

D.8 Noise

This section addresses noise issues and impacts related to the Proposed Project and alternatives. Sections D.8.1, D.8.2, and D.8.3 provide a description of the affected environment and regional setting. The applicable noise regulations are introduced in Section D.8.4. Analyses of the Proposed Project and alternatives impacts are presented in Sections D.8.5 through D.8.10.

D.8.1 Regional Setting and Approach to Data Collection

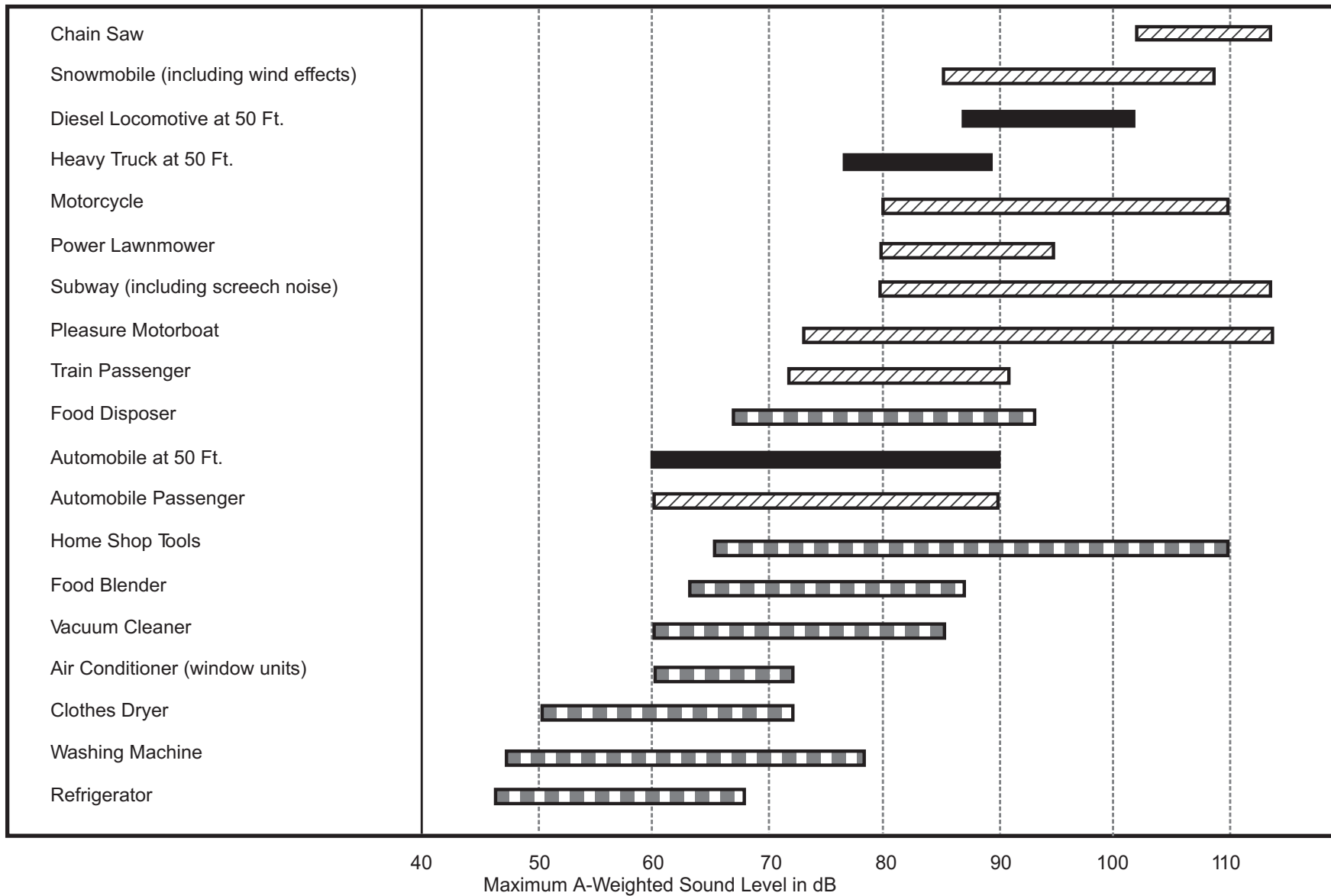
D.8.1.1 General Characteristics of Community Noise

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.

The community noise environment and the consequences of human activities cause noise levels to be widely variable over time. For simplicity, sound levels are usually best represented by an equivalent level over a given time period (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 (e.g., downtown Los Angeles), 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.

The 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).

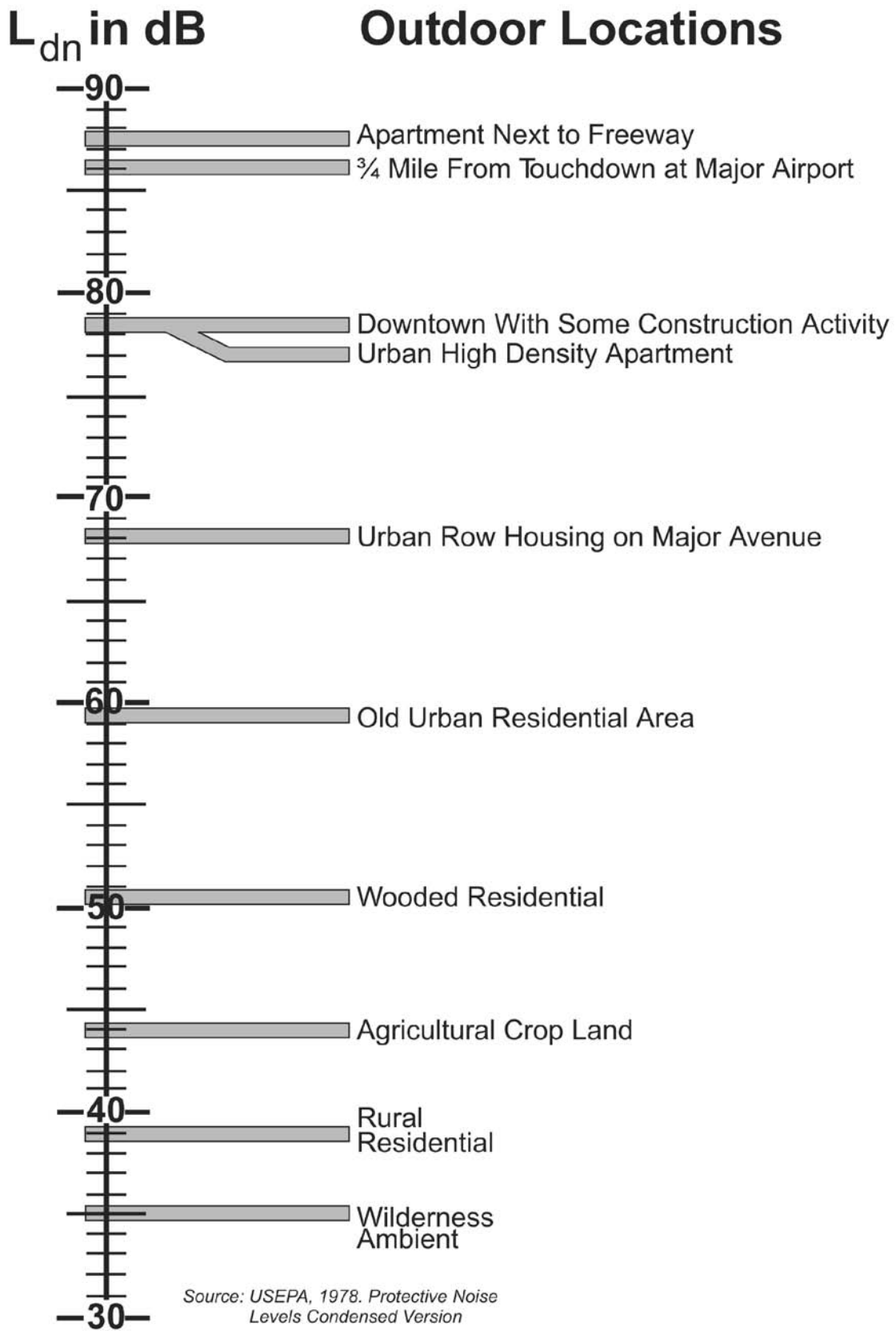


MEASUREMENT LOCATION

- Outdoors
- Operator/Passenger
- In Home

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

**Devers-Palo Verde No. 2
Transmission Line Project**
Figure D.8-1
**Typical Range of Common Sounds
Heard in the Environment**



D.8.1.2 Noise Environment

A wide range of noise sources occurs near the Proposed Project. The existing transmission lines, which create corona noise that sounds like crackling and hum, are the most notable noise source in the immediate vicinity of the corridor. The noise from corona discharge and similar electrical phenomena associated with high-voltage power transmission is heard near an energized line as a crackling or hissing sound. This noise increases with the load carried by the line, irregularities on the conductor surface caused either by age or moisture, and wet ambient meteorological conditions, when high humidity, fog, or rain occur. Surrounding land uses contribute many other noise sources, depending on the locations, described below.

In the unincorporated areas and communities of the project, predominantly open or rural land leads existing noise levels to be generally low. Noise levels on BLM lands can be 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 mainly influenced by roadway traffic or aircraft. Ambient noise levels tend to be below 50 dBA in the recreational and open areas administered by BLM, U.S. Fish and Wildlife Service (USFWS), and Arizona State Land Department when far from highways, outside of industrial and urban areas. Noise levels in the region are the highest (over 80 dBA) adjacent to major transportation facilities such as the interstate highways I-10 and I-15 or near industrial land uses. Region-serving airports, landing strips, and helipads, which can create substantial noise, are also near the project route as described below.

Noise levels immediately adjacent to the existing transmission line corridor and substations are above 60 dBA, depending on the weather and the load of the operating electrical equipment.

D.8.1.3 Noise-Sensitive Receptors

Noise-sensitive receptors are facilities or areas (e.g., residential areas, hospitals, schools, certain recreation areas, etc.) where excessive noise would conflict with the intended use, for example by conveying annoyance. Noise-sensitive areas encountered near the route and other work areas include recreational wilderness and, especially in the California portions of the route, homes. Besides the heavily developed residential areas in California, noise-sensitive receptors in the vicinity of the route include schools and community parks. Few homes or other occupied receptors are near the corridor in Arizona, but there are several wilderness and recreation areas described below.

D.8.2 Environmental Setting for the Proposed Project – Devers-Harquahala

Occupied noise-sensitive land uses are dispersed and limited along the Devers-Harquahala portion of the project corridor because of the large amount of federal and State land present. Some of the government lands are designated as expansive recreation areas. Approximately 26 homes are within one-quarter mile of the Devers-Harquahala segment, and approximately 17 of these are within one-eighth of a mile of the line (SCE, 2005). The residential uses include trailer/mobile home parks, large-lot residential subdivisions, and small settlements along major transportation routes.

D.8.2.1 Harquahala to Kofa National Wildlife Refuge

Ambient Noise Levels. Desert lands with few occupied uses provide ambient noise levels generally below 50 Ldn, when away from the existing line. Near the line, levels over 60 Ldn occur depending on the load on the line and wet weather (from corona noise). In close proximity to I-10 or other transportation corridors, noise levels may range up to and over 80 Ldn. Except for roads, the existing Devers–Palo Verde No. 1 (DPV1) transmission line is the most notable nearby noise source.

The following private airstrips are near the project corridor: the Mauldin private airstrip (approximately 1.6 miles east of the corridor south of the first crossing of I-10 and east of the intervening Palo Verde Hills); the Tonopah private airstrip (approximately four miles east of the corridor north of the first crossing of I-10); and the abandoned Salome Civil Aeronautic Administration Emergency Air Strip (about eight miles east of the Kofa National Wildlife Refuge near the project corridor). Additionally, a heliport is located at Palo Verde Nuclear Generating Station (PVNGS) approximately one-half mile northeast of the existing DPV1 transmission line near the PVNGS Switchyard. Because of their distance and infrequent activity, the airstrips do not notably affect ambient noise levels near the route.

Noise-Sensitive Receptors. Rural residential development is allowed in some areas of the Harquahala Plain, although this area is mostly undeveloped. Small groupings of trailer homes are located in La Paz County near the Maricopa County line, along the Proposed Project corridor, near Avenues 75E and 73E (MP E28.0–E30.2). Table D.8-1 summarizes the locations of sensitive receptors along this portion of the Devers-Harquahala route.

Outside of the corridor but nearby are a number of sensitive wilderness areas in which quiet is a basis for recreational use of the area. The corridor passes adjacent to the boundary of the Big Horn Mountains Wilderness Area for approximately one mile. Other project components would be at least one-quarter mile from the Hummingbird Springs Wilderness Area, Harquahala Mountains Wilderness Area, and the Eagletail Mountains Wilderness Area (see Section D.5, Wilderness and Recreation).

Table D.8-1. Noise-Sensitive Receptors – Harquahala to Kofa National Wildlife Refuge

Description of Receptor(s)	Receptor Jurisdiction and Location	Approximate Location Milepost (MP)	Within Approximate Distance (ft)
Residences, rural/trailer homes	La Paz County, near Avenue 75E	E28.0–E28.6	< 1,300
Residences, rural/trailer homes	La Paz County, near Avenue 73E	E30.2	< 650

Notes: Distances from route to receptors are approximate.
Source: SCE, 2005; Aspen, 2006.

D.8.2.2 Kofa National Wildlife Refuge

Ambient Noise Levels. This expansive refuge under jurisdiction of USFWS with no occupied uses provides ambient noise levels as low as 35 Ldn, when away from the existing line. The existing DPV1 transmission line is the most notable noise source, at times over 60 Ldn. Natural sounds and sounds from motor vehicles operated by infrequent visitors to the recreational wilderness may occasionally cause higher levels of noise.

Noise-Sensitive Receptors. There are no occupied uses within the refuge, and no developed noise-sensitive receptors. However, the wildlife refuge includes adjacent wilderness areas in which quiet is a basis for recreational use of the area. The corridor is adjacent to the southern boundary of the New

Water Mountains Wilderness Area, although the proposed project would not involve construction within this wilderness area. Wilderness areas, recreation areas, and the wildlife refuge are noise-sensitive. Additional information on these resources is provided in Section D.5 (Wilderness and Recreation).

D.8.2.3 Kofa National Wildlife Refuge to Colorado River

Ambient Noise Levels. Remote desert lands with few occupied uses provide ambient noise levels generally below 50 Ldn, except when in close proximity to roads or near the existing line. The existing DPV1 transmission line is the most notable noise source, at times over 60 Ldn.

Noise-Sensitive Receptors. One noise-sensitive receptor (a home) is approximately one-quarter of a mile from the route (MP E78.4), near Crystal Hill Road, east of Highway 95. The corridor also passes through Copper Bottom Pass, which is popular for backcountry recreation. This area is managed by the Bureau of Land Management (BLM).

D.8.2.4 Palo Verde Valley (Colorado River to Midpoint Substation)

Ambient Noise Levels. Activities related to dispersed and limited residential uses, roads, and agriculture provide ambient noise levels generally below 50 Ldn, except when near roads or near the existing line. Farming activities also cause occasional or seasonal noise from use of the agricultural equipment on the land. The Blythe Airport is located about five miles north of the proposed location of the Midpoint Substation at sufficient distance so that ambient noise levels along the proposed route are not notably affected. Except for numerous roads and occasional agricultural activities, the existing DPV1 transmission line is the most notable noise source, at times over 60 Ldn.

Noise-Sensitive Receptors. Scattered rural residences are adjacent to and near the 500 kV corridor in the Palo Verde Valley. The one developed area nearest to the project route is the unincorporated rural community of Ripley, generally over one-quarter mile south of the existing 500 kV line, along State Route 78. Homes near the line in the Palo Verde Valley include about five homes within 1,000 feet south of the proposed line between the Colorado River and Lovekin Boulevard (near MP E105.4) and up to four homes within 200 feet north of the proposed line at State Route 78, north of a canal maintained by the Palo Verde Irrigation District (near MP E108.4). Other low-density residential land uses associated with agriculture are located within about one-quarter mile of the proposed 500 kV line in this area. The southern boundary of the City of Blythe lies approximately two miles north of the Proposed Project route. Table D.8-2 summarizes the locations of sensitive receptors along the Palo Verde Valley portion of the route.

Table D.8-2. Noise-Sensitive Receptors – Palo Verde Valley

Description of Receptor(s)	Receptor Jurisdiction and Location	Approximate Location Milepost (MP)	Within Approximate Distance (ft)
Residences, 2 rural	Riverside County, Palo Verde Valley, near S Intake Blvd	E102.8	< 1,300
Residences, 2 rural	Riverside County, Palo Verde Valley, near S Lovekin Blvd	E105.4	< 1,300
Residence, 1 rural	Riverside County, Palo Verde Valley, near S Lovekin Blvd	E105.4	< 650
Residence, 1 rural	Riverside County, Palo Verde Valley, near S Defrain Blvd	E106.3	< 650
Residences, 4 rural	Riverside County, Ripley, near State Route 78	E108.4	< 200
Residences, 2 rural	Riverside County, Palo Verde Valley, near Gravel Pit Road	E113	< 1,300
Residence, 1 rural	Riverside County, Palo Verde Valley, near Gravel Pit Road	E113	< 650

Notes: Distances from route to receptors are approximate.
Source: SCE, 2005; Aspen, 2006.

D.8.2.5 Midpoint Substation

Ambient Noise Levels. Remote desert lands surround the proposed site of the Midpoint Substation and provide ambient noise levels generally below 50 Ldn, except when near the existing line. The existing DPV1 transmission line is the most notable noise source, at times over 60 Ldn.

Noise-Sensitive Receptors. No noise-sensitive uses occur within one mile of the proposed Midpoint Substation site.

D.8.2.6 Midpoint Substation to Cactus City Rest Area

Ambient Noise Levels. Remote desert lands with few occupied uses provide ambient noise levels generally below 50 Ldn, except when in close proximity to roads or the existing line. The existing DPV1 transmission line is the most notable noise source, at times over 60 Ldn. I-10 is also a major noise source in this undeveloped area, but it is more distant, generally at least one-half mile away from the Proposed Project, except in the vicinity of Desert Center where the transmission corridor is about one mile south of I-10. Two small airports, the Desert Center Airport and the Julian Hinds Private Airstrip, are two to three miles north of the project route. Because of their distance and infrequent activity, these small airports do not notably affect ambient noise levels near the route.

Noise-Sensitive Receptors. Widely scattered homesteads occur in the unincorporated areas of the Chuckwalla Valley, and developed areas include the unincorporated rural communities of Chiriaco Summit and Desert Center. One rural residence occurs within 600 feet of this portion of the route (MP E138) near Dupont Road.

Recreational areas include some designated as an Area of Critical Environmental Concern (ACEC). The project corridor occurs near the Mule Mountains ACEC (approximately 0.8 miles southwest of the Proposed Project). The Chuckwalla Valley Dune Thicket ACEC and the Alligator Rock ACEC are traversed by the project corridor, and the northern boundary of the Orocopia Mountains Wilderness Area occurs about 0.5 miles from the corridor.

D.8.2.7 Cactus City Rest Area to Devers Substation

Ambient Noise Levels. Activities related to dispersed and limited residential uses, roads, industry, and agriculture provide ambient noise levels generally below 50 Ldn. Near industrial uses and roads, noise levels over 70 Ldn can occasionally occur, and near the existing line, corona noise can create over 60 Ldn at times. Other transmission lines also travel alongside of DPV1 in this area. The surrounding uses and the existing DPV1 each contribute to ambient noise levels in this portion of the route. I-10 is at least one mile south of the corridor through most of this segment.

The nearest airport to this portion of the route is the Chiriaco Summit Airport, which is a public use airport situated approximately 25 miles east of Coachella, about one mile north of the project corridor and north of I-10. Other airports in the area include the Bermuda Dunes Airport (3 miles south of the corridor between Indio and La Quinta, south of I-10) and the Palm Springs International Airport (3.5 miles southwest of the corridor near central Palm Springs). There is also a heliport at Devers Substation. Elevated noise levels occur near these facilities.

Noise-Sensitive Receptors. West of the Cactus City Rest Area, the corridor traverses the Coachella Valley Preserve, which includes a visitor center and hiking trails, and the Coachella Valley Fringe-Toed Lizard ACEC. The nearest boundary for the Joshua Tree National Park occurs about 0.5 miles north of the Proposed Project.

Developed areas also occur near this segment in the incorporated Cities of Coachella, Indio, Cathedral City, Desert Hot Springs, and Palm Springs, and the unincorporated rural communities of Thousand Palms and North Palm Springs. The project corridor passes outside of each of these cities, except for Coachella and Cathedral City, where the corridor traverses open space within the city limits. The corridor passes adjacent to medium- and low-density residential areas in the unincorporated areas of Thousand Palms (MP E214–E215) and North Palm Springs, where at least one home is within 200 feet of the proposed ROW near Dillon Road (MP E226–E226.5). Table D.8-3 summarizes the locations of sensitive receptors along this portion of the route.

Table D.8-3. Noise-Sensitive Receptors – Cactus City Rest Area to Devers Substation

Description of Receptor(s)	Receptor Jurisdiction and Location	Approximate Location Milepost (MP)	Within Approximate Distance (ft)
Residence, 1 rural	Riverside County, Thousand Palms, north of Rancho Mirage, near Mirage Substation	E214–E215	< 650
Residences, 2 rural	Riverside County, North Palm Springs, near Dillon Road	E226	< 200
Residences, 5 rural	Riverside County, North Palm Springs, near Indian Ave	E226.5	< 650

Notes: Distances from route to receptors are approximate.
Source: SCE, 2005; Aspen, 2006.

D.8.2.8 Devers Substation

Ambient Noise Levels. Open and industrial land surrounds the Devers Substation. Depending on proximity to developed sources, the existing equipment and infrastructure could provide over 70 Ldn in some locations around the Devers Substation. The surrounding uses include various transmission lines along with the existing DPV1 within corridors that are over 500 feet wide, wind farms about 1,000 feet from the substation boundary, a natural-gas fired power generating station (Intergen’s 135 MW Wildflower Indigo Energy Facility) over one mile to the southeast, and highways. The major highways, I-10 and State Route 62 are also more than one mile from the Devers Substation. There is also a heliport at Devers Substation. Elevated noise levels occur near these facilities. The existing substation and 500 kV lines generate noise levels over 60 Ldn.

Noise-Sensitive Receptors. The Devers Substation is surrounded by open and industrial land that is occupied with transmission infrastructure within corridors that are over 500 feet wide. The nearest homes are more than 1,000 feet southwest of the substation boundary, adjacent to the corridor for the existing Devers-Valley 500 kV transmission line. No other noise-sensitive receptors are located near the Devers Substation.

D.8.3 Environmental Setting for the Proposed Project – West of Devers

Noise-sensitive land uses, including many residences, occur adjacent to the corridor in the developed communities west of Devers. Developed areas include the incorporated cities of Palm Springs, Desert Hot Springs, Banning, Beaumont, Calimesa, Redlands, Loma Linda, San Bernardino, Colton, and Grand Terrace, and the unincorporated rural communities of Whitewater, Cabazon, and Cherry Valley. In addition, trailer/mobile home parks and large-lot residential subdivisions are found throughout the West of Devers (WOD) corridor.

D.8.3.1 Devers Substation to East Border of Banning

Ambient Noise Levels. Activities related to industrial uses (e.g., wind generating facilities and the existing 230 kV transmission lines), transportation facilities, commercial land uses, and dispersed residential uses provide ambient noise levels generally between 50 and 70 Ldn, depending on the proximity to industrial uses, major roads, and the existing transmission lines, which at times can create more than 60 Ldn.

Noise-Sensitive Receptors. Single-family homes with large lot residential classifications (2 to 15 residences per acre) are adjacent to and within the transmission line corridor through this portion of unincorporated Riverside County. Homes are adjacent to the corridor as part of the Whitewater community, west of State Route 62 near Painted Hills Road (between MP W1 and W2). The existing towers are in the midst of residential uses, within 100 feet of some homes west of Desert View Avenue and east of Cottonwood Road (between MP W6 and W7). Low-density homes are also adjacent to the edge of the corridor near Rushmore Avenue (MP W8.2) and in the Morongo Indian Reservation (MP W13.2–W15.3). Table D.8-4 summarizes the locations of the sensitive receptors in this segment.

Table D.8-4. Noise-Sensitive Receptors – Devers Substation to East Border of Banning

Description of Receptor(s)	Receptor Jurisdiction and Location	Approximate Location Milepost (MP)	Within Approximate Distance (ft)
Residences	Riverside County, Whitewater, Painted Hills Road	W1–W2	< 100
Residences	Riverside County, Desert View to Cottonwood Road	W6–W7	< 100
Residences	Riverside County, Rushmore Avenue	W8.2	< 650
Residences	Morongo Indian Reservation	W13.2–W15.3	< 650

Notes: Distances from route to receptors are approximate.
Source: Aspen, 2006.

D.8.3.2 Banning and Beaumont

Ambient Noise Levels. Ambient noise levels are generally between 50 and 60 Ldn due to the surrounding prevalence of commercial and residential uses. However, localized areas of noise levels over 70 Ldn can occur due to industrial uses and busy roads near the corridor, primarily in Banning and near the Morongo Indian Reservation, where I-10 is near the corridor. The existing transmission lines also cause levels greater than 70 Ldn at times in this portion of the corridor. The Banning Airport, which may cause elevated noise levels near the corridor, is about one mile south of the Proposed Project, south of I-10 on the eastern side of Banning.

Noise-Sensitive Receptors. Medium-density residential areas are located along the corridor in the City of Banning near North San Gorgonio Avenue (MP W17.7) and near Mountain Avenue along Mockingbird Lane (MP W20.4–W20.8). In the City of Beaumont, increased density occurs, and the land uses that surround the corridor include residences (including mobile homes), Beaumont High School and Junior High, Nobel Creek Park, and other recreational open space (MP W22–W26.3). Table D.8-5 summarizes the locations of the sensitive receptors in this segment.

Table D.8-5. Noise-Sensitive Receptors – Banning and Beaumont

Description of Receptor(s)	Receptor Jurisdiction and Location	Approximate Location Milepost (MP)	Within Approximate Distance (ft)
Residences	City of Banning, North San Gorgonio Avenue	W17.7	< 650
Residences	City of Banning, Mockingbird Lane	W20.4–W20.8	< 650
Schools and parks	City of Beaumont	W22–W26.3	< 650

Notes: Distances from route to receptors are approximate.
Source: Aspen, 2006.

D.8.3.3 Calimesa and San Timoteo Canyon

Ambient Noise Levels. Ambient noise levels are generally between 50 and 70 Ldn depending on the proximity of I-10 and the Union Pacific Railroad lines in Calimesa and along San Timoteo Boulevard. Near where the corridor crosses I-10 or the railroad, localized areas of noise levels over 70 Ldn can occur. The existing transmission lines also cause levels greater than 70 Ldn at times in this portion of the corridor.

Noise-Sensitive Receptors. The corridor enters the City of Calimesa near the Brookside Avenue overpass of I-10 and is surrounded by low-to-medium density residential uses. Medium- to high-density residential uses are also adjacent to the corridor in the Calimesa portion of San Timoteo Canyon and in unincorporated Riverside County (MP W31–W31.8), and lower density rural housing is in the unincorporated part of the canyon (near MP W32.3 and W33.4). Rural residences are also scattered within about 500 feet of the corridor in the hills of Redlands and unincorporated San Bernardino County, west of the San Timoteo Canyon (near MP W37 and W38.8). Table D.8-6 summarizes the locations of the sensitive receptors in this segment.

Table D.8-6. Noise-Sensitive Receptors – Calimesa and San Timoteo Canyon

Description of Receptor(s)	Receptor Jurisdiction and Location	Approximate Location Milepost (MP)	Within Approximate Distance (ft)
Residences	City of Calimesa, Brookside Avenue	W26–W27.1	< 650
Residences	City of Calimesa, San Timoteo Canyon	W31–W31.8	< 650
Residences	Riverside County, San Timoteo Canyon	W32.3–W33.2	< 650
Residences	City of Redlands and San Bernardino County	W37–W38.8	< 500

Notes: Distances from route to receptors are approximate.
Source: Aspen, 2006.

D.8.3.4 San Bernardino Junction to Vista Substation

Ambient Noise Levels. Ambient noise levels in this portion of the corridor are generally between 50 and 70 Ldn depending on the proximity of I-215 and other busy roads in the Cities of Colton and Grand Terrace. Near I-215 and busy city streets, localized areas of noise levels over 70 Ldn can occur. The developments within these cities and in the unincorporated county, along with the existing 230 kV corridor to Vista Substation, contribute to ambient noise levels in this portion of the route. The Loma Linda University Medical Center Heliport and San Bernardino Heliport are located 1.0 mile and 1.6 miles, respectively, north/northeast of the right-of-way, between the Vista and San Bernardino Substations. The existing transmission lines cause less than 60 Ldn along this portion of the corridor.

Noise-Sensitive Receptors. Medium- to high-density housing surrounds this part of the 230 kV corridor in the City of Colton, unincorporated San Bernardino County, and the City of Grand Terrace. In the City of Colton, an elementary school is also located within 700 feet northeast of the corridor. No sensitive uses are in Loma Linda along the corridor to Vista Substation. Table D.8-7 summarizes the locations of the sensitive receptors in this segment.

Table D.8-7. Noise-Sensitive Receptors – San Bernardino Junction to Vista Substation

Description of Receptor(s)	Receptor Jurisdiction and Location	Approximate Location Milepost (MP)	Within Approximate Distance (ft)
Residences	City of Colton, Prado Lane, Mohave Drive	V1.9–V3.4	< 200
Residences	San Bernardino County, Prado Lane	V2.5–V2.9	< 200
Residences	City of Grand Terrace, Barton Road to Mount Vernon	V3.8–V4.4	< 650

Notes: Distances from route to receptors are approximate.
Source: Aspen, 2006.

D.8.3.5 San Bernardino Junction to San Bernardino Substation

Ambient Noise Levels. Ambient noise levels are generally between 50 and 70 Ldn depending on the proximity of I-10 and other busy roads in the City of Loma Linda. Near I-10 and busy city streets, localized areas of noise levels over 70 Ldn can occur. The densely developed surroundings of Loma Linda and the existing 230 kV corridor to San Bernardino Substation each contribute to ambient noise levels in this portion of the route. San Bernardino International Airport, which causes elevated noise levels near the northernmost portion of the Proposed Project corridor, is situated one mile north of the San Bernardino Substation. Noise levels within the Mountainview Power Plant site adjacent to the San Bernardino Substation can exceed 70 dBA, but the power plant is required to cause less than 60 dBA at the nearest homes (CEC, 2000). The existing transmission lines can at times cause more than 60 Ldn along this portion of the corridor.

Noise-Sensitive Receptors. Medium- to high-density housing surrounds this part of the 230 kV corridor in the City of Loma Linda primarily near Beaumont and Lawton Avenues and near Mission Road, and recreational open space and parks (Hulda Crooks Park) are found under the existing transmission line. Commercial and industrial uses are located along this part of the corridor in the City of Redlands. Table D.8-8 summarizes the locations of the sensitive receptors in this segment.

Table D.8-8. Noise-Sensitive Receptors – San Bernardino Junction to San Bernardino Substation

Description of Receptor(s)	Receptor Jurisdiction and Location	Approximate Location Milepost (MP)	Within Approximate Distance (ft)
Residences	City of Loma Linda, Beaumont and Lawton Avenues	W40.7–W41.3	< 200
Residences	City of Loma Linda, Van Leuven Street, Mission Road	W41.7–W42.4	< 200

Notes: Distances from route to receptors are approximate.
Source: Aspen, 2006.

D.8.4 Applicable Regulations, Plans, and Standards

Regulating environmental noise is generally the responsibility of local governments. However, the U.S. Environmental Protection Agency (U.S. EPA) once 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.8.4.1 Federal

There are no federal noise standards that directly regulate environmental noise. Table D.8-9 provides a summary of recommended noise levels for protecting public health and welfare with an adequate margin of safety. With regard to noise exposure and workers, the federal Occupational Safety and Health Administration (OSHA) establishes regulations to safeguard the hearing of workers exposed to occupational noise (29 CFR Section 1910.95, Code of Federal Regulations).

Table D.8-9. 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) = Represents the sound energy averaged over a 24-hour period.

Ldn = Represents the Leq with a 10 dB nighttime penalty.

D.8.4.2 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.8-10 shows the State guidelines for evaluating the compatibility of various land uses as a function of noise exposure.

D.8.4.3 Local

Each local government aims to protect its residents 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.). Although, daytime construction activities are usually exempt from such limits.

The sections below summarize the applicable local policies, rules, and regulations for the Proposed Project. See Appendix 5 (Land Use Policy Consistency) on the enclosed CD for a more complete review of policies established for noise protection and their full citations.

Unincorporated Maricopa County

The Maricopa County 2020 Comprehensive Plan (2002) provides the following objectives:

- **Noise Objective 2E2.** Minimize vehicle traffic noise on sensitive land uses.
- **Noise Objective EE5.** Encourage noise abatement in new development located near noise generating activities, according to federal, State, and local regulations and guidelines.

The Maricopa County 2020 Tonopah-Arlington Area Plan includes:

- **Noise Policy E1.3.** Encourage compatible land use relationships with sources of excessive noise.

There is no noise ordinance for unincorporated Maricopa County (SCE, 2005).

Unincorporated Riverside County

The Riverside County Comprehensive General Plan (2000) includes:

- **Noise Element Policy N.1.1.** Protect noise-sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise producing land use cannot be relocated, then noise buffers such as setbacks, landscaping, or block walls shall be used.
- **Noise Element Policy N.1.3.** Consider the following uses noise-sensitive and discourage these uses in areas in excess of 65 CNEL: schools, hospitals, rest homes, long-term care facilities, mental care facilities, residential uses, libraries, passive recreation uses, and places of worship. [. . .] an acoustical study may be required in an area of 60 CNEL or greater. Any land use that is exposed to levels higher than 65 CNEL will require noise attenuation measures.
- **Noise Element Policy N.1.4.** Determine if existing land uses will present noise compatibility issues with the Proposed Project by undertaking site surveys.
- **Noise Element Policy N.1.5.** Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.
- **Noise Element Policy N.1.8.** Limit the maximum permitted noise levels that cross property lines and impact adjacent land uses, except when dealing with noise emissions from wind turbines.
- **Noise Element Policy N.3.6.** Discourage projects that are incapable of successfully mitigating excessive noise.
- **Noise Element Policy N.12.1.** Minimize the impacts of construction noise on adjacent uses within acceptable practices.
- **Noise Element Policy N.12.2.** Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.
- **Noise Element Policy N.12.4.** Require that all construction equipment utilizes noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.
- **Circulation Element Policy C.3.28.** Reduce transportation noise through proper roadway design and coordination of truck and vehicle routing.

Table D.8-10. 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
	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable
	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable
Residential - Multi-Family	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable
	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable
Transient Lodging - Motels, Hotels	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable
	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable
Schools, Libraries, Churches, Hospitals, Nursing Homes	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable
	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable
Auditorium, Concert Hall, Amphitheaters	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable
	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable
Sports Arena, Outdoor Spectator Sports	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable
	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable
Playgrounds, Neighborhood Parks	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable
	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable
	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable
Office Buildings, Business Commercial and Professional	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable
	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable
Industrial, Manufacturing, Utilities, Agriculture	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable
	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable

	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.
	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 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.
	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.

The noise ordinance for activities in the unincorporated Riverside County prohibits construction within one-quarter of a mile of an occupied residence unless it occurs between the hours of 6:00 a.m. and 6:00 p.m. (June through September) or between the hours of 7:00 a.m. and 6:00 p.m. (October through May). Exceptions to these standards shall be allowed only with the written consent of the building official (Ordinance No. 725, Chapter 1.16 of the Riverside County Code).

Table D.8-11. Cathedral City Sound Level Limits

Cathedral City: Zone	Hours	One Hour Average Sound Level (Leq, dBA)
Residential – All zones	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	45
Commercial zone	7 a.m. to 10 p.m.	65
	10 p.m. to 7 a.m.	55
Manufacturing Industrial	7 a.m. to 10 p.m.	70
Agricultural zone	10 p.m. to 7 a.m.	55

Source: Cathedral City Ord. 415; 11.96.030 Sound level limits.

Coachella Valley Preserve

Activities within the Coachella Valley Preserve must avoid extremely loud noises as set forth in the following policy from the Coachella Valley Multiple Species Habitat Conservation Plan & Natural Community Conservation Plan (Public Draft, October 15, 2004):

- **Noise Policy 4.5.4.** Land uses adjacent to or within a Conservation Area that generate noise above 105 dBA hourly shall incorporate setbacks, berms, or walls to minimize the effects of noise on the Conservation Area resources.

City of Coachella

The City of Coachella General Plan (2002) indicates that the City must consider the severity of noise exposure in the community planning process to prevent or minimize noise impacts to existing and proposed land uses.

The noise ordinance for Coachella is included in Municipal Code Title 3: Section 3.10.010 (Maintenance and Abatement of Nuisances). The ordinance prohibits “disruptive activities” including loud noises between the hours of 10:00 p.m. and 6:00 a.m.

City of Cathedral City

The City of Cathedral City Comprehensive General Plan (2002) includes:

- **Noise Element Policy 1.** Protect noise-sensitive land uses, including residential neighborhoods, schools, hospitals, libraries, churches, resorts and community open space, as well as land uses proposed in the vicinity of the railway, Interstate 10, the Mid-Valley Parkway, and Da Vall Drive from high noise levels generated by existing and future noise sources.
- **Noise Element Policy 3.** Private sector project proposals shall include measures that ensure that noise exposures levels comply with State of California noise insulation standards as defined in Title 25 (California Noise Insulation Standards).

The Cathedral City noise ordinance (City Ordinance 415; 11.96.030) restricts the level of noise across property boundaries. Adjacent properties must not exceed the limits of Table D.8-11, except when the baseline ambient noise level exceeds the level in the table, in which case the new source must not exceed the ambient level at the adjacent properties.

Construction noise in Cathedral City is prohibited unless specially authorized by the City Manager (City Ordinance 521; 11.96.090), except between the permitted hours as follows:

- From October 1st through April 30th:
 - Monday-Friday: 7:00 a.m. to 5:30 p.m.
 - Saturday: 8:00 a.m. to 5:00 p.m.
 - Sundays and Holidays: No Permissible Hours
- From May 1st through September 30th:
 - Monday-Friday: 6:00 a.m. to 7:00 p.m.
 - Saturday: 8:00 a.m. to 5:00 p.m.
 - Sunday and Holidays: No Permissible Hours

City of Palm Springs

The Palm Springs General Plan includes the following objectives and policies for managing noise:

Objective 6.20. Low noise levels in the community as part of a broad approach to environmental quality control.

- **Noise Element Policy 6.20.1.** Protect noise-sensitive land uses such as residences, hospitals and convalescent homes from acceptable noise levels from both existing and future noise sources. Sensitive land uses shall not be located where noise levels are excessive unless adequate attenuation can be achieved.

Objective 6.21. Minimized impact of traffic-generated noise on residential and other noise-sensitive land uses.

- **Noise Element Policy 6.21.2.** Require adequate project design or sound barriers to reduce the level of traffic-generated noise on residential and other noise-sensitive land uses to acceptable levels.

Objective 6.24. Minimized impacts of construction noise on adjacent uses.

- **Noise Element Policy 6.24.1.** Require that construction activities which may impact adjacent residential units be limited to 7 a.m. to 7 p.m. during weekdays and Saturdays, except under special circumstances approved by the City, and prohibited on Sundays and holidays.
- **Noise Element Policy 6.24.2.** Require that construction activities incorporate feasible and practical techniques which minimize the noise impacts on adjacent uses.

City of Banning

The City of Banning Draft General Plan (2005) includes:

- **Noise Element Policy 1.** The City shall protect noise-sensitive land uses, including residential neighborhoods, schools, hospitals, libraries, churches, resorts and community open space, from potentially significant sources of community noise.

The City of Banning restricts noise affecting residential uses (City Ordinance #1138; Sec. 11D-05. Base ambient noise level) such that during any 15-minute period, daytime noise levels shall not exceed 60 dBA, and nighttime levels shall not exceed 50 dBA. Exterior noise levels shall not exceed 75 dBA at

any time (City Ordinance #1138; Sec. 11D-08. Maximum nonresidential noise levels). Loud, unusual, and unnecessary noises are also prohibited, including equipment causing noise increases of more than 5 dBA over the ambient and back-up beepers that exceed 75 dBA.

Construction activities may exceed the limits of the City of Banning noise ordinance between the hours of 7:00 a.m. and 6:00 p.m. provided that it does not at any time cause noise greater than 55 dBA for an interval of more than 15 minutes when measured in the interior of the nearest residence or school (Sec. 11D-09. Noises prohibited; unnecessary noise standard). The City Building Inspector may permit construction outside of these daytime hours if the official determines that public health and safety would not be impaired by the construction noise.

City of Beaumont

The City of Beaumont General Plan (Draft August 2005) includes:

- **Safety Element Policy 24.** The City of Beaumont will protect public health and welfare by eliminating existing noise problems and by preventing significant degradation of the future acoustic environment.

The noise ordinance for the City of Beaumont (Ordinance No. 838, Municipal Code Section 9.02.060) restricts noise affecting residential uses such that during any two hour period, daytime noise levels shall not exceed 70 dBA, and nighttime levels shall not exceed 60 dBA. Exterior nighttime noise levels shall not exceed 75 dBA at residential uses or 90 dBA at any nonresidential use at any time. Construction activities may exceed these limits between the hours of 7:00 a.m. and 6:00 p.m. (Section 9.02.070), and City Manager may permit construction outside of these daytime hours if public health and safety would be protected.

City of Calimesa

The City of Calimesa General Plan (April 1994) includes the following noise goals and policies:

- **Goal 1.** Ensure that all land uses are protected from excessive and unwanted noise.
 - **Noise Element Policy 1.5.** Provide buffer areas between noise sources and other developments.
 - **Noise Element Policy 1.6.** Provide measures to limit construction noise in residential areas.
- **Goal 2.** Work towards the reduction of noise impacts from vehicular traffic and trains.

Noise Element Policy 2.7. Regulate the use of residential streets by trucks, trailers, and construction vehicles, to the extent possible.

The City of Calimesa has developed sound level limits in its Noise Ordinance (Municipal Code Section 4.2.04). The ordinance states that single and low-density residential zones shall not be subject to noise levels greater than 50 dBA Ldn and other residential uses shall not be subject to noise levels greater than 55 dBA Ldn. It also specifically states that electrical transmission lines are subject to these limits at or beyond six feet from the utility easement. The most stringent nighttime limit applicable to the project is between 10 p.m. to 7 a.m. in single family and low-density residential zones where ambient noise levels must be below 40 dBA or 50 dBA Ldn.

The Calimesa Municipal Code (Section 4.2.08) includes exemptions from these limits for noise caused by construction activities, provided that the activity occurs between 7:00 a.m. and 7:00 p.m. on weekdays or between 10:00 a.m. and 5:00 p.m. on weekends or holidays. No construction equipment is allowed

to cause noise in excess of 75 dBA for more than eight hours during any 24-hour period when measured at a residential property lines, and intermittent construction noise over 90 dBA during any 15-minute period is also prohibited.

Unincorporated San Bernardino County

The San Bernardino County General Plan (2002) includes the following policies:

- **Noise Element Policy NO-1 (c).** Because excessive noise can interfere with sleep, speech and health, yet can be mitigated to acceptable levels through land use design requirements: [. . .] when industrial, commercial or other land uses, including locally regulated noise sources, are proposed for areas containing noise-sensitive land uses, noise levels generated by the proposed use shall not exceed the performance standards of (General Plan) Figure II-9 (shown in Table D.8-12 below) within outdoor activity areas. If outdoor activity areas have not yet been determined, noise levels shall not exceed the performance standards at the boundary of areas planned or zoned for residential or other noise-sensitive land uses.
- **Noise Element Policy NO-2 (b).** Because County residents are exposed to vehicular noise sources in excess of acceptable levels the County shall: [. . .] limit truck traffic in residential and commercial areas to designated truck routes; limit construction, delivery and through-truck traffic to designated routes; and distribute maps of approved truck routes to County traffic officers.
- **Noise Element Policy NO-4 (f).** Because County residents are exposed to levels considered to be excessive from stationary sources such as industrial, recreational and construction activities as well as mechanical and electrical equipment, the County shall enforce the Hourly Noise Level Performance Standards for stationary and other locally regulated sources through development and implementation of a noise ordinance that will: [. . .] require any project (new construction or additions) to meet the County Noise Ordinance standards as a condition of building permit approval.
- **Noise Element Policy NO-4 (g).** [. . .] require developers to depict on any appropriate development application review, (i.e., zone change, subdivision, site approval, site plan and building plans) any potential noise sources known at the time of submission and mitigation measures that insure these noise sources meet County Noise Ordinance Standards. Such sources include but are not limited to the following:
 - Truck pick up and loading areas.
 - Mechanical and electrical equipment such as air conditioning, swimming pool pumps and filters, spa pumps, etc.
 - Exterior work areas.
 - Exterior nuisances such as speaker boxes and outdoor public address systems.

Table D.8-12. San Bernardino County Hourly Noise Level Performance Standards

LAND USE CATEGORY	7am–10pm		10pm–7am	
	Leq	Lmax	Leq	Lmax
Residential or other noise-sensitive receivers	55 dBA	75 dBA	45 dBA	65 dBA

Applies to noise sources which are stationary and not pre-empted from local noise control. Preempted sources include vehicles operated on public roadways, railroad line operations and aircraft in flight.

Source: San Bernardino County General Plan (2002), Noise Element Policy NO-1, Figure II-9.

The noise ordinance for unincorporated San Bernardino County in the Development Code (Title 8, Section 87.0905 Noise) defines residential areas as being “noise-impacted” if it is exposed to exterior noise levels above 55 Ldn. The noise ordinance also prohibits daytime noise over 55 dBA (between 7:00 a.m.

and 10:00 p.m.) and nighttime noise over 45 dBA at residential uses if it occurs over a cumulative period of more than 30 minutes in any hour. Construction noise is exempt if the activities occur between 7:00 a.m. and 7:00 p.m. on any day except Sundays and holidays.

City of Redlands

The City of Redlands General Plan (1995) includes:

- **Noise Element Policy 9.0c.** Support measures to reduce noise emissions by motor vehicles, aircraft, and trains.
- **Noise Element Policy 9.0w.** Limit hours for all construction or demolition work where site-related noise is audible beyond the site boundary.
- **Noise Element Policy 9.0y.** Minimize impacts of loud trucks by requiring that maximum noise levels due to single events be controlled to 50 dB in bedrooms and 55 dB in other habitable spaces.

The Noise Ordinance for the City of Redlands generally prohibits any loud, unnecessary or unusual noise which disturbs the peace and quiet of any neighborhood or which causes discomfort or annoyance to a reasonable person of normal sensitivity (Section 8.06.030). Exterior noise levels below 60 Ldn are generally considered to be acceptable for residential areas. The noise ordinance also prohibits daytime noise over 60 dBA (between 7:00 a.m. and 10:00 p.m.) and nighttime noise over 50 dBA at residential uses if it occurs over a cumulative period of more than 30 minutes in any hour. These limits are reduced to 55 dBA in the daytime and 45 dBA in the nighttime for any source that contains a steady tone or hum (Section 8.06.070, Exterior Noise Limits).

The Redlands Noise Ordinance also prohibits construction work between weekday hours of 6:00 p.m. and 7:00 a.m., including Saturdays, or at any time on Sundays or holidays, if it creates a noise disturbance across a residential or commercial real property line. Emergency work by public utilities is exempt from this prohibition. Vibration that is perceptible on private property or 150 feet from the source is also prohibited. In all cases, engines powering construction equipment or machinery must be equipped with exhaust and air intake silencers in proper working order (Section 8.06.090 Noise Disturbances Prohibited).

City of Loma Linda

The City of Loma Linda Draft General Plan (2004) identifies the following policies:

- **Noise Element Policy A.** Achieve and maintain exterior noise levels appropriate to planned land uses throughout Loma Linda as indicted below:
 - **Residential Single-Family.** 65 dBA within rear yards. Multifamily: 65 dBA within private yard or enclosed balcony spaces. Single/Multifamily, indoor noise level: 45 dBA with windows closed.
 - **Schools Classrooms.** 65 dBA exterior noise environment at the classroom location. Play and sports areas: 70 dBA.
 - **Libraries, Churches, Hospitals, Nursing Homes.** 60 dBA exterior noise environment at the building location.
 - **Commercial/Industrial.** 70 dBA exterior noise environment at the building location, unless additional interior mitigation is provided.

- **Noise Element Policy B.** Maintain a pattern of land uses that separates noise-sensitive land uses (e.g., residential, churches, schools, hospitals) from major noise sources to the extent possible, and guide noise tolerant land uses into the noisier portions of the Planning Area.
- **Noise Element Policy C.** Require new developments to limit noise impacts on adjacent properties through acoustical site planning, which may include, but is not limited to the following actions:
 - Increased setbacks from noise sources from adjacent buildings
 - Screen and control noise sources, such as parking, and loading facilities, outdoor activities and mechanical equipment
 - Use soundproofing materials and double-glazed windows
 - Retain fences, walls, and landscaping that serve as noise buffers
 - Orient delivery, loading docks, and outdoor work areas away from noise-sensitive areas.

The City of Loma Linda Noise Ordinance (Section 9.20.040) stipulates that acceptable land use compatibility occurs when residential uses are exposed to noise below 55 dBA during daytime hours and 50 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.). Construction occurring any time except between 7:00 a.m. and 10:00 p.m. is considered to be a nuisance (Section 9.20.050), except when a special temporary waiver is granted by the City Manager. Construction activities may exceed the acceptable noise levels between 7:00 a.m. and 8:00 p.m. as long as a temporary noise waiver is obtained from the City Manager and the equipment is properly equipped with mufflers. Heavy construction is not permitted on weekends or holidays (Section 9.20.070).

City of Colton

The Colton Municipal Code includes a zoning performance standard that limits noise between properties to no more than 65 dBA (Section 18.42.040). No exemption is provided for construction activity. General nuisance noise is also prohibited after 10:00 p.m. any day (Section 9.16.040) if it would disturb the peace or quiet of any residents who may reside in the vicinity.

City of Grand Terrace

The City of Grand Terrace General Plan (December 1988 with amendments) includes:

- **Noise Element Policy 1.1.4.** Consider noise impacts to residential neighborhoods when designating truck routes, freeway improvements, and major circulation corridors.
- **Noise Element Policy 2.2.2.** Minimize the impacts of construction noise on adjacent land uses by limiting the permitted hours of activity.

The Grand Terrace Municipal Code includes a noise ordinance that generally limits noise affecting residential use to less than 65 CNEL, and excessive noise is generally prohibited if it disturbs, offends, injures or endangers the peace, quiet, comfort, repose, health or safety of any neighborhood or person in the City of Grand Terrace (Section 8.108.020). Construction noise is prohibited on property adjacent to residences except between 7:00 a.m. and 10:00 p.m., and at no time shall movement of construction equipment directly on or off the property occur within 50 feet of an occupied residence (8.108.050 Prohibited Noise).

D.8.5 Significance Criteria and Approach to Impact Assessment

This section explains how impacts are assessed including the presentation of the significance criteria in Section D.8.5.1 on which impact determinations are based. Section D.8.5.2 lists the Applicant Proposed Measures relevant to noise impacts, and Section D.8.5.3 lists all impacts identified for the Proposed Project and alternatives.

D.8.5.1 Significance Criteria

Significance of noise 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 ground-borne vibration or ground-borne 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.

D.8.5.2 Applicant Proposed Measures

Applicant Proposed Measures (APMs) were identified by SCE in its CPCN Application to the CPUC. Table D.8-13 presents the APMs that are relevant to this section. 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.8-13. Applicant Proposed Measures – Noise

APM No.	Description
L-7	Link 10 crosses an (unoccupied) single-family dwelling unit at Milepost 5.3. Two additional single-family dwelling units and one mobile home would be impacted due to the alignment of Link 10 at Milepost 6.2. Mitigation measures would include purchase of the parcel and relocation or, if practical, adjusting the transmission line alignment and placing towers to avoid the affected dwelling units. (SCE)
N-1	The proposed construction would comply with local noise ordinances. There may be a need to work outside of the aforementioned local ordinances in order to take advantage of low electrical draw periods during the nighttime hours. SCE would comply with variance procedures requested by local authorities if required.

D.8.5.3 Impacts Identified

Table D.8-14 lists the impacts identified for the Proposed Project and alternatives, 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).

Devers–Palo Verde No. 2 Transmission Line Project
D.8 NOISE

Table D.8-14. Impacts Identified – Noise

Impact No.	Description	Impact Significance
Proposed Project		
N-1	Construction noise could substantially disturb sensitive receptors or violate local rules, standards, and/or ordinances.	Class II
N-2	Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines.	Class I
N-3	Maintenance activities during transmission line operation would increase ambient noise levels.	Class III
N-4	Operation of modified and new substations would result in increased ambient noise levels.	Class III
SCE Harquahala-West Alternative		
	All noise impacts (N-1 through N-4)	Class III
SCE Palo Verde Alternative		
N-1	Construction noise could substantially disturb sensitive receptors or violate local rules, standards, and/or ordinances.	Class II
	All other noise impacts (N-2 through N-4)	Class III
Harquahala Junction Switchyard Alternative		
	All noise impacts (N-1 through N-4)	Class III
Desert Southwest Transmission Project Alternative		
N-1	Construction noise could substantially disturb sensitive receptors or violate local rules, standards, and/or ordinances.	Class II
N-2	Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines.	Class I
	All other noise impacts (N-3 and N-4)	Class III
Alligator Rock–North of Desert Center Alternative		
N-1	Construction noise could substantially disturb sensitive receptors or violate local rules, standards, and/or ordinances.	Class II
	All other noise impacts (N-2 through N-4)	Class III
Alligator Rock–Blythe Energy Transmission Alternative		
N-1	Construction noise could substantially disturb sensitive receptors or violate local rules, standards, and/or ordinances.	Class II
	All other noise impacts (N-2 through N-4)	Class III
Alligator Rock–South of I-10 Frontage Alternative		
N-1	Construction noise could substantially disturb sensitive receptors or violate local rules, standards, and/or ordinances.	Class II
	All other noise impacts (N-2 through N-4)	Class III
Devers-Valley No. 2 Alternative		
N-1	Construction noise could substantially disturb sensitive receptors or violate local rules, standards, and/or ordinances.	Class II
N-2	Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines.	Class I
	All other noise impacts (N-3 and N-4)	Class III

Construction Impacts

Construction of the Proposed Project would involve the short-term use of heavy equipment such as cranes, drill rigs, dozers, excavators, compressors, generators, and trucks. Helicopters would also be needed to transport construction materials and to string the conductors for the overhead line. Construction of foun-

dations for new towers and poles would require use of a drill rig or large auger 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 graders, dozers, and trucks.

Noise levels associated with individual pieces of equipment would generally range between 70 and 90 dBA (U.S. DOT, 1995). Noise levels for typical pieces of construction equipment (at 50 feet) are listed in Table D.8-15.

Construction noise is usually made up of intermittent peaks and continuous lower levels of noise from active equipment. At any one location, a combination of multiple pieces of equipment may be present, and aggregated peak noise levels of up to about 100 dBA could occur within 50 feet from the construction activity (SCE, 2005). At 100 feet, the distance would attenuate these peak levels to about 94 dBA, and at 200 feet, 88 dBA. These short peaks would attenuate further to about 76 dBA for locations at 800 feet with an unobstructed line of sight. Over a typical day, average noise levels from construction would be lower than the intermittent peaks because most equipment would not be operated steadily or continuously at peak levels. At 50 feet, continuously steady construction noise levels would average approximately 77 dBA. At 100 feet, these average levels would attenuate to 71 dBA, and to 65 dBA at 200 feet. These noise levels would diminish over additional distance and would be reduced further by any intervening structures. At distances over one-quarter mile, steady construction noise would be under 50 dBA, which would begin to fade into quiet backgrounds.

Construction activities may result in some minor amounts of ground-borne vibration; however, such ground-borne vibration would attenuate rapidly from the source and would likely not be perceptible outside of the construction ROW. Construction would not cause blasting or impact-pile driving that could cause vibration impacts at close distances. As such, no sources of ground-borne vibration would be expected to affect receptors outside of the work areas, and there would not be any potential for excessive exposure of persons to or generation of ground-borne vibration levels.

Focused locations of construction noise would occur along the project route, at substation sites, at staging areas, and along transport access routes, for example from commuting workers and from trucks bringing materials to the work sites. Workers would likely meet at temporary yards and then travel to the construction sites in crews. See Project Description Section B.3.7.2, Table B-7 (Construction Yards, Devers-Harquahala 500 kV Segment) for a description of yards along the Devers-Harquahala portion of the 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 route right-of-way (ROW). The peak noise levels associated with passing trucks and commuting worker vehicles along access routes would be approximately 75 dBA at 50 feet.

Helicopters would be used to string conductors and, in areas of high erosion potential or slope instability, occasionally to move materials and equipment to and from selected sensitive locations (as per APMs G-7 and G-10, to avoid geology and

Table D.8-15. 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

Sources: Adapted from U.S. DOT, 1995.

soils impacts). Heavy duty helicopters used for sensitive locations would generate noise levels of approximately 89 dBA at 200 feet, while light-duty helicopters for stringing activities would cause less noise. The light-duty helicopters for stringing activities would generate noise levels of approximately 80 dBA at 200 feet along the entire transmission line ROW and in the area of helicopter staging areas.

Ability of Local Noise Ordinances to Minimize Impacts. Noise ordinances usually provide exemptions for construction activities occurring during normal daytime, weekday hours. Where local noise ordinances fail to exempt construction activity, SCE may be forced to obtain approval from the jurisdiction before commencing work within those localities. There may be a need to work outside of the daytime, weekday hours provided by the local ordinances in order to take advantage of low electrical draw periods that occur during the nighttime hours or to cross major roads and highways. SCE would be required to comply with variance procedures established by local authorities if a variance to local ordinances is needed.

SCE proposes to avoid the potential impact of violating local rules, standards, and/or ordinances during construction by implementing APM N-1, shown in Table D.8-13 above. With implementation of SCE's measure, the construction activities would either comply with local noise ordinances, or SCE would request a variance from each affected jurisdiction, if there is a need to work outside of normal daytime, weekday hours.

In some locations, additional measures may be necessary to avoid a significant impact because, not only must the project comply with local ordinances (APM N-1), but it must also avoid creating noise in a way that would conflict with policies or standards in local plans. These potential impacts are described for each specific location below.

Operational Impacts

The long-term impacts that would occur as a result of the Proposed Project would be associated with three types of noise: the corona effect of the transmission lines, noise from activities for routine inspection and maintenance of the new facilities, and noise from the new facilities at the substations. The potential impacts caused by these permanent noise sources are described below.

D.8.6 Environmental Impacts and Mitigation Measures for the Proposed Project – Devers-Harquahala

This section discusses impacts and mitigation measures for the 500 kV portion of the DPV2 Project. The discussion is divided into six geographic areas, three in Arizona and three in California. Following this summary discussion, both construction impacts and operational impacts are addressed for the local areas.

D.8.6.1 Harquahala to Kofa National Wildlife Refuge

As shown in Table D.8-1, this portion of the proposed Devers-Harquahala corridor contains few residential land uses, but the corridor does pass immediately adjacent to the boundary of the Big Horn Mountains Wilderness Area.

Construction Impacts

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

Construction noise could temporarily, but substantially, increase ambient noise levels in the vicinity of the new overhead line work, along the project route, and along all transport access routes. During the anticipated 24 to 28 months necessary to build the 500 kV portion of the project, concurrent construction activity would be necessary with multiple crews at separate locations. Night work could be necessary to cross I-10 and other roads or to avoid periods of high electrical demand. See Section B.3.7.1, Table B-5 (500 kV Transmission Line Labor Force and Equipment Requirements) for the types of equipment that would be required to construct the Devers-Harquahala 500 kV line segment.

Residences in the vicinity of most proposed construction work areas are currently exposed to low levels of ambient noise. Construction work within 200 feet of such residences would cause noise levels averaging around 65 dBA, with intermittent peaks up to about 88 dBA. This would be a noticeable (more than five dBA) temporary increase in the ambient noise levels near the work that would fade into quiet backgrounds at distances over one-quarter mile. Although construction noise would be required to comply with local ordinances, it may still be disruptive.

SCE proposes to implement APM N-1 to ensure compliance with local ordinances. To provide advance notice of the construction schedule to nearby residents and provide a public liaison, SCE has also proposed to post notices along the project ROW and at work sites (SCE, 2005), and Mitigation Measure L-1a (in Section D.4, Land Use) would further ensure that all surrounding uses are made aware of the proposed construction in sufficient advance. Implementation of Mitigation Measure N-1a (implement best management practices for construction noise) would reduce the likelihood of substantially disturbing receptors within one-quarter mile of construction. This measure would be necessary to minimize noise consistent with Maricopa County Noise Objective 2E2. Within unincorporated La Paz County, no local rules, standards, and/or ordinances would limit construction noise. Mitigation Measure N-1a, in combination with the notification under Mitigation Measure L-1a, would mitigate the construction noise impact to a less than significant level (Class II).

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

N-1a **Implement best management practices for construction noise.** SCE shall employ the following noise-suppression techniques to minimize the impact of temporary construction noise and avoid possible violations of local rules, standards, and ordinances:

- Construction noise shall be confined to daytime, weekday hours (e.g., 7:00 a.m. to 6:00 p.m.) or an alternative schedule established by the local jurisdiction;
- Construction equipment shall use noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer;
- Construction traffic shall be routed away from residences and schools, where feasible;
- Unnecessary construction vehicle use and idling time shall be minimized to the extent feasible. 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 should be shut off. (Note: certain equipment, such as large diesel-powered vehicles, require extended idling for warm-up and repetitive construction tasks.)

Operational Impacts

Impact N-2: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines (Class III)

Corona discharge associated with high-voltage power transmission is heard near an energized line as a crackling or hissing sound. Audible noise from the corona effect can be about 50 dBA near the edge of a 230 kV transmission line ROW during wet conditions and above 50 dBA for a 500 kV line. Along the existing DPV1, corona noise has been estimated by SCE to be 59.3 dBA during rain and heavy electrical loads on the line. This is the existing “L5” level, the level that would be exceeded five percent of the time. For the Devers-Harquahala 500 kV portion of the project, corona noise would increase to 61.3 dBA L5 as measured at the edge of the ROW of the new line (SCE, 2005). The new series capacitor banks would also generate line noise at their proposed location near the Kofa National Wildlife Refuge.

Worst-case wet weather and heavy load conditions would not normally occur continuously during a 24-hour period, but if they do, modeling results provided by SCE in a late-filed exhibit (August 1, 2006) show that the corona noise caused by the existing DPV1 line ~~(59.3 dBA) over 24 hours continuously becomes equivalent to 65.7~~ is 64.0 Ldn, and the future noise level with the Proposed Project ~~(61.3 dBA) over 24 hours continuously~~ would be ~~67.7~~ 65.7 Ldn. The prevailing arid environment ensures that such noise would not be common. However, this noise level would exceed the maximum protective level recommended by U.S. EPA for outdoor activity interference (shown in Table D.8-9). The levels would be below 65 Ldn at all times for any location greater than ~~200-25~~ feet from the edge of the Devers-Harquahala ROW.

The precise location of highest possible corona noise is not known at this stage of project design and may not be known until after commencing operation. This is because conductor surface defects, damage, and inconsistencies can influence the corona effect. Practicable measures for eliminating or reducing the wet weather audible noise levels are generally limited to carefully handling the conductor during construction to avoid damaging the surface and altering the conductor size and bundling configuration. SCE can be expected to treat the conductor with care during construction to avoid creating irregularities (e.g., nicks, scrapes, and burrs) on the conductor surface, which can cause localized increases in corona and audible noise. SCE would normally take precautions to avoid damaging the line in this way because the physical strength of the line and its ability to transmit power could also otherwise be impacted.

The Proposed Project would result in a two-decibel increase above the levels caused by the existing DPV1 line. This project-related noise increase would exacerbate noise levels in the vicinity of the lines, but it would not be a substantial (more than five dBA) increase at any location, nor would it violate any Maricopa County or La Paz County noise limitations. As such, the permanent increase in noise levels along this segment of the Proposed Project would be classified as an adverse but less than significant impact (Class III).

Impact N-3: Maintenance activities during transmission line operation would increase ambient noise levels (Class III)

Routine inspection and maintenance of the transmission lines would be accomplished with periodic ground access (trucks) and helicopter fly-overs. SCE patrols the existing DPV1 transmission line a minimum of once per year. With the proposed Devers-Harquahala line in place, the yearly patrol for the new line would be combined with the yearly patrol for the existing line, and a second yearly trip would not be necessary. Thus, the frequency of patrols along the entire Devers–Palo Verde corridor (including both

existing and future transmission lines) would not change with the Proposed Project. However, the duration of the patrols would be extended. Patrols between Devers and the Palo Verde area by helicopter normally require one full 8-hour day, and patrol by truck requires three weeks to accomplish. The addition of another circuit to this corridor would increase the helicopter patrol time by four additional hours each year, and patrol time by truck would increase by one week to a total of four weeks (SCE, 2005). In populated areas, SCE pilots generally avoid flying near homes by flying at elevations higher than the transmission lines or away from the centerline of the transmission lines (SCE, 2005). Maintenance of the 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 trucks that would be used during inspection activities would generate noise levels of approximately 80 dBA at 200 feet and approximately 75 dBA at 50 feet, respectively.

The frequency of the patrols along the Devers–Palo Verde corridor would not change after construction of the Proposed Project. Visits to substations as a result of the Proposed Project would normally involve crews in light utility trucks. Because the visits would be infrequent and would not involve heavy-duty equipment, no notable noise increase would occur as a result of this activity, and the noise impact would be less than significant for all locations along the transmission line ROW (Class III).

D.8.6.2 Kofa National Wildlife Refuge

Construction Impacts

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

The Kofa National Wildlife Refuge is considered to be noise-sensitive as it is an outdoor area where quiet is a basis for its recreational use. However, the area does not contain noise-sensitive receptors such as homes or schools, and no noise policies apply directly to protecting the refuge from short-term construction noise.

Construction activities occurring within the wildlife refuge would temporarily increase the noise within the refuge. This would occur at the locations of construction activity and along all transport access routes, which would force all construction traffic to traverse the wildlife refuge. Within about 200 feet of the transmission line corridor, peak noise levels over 88 dBA and average noise levels over 65 dBA could occur due to construction. Along access routes, approximately 75 dBA would occur with passing trucks.

SCE proposes to post notices of the construction activities prior to commencing the work (see Section B.3.7, Construction Activities), and Mitigation Measure L-1a (in Section D.4, Land Use) would further make users aware of the construction in sufficient advance. This would orient the public users of the wildlife refuge to the possibility of construction noise of the construction (SCE, 2005), which would allow refuge users to avoid the construction area, thus ensuring that construction noise would not substantially affect recreational users.

Implementation of Mitigation Measure N-1a (implement best management practices for construction noise) would reduce the likelihood of substantially disturbing receptors within the wildlife refuge because quiet is a basis for use of this area and the adjacent wilderness areas. With Mitigation Measure N-1a, the potential impact of construction noise in the Kofa National Wildlife Refuge would be adverse but less than significant (Class II).

Operational Impacts

Impact N-2: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines (Class III)

Operation of the Proposed Project would create increased noise (up to ~~67.765.7~~ Ldn during wet weather and heavy line loads) at the edge of the ROW. Although there are no ambient noise policies that apply directly to the wildlife refuge, the U.S. EPA generally sets 55 Ldn as a maximum target level for sensitive outdoor areas (see Table D.8-9). The existing conditions in the immediate vicinity of the line exceed this level, and the project would exacerbate the effect during the occasional wet weather and heavy line load conditions. The Proposed Project would not cause any new violation of local noise standards because while the U.S. EPA-recommended level of 55 Ldn is an example a protective level, it has not been specifically adopted for the Kofa National Wildlife Refuge.

The corona noise from the proposed line would occur in a previously established corridor that causes noise above the U.S. EPA target levels in the existing conditions, and the increased noise would remain in the immediate vicinity of the corridor. The Proposed Project would not cause a substantial (more than five dBA) change compared to existing conditions. As such, corona noise impacts would be adverse but less than significant (Class III).

D.8.6.3 Kofa National Wildlife Refuge to Colorado River

This portion of the Devers-Harquahala corridor contains one noise-sensitive receptor near Crystal Hill Road, and in La Paz County, no local noise standards are applicable. The corridor also passes through Copper Bottom Pass, which is popular for backcountry recreation.

Construction Impacts

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

Given the presence of a residence in this segment, Mitigation Measure N-1a (implement best management practices for construction noise) should be implemented to reduce the likelihood of substantially disturbing the residence for any work within one-quarter mile of the home and within the Copper Bottom Pass recreation area. Mitigation Measure L-1a would provide advance notification of the construction noise near the home. With implementation of Mitigation Measure N-1a, the impact would be less than significant (Class II).

Operational Impacts

Impact N-2: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines (Class III)

The Proposed Project would result in a two-decibel increase above the levels caused by the existing DPV1 line. The corona noise from the proposed line would occur in a previously established corridor that causes noise above the U.S. EPA target levels in the existing conditions, and the increased noise would remain in the immediate vicinity of the corridor. This project-related noise increase would exacerbate noise levels in the vicinity of the lines, but it would not be a substantial (more than five dBA) increase at any location. As such, the permanent increase in noise levels along this segment of the Proposed Project would be classified as an adverse but less than significant impact (Class III).

D.8.6.4 Palo Verde Valley (Colorado River to Midpoint Substation)

This portion of the Devers-Harquahala corridor includes approximately 13 residences within one-quarter of a mile of the Proposed Project, mainly in the unincorporated Riverside County community of Ripley.

Construction Impacts

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

Construction activities would temporarily increase the noise at the locations of construction activity and along all transport access routes, which may occur near residences. Within about 200 feet of the transmission line corridor, peak noise levels over 88 dBA and average noise levels over 65 dBA could occur due to construction. Along access routes, approximately 75 dBA would occur with passing trucks. In unincorporated Riverside County, the local General Plan policies require construction to follow established hours and mandatory use of mufflers and engine shrouds as a best management practice for construction (e.g., Noise Element Policies N.12.2 and N.12.4). Implementing Mitigation Measure N-1a would minimize noise consistent with Riverside County Noise Element policies, including Policies N.12.1, N.12.2, and N.12.4. Implementing Mitigation Measure L-1a would provide advance notification of the construction noise to the nearest homes. With Mitigation Measure N-1a, construction activities would comply with local noise policies, and the construction noise impact would be reduced to a less than significant level (Class II).

Operational Impacts

Impact N-2: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines (Class I)

Corona noise levels during wet weather and heavy line loads with the proposed Devers-Harquahala segment would increase to about ~~67-765.7~~ Ldn at the edge of the ROW. The proposed 500 kV line would be located approximately 100 feet from two to three residences at State Route 78 (MP E108.4), which would increase exposure of these sensitive land uses to levels in excess of 65 Ldn. This increase would violate local policies. Riverside County 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.

Although the prevailing arid environment ensures that high levels of corona noise would not be a common occurrence, the portions of the residences within ~~200-25~~ feet of the ROW would occasionally be exposed to unacceptable noise levels, as defined by county policies. SCE recognizes the need to either mitigate the noise level or relocate the line. There are few options for mitigating the noise as it would be a function of conductor design and configuration, which is related to the power transmission needs and tower design and configuration. SCE would be expected to properly handle the conductor during construction to avoid damage that could exacerbate corona effect and undermine the load-carrying capability of the line. This would help to avoid the audible noise to the extent feasible. For the residences in this segment, SCE hopes to relocate the homes, as proposed in APM L-7 (Table D.8-13 and see Section B, Description of Proposed Project, Table B-16, Applicant Proposed Measures – Land Use); however, SCE has provided no details on whether the proposed relocation of the homes or the lines can feasibly be implemented. If implementation of APM L-7 proves problematic, this violation of the Riverside County noise policies would create an infrequent, but significant, impact for ~~homes-residential land uses~~ within ~~200-25~~ feet of the ROW (MP E108.4) that would remain unavoidable (Class I).

D.8.6.5 Midpoint Substation

Construction Impacts

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

There are no noise-sensitive receptors near the proposed Midpoint Substation site, but depending on the routes used, residences may occur within one-quarter mile of the access routes used by construction crews and deliveries, creating a potentially significant impact. The construction activities would require Mitigation Measure N-1a to avoid unnecessary noise in a manner consistent with Riverside County Noise Element policies; this measure would reduce the impact to a less than significant level (Class II).

Operational Impacts

Discussion of Impact N-2 would not be necessary for the proposed substation because it is not part of the transmission line ROW. The proposed optional Midpoint Substation would however be a new source of noise at its remote location, which is discussed below.

Impact N-4: Operation of modified and new substations would result in increased ambient noise levels (Class III)

Substations include transformer banks and circuit breakers that create “hum” normally around 60 dBA and occasional instantaneous sounds in the range of 70 to 90 dBA during activation of circuit breakers. The proposed optional Midpoint Substation would introduce these new noise sources (transformers and circuit breakers) to its location. The tonal quality of transformer “hum” is typically the most offensive characteristic of transformer noise. The U.S. EPA recommends adding a 5 dB penalty to pure-tone noise levels to account for the increased sensitivity of people to noise containing pure tones (U.S. EPA, 1974). This penalty “normalizes” the predicted noise level for its offensive nature. The noise levels surrounding the substation would likely be close to 60 dBA near the substation fence. Because of the relatively low level noise sources and the lack of sensitive receptors near the Midpoint Substation site, the operational noise impact would be adverse but less than significant (Class III).

D.8.6.6 Midpoint Substation to Cactus City Rest Area

This portion of the Devers-Harquahala corridor contains one noise-sensitive receptor about 600 feet from the corridor in the Chuckwalla Valley area. The corridor would also pass through or near various recreational areas with ACEC or wilderness area status.

Construction Impacts

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

Implementing Mitigation Measure N-1a would minimize construction noise within one-quarter mile of the single residence and within the recreational areas (Chuckwalla Valley Dune Thicket ACEC and the Alligator Rock ACEC), which would be consistent with Riverside County Noise Element policies, including Policies N.12.1, N.12.2, and N.12.4. Implementing Mitigation Measure L-1a would provide advance notification of the construction noise to the nearby home. With Mitigation Measure N-1a, construction activities would comply with local noise policies, and the construction noise impact would be reduced to a less than significant level (Class II).

Operational Impacts

Impact N-2: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines (Class III)

The Proposed Project would result in a two-decibel increase above the levels caused by the existing DPV1 line. This project-related noise increase would exacerbate noise levels in the vicinity of the lines, but it would not be a substantial (more than five dBA) increase at any location. The new series capacitor banks would also generate line noise at their proposed location near Red Cloud Mine Road.

The corona noise would be confined to the previously established corridor. At distances greater than 200 25 feet from the proposed Devers-Harquahala ROW, corona noise would be acceptable for residential land uses according to Riverside County policies. Recreational uses would not experience a substantial noise increase. The impact of corona noise caused by operation of the Proposed Project in this segment would therefore be adverse but less than significant (Class III).

D.8.6.7 Cactus City Rest Area to Devers Substation

This portion of the Devers-Harquahala corridor contains a few rural residences and low- to medium-density residential areas associated with the communities of Thousand Palms and North Palm Springs. The Coachella Valley Preserve is crossed, and open space that is used for recreation is also crossed in Coachella and Cathedral City (see Table D.8-3).

Construction Impacts

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

Construction noise would not exceed the applicable threshold within the Coachella Valley Preserve of 105 dBA. Construction noise would adversely impact homes within one-quarter mile of the work and the recreational areas such as the Coachella Valley Preserve traversed by construction. Implementing Mitigation Measure N-1a would minimize noise consistent with Riverside County Noise Element policies and the policies and ordinances of Coachella and Cathedral City, which specify certain hours for construction. For activities nearest to the homes, implementing Mitigation Measures L-1a would provide advance notification of the construction noise disturbance. With Mitigation Measure N-1a, the construction noise impact would be less than significant (Class II) and in compliance with local policies.

Operational Impacts

Impact N-2: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines (Class I)

Corona noise levels with the project would conflict with local noise standards in unincorporated Riverside County (i.e., communities of Thousand Palms and North Palm Springs) and would exceed the sound level limits for sensitive uses in the Cities of Indio and Cathedral City. The impact would not be significant within the Cities of Indio and Cathedral City because residential uses, schools, health care facilities, libraries, churches, or other sensitive receptors are not located along the corridor (Class III). With the Proposed Project built and operational, future development of these uses near the corridor in these cities would be precluded by the local noise ordinances. Where receptors are located more than 200 25 feet from the edge of the ROW, this impact would be adverse, but less than significant (Class III).

The corona noise impact would, however, be significant for residences of unincorporated Riverside County (Thousand Palms and North Palm Springs) within ~~200-25~~ feet of the ROW. The ~~portions of these~~ residences in this area of impact would be exposed to unacceptable noise levels over 65 CNEL during the infrequent occasion of wet conditions and heavy line loads. This violation of the Riverside County policies would result in a potentially significant noise impact. SCE identified this as an impact for residences in the Palo Verde Valley (Section D.8.6.4) and proposed to relocate those homes through APM L-7 (Table D.8-13), but because APM L-7 did not address this impact for homes outside of the Palo Verde Valley, this impact would occur in Thousand Palms and North Palm Springs. SCE has provided no details on whether the homes or the lines can feasibly be relocated. In ~~these~~ areas where homes residential land uses are within ~~200-25~~ feet of the ROW (MP E214–E215 and MP E226–E226.5), the impact would be infrequent, but significant and unavoidable (Class I).

D.8.6.8 Devers Substation

Construction Impacts

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

There are no noise-sensitive receptors in the immediate vicinity of the Devers Substation, but homes are located along the access routes that would be used by construction crews and deliveries, creating a potentially significant impact. The resulting construction noise would require Mitigation Measure N-1a to avoid unnecessary noise in a manner consistent with Riverside County Noise Element policies (Class II).

Operational Impacts

Discussion of Impact N-2 would not be necessary for the Devers Substation because it is considered separate from the transmission line ROW. The Proposed Project would however add new sources of noise to the substation, which are discussed below.

Impact N-4: Operation of modified and new substations would result in increased ambient noise levels (Class III)

Substation modifications would include new equipment such as a new transformer bank, circuit breakers, and shunt reactors for voltage control at Devers. The project would introduce these new noise sources to the existing Devers Substation. Noise levels surrounding the substation would increase as a result of the new equipment, but the level of noise would be relatively low (about 60 dBA near the substation fence), and no sensitive receptors are located in the immediate vicinity of the Devers Substation. As such, the operational noise impact would be adverse but less than significant (Class III).

D.8.7 Environmental Impacts and Mitigation Measures for the Proposed Project – West of Devers

This section discusses impacts and mitigation measures for the West of Devers (WOD) portion of the DPV2 Project. The discussion is divided into five geographic areas. Following this summary discussion, both construction impacts and operational impacts are addressed for the local areas.

D.8.7.1 Devers Substation to East Border of Banning

This portion of the WOD corridor encounters many rural residences and low- to medium-density residential areas in unincorporated Riverside County and in the Morongo Indian Reservation.

Construction Impacts

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

Construction of the WOD upgrades would involve the short-term use of heavy equipment and helicopters in a manner similar to that identified in Section D.8.6 above, for the Devers-Harquahala segment. Night work would likely be needed in some urban areas of the WOD corridor to avoid disrupting traffic on busy roadways (I-10 and I-215 are crossed) and/or to avoid periods of high electrical demand. Night work, if needed because of safety or traffic issues and approved by local jurisdictions, would likely expose nearby residences to noise levels that would be disruptive or cause a nuisance. Helicopter operations or other work needed to string conductor across the highways at night would likely cause annoyance to residences in the vicinity. However, the Federal Aviation Administration may require homes near helicopter activity to be temporarily vacated for safety reasons. This would help to minimize exposure of residents to helicopter noise.

Approximately 24 months of work would be necessary to build the WOD portion of the project, with multiple crews at separate locations. See Section B.3.7.1, Table B-6 (230 kV Transmission Line Labor Force and Equipment Requirements) for the types of equipment that would be required to construct the WOD 230 kV line upgrades.

Noise levels for typical pieces of construction equipment (at 50 feet) are listed in Table D.8-15, and the composite noise levels associated with the construction activities are summarized in Section D.8.6. In general, construction work within 200 feet of any location would cause noise levels averaging around 65 dBA, with intermittent peaks up to about 88 dBA.

To reduce construction noise for activities within one-quarter mile of receptors, implementing Mitigation Measure N-1a would minimize noise consistent with Riverside County Noise Element policies including Policies N.12.1, N.12.2, and N.12.4. Implementing Mitigation Measure L-1a would provide advance notification of the construction noise to the nearest homes. As a result, this impact would be less than significant. With Mitigation Measure N-1a, noise from construction activities would be less than significant, and in compliance with local policies (Class II).

Operational Impacts

Impact N-2: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines (Class III)

The Proposed Project would change the noise levels in the WOD corridor as a result of the corona effect of the transmission lines. Noise levels along the 230 kV transmission lines would decrease as a result of the Proposed Project because of the increased capacities of the new conductors and the reconfiguration of the towers within the corridor. Table D.8-16 shows the existing and future noise levels expected with the Proposed Project in the WOD corridor, and no substantial permanent increase in noise levels would occur due to corona noise for any segment along the WOD corridor.

The proposed WOD upgrades would provide reduced ambient noise levels in the area, although any adjacent sensitive uses would continue to be occasionally exposed to levels above 60 Ldn. The wet weather noise levels in this segment approach the levels of possible violations in the existing conditions. East of Banning, across the Morongo Indian Reservation, the corona noise level with the Proposed Project would be 55.9 dBA, or 62.3 Ldn during a 24-hour period of wet weather and heavy

Table D.8-16. Corona Noise Levels, During Wet Weather – West of Devers

Corridor Sections	Existing Noise Level (dBA, at ROW edge)	Proposed Project Noise Level (dBA, at ROW edge)
West of Devers, East of Banning	57.5	55.9
Banning to San Bernardino Junction	70.4	30.0
San Bernardino Junction to Vista Substation	58.1	56.8
San Bernardino Junction to San Bernardino Substation	49.7	34.3

Source: SCE, 2005, Response to Question 156.

line loads. Although these project-related noise levels are “conditionally acceptable” for most sensitive land uses (over 60 Ldn) according to State guidelines set forth in Table D.8-10, they would be lower than the existing levels. By reducing existing noise, the WOD upgrades would be consistent with the noise standards for unincorporated Riverside County, which specify protecting noise-sensitive land uses by restricting or relocating noise sources. Because corona noise would contribute to existing potentially incompatible ambient noise levels along this segment of the WOD corridor, an adverse impact would occur, but this impact would be less than significant because it would be an improvement over existing conditions (Class III).

Impact N-3: Maintenance activities during transmission line operation would increase ambient noise levels (Class III)

Maintenance activities related to the WOD upgrades would involve truck traffic and occasional helicopter fly-overs, as in the existing conditions, but at a slightly decreased frequency. This activity would cause noise along the corridor. The reduced frequency of maintenance, and the associated noise of this activity along the corridor, would not adversely affect ambient noise levels in the WOD corridor. Therefore, in all WOD segments, this impact would be adverse but less than significant (Class III). This impact is not further addressed in the segment discussions below.

D.8.7.2 Banning and Beaumont

Construction Impacts

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

City of Banning. Construction noise for the WOD upgrades during daytime, weekday hours in the City of Banning must meet relatively stringent standards at residences and schools. Construction could cause the 55 dBA interior standard for residences or schools within the City of Banning to be exceeded because intermittent exterior noise levels could exceed 75 dBA over short periods at any location having an unobstructed line of sight within about 800 feet of construction. This limit would likely be exceeded at homes adjacent to the WOD corridor near North San Gorgonio Avenue and near Mountain Avenue along Mockingbird Lane in Banning, which would cause a substantial noise disturbance. For any construction activity within 800 feet of residences or schools in the City of Banning, SCE would need to develop a schedule for work with the City Building Inspector to avoid excessive construction noise impacts. Imple-

mentation of APM N-1, which commits SCE to compliance with the Banning noise ordinance, combined with implementation of Mitigation Measure N-1a would reduce the potential impact of construction noise in the City of Banning to a less than significant level (Class II). Mitigation Measure L-1a would provide advance notice of the activity.

City of Beaumont. Construction noise in the City of Beaumont would affect a greater density of sensitive receptors, but due to the local noise ordinance, it would be exempt from noise standards, provided that it occurs during daytime hours. To address construction noise for activities near receptors, Mitigation Measure N-1a would ensure adherence to the local construction schedule, and Mitigation Measure L-1a would provide advance notice. Mitigation Measure N-1a would ensure that the impacts of construction noise are reduced to a less than significant level (Class II).

Operational Impacts

Impact N-2: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines (Class III)

Corona noise levels during wet weather and heavy line loads in this area, including Banning and Beaumont, would decrease substantially from levels over 70 dBA to 30 dBA at the edge of the ROW, as shown in Table D.8-16. The reduced noise levels caused by the proposed upgrades would be acceptable for surrounding sensitive uses, and no sensitive uses would be exposed to levels exceeding the local rules, standards, and ordinances. As such, the impact of corona noise would be less than significant (Class III).

D.8.7.3 Calimesa and San Timoteo Canyon

Construction Impacts

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

City of Calimesa. Construction activities in the City of Calimesa during daytime and weekday hours must meet relatively stringent standards at residential property lines (e.g., 75 dBA over eight hours or 90 dBA over 15-minute periods). Some homes in Calimesa occur within 100 feet of the proposed work areas, especially those near the I-10 crossing of the WOD upgrades. As such, the Proposed Project could cause the short-term standards in the Calimesa Municipal Code to be exceeded because intermittent peak noise levels at 100 feet from the activity could be as high as 94 dBA during short periods, which would cause a substantial noise disturbance. At locations more than 200 feet from the proposed construction, the construction noise would diminish to levels likely to comply with the Calimesa standards. As specified in APM N-1, which commits SCE to compliance with the Calimesa noise ordinance, SCE would need to develop a work schedule to avoid excessive construction noise impacts in the City of Calimesa. Implementation of Mitigation Measures N-1a would further reduce the potential impact of construction noise in the City of Calimesa to a less than significant level (Class II). Mitigation Measure L-1a would provide advance notice of the activity.

Riverside County. Unincorporated Riverside County in the San Timoteo Canyon includes many residences that would be near the proposed construction activity. Implementing Mitigation Measure N-1a would minimize unnecessary construction noise in this area, consistent with Riverside County Noise Element policies (Class II), and implementing Mitigation Measure L-1a would provide advance notification of the construction work to nearby residences.

City of Redlands and San Bernardino County. In the City of Redlands and unincorporated San Bernardino County near this segment of the proposed WOD upgrades, residential receptors are distantly scattered. Construction noise would be prohibited during nighttime and weekend hours in Redlands and the unincorporated area. The Redlands Noise Ordinance would also require the equipment to be equipped with mufflers and air intake silencers. This would be accomplished by implementing Mitigation Measure N-1a. Additionally, as specified in APM N-1, SCE would need to comply with the Redlands noise ordinance, which does not specifically exempt noise from daytime construction. With these measures and the advance notification of Mitigation Measure L-1a, the construction noise impact in Redlands and unincorporated San Bernardino County would be reduced to a less than significant level (Class II).

Operational Impacts

Impact N-2: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines (Class III)

Corona noise levels during wet weather and heavy line loads in this area (Banning to San Bernardino Junction) would decrease substantially, to 30.0 dBA at the edge of the ROW, as shown in Table D.8-16. The reduced noise levels caused by the proposed upgrades would be acceptable for surrounding land uses, and no sensitive uses would be exposed to levels exceeding the local thresholds. As such, the impact of operational noise would be less than significant (Class III).

D.8.7.4 San Bernardino Junction to Vista Substation

Construction Impacts

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

Cities of Loma Linda, Colton, and Grand Terrace. In the City of Loma Linda, no noise-sensitive uses are adjacent to this portion of the corridor. Residential uses occur near this portion of the corridor in the Cities of Colton and Grand Terrace and in unincorporated San Bernardino County. Neither the Colton Municipal Code nor the Grand Terrace Municipal Code specifically exempt noise from daytime construction, which means that in order to comply with the local standards as specified in APM N-1, SCE would need to obtain a construction noise waiver from each city. Additionally, the waiver obtained in the City of Grand Terrace would need to identify how the project would avoid movement of construction equipment within 50 feet of an occupied residence. San Bernardino County, however, allows construction noise to be exempt during daytime, weekday hours. Construction noise that could occur outside of daytime hours would be limited by Mitigation Measure N-1a, and Mitigation Measure L-1a would provide advance notification of the nearby residences in these communities. With Mitigation Measure N-1a, the impact of construction noise along the corridor between San Bernardino Junction and Vista Substation would be reduced to a less than significant level (Class II).

Operational Impacts

Noise from substation modifications would occur as part of the WOD upgrades. However, the proposed facilities (replacement of conductors, disconnect switches and relays) at the existing Vista and San Bernardino Substations, as well as those proposed for the Valley Substation, would not be substantial new sources of noise or “hum” because this replacement equipment would not be substantially different from that presently at the substations. This would not involve large voltage changes or voltage control

beyond the existing facilities. The types of noises at substations commonly range around 50 to 60 dBA at distances of 100 feet. As such, Impact N-4 (Operation of modified and new substations would result in increased ambient noise levels) would not cause adverse effects in the WOD segment of the Proposed Project. This impact is not further addressed in the segment discussions below.

Impact N-2: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines (Class III)

Between San Bernardino Junction and the Vista Substation, in the Cities of Loma Linda, Colton, and Grand Terrace, the project segment leading up to the Vista Substation would cause 56.8 dBA, or up to 63.2 Ldn during occasional wet weather and heavy loads. This would be a marginal decrease in this segment of slightly more than one decibel, as shown in Table D.8-16. Receptors within about 800 feet of the corridor in unincorporated San Bernardino County (near Reche Canyon Road) would occasionally be exposed to noise levels above the 55 Ldn allowed by the San Bernardino County Noise Element Policy NO-1. Although the project would reduce existing corona noise, the occasional level of 63.2 Ldn would continue to exceed the county performance standards for residential or other noise-sensitive receivers. The prevailing arid environment ensures that high levels of corona noise would not be a common occurrence, but the residences near the corridor would continue to be exposed to excessive noise during wet conditions and heavy line loads. Because this occasional, existing violation of the San Bernardino County policies would be reduced with implementation of the Proposed Project, corona noise levels in unincorporated San Bernardino County would result in an adverse but less than significant impact (Class III).

In the City of Loma Linda no noise-sensitive uses are adjacent to this portion of the corridor. As such, although the project would cause noise over the Loma Linda noise ordinance limits for residential uses (50 dBA at night) and the policy goals for libraries, churches, hospitals, and nursing homes (60 dBA), no violation would occur. In Colton and Grand Terrace, the project would comply with the applicable thresholds in the local ordinances for adjacent residences: 65 dBA (in Colton) and 65 CNEL (in Grand Terrace). Because no sensitive uses would be exposed to levels exceeding locally applicable thresholds, and because the project would reduce operational noise, the impact of operational noise in Loma Linda, Colton, and Grand Terrace would be less than significant (Class III).

D.8.7.5 San Bernardino Junction to San Bernardino Substation

Construction Impacts

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

City of Loma Linda. Construction noise may temporarily exceed the acceptable noise levels at homes and schools in the City of Loma Linda, which would cause a substantial noise disturbance. The local noise ordinance allows construction activities in Loma Linda to exceed these levels only during the daytime and only after first obtaining a temporary noise waiver from the City Manager. As specified in APM N-1, SCE would need to comply with the Loma Linda noise ordinance by obtaining a noise waiver, because the ordinance does not specifically exempt noise from daytime construction. With Mitigation Measure N-1a, the construction noise impact in Loma Linda would be further reduced to a less than significant level (Class II).

Operational Impacts

Impact N-2: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines (Class III)

Between the San Bernardino Junction and the San Bernardino Substation, corona noise levels during wet weather and heavy line loads with the proposed WOD upgrades would decrease substantially, to 34.3 dBA at the edge of the ROW, as shown in Table D.8-16. The reduced noise levels caused by the system including the proposed upgrades would be acceptable for surrounding land uses, and no sensitive uses would be exposed to levels exceeding the local thresholds. As such, the impact of operational noise would be adverse but less than significant (Class III).

D.8.8 Alternatives for Devers-Harquahala

D.8.8.1 SCE Harquahala-West Alternative

The corridor of the Harquahala-West Alternative contains no noise-sensitive receptors. Rural residences along Courthouse Road are more than one-quarter mile from the corridor of this alternative. Given the lack of receptors, no potentially significant noise impacts would occur during construction of the transmission line, and it would not be necessary to implement mitigation measures for noise. The noise caused by operation of the Harquahala-West Alternative would not result in a substantial permanent increase affecting any noise-sensitive receptors. Noise impacts would be less than significant.

D.8.8.2 SCE Palo Verde Alternative

Environmental Setting

The corridor of the Palo Verde Alternative contains one dwelling that would be considered a noise-sensitive receptor, about one-quarter mile from the corridor, south of Salome Highway (MP PV1).

Impacts and Mitigation Measures

The noise caused by operation of the Proposed Project would not result in a substantial permanent increase affecting any noise-sensitive receptors because the only sensitive receptor in the area would be sufficiently distant from the new line. The operational noise impacts [Impact N-2 (Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines); Impact N-3 (Maintenance activities during transmission line operation would increase ambient noise levels); and Impact N-4 (Operation of modified and new substations would result in increased ambient noise levels)] would be less than significant.

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

Construction activities could adversely affect noise at the home nearest the corridor of the Palo Verde Alternative. Implementing Mitigation Measure N-1a would minimize noise consistent with Maricopa County Noise Objective 2E2 in the vicinity of this receptor (Class II).

D.8.8.3 Harquahala Junction Switchyard Alternative

No noise-sensitive receptors are near the location of the Harquahala Junction Switchyard. Given the lack of receptors, no potentially significant noise impacts would occur, and it would not be necessary to implement mitigation measures for noise. The noise caused by operation of the Harquahala Junction Switchyard Alternative would not result in a substantial permanent increase affecting any noise-sensitive receptors. Noise impacts would be less than significant.

D.8.8.4 Desert Southwest Transmission Project Alternative

Environmental Setting

Noise-sensitive receptors occurring along the corridor of the Desert Southwest Transmission Project (DSWTP) Alternative include all of the same receptors identified for the Proposed Project along with an additional small community of residences near the proposed Keim Substation/Switching Station and a rural residence about 500 feet from the corridor along Aztec Avenue in the Desert Center area of unincorporated Riverside County (south of I-10). No additional noise-sensitive receptors would be located near the proposed Mesa Verde Midpoint Substation or Dillon Road Substation/Switching Station sites (north of Coachella) under this alternative.

Impacts and Mitigation Measures

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

Construction noise would impact the same receptors affected by the Proposed Project, described above, and the additional sensitive receptors near the Keim Substation and near Desert Center would also experience the impact. Because this alternative would largely follow the Proposed Project corridor between the proposed Midpoint Substation and Devers Substation, the remainder of other noise-sensitive land uses affected by the Desert Southwest Transmission Project Alternative would be the same as those encountered by the Proposed Project. To address the potentially significant impacts of construction noise, implementation of Mitigation Measure N-1a would be required for residences within one-quarter mile of construction activity. With this mitigation, the construction noise impact would be reduced to less than significant levels (Class II).

Impact N-2: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines (Class I)

Corona noise under this alternative would affect all the locations identified for the Proposed Project, plus the noise impact would also occur for additional receptors along the corridor of the DSWTP Alternative (near the Keim Substation and near Desert Center). The Final EIS/EIR for the DSWTP indicates that estimated corona noise would be approximately 44 dBA for the line (DSWTP, 2005), but this estimate is not based upon the design and configuration of DPV2. The level of worst-case wet weather and heavy load noise could be substantially higher than that of the DSWTP Final EIS/EIR because of the additional loads that this line would carry from Arizona as an alternative to the Proposed Project. Similar to the Proposed Project, this alternative could occasionally cause more than 65 CNEL along the corridor, and introduction of this corona noise would create unacceptable conditions according to Riverside County policies for any ~~residences~~ residential land use within about ~~200-25~~ feet. This would cause potentially significant operational noise impacts to the sensitive uses near the Keim Substation. Also, similar

to the Proposed Project, the alternative would violate local standards or policies striving to minimize existing noise (Riverside County Noise Element Policies N.1.1 and N.1.3). To address this impact at other locations in the Palo Verde Valley, SCE proposed to relocate nearby residences through APM L-7 (Table D.8-13), but because APM L-7 did not address this impact for homes outside of the Palo Verde Valley, this impact would occur for homes near the Keim Substation. There are no details on whether the homes or the lines can feasibly be relocated. This violation of Riverside County policies would result in an infrequent, but significant and unavoidable, noise impact for ~~homes~~ residential land uses within ~~200-25~~ feet of the ROW of the DSWTP Alternative (Class I).

D.8.8.5 Alligator Rock–North of Desert Center Alternative

Environmental Setting

The corridor of the Alligator Rock–North of Desert Center Alternative contains no noise-sensitive receptors; however, this alternative would create a new transmission corridor north of Desert Center, which could result in more homes being affected by noise along access routes.

Impacts and Mitigation Measures

The noise caused by operation of the Proposed Project would not result in a substantial permanent increase affecting any noise-sensitive receptors because sensitive receptors in Desert Center would be sufficiently distant from the new line. The operational noise impacts [Impact N-2 (Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines); Impact N-3 (Maintenance activities during transmission line operation would increase ambient noise levels); and Impact N-4 (Operation of modified and new substations would result in increased ambient noise levels)] would be less than significant.

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

Construction activities to access this new transmission corridor would cause increased construction traffic noise through Desert Center, which could affect homes along access routes. As a result, implementing Mitigation Measure N-1a would be required to minimize unnecessary construction noise along this segment (Class II).

D.8.8.6 Alligator Rock–Blythe Energy Transmission Route Alternative

Environmental Setting

Noise-sensitive receptors occurring along the corridor of the Alligator Rock–Blythe Energy Transmission Route Alternative include one rural residence near Desert Center that would not be otherwise affected by the Proposed Project. This is the same property that would be affected by the DSWTP Alternative. It is about 500 feet from this corridor along Aztec Avenue in the Desert Center area of unincorporated Riverside County (south of I-10).

Impacts and Mitigation Measures

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

The construction noise impact experienced by the sensitive receptor near Desert Center would be similar to that which would occur under the DSWTP Alternative, described above. To address impacts during construction, implementation of Mitigation Measure N-1a would be required for residences within one-quarter mile of construction activity. With this mitigation, the construction noise impact would be reduced to a less than significant level (Class II).

Impact N-2: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines (Class III)

Corona noise would occur along the corridor of the Alligator Rock–Blythe Energy Transmission Route Alternative in locations beyond those that would occur under the Proposed Project, and this alternative could increase corona noise to levels occasionally exceeding 65 CNEL for locations within about ~~200~~ 25 feet. This would not violate local noise policies at the Desert Center residence because the home is located at a sufficient distance to be protected from corona noise. As such, the impact of operational noise would be less than significant for this alternative (Class III).

D.8.8.7 Alligator Rock–South of I-10 Frontage Alternative

Environmental Setting

The same rural residence near Desert Center that would be affected by the DSWTP Alternative and the Blythe Energy Transmission Route Alternative occurs along the corridor of the Alligator Rock–South of I-10 Frontage Alternative. It is about 500 feet from this corridor along Aztec Avenue in the Desert Center area of unincorporated Riverside County (south of I-10).

Impacts and Mitigation Measures

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

The construction noise impact to the sensitive receptor near Desert Center would be similar to that which would occur under the DSWTP Alternative and the Blythe Energy Transmission Route Alternative, described above. To address impacts during construction, implementation of Mitigation Measure N-1a would be required for residences within one-quarter mile of construction activity. With this mitigation, the construction noise impact would be reduced to less than significant levels (Class II).

Impact N-2: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines (Class III)

This alternative would introduce corona noise to the nearby home, and it could increase corona noise to levels occasionally exceeding 65 CNEL for locations within about ~~200~~ 25 feet. This would not violate local noise policies at the Desert Center residence because the home is located at a sufficient distance to be protected from corona noise. As such, the impact of operational noise would be less than significant for this alternative (Class III).

D.8.9 Alternatives for West of Devers

D.8.9.1 Devers-Valley No. 2 Alternative

Environmental Setting

Ambient Noise Levels. Activities related to industrial use (e.g., wind generating facilities and existing transmission lines), transportation facilities, and dispersed residential uses provide ambient noise levels generally between 50 and 70 Ldn, depending on the proximity to industrial uses and major roads.

Noise-Sensitive Receptors. The noise-sensitive receptors that occur along the Devers-Valley No. 2 Alternative corridor include residences in unincorporated Riverside County. In the Cabazon Estates area of the San Gorgonio Pass in unincorporated Riverside County, the corridor passes through an area of existing and future homes (MP DV11.8–DV15.3), and southernmost portions of the City of Banning are crossed by the corridor. Homes in Banning are near the corridor in the area of East Porter Street and South Hargrave Street (MP DV18–DV20 and again at MP DV23.3–DV24), and homes in the county south of Banning are adjacent to the corridor (MP DV21–DV22.9). The Devers-Valley No. 2 Alternative corridor also traverses the northwest portion of the community of Juniper Flats, where it is adjacent to scattered residences along Contour Avenue, Juniper Flats Road, and Valley Road (MP DV35–DV36). Scattered residences are also located adjacent to the alternative corridor along Briggs Road, Malone Lane, Mountain Avenue, and Mapes Road (MP DV38.7–DV39.5) near the community of Romoland. Between Menifee Road and Valley Substation (MP DV40–DV41.1), the agricultural land of the corridor is bordered by residences to the east and west. Table D.8-17 summarizes the locations of the sensitive receptors in this segment.

This corridor as crosses through noise-sensitive federal natural areas where quiet is a basis for recreational use. The Devers-Valley No. 2 Alternative corridor travels within the Santa Rosa and San Jacinto Mountains National Monument for approximately 4.7 miles, and it crosses the Pacific Crest National Scenic Trail. The alternative would also cross the boundaries of the San Bernardino National Forest and San Jacinto Wilderness Area for approximately 1.9 miles. The corridor also includes the Potrero Area of Critical Environmental Concern, which is designated for its wildlife habitat.

Table D.8-17. Noise-Sensitive Receptors – Devers-Valley No. 2 Alternative

Description of Receptor(s)	Receptor Jurisdiction and Location	Approximate Location Milepost (MP)	Within Approximate Distance (ft)
Residences	Riverside County, along Smoketree, west of Diablo Road	DV0–DV2	< 200
Residences	Riverside County, Cabazon Estates	DV11.8–DV15.3	< 200
Residences	City of Banning, East Porter, Wesley, and Filkins Streets	DV18–DV20	< 200
Residences	Riverside County, south of Banning, Death Valley Road	DV21–DV22.9	< 200
Residences	City of Banning, Sun Lakes	DV23.3–DV24	< 200
Residences	Riverside County, Juniper Flats	DV35–DV36	< 200
Residences	Riverside County, along Malone Lane, others	DV38.7–DV39.5	< 200
Residences	Riverside County, Romoland, along Mapes Road, others	DV40–DV41.1	< 200

Notes: Distances from route to receptors are approximate.

Source: Aspen, 2006.

Impacts and Mitigation Measures

Noise impacts related to construction and operation of the West of Devers portion of the Proposed Project would be avoided with the Devers-Valley No. 2 Alternative, and similar impacts would be created along the Devers-Valley corridor. All of the noise-sensitive receptors, and noise impacts, along the West of Devers corridor would be avoided under the Devers-Valley No. 2 Alternative.

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

The construction noise impact to the sensitive receptors near the Devers-Valley No. 2 Alternative corridor in unincorporated Riverside County and in the City of Banning would be similar to that which would occur under the Proposed Project, described above. For any construction activity within 800 feet of residences or schools in the City of Banning, SCE would need to develop a schedule for work with the City Building Inspector to avoid excessive construction noise impacts. Implementation of APM N-1, which commits SCE to compliance with the Banning noise ordinance, combined with implementation of Mitigation Measure N-1a would reduce the potential impact of construction noise in the City of Banning to a less than significant level. Similarly, implementation of Mitigation Measure N-1a would address the potentially significant impact of construction noise in Riverside County. With this mitigation, the impact of noise from construction of the Devers-Valley No. 2 Alternative would be reduced to a less than significant level (Class II).

Impact N-2: Permanent noise levels along the ROW would increase due to corona noise from operation of the transmission lines (Class I)

Corona noise would occur along the corridor of the Devers-Valley No. 2 Alternative at levels greater than the noise occurring under the existing conditions. This would cause potentially significant operational noise impacts to the sensitive uses near this alternative corridor. The level of worst-case wet weather and heavy load noise would likely be above 65 CNEL along the corridor, meaning that introduction of new corona noise would create unacceptable conditions for nearby residences. For any ~~homes-residential~~ or other sensitive ~~residences-land uses~~ within about ~~200-25~~ feet of the ROW, this would violate local standards or policies striving to minimize existing noise (Riverside County Noise Element Policy N.1.1 and N.1.3). To address this impact at locations in the Palo Verde Valley, SCE proposed to relocate nearby residences through APM L-7 (Table D.8-13), but because APM L-7 did not address this impact for homes outside of the Palo Verde Valley, this impact would occur for homes near along the corridor of the Devers-Valley No. 2 Alternative. There are no details on whether the homes or the lines can feasibly be relocated. This violation of Riverside County policies would result in an infrequent, but significant, noise impact for any ~~home-residential land use~~ within ~~200-25~~ feet of the ROW of the Devers-Valley No. 2 Alternative that would remain unavoidable (Class I).

D.8.10 Environmental Impacts of the No Project Alternative

The No Project Alternative is defined in Section C.6. The No Project Alternative includes the assumption that existing transmission lines and power plants would continue to operate. The effects that these facilities cause on the existing environment would not change, so no new impacts would occur from continuing operation of the existing transmission lines and power plants. Also, under the No Project Alternative, the proposed DPV2 project would not be constructed, so the impacts associated with construction and operation of the project would not occur. As such, the No Project Alternative would avoid construction-related or operational noise changes, including permanent changes in audible corona noise, in the Devers-Harquahala and West of Devers corridors.

The first component of the No Project Alternative is the continuation of ongoing demand-side actions, including energy conservation and distributed generation (DG). These actions would result in possible localized noise impacts as a result of development of DG units by energy consumers, especially if micro-turbines, internal combustion engines, combined heat and power (CHP) applications, or combustion technologies become more widespread. For this type of development, local jurisdictions such as cities and counties, would need to conduct environmental reviews, and the sources would need to comply with local rules, standards, and/or ordinances. Increased conservation would not cause any noise impacts.

The second component of the No Project Alternative is the continuation of supply-side actions, resulting in potentially increased generation within California or increased transmission into California to serve anticipated growth in electricity consumption. The noise impacts of new power plants and new transmission lines would depend on their locations, which cannot be predicted. New construction activities and operating facilities would need to comply with local noise ordinances and the local licensing process, which would include strategies to reduce noise impacts. Substantial noise effects would occur for any noise-sensitive uses near possible power plants, and new transmission facilities could cause substantial corona noise. The power plant noise impact can be exacerbated if an air-cooled condenser system or dry cooling system is used because the fans would move large volumes of air. This type of power plant is becoming more common in the southwest as water conservation continues to be a concern. New generation by wind turbines can also lead to excessive noise impacts near wind farms. The interaction of turbine rotors and uneven wind streams can cause annoying low-frequency noise that would disturb nearby noise-sensitive areas.

D.8.11 Mitigation Monitoring, Compliance, and Reporting Table

Table D.8-18 presents the mitigation monitoring table for Noise.

Table D.8-18. Mitigation Monitoring Program – Noise

IMPACT N-1	Construction noise could substantially disturb sensitive receptors or violate local rules, standards, and/or ordinances. (Class II)
MITIGATION MEASURE	<p>N-1a: Implement best management practices for construction noise. SCE shall employ the following noise-suppression techniques to minimize the impact of temporary construction noise and avoid possible violations of local rules, standards, and ordinances:</p> <ul style="list-style-type: none"> • Construction noise shall be confined to daytime, weekday hours (e.g., 7:00 a.m. to 6:00 p.m.) or an alternative schedule established by the local jurisdiction; • Construction equipment shall use noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer; • Construction traffic shall be routed away from residences and schools, where feasible; • Unnecessary construction vehicle use and idling time shall be minimized to the extent feasible. 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 should be shut off. (Note: certain equipment, such as large diesel-powered vehicles, require extended idling for warm-up and repetitive construction tasks.)
Location	All project work areas within a wilderness area, recreation area, or wildlife refuge or within one-quarter mile of a noise-sensitive receptor such as a residence, hospital, school, park, wilderness area, or recreation area
Monitoring / Reporting Action	Review SCE's procedures for implementing best management practices for noise to ensure completeness; ensure implementation during construction
Effectiveness Criteria	Compliance with local standards and policies results in no violations
Responsible Agency	CPUC (California) and BLM (California/Arizona), local jurisdictions
Timing	During construction

D.8.12 References

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