5.12 NOISE

This section addresses noise issues relative to construction and operation of Segments 2 and 3 of the proposed Antelope Transmission Project.

5.12.1 Significance Criteria

The potential for a project to result in significant noise impacts is determined primarily by CEQA criteria and local criteria, as applicable. In accordance with Appendix G of the CEQA Guidelines, potentially significant noise impacts would occur if the project would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, the project would expose people residing or working in the project area to excessive noise levels.
- For a project within the vicinity of a private airstrip, the project would expose people residing or working in the project area to excessive noise levels.

5.12.2 Summary of Project-Related Construction Noise

Construction of the proposed project for Segments 2 and 3 would involve the use of heavy equipment to transport material and accomplish installation of T/L towers, conductors, and substation facilities or electrical tie-ins. Grading would be required for creating staging areas, T/L tower foundation pads, conductor pull areas, and in creating spur roads and/or improving access along roads and trails that have not been maintained. In addition, grading would be required at proposed Substations One and Two. Heavy construction equipment typically generates noise levels up to around 95 dBA at 50 feet. To a large extent, these types of noises are common and associated with any development and building activities. Typical T/L and substation equipment noise level estimates are provided in Table 5.16-1.

TABLE 5.12-1
ESTIMATED dBA FROM TYPICAL TRANSMISSION CONSTRUCTION EQUIPMENT

Construction Equipment	Typical Estimated Sound Level dBA at 50'
CAT 973 Track Loader	69
CAT 950 Loader	71
Excavator w/7500 Breaker	78
Excavator w/ Pulverizer	74
10-Wheel Dump Truck	74
Pickup Truck	55
Wood Chipper	89
Jackhammer	88
Rivet Buster	85
Sawcutting Machine	81
Pile driver	101
Crane, Derrick	88
Crane, Mobile	83
Bulldozer	80
Rock Drill	98
CAT 300 Excavator	78
CAT TH-105 Forklift	75
Ford F-550 Flatbed Truck	88
CAT 980F Loader	73
4,000 Gallon Water Truck	70
623 Scraper	81
CAT 14 Blade	81
Ingersol PT125-RTR Roller	74
New Holland 545 Skip Loader	75
Easi-Por 880	81
Concrete Mix Truck	79
Concrete Pump	82
Concrete Vibrator	76
Cr451 Paving Machine	89
CAT CB534C Roller	74
Hyster C340B Roller	74

TABLE 5.12-1 (CONTINUED)
ESTIMATED DBA FROM TYPICAL
TRANSMISSION CONSTRUCTION EQUIPMENT

Construction Equipment	Typical Estimated Sound Level dBA at 50'
CAT CB224B Roller	74
JD 310 Skip Loader	75
Ditch Witch R-40 Trencher	81
CAT 950 Loader	71
Ford Bobtail Dump Truck	81
15-Ton Crane	83
25 KW Generator	69
Air Compressor	81
Backhoe	85
185-CFM Air Compressor	70
150-Ton Mobil Crane	65
Bell 412 Helicopter at Hover @ 150-foot Altitude	83

These discussions of construction noise effects apply equally to the construction activities along the Segment 2 and 3 T/L routes and at proposed Substations One and Two in the northern portion of Segment 3.

The project may also involve the use of helicopters to move material in and out from some remote locations. While only a minor component of the overall project, the helicopter operation would result in localized noise conditions for short-term periods. Noise levels from large helicopters, such as the Sikorsky S-64 Skycrane can range from 95-105 dB at distances of about 300 feet (True et al., 1977).

5.12.3 Summary of Jurisdictional Construction Noise Restrictions

5.12.3.1 City of Lancaster

Any construction within 500 feet of any occupied dwelling is prohibited on Sundays and between the hours of 8:00 p.m. and sunrise on all other days of the week.

5.12.3.2 City of Palmdale

Construction activities within the City of Palmdale would be limited to daylight hours (6:30 a.m. to 8:00 p.m.) and weekdays.

5.12.3.3 Los Angeles County Unincorporated Areas

Any construction that would create a noise disturbance across a residential or commercial property line is prohibited between 7:00 p.m. and 7:00 a.m. on weekdays and Saturdays, and all day on Sundays and holidays.

5.12.3.4 Kern County Unincorporated Areas

The Noise Control Ordinance in the Kern County Code (Section 8.36.020 et seq.) prohibits a variety of nuisance noises, but does not specifically mention construction or related noise.

5.12.4 Construction Impacts

The following discussions of potential project-related construction noise effects apply equally to the proposed and alternative T/L routes and proposed and alternative substation locations. The potential for, or degree of, noise impacts is related to the proximity of sensitive land uses. These would include residences, schools, hospitals, parks, and similar areas where peace and quiet are generally expected.

Each portion of the project would involve the use of heavy equipment to transport material to the project sites. Grading would be involved in T/L and substation construction. Cranes and other heavy equipment would be used in the erection of towers and for installing conductors. Heavy construction equipment typically generates noise levels up to around 95 dBA at 50 feet.

One of the areas with the potential for noise impacts exists in the western portion of the City of Lancaster, where work on the Antelope Substation, the northern end of the Segment 2 500 kV T/L route, and the southern portion of the Segment 3 500 kV T/L route would occur. This area is relatively undeveloped now, but is experiencing residential growth. One residence is located on W. Avenue J in western Lancaster, approximately 800 feet to the northwest of the Antelope Substation and within hundreds of feet of the proposed Segment 3 500 kV T/L route.

Depending on the timing of construction for the proposed Antelope Transmission Project segments and proposed residential developments in the project area, project construction related noise could result in temporary noise impacts on the planned Ritter Ranch and Ana Verde developments traversed by Segment 2 in western Palmdale. Temporary construction noise impacts could also occur at the proposed Del Sur Ranch (proposed Segment 3 and Alternative A) or the proposed Copa de Oro/Kern Ross Estate development (Segment 3, Alternative B).

Noise from a point source, such as grading or construction equipment, is reduced according to the inverse square law as it propagates outward from its source. As a general rule, noise levels from point sources are reduced by 6 dBA for each doubling of distance.

Using a construction equipment reference noise level of 95 dBA at 50 feet, the resulting noise level at a distance of 1,000 feet would be about 69 dBA. Heavy construction equipment typically does not operate continuously in one position all day long. The effect on the hourly equivalent noise level would depend on the duration and frequency of operation. The potential for some construction noise related disruption of nearby receptors, including residences, as applicable, could occur.

There are isolated residences throughout the Antelope Valley region, so noise effects on nearby homes from construction of the project would be expected to periodically occur.

At any one location along the proposed T/L routes (including alternatives) helicopter operations would occur for short periods several times per day. Since helicopters would only be used in relatively remote, undeveloped areas, the potential for disturbance to large numbers of residences is small. If necessary, these operations would be limited to daytime working hours only, and would be fairly short-term in nature. Therefore, short-term construction noise impacts from helicopter operations would be less than significant.

Construction noise impacts are usually sporadic and occur during daytime hours. For this reason, they rarely have a significant influence on 24-hour noise descriptors such as CNEL and Ldn. Thus, measured by the standards used in most Noise Elements, construction noise would not be considered a significant impact. Because of its potential to cause a nuisance or disturbance, construction noise is usually considered a potentially significant impact, but one that is short-term in nature and that can be easily mitigated by limiting the hours of construction.

5.12.5 Operation Impacts

Once the proposed T/L towers are erected and the conductors installed, the 500 kV and 220 kV T/Ls associated with Segments 2 and 3 of the Antelope Transmission Project would generate very little noise. The proposed Segments 2 and 3 related modifications at the existing Antelope and Vincent substations would not result in any long-term, operational phase noise effects. Operation of proposed Segment 3 Substations One and Two would result in long-term noise increases in the immediate vicinity of the new substations. Noise that is generated comes from two sources: electrical and related equipment at the substations, and corona discharge and similar phenomena associated with the 500 kV (Segments 2 and 3) and 220 kV (Segments 2 and 3) T/Ls.

Noise from transformers and similar equipment at substations is usually a low frequency (60 Hz) humming sound. To this sound may be added noise from fans or ventilation equipment on buildings. These types of noises commonly range around 50-60 dBA at distances of 100 feet or so. In most circumstances, the resulting exterior noise levels are well below the common noise standard of 65 dBA. Potentially significant noise impacts from substations are usually limited to residences located immediately adjacent to them.

For the Antelope Substation, the nearest residence is to the north, across W Avenue J, about 800 feet to the northwest. At this distance, the noise level from the existing 220 kV substation would be below 50 dBA, and would constitute a less than significant impact.

At the locations for Substation One, and its alternatives 1A and 1B, an inspection of aerial photographs revealed no structures that appeared to be residences within 1 mile in any direction. The nearest active land uses of any type are the wind energy resource area to the north and the Cal Cement operations about 1.5 - 2 miles to the southwest. Therefore, no noise impacts are anticipated from the operations at Substation One, or either of its alternatives.

At the alternate location Substation 1C, adjacent to Cameron Canyon Road, there are a few structures located north of the site along Cameron Canyon Road. The only uses in the area appear to be utility and service roads associated with the wind development to the northeast, Cameron Canyon Road, Oak Creek Road, and Tehachapi-Willow Springs Road, and use of the Pacific Crest Trail. Noise levels from Substation 1C at these locations would be *less than significant*.

Relative to the proposed location for Substation Two, the nearest residences are clustered about 3,000 feet to the northeast. These homes are located about 1,000 feet north of the Substation 2A alternate location, and a similar distance south of SR 58. Noise levels from Substation Two at either of these locations would be less than significant.

A mobile home park is located at the corner of Gemstone Street and East Tehachapi Boulevard, approximately 1,000 feet from the location of alternate Substation 2B. At this distance from the alternate substation location, and with East Tehachapi Boulevard immediately to the north and SR 58 1,500 feet to the south, residents at the mobile home park would not be able to discern any substation noise from the background traffic noise in the area.

The noise from corona discharge and similar electrical phenomena associated with high voltage T/Ls is heard as a crackling or hissing sound, which commonly varies with the humidity. While distinctive, this noise is typically only about 40 - 50 dBA, or less, near the edge of T/L R-O-Ws; it would not be loud enough to exceed any noise compatibility

standards. For this reason, the noise from such electrical discharge would be considered less than significant.

5.12.6 Mitigation Measures

Applicant proposed mitigation measures and anticipated construction permit conditions to reduce the adverse effects of noise are summarized in the following paragraphs, organized by government jurisdiction.

5.12.6.1 City of Lancaster

APM Noise-1. Consistent with Section 8.24 of the City of Lancaster Municipal Code, within 500 feet of any occupied dwelling no construction would occur on Sundays, and no construction would occur between the hours of 8:00 p.m. and sunrise on all other days of the week. In the event that construction needed to occur outside of the specified hours, a variance would need to be obtained.

5.12.6.2 City of Palmdale

APM Noise-2. Consistent with Section 8.28 of the Palmdale City Municipal Code, building construction hours are prohibited from 8:00 p.m. to 6:30 a.m. and on weekends. In the event that construction needed to occur outside of the specified hours, a variance would need to be obtained.

5.12.6.3 Los Angeles County Unincorporated Areas

APM Noise-3. Consistent with County Code (Section 12.08.440) no construction activities would occur in a residential area between 7:00 p.m. and 7:00 a.m. on weekdays and Saturdays, and all day on Sundays and holidays. In the event that construction needed to occur outside of the specified hours, a variance would need to be obtained.

5.12.6.4 Kern County and Tehachapi

Although there are no specific restrictions or prohibitions regarding construction noise in the Kern County Code, nuisance noise from a variety of sources is prohibited. Given the predominantly vacant nature of the land crossed by the Segment 3 500 kV and 220 kV T/L routes, and the fact that there are few, if any, sensitive receptors in the vicinities of any of the possible Substation One and Substation Two locations, construction noise effects would be expected to be less than significant, and would not require any special mitigation.

The easterly extent of the Tehachapi City limits is at Tehachapi-Willow Springs Road, about 1 mile west of the proposed Substation Two location. No noise impacts are expected within the City of Tehachapi, and no mitigation measures are necessary.