Prepare Construction Notification Plan.**
- N-2a Avoid blasting where damage to structures could occur.**

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

Operational noise would not cause any local ordinance to be violated or any notable change in existing ambient noise levels because the overhead 230 kV line would cause less than 40 dBA in corona noise (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Noise from occasional inspection and maintenance activities would be identical to construction noise and would periodically cause a substantial increase in noise over conditions occurring without the alternative resulting in a significant and unavoidable impact (Class I).

D.8.17 Inland Valley Link Alternatives Impacts and Mitigation Measures

Four alternatives are considered within the Inland Valley Link: the CNF Existing 69 kV Route Alternative, the Oak Hollow Road Underground Alternative, the San Vicente Road Transition Station Alternative, and the Chuck Wagon Road Alternative.

The environmental setting for ambient noise levels in the Inland Valley Link, including alternatives, is as described in Section D.8.2.4.

D.8.17.1 CNF Existing 69 kV Route Alternative

This 0.5-mile alternative segment would start at MP 111.3 where the proposed 230 kV and existing 69 kV transmission lines would be routed west for 0.5 miles and then south for approximately 0.5 miles to avoid Cleveland National Forest (CNF). The alternative would remain in the existing 69 kV ROW heading southwest through Cleveland National Forest to rejoin the proposed route at MP 111.8. This alternative would be 0.5 miles shorter than the Proposed Project and the existing 69 kV transmission line would not need to be relocated out of the existing ROW.

Environmental Setting

Noise-Sensitive Receptors. No residences or otherwise noise-sensitive receptors are located within 1,000 feet of this alternative ROW.

Environmental Impacts and Mitigation Measures

This alternative would cause construction noise impacts similar to those of the proposed 230 kV transmission line, except no nearby sensitive receptors would be affected. Construction noise (Impact N-1) would not cause any impact. Similarly, a groundborne vibration impact (Impact N-2) would not occur.

Operational noise would not cause any local ordinance to be violated or any notable change in existing noise levels. Operating the upgraded transmission line (Impact N-3) and noise from maintenance activities (Impact N-4) would not adversely affect any noise-sensitive receptors.

D.8.17.2 Oak Hollow Road Underground Alternative

The purpose of this alternative would be to extend the proposed underground to the east of Mount Gower County Open Space Preserve so the line would be underground through the valley area. The alternative would require 0.6 miles of additional underground 230 kV transmission line, and the existing 69 kV would remain overhead.

Environmental Setting

Noise-Sensitive Receptors. Table D.4-33, Land Use, shows that 4 noise-sensitive rural residences are located within 1,000 feet of this alternative ROW along the entire length of this alternative.

Environmental Impacts and Mitigation Measures

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels along the alternative route, at locations of excavation, and along all transport access routes. Additional construction noise would occur for optionally removing the existing 69 kV line. Excavation on private property and along Oak Hollow Road would occur within 1,000 feet of the 4 residences. The construction noise impacts would be identical to those of the proposed 230 kV transmission line, except a longer duration of impact would occur to place the line underground. Construction noise would result in a significant impact by causing substantial noise increases at nearby residences. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I). The full text of all mitigation measures is presented in Appendix 12.

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

A significant groundborne vibration impact would occur in the immediate vicinity of construction sites, but with notification (Mitigation Measure L-1a) and a blasting plan that restores structures (Mitigation Measure N-2a), this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

L-1a Prepare Construction Notification Plan.

N-2a Avoid blasting where damage to structures could occur.

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

Operational noise would not cause any local ordinance to be violated or any notable change in existing ambient noise levels because no audible noise would be created by underground segments (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Noise from occasional inspection and maintenance activities would be identical to construction noise and would periodically cause a substantial increase in noise over conditions occurring without the alternative resulting in a significant and unavoidable impact (Class I).

D.8.17.3 San Vicente Road Transition Alternative

The alternative would move the transition structure from its proposed location along San Vicente Road (MP 121.9) approximately 0.3 miles west to MP 122.2. The underground line would follow San Vicente Road within a 60-foot ROW for an additional 2,100 feet and would cross under an existing Creelman-Los Coches 69 kV transmission line, before it would turn north and would travel through open space for approximately 200 feet to the overhead transition point.

Environmental Setting

Noise-Sensitive Receptors. Table D.4-35, Land Use, shows that 2 noise-sensitive rural residences are located within 1,000 feet of this alternative ROW.

Environmental Impacts and Mitigation Measures

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels along the alternative route and along all transport access routes. The construction noise impacts would be identical to those of the proposed 230 kV transmission line. Construction noise would result in a significant impact by causing substantial noise increases at nearby residences. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I).

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

A significant groundborne vibration impact would occur in the immediate vicinity of construction sites, but with notification (Mitigation Measure L-1a) and a blasting plan that restores structures (Mitigation Measure N-2a), this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

L-1a Prepare Construction Notification Plan.

N-2a Avoid blasting where damage to structures could occur.

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

Operational noise would not cause any local ordinance to be violated or any notable change in existing ambient noise levels because the overhead 230 kV line would cause less than 40 dBA in corona noise (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Noise from occasional inspection and maintenance activities would be identical to construction noise and would periodically cause a substantial increase in noise over conditions occurring without the alternative resulting in a significant and unavoidable impact (Class I).

D.8.17.4 Chuck Wagon Road Alternative

This alternative would diverge from the proposed route in San Vicente Boulevard, turning south in Chuck Wagon Road approximately 0.2 miles east of the proposed transition point at MP 121.7. It would continue south for approximately 1.6 miles before passing under the existing Creelman-Los Coches 69 kV transmission line ROW. At this point, the route would transition to overhead and turn west for approximately 1.2 miles to rejoin the proposed route at MP 125.6.

Environmental Setting

Noise-Sensitive Receptors. Table D.4-37, Land Use, shows that 25 noise-sensitive rural residences are located within 1,000 feet of this alternative ROW along the entire route of this alternative.

Environmental Impacts and Mitigation Measures

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels along the alternative route, at locations of excavation, and along all transport access routes. Excavation along Chuck Wagon Road would occur within 1,000 feet of 25 residences. The construction noise impacts would be identical to those of the proposed 230 kV transmission line. Construction noise would result in a significant impact by causing substantial noise increases at nearby residences. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I).

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

- L-1a Prepare Construction Notification Plan.**
- N-1a Implement Best Management Practices for construction noise.**

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

A significant groundborne vibration impact would occur in the immediate vicinity of construction sites, but with notification (Mitigation Measure L-1a) and a blasting plan that restores structures (Mitigation Measure N-2a), this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

- L-1a Prepare Construction Notification Plan.**
- N-2a Avoid blasting where damage to structures could occur.**

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

Operational noise would not cause any local ordinance to be violated or any notable change in existing ambient noise levels because no audible noise would be created by underground segments (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Noise from occasional inspection and maintenance activities would be identical to construction noise and would periodically cause a substantial increase in noise over conditions occurring without the alternative resulting in a significant and unavoidable impact (Class I).

D.8.18 Coastal Link Alternatives Impacts and Mitigation Measures

Four alternatives are considered within the Coastal Link: the Pomerado Road to Miramar Area North Alternative, the Los Peñasquitos Canyon Preserve and Mercy Road Alternative, the Black Mountain to Park Village Road Underground Alternative, and the Coastal Link System Upgrade Alternative.

The environmental setting for ambient noise levels in the Coastal Link, including alternatives, is as described in Section D.8.2.5.

D.8.18.1 Pomerado Road to Miramar Area North

This alternative would be underground with the exception of the east and west ends where the line is overhead within existing SDG&E transmission ROWs. This alternative would exit the Sycamore Substation at MCAS Miramar overhead westerly within an existing ROW toward Pomerado Road. The line would transition to underground beneath Pomerado Road in the vicinity of Legacy Road, then continuing underground in Miramar Road, Kearny Villa Road, Black Mountain Road, Activity Road, Camino Ruiz, Miralani Drive, Arjons Drive, Trade Place, Camino Santa Fe, Carroll Road/Carroll Canyon Road and Scranton Road. At the western end, the line would transition to overhead and would be located within the existing 230 kV ROW heading northward into the Peñasquitos Substation.

Environmental Setting

Noise-Sensitive Receptors. Table D.4-39, Land Use, shows that one school and approximately 1,800 noise-sensitive residences are located within 1,000 feet of this alternative ROW.

Environmental Impacts and Mitigation Measures

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels along the alternative overhead route, at locations of excavation, and along all transport access routes. Excavation along Pomerado Road, Kearny Villa Road, Camino Ruiz, and other streets would occur within 1,000 feet of residences and educational facilities. The construction noise impacts would be identical to those of the proposed 230 kV transmission line. Construction noise would result in a significant impact by causing substantial noise increases at nearby residences and educational facilities. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation

Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I). The full text of all mitigation measures is presented in Appendix 12.

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

A significant groundborne vibration impact would occur in the immediate vicinity of construction sites, but with notification (Mitigation Measure L-1a) and a blasting plan that restores structures (Mitigation Measure N-2a), this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

L-1a Prepare Construction Notification Plan.

N-2a Avoid blasting where damage to structures could occur.

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

Operational noise would not cause any local ordinance to be violated or any notable change in existing ambient noise levels because the overhead 230 kV line would cause less than 40 dBA in corona noise, and no audible noise would be created by underground segments (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Noise from occasional inspection and maintenance activities would be identical to construction noise and would periodically cause a substantial increase in noise over conditions occurring without the alternative resulting in a significant and unavoidable impact (Class I).

D.8.18.2 Los Peñasquitos Canyon Preserve–Mercy Road Alternative

This alternative route would bypass the Chicarita Substation and connect to existing ROW along Scripps Poway Parkway in the vicinity of Ivy Hill Drive. The line would then transition to underground and follow Scripps Poway Parkway/Mercy Road, Mercy Road, Black Mountain Road, and finally Park Village Drive, where the alternative route would rejoin the proposed route.

Environmental Setting

Noise-Sensitive Receptors. Table D.4-41, Land Use, shows that one school and approximately 1,200 noise-sensitive residences are located within 1,000 feet of this alternative ROW.

Environmental Impacts and Mitigation Measures

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels along the alternative overhead route, at locations of excavation, and along all transport access routes. Excavation along Scripps Poway Parkway/Mercy Road, Black Mountain Road, and other streets would occur within 1,000 feet of residences and educational facilities. The construction noise impacts would be identical to those of the proposed 230 kV transmission line. Construction noise would result in a significant impact by causing substantial noise increases at nearby residences and educational facilities. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I).

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

A significant groundborne vibration impact would occur in the immediate vicinity of construction sites, but with notification (Mitigation Measure L-1a) and a blasting plan that restores structures (Mitigation Measure N-2a), this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

L-1a Prepare Construction Notification Plan.

N-2a Avoid blasting where damage to structures could occur.

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

Operational noise would not cause any local ordinance to be violated or any notable change in existing ambient noise levels because the overhead 230 kV line would cause less than 40 dBA in corona noise, and no audible noise would be created by underground segments (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Noise from occasional inspection and maintenance activities would be identical to construction noise and would periodically cause a substantial increase in noise over conditions occurring without the alternative resulting in a significant and unavoidable impact (Class I).

D.8.18.3 Black Mountain to Park Village Road Underground Alternative

This alternative would deviate from the Proposed Project alignment where the route approaches Black Mountain Road. Under this alternative, the line would remain underground but would be located underneath Black Mountain Road and would turn west onto Park Village Drive, following the project alignment into the Peñasquitos Substation via the Los Peñasquitos Canyon Preserve.

Environmental Setting

Noise-Sensitive Receptors. Table D.4-41, Land Use, shows that one religious facility, a school, and approximately 940 noise-sensitive residences are located within 1,000 feet of this alternative ROW. The alternative ROW would also occur in the Los Peñasquitos Canyon Preserve, a noise-sensitive recreational use.

Environmental Impacts and Mitigation Measures

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction noise would temporarily substantially increase ambient noise levels at locations of excavation and along all transport access routes. Excavation along Black Mountain Road and Park Village Drive and in the Los Peñasquitos Canyon Preserve streets would occur within 1,000 feet of residences, a religious facility, and educational facilities. The construction noise impacts would be identical to those of the proposed 230 kV transmission line. Construction noise would result in a significant impact by causing substantial noise increases at nearby residences and educational facilities. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I).

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class II)

A significant groundborne vibration impact would occur in the immediate vicinity of construction sites, but with notification (Mitigation Measure L-1a) and a blasting plan that restores structures (Mitigation Measure N-2a), this impact would be reduced to a less than significant level (Class II).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

L-1a Prepare Construction Notification Plan.

N-2a Avoid blasting where damage to structures could occur.

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

Operational noise would not cause any local ordinance to be violated or any notable change in existing ambient noise levels because no audible noise would be created by underground segments (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class I)

Noise from occasional inspection and maintenance activities would be identical to construction noise and would periodically cause a substantial increase in noise over conditions occurring without the alternative resulting in a significant and unavoidable impact (Class I).

D.8.18.4 Coastal Link System Upgrade Alternative

The Coastal Link System Upgrade Alternative would be a system modification to install a third 230/69 kV transformer at the existing Sycamore Canyon Substation. Expansion of the Sycamore Canyon Substation would occur within the existing substation easement. Additionally, SDG&E would either (a) install a new 230/138 kV transformer at the existing Encina Substation or (b) upgrade (reconductor) the existing Sycamore Canyon-Chicarita 138 kV circuit using 34 existing wood frame structures.

Environmental Setting

Noise-Sensitive Receptors. The existing Sycamore Canyon Substation, Sycamore Canyon–Pomerado-Poway route, and Sycamore Canyon–Chicarita route are each within 1,000 feet of residences and other noise-sensitive uses common in the suburban areas of the Coastal Link (e.g., religious facilities, schools, community parks).

Environmental Impacts and Mitigation Measures

The Coastal Link System Upgrade Alternative would eliminate the impacts associated with the Proposed Project segment between Sycamore Canyon and Peñasquitos Substations.

Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances (Class I)

Construction of substation modifications and transmission line route upgrades would temporarily substantially increase ambient noise levels along the alternative overhead routes, at the substations, and along all transport access routes. Construction noise would occur within 1,000 feet of residences and other noise-sensitive suburban uses. The construction noise impacts would involve less equipment and a shorter duration of work than the proposed 230 kV transmission line, but helicopter noise would occur along the transmission routes. Construction noise would result in a significant impact by causing substantial noise increases for the nearby noise-sensitive uses. Establishing best management practices, Mitigation Measure N-1a, and providing the advance notification required by Mitigation Measure L-1a, would reduce the impact of construction noise to the extent feasible, but the substantial noise increase from construction would be significant and unavoidable (Class I).

Mitigation Measure for Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances

L-1a Prepare Construction Notification Plan.

N-1a Implement Best Management Practices for construction noise.

Impact N-2: Construction activity would temporarily cause groundborne vibration (Class III)

Excessive groundborne vibration would not occur with the Coastal Link System Upgrades because while perceptible vibration could be experienced by residents or workers inside structures within 50 feet of trucks traveling over uneven surfaces, the notification process suggested in NOI-APM-1 would reduce the likelihood of a nuisance or annoyance occurring. Physical damage to nearby structures would not occur with the work needed to reconductor lines or modify substations. This impact would be less than significant (Class III).

Mitigation Measure for Impact N-2: Construction activity would temporarily cause groundborne vibration

L-1a Prepare Construction Notification Plan.

N-2a Avoid blasting where damage to structures could occur.

Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components (Class III)

Operational noise would not cause any local ordinance to be violated or any notable change in existing noise levels because the reconducted overhead lines would cause less than 40 dBA in corona noise, and substation modifications would not substantially change substation noise levels (Class III).

Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels (Class III)

Noise from occasional inspection and maintenance activities would not change notably from existing conditions or adversely affect any noise-sensitive receptors, and therefore these impacts would be less than significant (Class III).

D.8.19 Top of the World Substation Alternative Impacts and Mitigation Measures

The substation site would be located approximately one mile west of the proposed Central East Substation on Vista Irrigation District land. The transmission line routes into the substation would follow the Proposed Project route to approximately MP 92.7, then the alternative 500 kV route would turn west for 1.1 miles to enter the alternative site. Exiting the substation the line would travel southwest for 400 feet and then west and north-northwest to rejoin the Proposed Project around MP 95.

Environmental Setting

Noise-Sensitive Receptors. No residences or otherwise noise-sensitive receptors are located within 1,000 feet of the Top of the World Substation Alternative site, which is in a rural and natural setting.

Environmental Impacts and Mitigation Measures

Construction of the alternative substation would cause noise from grading and access road construction along with other construction activities similar to those of proposed transmission line and substation construction but in a location less likely to affect residences. Noise from access road traffic would also occur, although not within 200 feet of a residence. Because no nearby sensitive receptors would be affected, construction noise (Impact N-1) would not cause any impact. Similarly, a groundborne vibration impact (Impact N-2) would not occur at any sensitive location because of sufficient distance.

Operational noise would not cause any local ordinance to be violated or any notable change in existing noise levels. Operating the upgraded transmission line (Impact N-3) and noise from maintenance activities (Impact N-4) would not adversely affect any noise-sensitive receptors.

D.8.20 Mitigation Monitoring, Compliance, and Reporting Table

Table D.8-15 presents the mitigation monitoring, compliance and reporting table for Noise. Mitigation measures not originating in the noise analyses do not appear in the table; they appear only in the mitigation monitoring, compliance and reporting table for the section in which they were originally recommended. For a summary of all Proposed Project impacts and their respective mitigation measures, please see the Impact Summary Tables at the end of the Executive Summary.

Sections D.8.11 and D.8.12 recommend mitigation measures for the projects described under Future Transmission System Expansion and Connected Actions/Indirect Effects. Those mitigation measures are presented for consideration by the agencies that will issue permits for construction of the connected and future projects. Because those projects would not be constructed as a result of approval of the Sunrise Powerlink Project, the recommended mitigation measures are not included in this mitigation monitoring table.

Table D.8-15. Mitigation Monitoring Program – Noise

MITIGATION MEASURE	<p>N-1a: Implement Best Management Practices for construction noise. SDG&E shall comply with local noise rules, standards, and/or ordinances by implementing the following noise-suppression techniques and variance standards set by local authorities. SDG&E shall apply for and obtain a variance for construction activities that must occur outside of the day-time hours allowed by local ordinances or within 200 feet of noise-sensitive receptors. At a minimum, SDG&E shall employ the following noise-suppression techniques to avoid possible violations of local rules, standards, and ordinances:</p> <ul style="list-style-type: none"> • Confine construction noise to daytime, weekday hours (e.g., 7:00 a.m. to 7:00 p.m.) or an alternative schedule established by the local jurisdiction or land use manager • On construction equipment, use noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer • Install temporary sound walls or acoustic blankets to shield adjacent residences. These sound walls or acoustic blankets shall have a height of no less than 8 feet, a Sound Transmission Class (STC) of 27 or greater, and a surface with a solid face from top to bottom without any openings or cutouts • Route construction traffic away from residences and schools, where feasible • Minimize unnecessary construction vehicle use and idling time. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. A “common sense” approach to vehicle use shall be applied; if a vehicle is not required for use immediately or continuously for construction activities, its engine shall be shut off. (Note: certain equipment, such as large diesel-powered vehicles, require extended idling for warm-up and repetitive construction tasks.)
Location	Construction activity in all segments.
Monitoring / Reporting Action	CPUC/BLM monitor verifies that SDG&E applies for and obtains local variance and implements Best Management Practices.
Effectiveness Criteria	Best Management Practices implemented.
Responsible Agency	CPUC; BLM El Centro Field Office.
Timing	Forty-five days prior to construction for variance application and during construction.

Table D.8-15. Mitigation Monitoring Program – Noise

MITIGATION MEASURE	N-2a: Avoid blasting where damage to structures could occur. Blasting shall be managed with a plan for each site. The plan shall include the blasting methods, surveys of existing structures and other built facilities, and distance calculations to estimate the area of effect of the blasting. Blasting shall not be allowed where damage to vulnerable structures could occur, and a rock anchoring or mini-pile system shall be used if adjacent structures could be damaged as a result of blasting or any construction method used as an alternative to blasting. If any structure is inadvertently adversely affected by construction vibration, the structure shall be restored to conditions equivalent to those prior to blasting. SDG&E shall then fairly compensate the owner of any damaged structure for lost use.
Location	Construction activity in all segments.
Monitoring / Reporting Action	CPUC/BLM monitor verifies that SDG&E submits blasting plan, which identifies complete inspection and restoration process.
Effectiveness Criteria	Structures inspected and restored.
Responsible Agency	CPUC; BLM El Centro Field Office.
Timing	Forty-five days prior to construction for blasting plan and during construction.
MITIGATION MEASURE	N-3a: Respond to complaints of corona noise. SDG&E shall respond to third-party complaints of corona noise generated by operation of the transmission line by investigating the complaints and by implementing feasible and appropriate measures (such as repair damaged conductors, insulators, or other hardware). As part of SDG&E's repair inspection and maintenance program, the transmission line shall be patrolled, and damaged insulators or other transmission line materials, which could cause excessive noise, shall be repaired or replaced.
Location	All overhead transmission line segments.
Monitoring / Reporting Action	CPUC/BLM monitor verifies that SDG&E investigates noise complaints, implements feasible repairs, and maintains a repair inspection and maintenance program to manage corona noise.
Effectiveness Criteria	Corona noise is managed.
Responsible Agency	CPUC; BLM El Centro Field Office.
Timing	Throughout the operational life.

D.8.21 References

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