

D.12 Noise

This section addresses the South Bay Substation Relocation Project (Proposed Project) and alternatives, as they would affect the community noise environment or cause disruptions from vibration. Section D.12.1 provides a description of the existing noise setting, and the applicable noise ordinances and limitations are introduced in Section D.12.2. An analysis of the Proposed Project impacts is provided in Section D.12.3, and the noise and vibration impacts related to alternatives are described in Section D.12.4. Section D.12.5 provides mitigation monitoring, compliance, and reporting information.

D.12.1 Environmental Setting for the Proposed Project

General Characteristics of Community Noise

Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors most commonly used in community noise analysis.

- **Equivalent Sound Level (Leq):** Leq represents an average of the sound energy occurring over a specified period. In effect, Leq is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The 1-hour, A-weighted equivalent sound level (Leq(h)) is the energy average of A-weighted sound levels occurring during a 1-hour period and is the basis for noise abatement criteria used by California Department of Transportation (Caltrans) and the Federal Highway Administration.
- **Percentile-Exceeded Sound Level (Lxx):** Lxx represents the sound level exceeded for a given percentage of a specified period (e.g., L₁₀ is the sound level exceeded 10% of the time, and L₉₀ is the sound level exceeded 90% of the time).
- **Maximum Sound Level (Lmax):** Lmax is the highest instantaneous sound level measured during a specified period.
- **Day-Night Level (Ldn):** Ldn is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10 decibel (dB) penalty applied to A-weighted sound levels occurring during nighttime hours between 10:00 p.m. and 7:00 a.m.
- **Community Noise Equivalent Level (CNEL):** Similar to Ldn, CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during the nighttime hours between 10:00 p.m. and 7:00 a.m., and a 5 dB penalty applied to the A-weighted sound levels occurring during evening hours between 7 p.m. and 10 p.m.

To describe environmental noise and to assess project impacts on areas that are sensitive to noise, a measurement scale that simulates human perception is customarily used. Sound (noise) levels are measured in decibels. Community noise levels are measured in terms of an A-weighted sound level. The A-weighted scale of frequency sensitivity accounts for the sensitivity of the human ear, which is less sensitive to low frequencies and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria.

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

People are generally more sensitive to and annoyed by noise during the evening and nighttime. Thus, another noise descriptor used in community noise assessments, termed the Community Noise Equivalent Level (CNEL), was introduced. The CNEL scale represents a time-weighted, 24-hour average noise level based on the A-weighted sound level. CNEL accounts for the increased noise sensitivity during the evening (7:00 p.m. to 10:00 p.m.) and nighttime hours (10:00 p.m. to 7:00 a.m.) by adding 5 and 10 dBs, respectively, to the average sound levels occurring during these hours. Another noise descriptor termed the Day-Night Average Sound Level (Ldn) is also used. The Ldn is similar to CNEL except there is no penalty to the noise level occurring during the evening hours.

Human activities cause community noise levels to be widely variable over time. For simplicity, sound levels are usually best represented by an equivalent level over a given time period (Leq). The Leq, or equivalent sound level, is a single value (in dBA) for any desired duration, which includes all of the time-varying sound energy in the measurement period, usually 1 hour. The noise level that is exceeded 50% of the time (L_{50}) is a level that is normally less than the Leq, except for especially steady noise levels, in which case, it may be similar to or slightly greater than the Leq.

Community noise levels are usually closely related to the intensity of nearby human activity. Noise levels are generally considered low when ambient levels are below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. In wilderness areas, the 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., areas located near downtown San Diego), and levels up to 85 dBA occur near major freeways and airports. Although people often accept the higher levels associated with very noisy urban residential and residential-commercial zones, they nevertheless are considered adverse to public health.

Existing Noise Sources in Project Region

The Proposed Project is located in a light industrial area adjacent to Interstate 5 (I-5) and San Diego Bay. The noise environment ranges from quiet marsh areas within the San Diego Bay to high-density commercial/industrial zones. As such, different levels of noise are present throughout the study area. Primary noise generation within the project area is due to high levels of transportation in and around the site, including traffic volumes on I-5 and Bay Boulevard, as well as the San Diego Metropolitan Transit System (MTS) Blue Line operations located adjacent to I-5. Occasionally, air traffic generates ambient noise within the immediate vicinity, including commercial and military aircraft flight paths.

Ambient noise level measurements were completed at three locations within the Proposed Project site from August 3 through August 4, 2010, for a 24-hour period. The first location was measured within the proposed Bay Boulevard Substation Site (former liquefied natural gas (LNG) site), the second location was measured at the existing South Bay Substation, and the third location was measured from Marina View Park located adjacent to Bay Boulevard (see Figure D.12-1, Noise Monitoring Site Locations, and Table D.12-1).

Table D.12-1
Measured Noise Levels at Noise Sensitive Areas

Site Number	Location	Location/Distance from Nearest Sensitive Receptors	CNEL
1	Proposed Bay Boulevard Substation Site	On site: Approximately 0.27 mile (1,400 feet) from residences	56
2	Existing South Bay Substation Site	Approximately 0.5 mile north of proposed Bay Boulevard Substation Site and approximately 0.33 mile from residences	59
3	Marina View Park	Approximately 0.8 mile from proposed Bay Boulevard Substation site and 0.35 mile from existing Substation	60

Source: Applicant Deficiency Letter Response, Attachment A SBS Noise Measurement Addendum, August 24, 2010 (SDG&E 2010a)

A description of the existing noise environment and sensitive noise receptors is presented as follows.

Bay Boulevard Substation

Land uses surrounding the proposed Bay Boulevard Substation site include the foundations for storage tanks associated with the former LNG site and industrial power-related facilities associated with the South Bay Power Plant (SBPP) to the north. The Western Salt Works salt crystallizer ponds and San Diego Bay are located to the west. Industrial uses are located to the east and south, including warehouses and industrial buildings. Average ambient noise levels were 56 db(A) CNEL at the proposed Bay Boulevard site (AcenTech 2010). Sensitive noise receptors located within the vicinity of the proposed substation site include Pima Medical

Institute approximately 0.65 mile northeast, Marina View Park located 0.75 mile north, residential developments approximately 0.25 mile east and, Harborside Elementary School approximately 0.44 mile east.

South Bay Substation

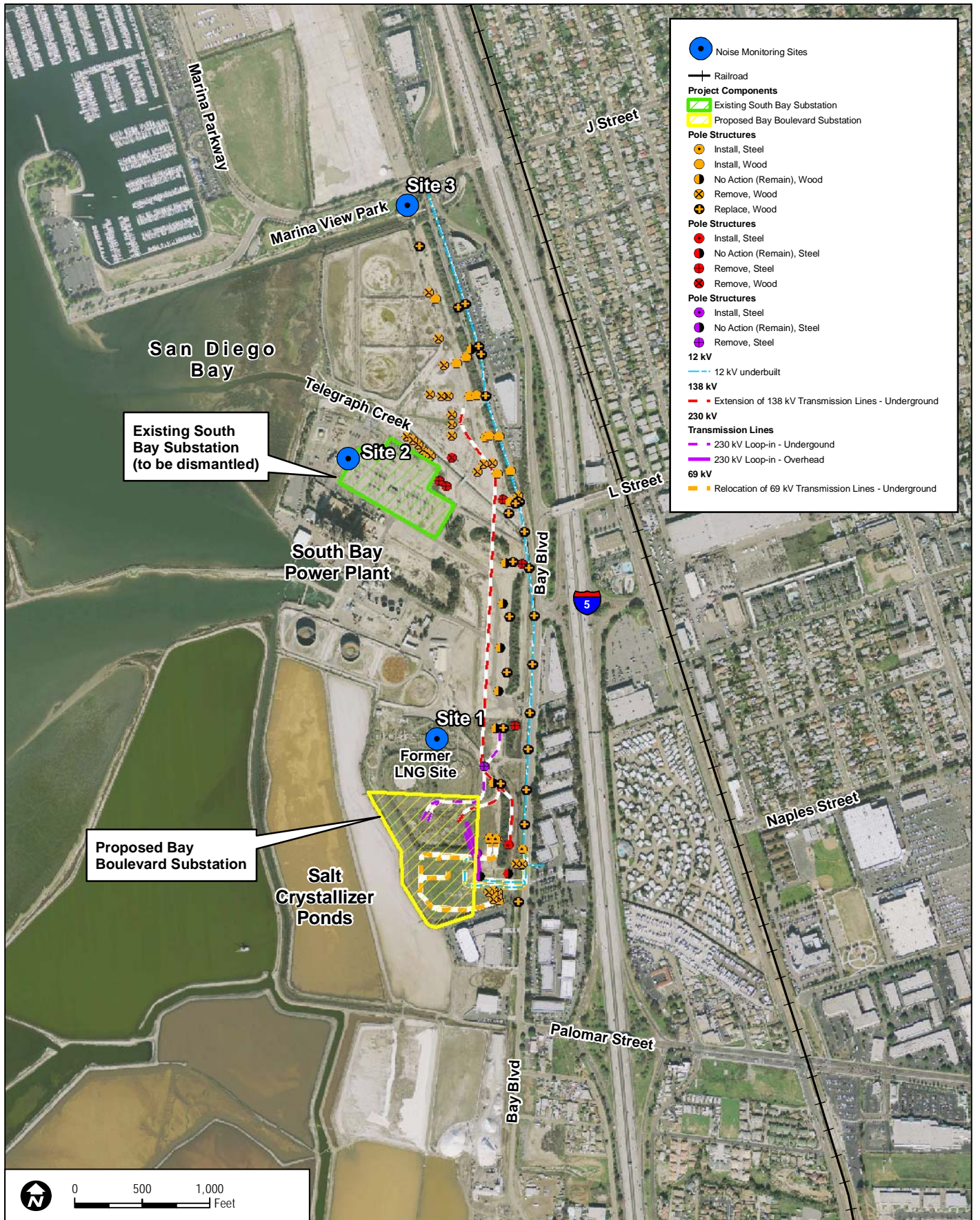
The existing South Bay Substation is located approximately 0.5 mile north of the proposed Bay Boulevard Substation site located adjacent to the South Bay Power Plant to the south and San Diego Bay to the west. Marina View Park is located approximately 0.30 mile to the north. The measured noise level at the South Bay Substation site was 59 db(A) CNEL (AcenTech 2010). The closest sensitive noise receptors in the vicinity of the existing substation are Pima Medical Institute located approximately 0.25 mile northeast, residential neighborhoods located approximately 0.4 mile southeast, Harborside Elementary School located approximately 0.65 mile southeast, Marina View Park located approximately 0.37 mile north, and the Chula Vista Bayfront Park located approximately 0.48 mile northwest.

230 kV Loop-in, 138 kV Extension, and 69 kV Relocation

Land uses of the area surrounding the proposed transmission line components include the existing SBPP to the southwest, I-5 to the east, and railroad tracks to the east and west. The measured noise level within the area proposed for transmission line components ranged from 59 to 60 db(A) CNEL (AcenTech 2010). Sensitive noise receptors located within the vicinity of the proposed transmission lines include Pima Medical Institute approximately 0.25 mile northeast, residential developments located approximately 0.25 mile east, Harborside Elementary School approximately 0.44 mile east, as well as Marina View Park and Chula Vista Bayfront Park located approximately 0.37 mile north.

Sensitive Receptors

Sensitive noise receptors are facilities or areas (e.g., residential areas, hospitals, schools) where excessive noise levels would be considered an annoyance. According to the City of Chula Vista (City) General Plan, residences, hospitals, and schools are considered sensitive receptors. According to the City of Chula Vista Municipal Code, residentially zoned properties are considered sensitive uses (City of Chula Vista Municipal Code 2010a).



DUDEK

SOURCE: Digital Globe 2008
SDG&E PEA 2010

6652-01

South Bay Substation Relocation Project Draft EIR

FIGURE D.12-1
Noise Monitoring Site Locations

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As discussed previously, sensitive receptors closest to the project components include Pima Medical Institute approximately 0.25 mile northeast, residential development (Brentwood Mobile Home Park) approximately 0.3 mile east, Marina View Park and Chula Vista Bayfront Park approximately 0.37 mile north, and Harborside Elementary School approximately 0.44 mile east. Locations of sensitive receptors are shown on Figure D.12-2, Sensitive Receptors.

D.12.2 Applicable Regulations, Plans, and Standards

Regulating environmental noise is generally the responsibility of local governments. U.S. Environmental Protection Agency (EPA) once published guidelines on recommended maximum noise levels to protect public health and welfare (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 1998). The following information summarizes federal and state recommendations and local requirements.

Federal

The EPA has indicated that residential noise exposure of 55 to 65 dB is acceptable when analyzing land use compatibility (EPA 1981); however, these guidelines are not regulatory. With regard to noise exposure and workers, the federal Occupational Safety and Health Administration (OSHA) establishes regulations to safeguard the hearing of workers exposed to occupational noise (29 CFR Section 1910.95). OSHA specifies that sustained noise over 85 dBA can be a threat to workers' hearing.

State

California Government Code Section 65302(f) requires each local jurisdiction to include a noise element in its general plan. Generally speaking, noise levels less than 60 Ldn are acceptable for all land uses, including residences, schools, and other noise sensitive receptors. Noise levels greater than 70 Ldn are normally unacceptable for most noise sensitive land uses, and levels between 60 and 70 Ldn are usually considered conditionally acceptable because the structures where the receptors reside normally provide some level of insulation (OPR 1998).

Local

General Plan

The City requires new projects to meet exterior noise level standards as established in the Exterior Land Use/Noise Compatibility Guidelines of the City's General Plan Environmental Element (City of Chula Vista 2005). The General Plan delineates a traffic noise goal of 65 dB(A) CNEL or less at outdoor use areas of residential development. The City applies this goal to

common areas included in open space calculations only; mitigation is not required for common exterior use areas not included in these calculations. Table D.12-2 summarizes the exterior land use/noise compatibility guidelines as identified in the City’s General Plan.

**Table D.12-2
Exterior Land Use/Noise Compatibility Guidelines**

Land USE	Annual CNEL in Decibels					
	50	55	60	65	70	75
Residential						
Schools, Libraries, Daycare Facilities, Convalescent Homes, Outdoor Use Areas, and Other Similar Uses Considered Noise Sensitive						
Neighborhood Parks, Playgrounds						
Community Parks, Athletic Fields						
Office and Professional						
Places of Worship (excluding outdoor use areas)						
Golf Courses						
Retail and Wholesale Commercial, Restaurants, Movie Theaters						
Industrial, Manufacturing						

Source: General Plan (City of Chula Vista 2005)

City Code

Construction Noise Limits

Construction activities must comply with the hours set by the City of Chula Vista Municipal Code, Section 17.24.040(c)(8) (City of Chula Vista Municipal Code 2010b), states that, in regard to power machinery, tools, and equipment, the following activities (among others) are declared to cause disturbing, excessive, offensive, or unreasonable noises in violation of this section and therefore constitute a public nuisance:

The use of any tools, power machinery, or equipment or the conduct of construction and building work in residential zones so as to cause noises disturbing to the peace, comfort, and quiet enjoyment of property of any person residing or working in the vicinity between the hours of 10:00 p.m. and 7:00 a.m., Monday through Friday, and between the hours of 10:00 p.m. and 8:00 a.m., Saturday and Sunday, except when the work is necessary for emergency repairs for the health and safety of any member of the community.

Therefore, construction is allowed only between the hours of 7:00 a.m. and 10:00 p.m., Monday through Friday, and between the hours of 8:00 a.m. and 10:00 p.m., Saturday and Sunday.

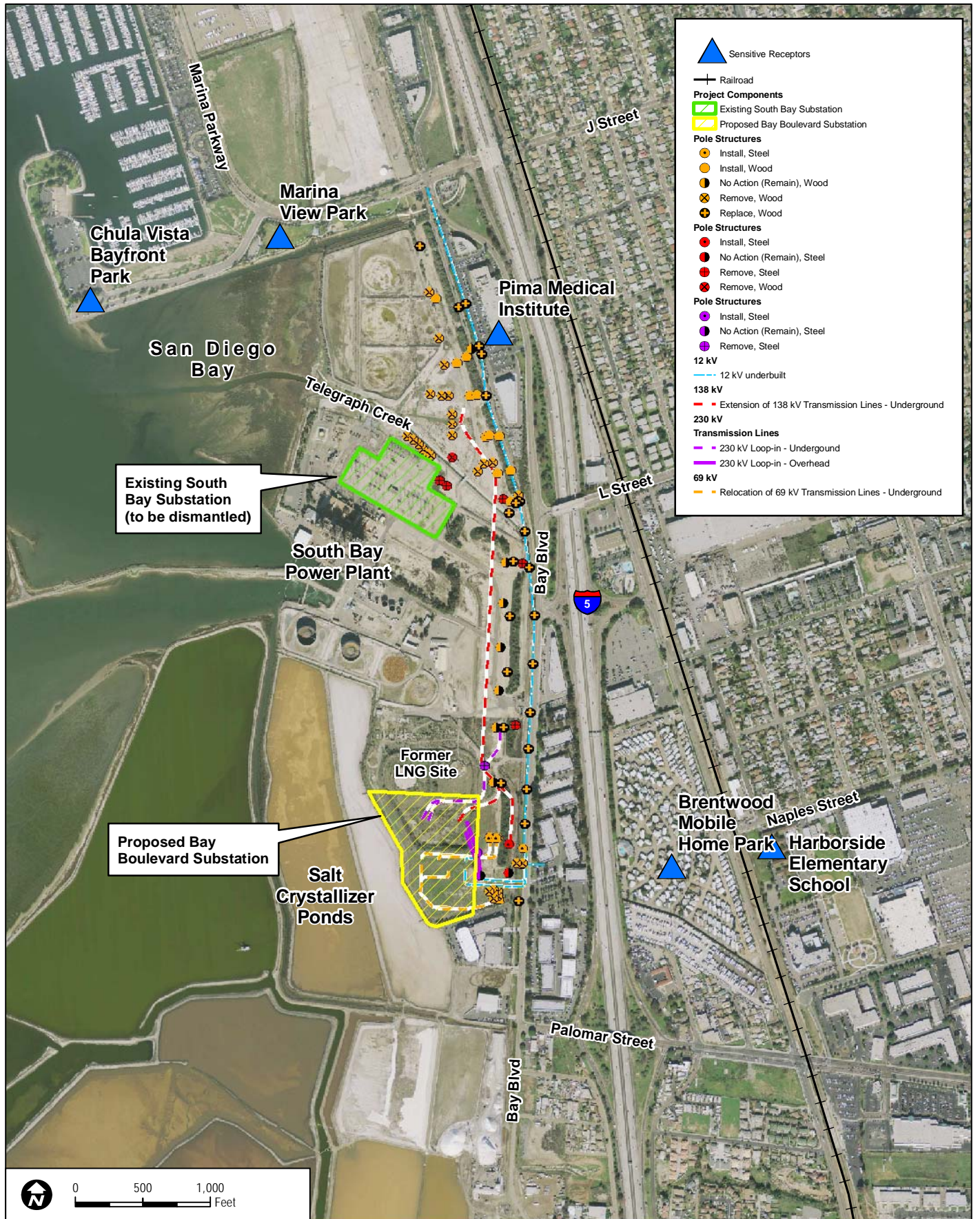


FIGURE D.12-2
Sensitive Receptors

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Operational Noise Limits

Exterior noise is also limited by the City’s noise ordinance. Section 19.68.030 states:

No person shall operate, or cause to be operated, any source of sound at any location within the city or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level to exceed the environmental and/or nuisance interpretation of the applicable limits given in Table III (City of Chula Vista Municipal Code. 2010c).

Table D.12-3 summarizes the exterior noise limits as described in Table III of Section 19.68.030 (a)(4). Where two or more dissimilar land uses occur on a single property, the more restrictive limits apply.

**Table D.12-3
Exterior Noise Limits**

Receiving Land Use Category	Noise Levels (dBA)	
	<i>10:00 p.m. to 7:00 a.m. (Weekdays) 10:00 p.m. to 8:00 a.m. (Weekends)</i>	<i>7:00 a.m. to 10:00 p.m. (Weekdays) 8:00 a.m. to 10:00 p.m. (Weekends)</i>
All residential (except multiple dwelling)	45	55
Multiple dwelling residential	50	60
Commercial	60	65
Light industry – I-R and I-L zone	70	70
Heavy industry – I zone	80	80

Environmental Noise – Leq in any hour
Nuisance Noise – Not to be exceeded at any time

Construction-Related Vibration

The City of Chula Vista Municipal Code (Section 19.68.050) (City of Chula Vista Municipal Code 2010c) limits the operation of any device that creates a vibration which exceeds the vibration perception threshold at or beyond the property boundary of the source on private property, or at a distance of 150 feet or more from the source if originating from a location on a public space or public right-of-way (ROW).

D.12.3 Environmental Impacts and Mitigation Measures

D.12.3.1 Definition and Use of 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. The following significance

criteria are based on the California Environmental Quality Act (CEQA) checklist identified in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). Under CEQA, noise impacts would be considered significant if the Proposed Project would result in the following:

- a) Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
- b) Expose persons to or generate excessive ground-borne vibration or ground-borne noise levels
- c) Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project
- d) Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project
- e) 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, expose people residing or working in the project area to excessive noise levels
- f) For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

D.12.3.2 Applicant Proposed Measures

The applicant did not propose any measures to reduce potential impacts related to noise.

D.12.3.3 Bay Boulevard Substation

Impact N-1: Construction Activities Would Temporarily Increase Local Noise Levels.

Construction of the proposed Bay Boulevard Substation would produce short-term noise during construction. Short-term construction noise tends to occur in discrete phases dominated initially by demolition, site clearing, and grading (estimated to be completed in approximately 7 months), followed by foundation construction. Typical noise levels at 50 feet for the types of construction equipment anticipated to be used for the Proposed Project are listed in Table D.12-4:

**Table D.12-4
Typical Construction Equipment Noise Levels**

Equipment Type	“Typical” Equipment dB at 50 feet
Air Compressor	81
Backhoe	85
Crane, Derrick	88

**Table D.12-4
Typical Construction Equipment Noise Levels**

Equipment Type	“Typical” Equipment dB at 50 feet
Crane, Mobile	83
Compactor	82
Dozer	87
Grader	85
Generator	81
Jack Hammer	88
Loader	85
Pavers	88
Pneumatic Tools	85
Scraper	89
Shovel	82
Truck, Crane	88
Trucks	88

Source: SDG&E 2010b

While noise levels will vary for different construction phases, site preparation at the proposed Bay Boulevard Substation site would represent the loudest phase of construction due to the operation of the heavy equipment needed for earth moving and soil compaction. During this phase, maximum noise levels at 50 feet from the proposed substation site could range from 81 to 89 dB(A). Construction noise in a well-defined area typically attenuates at approximately 6 dB per doubling distance. Therefore, at a distance of 100 feet from the proposed Bay Boulevard Substation site, the maximum noise level would be approximately 75 to 83 dBA, and at a distance of 200 feet, the maximum noise levels would range from 69 to 77 dBA.

The closest noise sensitive receptors in the vicinity of the proposed Bay Boulevard Substation site are residential developments located across I-5, approximately 0.25 mile east. At this distance, the maximum noise level associated with the construction activities would be less than 65 dBA. Due to the distance the residents are located from the proposed construction activities and since traffic-generated noise originating from I-5 would mask some of the construction noise taking place on site, impacts to nearby residents would be less than significant (Class III).

As identified in Section B of the ~~Draft~~ Environmental Impact Report (EIR), San Diego Gas & Electric (SDG&E) may be required to complete electric system transfers during the evening hours to limit the number of customers that could be affected by an unintentional outage. Construction activities may also be required at night to facilitate cutover work as required by California Independent System Operator (CAISO). Construction equipment utilized for cutovers

and electric system transfers may include bucket trucks/man lifts; line trucks; puller and tensioners; reel and splice trailers; pickup, mechanic, and water trucks; and air compressors; ~~does not include heavy equipment as~~ and all work would be completed ~~through the use of hand tools~~ within the SDG&E ROW. The use of hand tools will also be required and is not anticipated to generate substantial noise at the closest noise sensitive receptors. Mitigation Measure NOI-1 will ensure that construction activities completed during the evening and nighttime hours would be reduced to less than significant (Class II).

NOI-1 SDG&E shall conduct all construction activities in accordance with the City of Chula Vista Municipal Code allowable hours for construction unless otherwise approved by the City. For any evening and nighttime construction activities that are required outside of the permitted hours, SDG&E shall notice all property owners within 300 feet of the proposed work at least 1 week in advance of the construction activities. SDG&E shall ~~obtain approval from the local jurisdiction and~~ notify the local jurisdiction and the California Public Utilities Commission prior to conducting any work that may deviate from the City noise ordinance. Nighttime work and the use of heavy construction equipment shall be limited to the extent practicable. ~~shall apply only where nighttime and weekend construction activities are necessary to perform electrical system transfers and cutovers as required by California Independent System Operator. Electrical system transfers and cutover work shall not include the use of heavy construction equipment (i.e., excavators, drill rigs, jack hammers, etc.).~~

Impact N-2: Vibration Could Cause a Temporary Nuisance During Construction and/or during Operation and Maintenance.

Construction

Vibration levels from heavy equipment transport and grading activities may be perceptible to residents or workers in nearby light industrial and warehouse structures immediately adjacent to the construction work. Construction activities such as heavy trucks passing over large potholes or bumps could produce perceptible vibration within about 50 feet. Although the detectability of vibration is highly dependent on the soil type at the construction site, the type of equipment used, and the structure of the building receptor, construction could cause annoyance for a sensitive receptor within about 50 feet of construction work. Because the closest sensitive receptor is located across I-5, approximately 0.25 mile from the proposed Bay Boulevard Substation site, temporary impacts associated with construction-related vibration would be less than significant (Class III).

Operation and Maintenance

Normal operation and maintenance activities at the substation will not generate noticeable ground-borne vibrations or associated noise levels. As previously mentioned, all sensitive receptors within the project vicinity would be located at a sufficient distance such that any unanticipated ground-borne vibrations occurring during maintenance activities would not be detected. No impacts would occur.

Impact N-3: Operation Noise.

The proposed Bay Boulevard Substation would be unmanned, monitored, and controlled by SDG&E's remote control center. Routine operations would require a single pickup truck visiting the substation several times per week for switching, as well as several larger substation construction and maintenance trucks several times per year for equipment maintenance. Ongoing maintenance would involve testing, monitoring, and repair of equipment, as well as emergency and routine procedures to enable efficient provision of SDG&E services.

Additional full-time SDG&E staff would not be required for operation or maintenance purposes. Operation and maintenance activities at the proposed Bay Boulevard Substation would occur in a manner similar to those which presently occur at the existing South Bay Substation.

Routine maintenance for vegetation clearing would occur on an as-needed basis for purposes of safety and access. These activities would typically involve the presence of one or two maintenance vehicles and one or more employees to clear or trim vegetation to achieve the minimum working space around substation facilities.

The primary noise source that would occur during operation at the Bay Boulevard Substation would include transformers and associated cooling fans. Transformers would not typically operate during off-peak and nighttime hours, and daytime operation would generate noise levels at approximately 45 dBA at the eastern extent of SDG&E's existing transmission line easement (SDG&E 2010b) (see Figure D.12-3). The closest sensitive receptors within the vicinity of the proposed substation site are residential developments located east of the easement boundary on the opposite side of I-5. Because residential sensitive receptors would be located east of I-5, opposite the project site, operational noise sources would be masked by I-5 traffic noise and would be below the City's 45 dBA noise level limit. Thus, the noise impact would be less than significant (Class III).

Impact N-4: Noise from Inspection and Maintenance Activities.

The proposed Bay Boulevard Substation would be unmanned, monitored, and controlled by SDG&E's remote control center. Routine operations would require a single pickup truck visiting the substation several times each week for switching, as well as several larger substation construction and maintenance trucks several times a year for equipment maintenance. Ongoing maintenance would involve testing, monitoring, and repair of equipment, as well as emergency and routine procedures to enable efficient provision of SDG&E services. Additional full-time SDG&E staff would not be required for operation or maintenance purposes. Operation and maintenance activities at the proposed Bay Boulevard Substation would occur in a manner similar to those that presently occur at the existing South Bay Substation. Impacts would be less than significant (Class III).

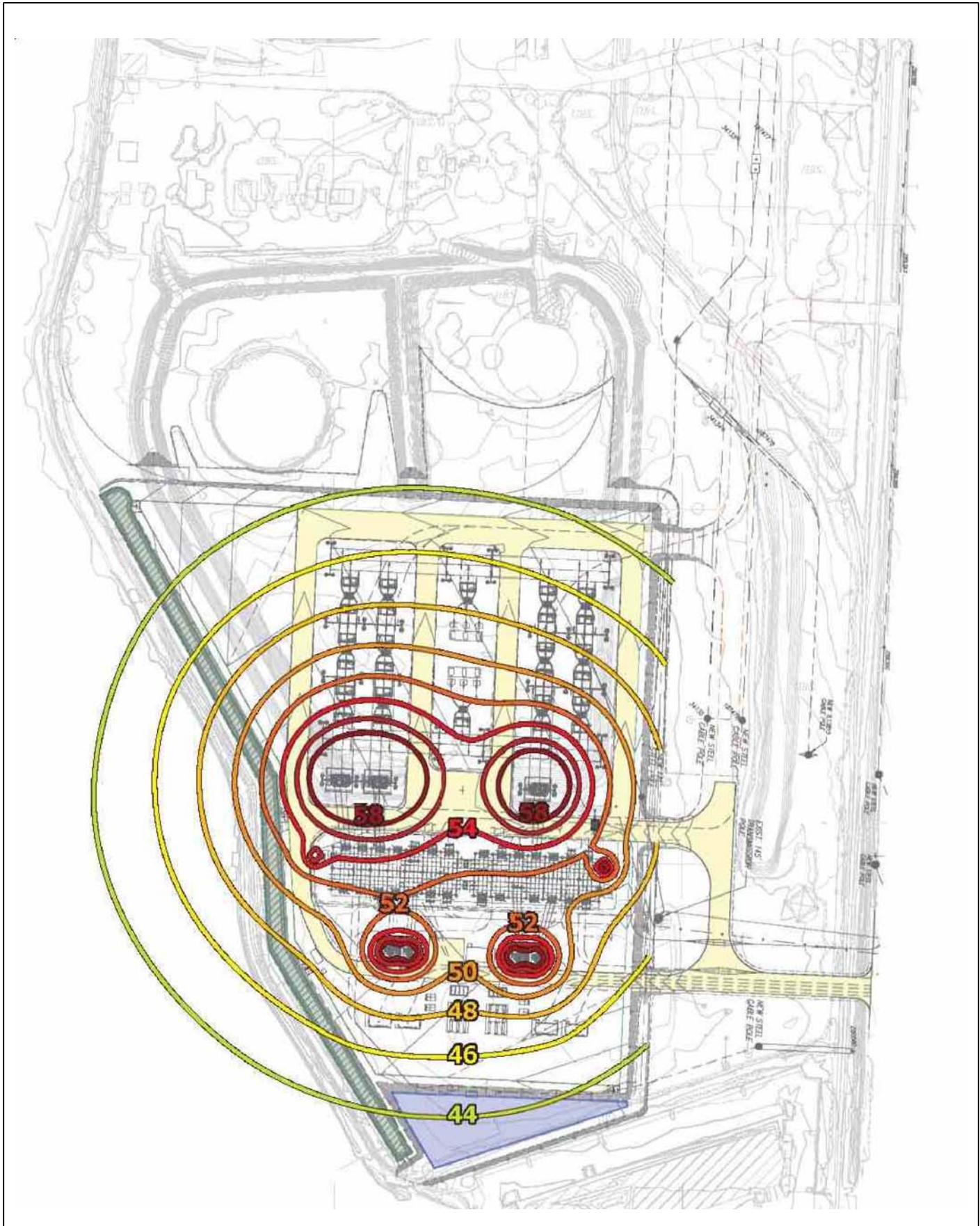
D.12.3.4 South Bay Substation Dismantling

Impact N-1: Construction Activities Would Temporarily Increase Local Noise Levels.

Demolition of the existing South Bay Substation would include removal of all SDG&E-owned equipment, including transformers, circuit breakers, regulators, disconnect switches, insulators, overhead and underground cabling, and the reinforced concrete control house. Once all overhead equipment and structures have been removed, all belowground facilities, including direct buried control cables and reinforced concrete foundation pads and piers, would be removed.

Dismantling of the existing South Bay Substation would take approximately 6 months. The types of equipment that would be used during dismantling include primarily trucks, loader, crane, forklift, bulldozer, backhoe, and compactor to remove aboveground equipment and structures and return the site to a level pad site.

The closest sensitive noise receptors in the vicinity of the South Bay Substation site are recreational users located approximately 0.34 mile to the northeast at Marina View Park. To ensure that construction activities are limited to those allowed by the City, Mitigation Measure NOI-1 is provided. Implementation of Mitigation Measure NOI-1 would ensure that noise impacts due to construction activities at the South Bay Substation would be less than significant (Class II). In addition, intervening structures such as fences and increasing distance between the location of the equipment and the sensitive receptors would provide additional noise attenuation.



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Impact N-2: Vibration Could Cause a Temporary Nuisance During Construction and/or during Operation and Maintenance.

Construction

Dismantling activities associated with the South Bay Substation would not require the type of equipment that would generate significant vibrations, such as jack hammers and pile drivers. Any vibration from heavy equipment transport and use of heavy trucks would not be perceptible to residents located more than 50 feet east, across I-5, and therefore is considered to be less than significant (Class III).

Operation and Maintenance

Upon completion of dismantling of the existing South Bay Substation, no further operation or maintenance activities would be required; therefore, no impacts would occur.

Impact N-3: Operation Noise.

No operational procedures would be associated with the South Bay Substation following demolition. No impacts would occur.

Impact N-4: Noise from Inspection and Maintenance Activities.

No inspection and maintenances activities would be associated with the South Bay Substation following demolition. No impacts would occur.

D.12.3.5 Transmission Interconnections

Impact N-1: Construction/Dismantling Activities Would Temporarily Increase Local Noise Levels.

Construction activities associated with the proposed 69-kilovolt (kV) transmission line relocation would include pole removal, installation, and replacement, as well as conductor pulling and tensioning. Based on the equipment identified previously, a 75 dBA noise contour would extend approximately 265 feet from each pole site. The closest residential receptors are located more than 800 feet from the Proposed Project area. Pole 88 is located approximately 245 feet from the Marina View Park and is the closest pole to this sensitive receptor. Approximately five poles are located within 200 feet of the Pima Medical Institute, which is considered a sensitive receptor. Due to the proximity of these poles to Marina View Park and Pima Medical Institute, these receptors may be temporarily exposed to noise in excess of 75 dBA. Equipment used to remove and install new poles would not typically operate concurrently, and the construction activities at

these poles are anticipated to last approximately 10 days. To ensure that construction activities are limited to those allowed by the City, Mitigation Measure NOI-1 is provided. Implementation of Mitigation Measure NOI-1 would ensure that noise impacts due to construction activities would be less than significant (Class II).

Helicopters will be used during construction for conductor stringing. This process involves using a helicopter to pull the sock line through hardware attached to each transmission pole. This activity is anticipated to require approximately 10 minutes of helicopter activity at each pole. Helicopter work is anticipated to require up to 24 hours of activity. The 24 hours of activity will be spread across both the 230 kV alignment component and the 69 kV relocation. It is anticipated that it will take approximately 60 days for the 230 kV alignment and approximately 45 days for the 69 kV relocation to complete conductor stringing activities. Helicopter-related construction at each pole would attenuate approximately 95 dBA at a distance of 200 feet. At this level the 75 dB Leq(h) noise contour would extend approximately 800 feet from each pole. Noise-sensitive receptors located within 800 feet of helicopter activity would therefore experience noise levels at or above 75 dB Leq(h). To ensure that construction activities associated with helicopter operations are limited to those allowed by the City, Mitigation Measure NOI-1 is provided. Due to the short-term duration of the helicopter noise at any one location and with implementation of Mitigation Measure NOI-1, the noise impacts due to construction activities would be less than significant (Class II).

Impact N-2: Vibration Could Cause a Temporary Nuisance During Construction and/or during Operation and Maintenance.

Construction

Vibratory impacts would occur during jack-hammering, trenching, and boring activities associated with transmission line construction including foundation installation, steel pole installation, and pole riser removal. Land uses adjacent to the transmission line corridors do not involve vibration-sensitive uses, including industrial land uses, that are not likely to be conducting vibration-sensitive work and therefore would not be adversely affected by vibration impacts. In addition, the closest buildings to the ROW would be located approximately 150 feet or more from the construction equipment. At this distance, equipment required for transmission line construction and relocation would generate minimal vibration nuisances, and therefore, impacts due to vibration would be less than significant (Class III).

Operation and Maintenance

As previously discussed, transmission facilities associated with the Proposed Project including the 230 kV loop-in, 138 kV extension, and relocation of 69 kV transmission lines would continue to be

inspected, maintained, and repaired following completion of the Proposed Project. Operation and maintenance activities would involve both routine preventive maintenance and emergency procedures to maintain service continuity. No procedures associated with operation and maintenance of transmission lines would generate ground-borne vibrations; therefore, no impact would occur.

Impact N-3: Operation Noise.

Corona noise is the most common noise associated with transmission lines, resembling a crackling or hissing sound. Corona noise is generated from conductor electrical fields when air is broken down into charged particles. Weather and transmission line voltage influence the severity of corona noise, especially during heavy rain and high humidity. Corona noise typically results in noise levels of 40 to 50 dBA in dry climate conditions within the immediate area of the transmission line. This noise level is traditionally reflective of the ambient noise levels within the direct vicinity. Depending on conditions, wet weather corona noise levels could increase to 50 to 60 dBA (Aspen 2009). The corona noise level at the closest sensitive receptors would be 38 dBA or less. Due to Chula Vista's generally dry climactic conditions year-round, as well as the transmission lines' distance from sensitive receptors, including residences and the Pima Medical Institute, the corona noise level would not be audible.

Additionally, completion of the 230 kV loop-in, 138 kV extension, and relocation of 69 kV transmission lines would ultimately reduce the total length of overhead transmission lines within SDG&E's existing easement. The largest reduction would involve the conversion of 3,800 feet of the existing 138 kV line from an overhead to an underground configuration. Portions of the 69 kV line are located near sensitive receptors, including Marina View Park and the Pima Medical Institute, and would only undergo pole replacement as part of the Proposed Project. Due to the fact that pole locations and line voltages would not be affected, no change in corona noise from these portions of line would result. Therefore, operations of the Proposed Project would likely result in a lower corona noise level than existing conditions. Impacts would be less than significant (Class III).

Impact N-4: Noise from Inspection and Maintenance Activities.

The transmission facilities associated with the Proposed Project including the 230 kV loop-in, 138 kV extension, and relocation of 69 kV transmission lines would continue to be inspected, maintained, and repaired following completion of the Proposed Project. Operation and maintenance activities would involve both routine preventive maintenance and emergency procedures to maintain service continuity. Aerial and ground inspections of Proposed Project facilities would also be performed. Aboveground components would be inspected annually, at a minimum, for corrosion, equipment misalignment, loose fittings, and other mechanical problems. Impacts would be less than significant (Class III).

D.12.4 Project Alternatives

D.12.4.1 Gas Insulated Substation Technology Alternative

Environmental Setting

Section D.12.1 describes the ambient noise setting for the Proposed Project area. Because SDG&E Gas Insulated Substation Alternative would occur within the same area as the Proposed Project, the existing ambient noise conditions would be the same as described in Section D.12.1.

Environmental Impacts and Mitigation Measures

The Gas Insulated Substation Alternative is a design alternative that would result in a smaller development footprint when compared to the Proposed Project. Noise generated during construction of the Gas Insulated Substation would be similar to that identified under the Proposed Project. Therefore, noise generated during construction would not differ from noise levels identified under the Proposed Project, which were determined to be less than significant with mitigation (Class II).

During operation of the Gas Insulated Substation Alternative, the main components contributing to noise generation are the transformers and associated cooling fans. Under the Gas Insulated Substation Alternative, the transformers would be located approximately 200 feet south from the location identified under the Proposed Project. The transformers under the Gas Insulated Substation Alternative would also be enclosed within a building that would alter the dispersion pattern of the noise from the transformers used in the Gas Insulated Substation design in comparison to the Proposed Project. Because the Gas Insulated Substation design would shift the transformers approximately 200 feet south when compared to the Proposed Project, the resulting noise contours would shift south as well, increasing the noise levels on properties located to the south by approximately 4 to 6 dB. The closest sensitive receptors within the vicinity of the proposed substation site are residential developments located east of the easement boundary on the opposite side of I-5. Because residential sensitive receptors would be located east of I-5, opposite the project site, operational noise sources would be masked by I-5 traffic noise and would be below the City's 45 dBA noise level limit. Thus, the noise impact would be less than significant (Class III).

Although the substation site would be smaller, the short-term construction as well as the operational impacts would be similar to the Proposed Project, which were determined to be less than significant with mitigation (Class II).

Comparison to the Proposed Project

Noise impacts resulting from the construction and operation of SDG&E's Gas Insulated Substation Technology Alternative would not be significantly different from the Proposed Project.

D.12.4.2 Tank Farm Site Alternative

Environmental Setting

The Tank Farm site is located approximately 250 feet north of the existing South Bay Substation site and 50 feet south of Marina View Park. The site lies within the northern extent of a light industrial area, adjacent to Bay Boulevard to the east and San Diego Bay to the west. The Tank Farm site is undeveloped but includes earthen berms in the central and eastern portions of the site that are associated with previous industrial uses. The western portion of the site is located adjacent to the J Street Marsh and has direct access to San Diego Bay. Industrial land uses (the South Bay Power Plant and the South Bay Substation) are located to the south, and several aboveground transmission lines are located to the east of the site within an SDG&E utility corridor. Primary noise generation within the project area is associated with transportation in and around the site, including traffic volumes on I-5 and Bay Boulevard, as well as the San Diego Metropolitan Transit System Blue Line operations located adjacent to I-5.

Sensitive noise receptors located within the vicinity of the Tank Farm site include Pima Medical Institute (approximately 250 feet to the east), Marina View Park (approximately 50 feet to the north), residential developments (approximately 900 feet to the east, and east of I-5), and Mueller Charter School (approximately 2,000 feet to the northeast).

The South Bay Substation dismantling and transmission interconnections (230 kV loop-in, 138 kV extension, and 69 kV relocation) would occur in similar locations as previously identified in Section D.12.1 for the Proposed Project, and the distances between these project components and sensitive receptors in the area would be similar.

The environmental setting for the Air Insulated Substation and Gas Insulated Substation Alternatives at the Tank Farm site would be the same, and therefore, environmental setting is not further discussed in Sections D.12.4.2.1 and D.12.4.2.2.

D.12.4.2.1 Tank Farm Site – Air Insulated Substation Alternative

Environmental Impacts and Mitigation Measures

Construction of the substation at the Tank Farm site would produce short-term noise, and the closest noise sensitive receptors to the site are park users at Marina View Park (located 50 feet to

the north) and residential developments located approximately 900 feet to the east and across I-5. As with the Proposed Project, during construction of the substation, the maximum noise levels at 50 feet from the substation site could range from 81 to 89 dB(A). Construction noise in a well-defined area typically attenuates at approximately 6 dB per doubling distance, and therefore, at a distance of 100 feet from the Tank Farm site, the maximum noise level would be approximately 75 to 83 dBA. Therefore, exterior noise levels at Marina View Park (located approximately 50 feet north of the site) would range from 81 to 89 dB(A), and exterior noise levels at Pima Medical Institute (located approximately 250 feet east of the site) would range from approximately 67.5 to 75.5 dB(A). To ensure that construction activities are limited to those allowed by the City, Mitigation Measure NOI-1 is provided. Implementation of Mitigation Measure NOI-1 would ensure that noise impacts due to construction activities would be less than significant (Class II).

Construction activities associated with the dismantling of the existing South Bay Substation and transmission interconnections would also produce short-term noise, which could affect nearby sensitive receptors including park users at Marina View Park and staff and clients at Pima Medical Institute. To ensure that construction activities associated with existing South Bay Substation and transmission interconnections (including helicopter activities during transmission pole removal and installation) are limited to those allowed by the City, Mitigation Measure NOI-1 would be implemented, and N-1 impacts would be reduced to less-than-significant (Class II) levels.

Vibration levels from heavy equipment transport and grading activities associated with construction of the new substation and dismantling of the existing South Bay Substation may be perceptible to park users at Marina View Park. As stated in Section D.12.3, for the Proposed Project, construction-generated vibration could cause annoyance for a sensitive receptor within about 50 feet of construction work, and the only sensitive receptors within 50 feet of the Tank Farm Substation site would be park users at Marina View Park (the nearest sensitive receptor to the existing South Bay Substation would be the Pima Medical Institute located more than 1,000 feet to the northeast). While construction activities at the Tank Farm site would occur within approximately 50 feet of Marina View Park, a man-made channel is located between the park and substation site that would affect the potential for vibration nuisances at the park. In addition, construction activities associated with transmission interconnections (including jack-hammering, trenching, and boring activities) could produce vibrations that would be perceptible to land uses within 50 feet of work areas. The nearest sensitive land use, the Pima Medical Institute, would be located more than 50 feet from the nearest transmission interconnection work area (a 69 kV wood pole replacement). Therefore, with consideration given to all project components, N-2 impacts during construction of this alternative would be less than significant (Class III). Once constructed, project components, including the new substation facility and transmission

interconnections, would not generate perceivable ground-borne vibrations, and no N-2 operational impacts would occur (No Impact).

Operational impacts would occur where project component-generated noise exceeds the exterior noise limits for receiving land uses as established in the City's noise ordinance. The closest sensitive receptors to the substation facility at the Tank Farm site, park users at Marina View Park, would be located approximately 50 feet to the north of the site, and based on the proposed noise contours for the Proposed Project as depicted on Figure D.12-3, at this distance, noise levels would be less than 44 dBA. Furthermore, the City noise ordinance has not established exterior noise limits for lands zoned for park use, and therefore, no operational noise impacts would occur at Marina View Park. No operational noise impacts would occur at the South Bay Substation (the substation would be dismantled and demolished during construction) and because transmission interconnections would include the removal, replacement, and installation of transmission structures in locations where existing structures are sited, operational noise (i.e., corona noise) would not change substantially. Therefore, N-3 impacts under this alternative would be less than significant (Class III).

Because operation and maintenance activities at the proposed Tank Farm Site – Air Insulated Substation Alternative would occur in a manner similar to those that presently occur at the existing South Bay Substation and because operational activities associated with the transmission interconnections would be similar to activities employed for existing transmission structures and lines in the project area, N-4 impacts would be less than significant (Class III).

Comparison to the Proposed Project

Because the Tank Farm site is located closer to sensitive receptors than the proposed Bay Boulevard site and because construction activities would generate exterior noise levels at Marina View Park and Pima Medical Institute, NOI-1 impacts would be greater under this alternative when compared to the N-1 impacts of the Proposed Project. The site's proximity to Marina View Park would also result in greater N-2 impacts than those of the Proposed Project. Lastly, N-3 and N-4 impacts under this alternative would be similar when compared to the Proposed Project.

D.12.4.2.2 Tank Farm Site – Gas Insulated Substation Alternative

Environmental Impacts and Mitigation Measures

Because construction activities associated with the new substation, dismantling of the existing South Bay Substation, and transmission interconnection would occur in similar locations and because construction schedules and necessary equipment and vehicles would be similar, N-1, N-2, and N-4 impacts would be similar to the impacts characterized in Section D.12.4.2.1 for the

Tank Farm Site – Air Insulated Substation Alternative. The primary source of noise associated with operation of the new substation (the substation transformers) would be located approximately 200 feet south of the location identified under the Air Insulated Substation Alternative, and it would be located within a building that would effectively alter the dispersion pattern of the transformer noise previously identified for the Air Insulated Substation Alternative. Therefore, exterior noise levels at Marina View Park during operations of the Gas Insulated Substation Alternative would be less than those anticipated during operation of the Air Insulated Substation Alternative. However, as mention in Section D.12.4.2.1, the City’s noise ordinance does not include established exterior noise limits for lands zoned for park use; therefore, no operational noise impacts to park users would occur at Marina View Park. Additionally, transmission interconnections would include the removal, replacement, and installation of transmission structures in locations where transmission structures are currently sited, and therefore, operational noise (i.e., corona noise) generated by transmission structures in the SDG&E transmission easement would not change substantially. Therefore, N-3 impacts under this alternative would be less than significant (Class III).

Comparison to the Proposed Project

Because the Tank Farm site is located closer to sensitive receptors than the proposed Bay Boulevard site and because construction activities would generate exterior noise levels at Marina View Park and Pima Medical Institute that would exceed exterior land use/noise compatibility guidelines established in the City’s General Plan for park and office land uses, NOI-1 impacts would be greater under this alternative when compared to the N-1 impacts of the Proposed Project. The site’s proximity to Marina View Park would also result in greater NOI-2 impacts than those of the Proposed Project. Lastly, N-3 and N-4 impacts under this alternative would be similar under this alternative when compared to the Proposed Project.

D.12.4.3 Existing South Bay Substation Site

The existing noise sources and noise levels in the vicinity of the existing South Bay Substation were previously identified in Section D.12.1. Because this alternative would occur within the boundary of the existing substation and adjacent 3-acre area, the existing setting, noise sources, and noise levels would be the same as previously described in Section D.12.1.

D.12.4.3.1 Existing South Bay Substation Site – Air Insulated Substation Alternative

Environmental Impacts and Mitigation Measures

Construction activities at the existing substation site and adjacent 3-acre area would occur within approximately 1,800 feet of the nearest sensitive receptors at Marina View Park and Pima Medical Institute. At 1,800 feet, the exterior noise levels at these locations would range from 51 to 60 dBA which would be acceptable per the Exterior Noise Level limits established in the City's Municipal Code. However, because nighttime work associated with the substation may be required to facilitate cutovers in accordance with CAISO requirements construction activities could potentially occur outside of the hours permitted by the City's Municipal Code which would be considered a significant impact. Also, transmission interconnection work including helicopter activities for conductor stringing would occur within close proximity to Marina View Park and Pima Medical Institute and could expose sensitive receptors at these location to noise in excess of 75 dBA for a short term period. Implementation of Mitigation Measure NOI-1 would ensure that noise impacts due to construction activities associated with the Air Insulated Substation Alternative including transmission interconnection work (Impact N-1) would be less than significant (Class II).

Construction related vibration generated at the existing substation site could cause annoyance for a sensitive receptor within approximately 50 feet of construction work. Because the closest sensitive receptor is located more than 1,000 feet from the substation site as well as 150 feet from the SDG&E transmission easement area, detectable vibration would be minimal and temporary impacts associated with construction-related vibration (Impact N-2) would be less than significant (Class III). Noticeable ground-borne vibrations are not anticipated to be detectable by sensitive receptors during substation operations. Therefore, no operational vibration-related N-2 impacts would occur (No Impact).

The primary noise source that would occur during operation of the Air Insulated Substation Alternative would consist of noise generated by transformers (which would not typically operate during off-peak and nighttime hours) . Based on the noise contours associated with the proposed Bay Boulevard Substation, daytime operation of the Air Insulated Substation Alternative would generate noise levels of less than 45 dBA at 250 feet from the transformers. The nearest sensitive receptors would be located more than 250 feet from the transformers and the resulting exterior noise levels at noise sensitive areas (i.e., Marina View Park) would be below the City's exterior noise level limits for these land uses. Operation of transmission interconnection components would generate similar noise (i.e., corona noise) levels as under existing conditions and

therefore, operational noise impacts (Impact N-3) associated with this alternative would be less than significant.

Operation and maintenance activities would occur in a manner similar to those that presently occur at the site and along the existing transmission corridor; therefore, impacts associated with operational and maintenance activities (Impact LU-4) would be less than significant (Class III).

Comparison to the Proposed Project

This alternative would occur in a location similar to that which was previously analyzed for the Proposed Project and therefore, the anticipated construction and operational noise impacts (N-1 through N-4) under this alternative would be similar to those discussed in Section D.12.3 for the Proposed Project.

D.12.4.3.2 Existing South Bay Substation Site – Gas Insulated Substation Alternative

Environmental Impacts and Mitigation Measures

The removal of existing substation equipment (demolition of the existing South Bay Substation would include removal of all aboveground and belowground SDG&E-owned equipment) and construction of the new substation would be staged in order to keep existing circuits in service during construction. The closest sensitive noise receptors in the vicinity of the South Bay Substation site are recreational users located approximately 1,800 feet to the northeast at Marina View Park and workers at the Pima Medical Institute. At this distance, exterior noise levels at Marina View Park would range from 51 to 60 dBA. To ensure that construction activities are limited to those allowed by the City, Mitigation Measure NOI-1 is provided. Implementation of Mitigation Measure NOI-1 would ensure that noise impacts due to construction activities would be less than significant (Class II).

While construction noise is not anticipated to result in significant noise impacts, nighttime work may be required to complete cutovers in accordance with CAISO requirements, and activities could occur outside of the hours permitted by the City's Municipal Code, which would be considered a significant impact. Implementation of Mitigation Measure NOI-1 would ensure that construction activities completed during the evening and nighttime hours would be reduced to less-than-significant (Class II) levels.

Construction activities associated with transmission interconnections would include pole removal, installation, and replacement, as well as conductor pulling and tensioning. Based on the analysis presented in Section D.12.3 for the transmission interconnections associated with the

Proposed Project, a 75 dBA noise contour would extend approximately 265 feet from each pole site, and work areas would be located within 300 feet of Marina View Park and 200 feet of the Pima Medical Institute. Due to the proximity of these poles to Marina View Park and Pima Medical Institute, these receptors may be temporarily exposed to noise in excess of 75 dBA, which would be considered a significant impact. Helicopter activities required during conductor stringing could also expose sensitive receptors located near pole locations to noise levels in excess of 75 dBA. Implementation of Mitigation Measure NOI-1 would ensure that noise impacts due to construction activities associated with transmission interconnections (Impact N-1) would be less than significant (Class II).

Although the detectability of vibration is dependent on a number of factors including soil type at the construction site, construction could cause annoyance for a sensitive receptor within about 50 feet of construction work. Because the closest sensitive receptor is located more than 1,000 feet from the substation site and 150 feet from the SDG&E transmission easement area, detectable vibration would be minimal, and temporary impacts associated with construction-related vibration would be less than significant (Class III). Because normal operation and maintenance activities at the substation would not generate noticeable ground-borne vibrations or associated noise levels and because procedures associated with operation and maintenance of transmission lines would not generate ground-borne vibrations, no operational N-2 impacts would occur (No Impact).

The new substation at the South Bay Substation site would be unmanned and would be monitored and controlled by SDG&E's remote control center. The primary noise source that would occur during substation operations would include transformers (which would not typically operate during off-peak and nighttime hours) and associated cooling fans. Based on the noise contours associated with the proposed Bay Boulevard Substation and depicted in Figure D.12-3, daytime operations of the Gas Insulated Substation Alternative would generate noise levels of less than 45 dBA at 250 feet from the transformer (the placement of transformers with metallic buildings would result in operational noise levels less than those anticipated for the proposed substation). Because sensitive receptors would be located at distances greater than 250 feet from transformers (and because transformers would be located within buildings), N-3 impacts associated with operation of the new substation would be less than significant (Class III). Because transmission interconnections would include the replacement and installation of transmission structures near or at locations where existing transmission poles are located, changes in corona noise associated with transmission interconnections are not anticipated to be substantial and would be less than significant (Class III).

Because operation and maintenance activities at the new substation would occur in a manner similar to those that presently occur at the existing South Bay Substation and because maintenance activities associated with transmission interconnections would be similar to

maintenance activities currently employed for existing transmission structures in the project area, LU-4 impacts would be less than significant (Class III).

Comparison to the Proposed Project

Because this alternative would occur within a location similar to that which was previously identified and analyzed in Sections D.12.1 and D.12.3 for the Proposed Project, construction and operational noise impacts (N-1 through N-4) under this alternative would be similar to those discussed in Section D.12.3 for the Proposed Project.

D.12.4.4 Power Plant Site Alternative

The Power Plant Site is located approximately 400 feet south of the existing South Bay Substation site. Paved roadways traverse the site and provide access to the Power Plant and ancillary facilities from the main entranceway off Bay Boulevard. The western portion of the site is located adjacent to San Diego Bay and the U.S. Fish and Wildlife Service San Diego Bay National Wildlife Refuge. Industrial land uses are located to the north and south (salt crystallizer ponds are also located to the south), and an SDG&E transmission corridor containing existing overhead transmission facilities is located to the east (regular strips of ornamental screening trees line the eastern edge of the transmission corridor). Bay Boulevard and commercial and industrial land uses are located farther to the east.

Due to proximity, the existing setting as well as the existing noise sources in the vicinity of and noise levels at the Power Plant site would be similar to those at the existing South Bay Substation site (see Section D.12.4.3 for discussion).

The environmental setting for the Air Insulated Substation and Gas Insulated Substation Alternatives at the Power Plant site would be the same, and therefore, environmental setting is not further discussed in Sections D.12.4.4.1 and D.12.4.4.2.

D.12.4.4.1 Power Plant Site – Air Insulated Substation Alternative

Environmental Impacts and Mitigation Measures

Substation construction at the Power Plant site would produce short-term noise that would be perceivable to the closest noise sensitive receptors to the site, which include park users at Marina View Park (located approximately 2,500 feet to the north) and the Pima Medical Institute (located approximately 2,000 feet to the northeast). The nearest residential development (Brentwood Park, a mobile home development) is located approximately 1,100 feet to the southeast and across I-5). Based on the anticipated noise levels previously identified for construction of the proposed Bay Boulevard Substation (during construction the maximum noise

levels at 50 feet from the substation site could range from 81 to 89 dB(A) and would attenuate at approximately 6 dB per doubling of distance)), noise levels could range from 48 to 57 dBA at Marina View Park, approximately 50 to 59 dBA at Pima Medical Institute, and 57 to 66 dBA at Brentwood Park. To ensure that construction activities are limited to those allowed by the City, Mitigation Measure NOI-1 is provided. Implementation of Mitigation Measure NOI-1 would ensure that noise impacts due to construction activities would be less than significant (Class II).

Nighttime construction may be required to complete electrical system transfers, and construction between the hours of 10:00 p.m. and 7:00 a.m. (Monday through Friday) is not permitted by the City's Municipal Code. Mitigation Measure NOI-1 will ensure that construction activities completed during the evening and nighttime hours would be reduced to less than significant (Class II).

Noise levels generated during dismantling of the existing South Bay Substation and construction of the transmission interconnections under this alternative would be similar to noise levels previously identified in Section D.12.3 for the Proposed Project, and therefore, resulting N-1 impacts associated with dismantling and construction activities (including helicopter activities used for conductor stringing) would be less than significant (Class II) with implementation of Mitigation Measure NOI-1.

As stated in Section D.12.3 for the Proposed Project, construction-generated vibration could cause annoyance for a sensitive receptor within about 50 feet of construction work area. Because sensitive receptors are located more than 50 feet from construction work areas associated with the new substation at the Power Plant site and the existing South Bay Substation (see previous N-1 discussion for approximation of distance between substation work areas and sensitive receptors), vibration impacts resulting from construction of these components would be less than significant (Class III). The nearest sensitive land use to construction work areas of transmission interconnections, the Pima Medical Institute, would be located more than 50 feet from the nearest work area (a 69 kV wood pole replacement would be located approximately 150 feet west of the institute). Therefore, with consideration given to all project components, N-2 impacts during construction of this alternative would be less than significant (Class III). Once constructed, project components, including the new substation facility and transmission interconnections, would not generate perceivable ground-borne vibrations, and therefore, no N-2 operational impacts would occur (No Impact).

Operational impacts would occur where project component-generated noise exceeds the exterior noise limits for receiving land uses as established in the City noise ordinance. The closest sensitive receptors to the substation facility at the Power Plant site, residences (mobile homes) at Brentwood Park, would be located approximately 1,100 feet southeast of the site,

and at this distance, noise levels would be less than 44 dBA (44 dBA noise contours generated by operation of transformers at the substation facility are anticipated to extend to the existing SDG&E transmission easement, and therefore, noise levels at Brentwood Park would be substantially less). Therefore, because substation operations would not generate noise in excess of exterior noise level limits at the nearest residentially zoned receiving land use, operational noise impacts would not be substantial. No operational noise impacts would occur at the South Bay Substation (the substation would be dismantled and demolished) and because transmission interconnections would include the removal, replacement, and installation of transmission structures in locations where existing structures are sited, operational noise levels from corona noise would not change substantially. Therefore, N-3 impacts under this alternative would be less than significant (Class III).

Operation and maintenance activities at the Power Plant site substation would occur in a manner similar to activities at the existing South Bay Substation. Operational activities associated with the transmission interconnection component of this alternative would also occur in a manner similar to activities currently employed for existing transmission structures and lines in the project area. As such, noise from inspection and maintenance activities (Impact N-4) would be less than significant (Class III).

Comparison to the Proposed Project

Although the Power Plant site would be located in closer proximity to sensitive receptors (i.e., park users at Marina View Park and receptors at Pima Medical Institute) when compared to the proposed Bay Boulevard Substation site, construction and operational noise would not generate additional impacts beyond those previously identified in Section D.12.3 for the Proposed Project. Therefore, while exterior noise levels at nearby sensitive receptors would be greater under the Power Plant Site – Air Insulated Substation Alternative, Impacts N-1 through N-4 under this alternative would be similar to those of the Proposed Project.

D.12.4.4.2 Power Plant Site – Gas Insulated Substation Alternative

Environmental Impacts and Mitigation Measures

Because construction activities associated with the new substation, dismantling of the existing South Bay Substation, and transmission interconnections would occur in similar locations and because construction schedules (as well as necessary equipment and vehicles) would be similar, N-1, N-2, and N-4 impacts generated by the Power Plant Site – Gas Insulated Substation Alternative would be similar to the impacts characterized in Section D.12.4.4.1 for the Power Plant Site – Air Insulated Substation Alternative. The primary source of noise associated with operation of the new substation (the substation transformers) would be located approximately

200 feet south from the location identified under the Air Insulated Substation Alternative and would be housed within a building. Placement of transformers within a building would alter the dispersion pattern of transformer noise previously identified for the Air Insulated Substation Alternative and would result in reduced operational noise at surrounding sensitive receptor locations. Therefore, exterior noise levels at Marina View Park, Pima Medical Institute, and Brentwood Park during operations of the Gas Insulated Substation Alternative would be less than those anticipated during operation of the Air Insulated Substation Alternative and would be less than significant (Class III). Also, transmission interconnections would include the removal, replacement, and installation of transmission structures in locations where transmission structures are currently sited, and therefore, operational noise (i.e., corona noise) generated by newly installed and replaced transmission structures would not substantially alter the existing noise environment. Therefore, N-3 impacts under this alternative would be less than significant (Class III).

Comparison to the Proposed Project

The Power Plant site would be located in closer proximity to sensitive receptors (i.e., park users at Marina View Park and receptors at Pima Medical Institute) than the proposed Bay Boulevard Substation site; however, construction and operational noise would not generate additional impacts beyond those previously identified in Section D.12.3 for the Proposed Project. In addition, locating the primary substation operational noise source (transformers) within buildings would reduce operational noise and the disparity between operational noise of the Proposed Project and the Gas Insulated Substation Alternative. Therefore, while exterior noise levels at nearby sensitive receptors are anticipated to be greater under the Power Plant Site – Gas Insulated Substation Alternative by virtue of being located closer in proximity, Impacts N-1 through N-4 under this alternative would be similar to those of the Proposed Project.

D.12.4.5 Broadway and Palomar Site Alternative

With the exception of transmission structures, the Broadway and Palomar site is undeveloped. Commercial uses (businesses within the Palomar Trolley Center) are located to the north, and commercial and light industrial uses are located to the south (a multifamily housing development is located approximately 350 feet south of the site along Broadway). The MTS Palomar Street Trolley Station and parking lot are located adjacent to the western portion of the site. Residential land uses are located approximately 850 feet northeast of the site and approximately 1,750 feet west of the site.

Primary noise sources in the area include traffic on nearby roadways (Broadway, Industrial Boulevard, and Palomar Street), intermittent noise associated with MTS Blue Line Trolley

operations (the Palomar Street station is located west, adjacent to the site), and noise generated by commercial and industrial businesses to the north and south of the site.

The environmental setting for the Air Insulated Substation and Gas Insulated Substation Alternatives at the Broadway and Palomar site would be the same, and therefore, environmental setting is not further discussed in Sections D.12.4.5.1 and D.12.4.5.2.

For purposes of the following analysis, it is assumed that the new substation at the Broadway and Palomar site would be located in the eastern portion of the site, near an existing transmission structure, and where disturbance of the site is visually evident (the distances provided above are measured from this general location). This location is near the only ingress/egress point to the site.

D.12.4.5.1 Broadway and Palomar Site – Air Insulated Substation Alternative

The 9-acre Broadway and Palomar site is not physically large enough to accommodate the 10-acre Air Insulated Substation Alternative. As such, the Air Insulated Substation Alternative is not technically feasible at this site.

D.12.4.5.2 Broadway and Palomar Site – Gas Insulated Substation Alternative

Environmental Impacts and Mitigation Measures

Construction of the Gas Insulated Substation at the Broadway and Palomar site would produce short-term noise that would be perceptible to nearby noise sensitive receptors including residential uses located 350 feet to the south, 850 feet to the northeast, and approximately 1,750 feet west of the site. Based on the anticipated noise levels previously identified for construction of the proposed Bay Boulevard Substation, noise levels could range from 63 to 71 dBA at residential land uses to the south, 57 to 66 dBA at residential land uses to the northeast, and 51 to 60 dBA at residential land uses to the west. To ensure that construction activities are limited to those allowed by the City, Mitigation Measure NOI-1 is provided. Implementation of Mitigation Measure NOI-1 would ensure that noise impacts due to construction activities would be less than significant (Class II).

Nighttime construction may be required to complete electrical system transfers, and construction between the hours of 10:00 p.m. and 7:00 a.m. (Monday through Friday) is not permitted by the City's Municipal Code (Mitigation Measure NOI-1 would be implemented to ensure that construction activities completed during evening and nighttime hours are reduced to less-than-significant (Class II) levels). Noise levels generated during dismantling of the existing South Bay Substation under this alternative would be similar to noise levels previously identified in Section

D.12.3 for the Proposed Project; therefore, resulting N-1 impacts associated with construction activities would be less than significant (Class II) with implementation of Mitigation Measure NOI-1. In the vicinity of the Broadway and Palomar site, the SDG&E transmission easement is located within an urban setting and adjacent to residential and commercial land uses. Based on the analysis for transmission interconnections presented in Section D.12.3.5 for the Proposed Project, a 75 dBA noise contour would extend approximately 265 feet from each pole site during construction work (at specific locations existing poles are located within 65 feet of residences and commercial businesses). To ensure that construction activities are limited to those allowed by the City, Mitigation Measure NOI-1 is provided. Implementation of Mitigation Measure NOI-1 would ensure that noise impacts due to construction activities would be less than significant (Class II).

As stated in Section D.12.3 for the Proposed Project, construction-generated vibration could cause annoyance for a sensitive receptor within about 50 feet of construction work area. Because sensitive receptors are located more than 50 feet from construction work areas associated with the new substation at the Broadway and Palomar site and the existing South Bay Substation (see N-1 previous discussion for approximation of distance between substation work areas and sensitive receptors), vibration impacts resulting from construction of these components would be less than significant (Class III). As stated previously, the nearest sensitive land uses to construction work areas associated with transmission interconnections (residences adjacent to the SDG&E transmission easement) would be located within 65 feet of existing poles; therefore, construction-generated vibration is not anticipated to be overly perceptible at nearby residences. Therefore, with consideration given to all project components, N-2 impacts during construction of this alternative would be less than significant (Class III). Once constructed, project components, including the new substation facility and transmission interconnections, would not generate perceivable ground-borne vibrations, and therefore, no N-2 operational impacts would occur (No Impact).

Operational impacts would occur where project component-generated noise exceeds the exterior noise limits for receiving land uses as established in the City noise ordinance. Existing residences (a multifamily development) are located approximately 350 feet from the substation site, and at this distance, noise levels are anticipated to be less than 44 dBA. The 44 dBA noise contours generated by operation of transformers at the Air Insulated Substation facility are anticipated to extend approximately 300 feet from the transformers; because the Gas Insulated Substation Alternative would locate transformers within buildings, exterior noise levels at the multifamily development would be reduced when compared to the Air Insulated Substation. Therefore, because substation operations would not generate noise in excess of exterior noise levels limits at the nearest residentially zoned receiving land uses, operational noise impacts are not anticipated to be substantial. No operational noise impacts would occur at the South Bay

Substation (the substation would be dismantled and demolished) and because transmission interconnections would include the removal, replacement, and installation of transmission structures in locations where existing structures are sited, operational noise levels from corona noise would not change substantially. Therefore, N-3 impacts under this alternative would be less than significant (Class III).

Operation and maintenance activities at the Broadway and Palomar site substation facility would require a single pickup truck visiting the substation several times each week for switching, as well as several larger substation construction and maintenance trucks several times a year for equipment maintenance. Ongoing maintenance would involve testing, monitoring, and repair of equipment, as well as emergency and routine procedures to enable efficient provision of SDG&E services. Noise generated by maintenance activities would increase noise levels in the area; however, due to the short-term duration of activities and sporadic nature of site visits, impacts are anticipated to be less than significant (Class III). Also, operational activities associated with the transmission interconnection component of this alternative would occur in a manner similar to activities currently employed for existing transmission structures and lines in the project area. As such, noise from inspection and maintenance activities (Impact N-4) would be less than significant (Class III).

Comparison to the Proposed Project

Because the SDG&E transmission easement is located immediately adjacent to residential and commercial land uses in the vicinity of the Broadway and Palomar site and because transmission interconnection work could occur within 65 feet of residential and commercial land uses (existing poles are located within 65 feet of sensitive land uses), construction noise under this alternative would be greater than N-1 impacts associated with the Proposed Project. Although the substation facility at the Broadway and Palomar site and the transmission interconnection work areas under this alternative would be located in closer proximity to sensitive receptors (residential land uses) and would generate higher exterior noise levels at the closest sensitive receptors as compared to the Proposed Project, construction- and operation-generated vibration and noise is not anticipated to result in significant impacts, and therefore, N-2, N-3, and N-4 impacts under this alternative would be similar to those of the Proposed Project.

D.12.4.6 Goodrich South Campus Site Alternative

The Goodrich South Campus site is located approximately 1,875 feet north of the existing South Bay Substation and was previously used by Goodrich for industrial operations and associated parking needs. The easternmost portion of the site (adjacent to the SDG&E transmission corridor) is flat and paved with concrete, and the western portion of the site is disturbed but undeveloped. Industrial uses are located approximately 1,400 feet to the north, commercial and

recreational uses (the Chula Vista Marina) are located approximately 1,100 feet west of the developed portion of the site across Marina Parkway, the SDG&E transmission corridor is located to the east (commercial uses are located beyond the transmission corridor), and Marina Parkway and Marina View Park are located approximately 120 feet and 200 feet to the south. National University (South Bay Campus) is located approximately 300 feet east of the developed portion of the site.

Primary noise sources in the project area consist of vehicular traffic on local roadways (Marina Parkway and Bay Boulevard) and a regional freeway (I-5). Occasionally, air traffic generates ambient noise within the immediate vicinity, including commercial and military aircraft flight paths.

The environmental setting for the Air Insulated Substation and Gas Insulated Substation Alternatives at the Goodrich South Campus Site would be the same, and therefore, environmental setting is not further discussed in Sections D.12.4.6.1 and D.12.4.6.2.

For purposes of the following analysis, it is assumed that the new substation at the Goodrich South Campus site would be located in the eastern portion of the site adjacent to the existing SDG&E transmission easement and approximately 120 feet north of Marina Parkway. Placement of the substation in this location would minimize impacts to biological resources located on the western portion of the site.

D.12.4.6.1 Goodrich South Campus Site – Air Insulated Substation Alternative

Environmental Impacts and Mitigation Measures

Construction activities at the Goodrich South Campus site would produce short-term noise that would be perceptible at nearby sensitive land uses/receptors including park users at Marina View Park (located approximately 200 feet to the north), visitors to the Chula Vista Marina (approximately 1,100 feet to the west), and faculty and students at the South Bay Campus of National University (located approximate 300 feet to the east). Industrial land uses to the north would be located more than 1,400 feet from the Goodrich South Campus site. As stated in Section D.12.3 for the Proposed Project, during construction the maximum noise levels at 50 feet from the substation site could range from 81 to 89 dB(A) and would attenuate at approximately 6 dB per doubling of distance. Therefore, noise levels could range from 69 to 77 dBA at Marina View Park, approximately 54 to 62 dBA at the Chula Vista Marina, and 66 to 74 dBA at National University (South Bay Campus). To ensure that construction activities are limited to those allowed by the City, Mitigation Measure NOI-1 is provided. Implementation of Mitigation Measure NOI-1 would ensure that noise impacts due to construction activities would be less than significant (Class II).

Nighttime construction at the substation site may be required to complete electrical system transfers, and construction between the hours of 10:00 p.m. and 7:00 a.m. (Monday through Friday) is not permitted by the City's Municipal Code. Implementation of Mitigation Measure NOI-1 would ensure that construction activities completed during the evening and nighttime hours would be reduced to less than significant (Class II).

Noise levels generated during dismantling of the existing South Bay Substation and construction of the transmission interconnections under this alternative would be similar to noise levels previously identified in Section D.12.3 for the Proposed Project, and therefore, resulting N-1 impacts associated with dismantling and construction activities (including helicopter activities used for conductor stringing) would be less than significant (Class II) with implementation of Mitigation Measure NOI-1.

As stated in Section D.12.3 for the Proposed Project, construction-generated vibration could cause annoyance for a sensitive receptor within about 50 feet of construction work area. Because sensitive receptors are located more than 50 feet from construction work areas associated with the new substation at the Goodrich South Campus site and the existing South Bay Substation (see N-1 discussion above for approximation of distance between the substation site and sensitive receptors) vibration impacts resulting from construction of these components would be less than significant (Class III). The nearest sensitive land use to construction work areas of transmission interconnections, the Pima Medical Institute, would be located more than 50 feet from the nearest work area (a 69 kV wood pole replacement would be located approximately 150 feet west of the institute). Similar to the Proposed Project, transmission interconnection work is assumed to be required to extend existing infrastructure to the new substation site. Therefore, with consideration given to all project components, N-2 impacts during construction of this alternative would be less than significant (Class III). Once constructed, project components, including the new substation facility and transmission interconnections, would not generate perceivable ground-borne vibrations, and therefore, no N-2 operational impacts would occur (No Impact).

Operational impacts would occur where project component-generated noise exceeds the exterior noise limits for receiving land uses as established in the City noise ordinance. The closest sensitive receptors to the substation facility at the Goodrich South Campus site, park users at Marina View Park, would be located approximately 200 feet south of the site, and at this distance, noise levels would be less than 44 dBA (44 dBA noise contours generated by operation of transformers at the substation facility are anticipated to extend to the graded substation yard boundary (see Figure D.12.3, Proposed Noise Contours, for the Proposed Project). Although the City's noise ordinance does not consider park land uses in its exterior noise limits restrictions, the most restrictive limit (45 dBA for single-family residential land uses) is considered in this analysis to characterize general conformance with noise level limits during operations. Therefore, because noise levels at

Marina View Park would be less than 44 dBA (and less than the most restrictive limit established in the City's noise ordinance), operational noise generated by the new substation facility impacts would be considered a less-than-significant (Class III) impact. No operational noise impacts would occur at the South Bay Substation (the substation would be dismantled and demolished), and because transmission interconnections would include the removal, replacement, and installation of transmission structures in locations where similar structures are currently sited, operational noise levels from corona noise would not change substantially. Therefore, N-3 impacts under this alternative would be less than significant (Class III).

Operation and maintenance activities at the Goodrich South Campus site substation facility would require a single pickup truck visiting the substation several times each week for switching, as well as several larger substation construction and maintenance trucks several times a year for equipment maintenance. Ongoing maintenance would involve testing, monitoring, and repair of equipment, as well as emergency and routine procedures to enable efficient provision of SDG&E services. Noise generated by maintenance activities would temporarily increase noise levels in the area; however, due to the short-term duration of activities and sporadic nature of site visits, impacts are anticipated to be less than significant (Class III). Also, operational activities associated with the transmission interconnection component of this alternative would occur in a manner similar to activities currently employed for existing transmission structures and lines in the project area. As such, noise from inspection and maintenance activities (Impact N-4) would be less than significant (Class III). Comparison to the Proposed Project

Because this alternative substation site would be located in closer proximity to sensitive receptors (park users at Marina View Park) than the proposed Bay Boulevard Substation site, construction noise under this alternative would be greater than N-1 impacts associated with the Proposed Project. Construction-generated vibration impacts (Impact N-2), operational noise impacts (Impact N-3), and impacts associated with operation and maintenance activities (Impact N-4) under this alternative would be similar to those identified in Section D.12.3 for the Proposed Project.

D.12.4.6.2 Goodrich South Campus Site – Gas Insulated Substation Alternative

Environmental Impacts and Mitigation Measures

Because construction activities associated with the new substation, dismantling of the existing South Bay Substation, and transmission interconnections would occur in similar locations and because construction schedules (as well as necessary equipment and vehicles) would be similar, N-1, N-2, and N-4 impacts generated by the Goodrich South Campus Site – Gas Insulated Substation Alternative would be similar to the impacts characterized in Section D.12.4.6.1 for the Goodrich South Campus Site – Air Insulated Substation Alternative (less than significant

(Class II) with implementation of mitigation, Class III, and Class III). Substation transformers, the primary source of noise associated with operation of the Gas Insulated Substation facility, would be housed within a building at the substation site. Enclosure of the transformers would alter the dispersion pattern of transformer noise previously identified for the Air Insulated Substation Alternative and would result in reduced operational noise as measured at surrounding sensitive receptor locations. Therefore, exterior noise levels at Marina View Park during operations of the Gas Insulated Substation Alternative would be less than those anticipated during operation of the Air Insulated Substation Alternative and would be less than significant (Class III). Additionally, because structures associated with the transmission interconnections component of this alternative would occur near (or at) locations where similar transmission structures are currently sited, operational noise (i.e., corona noise) generated by newly installed and replaced transmission structures would not substantially alter the existing noise environment. Therefore, N-3 impacts under this alternative would be less than significant (Class III).

Comparison to the Proposed Project

Because this alternative substation site would be located in closer proximity to sensitive receptors (park users at Marina View Park) than the proposed Bay Boulevard Substation site, the Goodrich South Campus Site – Gas Insulated Substation Alternative would result in greater N-1 impacts. While this alternative would have potential to generate greater construction-generated vibration impacts (Impact N-2), operational noise impacts (Impact N-3), and impacts associated with operation and maintenance activities (Impact N-4) due to the substation site being located closer to sensitive receptors (compared to the proposed Bay Boulevard Substation site), additional impacts beyond those identified for the Proposed Project would not occur. Therefore, Impacts N-2, N-3, and N-4 under this alternative would be similar to those identified in Section D.12.3 for the Proposed Project.

D.12.4.7 H Street Yard Site Alternative

The H Street Yard site is located north and adjacent to the Goodrich South Campus Site Alternative discussed previously in Section D.12.4.6, and the industrial site is entirely paved with concrete (portions of the site appear to be currently used for temporary storage). Industrial uses are located to the north and south, and I-5 is located to the east. A previously developed (yet vacant) industrial lot is located to the northwest, and commercial and recreational (Bayside Park) uses are located to the west, across Marina Parkway. Bayside Park is located approximately 400 feet west of the eastern boundary of the H Street Yard site, and the Chula Vista RV Resort is located approximately 800 feet west of the site.

Primary noise sources in the project area consist of vehicular traffic on local roadways (Marina Parkway and Bay Boulevard), a regional freeway (I-5), and industrial land uses located north of the H Street. Occasionally, air traffic generates ambient noise within the immediate vicinity.

The environmental setting for the Air Insulated Substation and Gas Insulated Substation Alternatives at the H Street Yard site would be the same, and therefore, environmental setting is not further discussed in Sections D.12.4.7.1 and D.12.4.7.2.

For purposes of the following analysis, it is assumed that the new substation at the H Street Yard site would be located in the northeastern portion of the site, west and adjacent to the existing SDG&E transmission easement, and south of H Street. Placement of the substation in this location would minimize impacts to biological resources located in the southwest corner of the site and would minimize conflicts with recreational land uses to the west.

D.12.4.7.1 H Street Yard Site – Air Insulated Substation Alternative

Environmental Impacts and Mitigation Measures

Construction of the substation facility at the H Street Yard site would produce short-term noise that would be perceivable at nearby sensitive land uses/receptors in the immediate vicinity, including park users at Bayside Park (located approximately 400 feet to the west) and recreationists at the Chula Vista RV Resort (located approximately 800 feet to the west). As stated previously, during construction, the maximum noise levels at 50 feet from the substation site could range from 81 to 89 dB(A) and would attenuate at approximately 6 dB per doubling of distance. Therefore, noise levels could range from 63 to 71 dBA at Bayside Park and approximately 57 to 65 dBA at the Chula Vista RV Resort. To ensure that construction activities are limited to those allowed by the City, Mitigation Measure NOI-1 is provided. Implementation of Mitigation Measure NOI-1 would ensure that noise impacts due to construction activities would be less than significant (Class II).

Nighttime construction activities, such as electrical system transfers, at the substation site may be required; however, construction between the hours of 10:00 p.m. and 7:00 a.m. (Monday through Friday) is not permitted by the City's Municipal Code. Implementation of Mitigation Measure NOI-1 would ensure that impacts associated with construction during the evening and nighttime hours would be reduced to less than significant (Class II).

Noise levels generated during dismantling of the existing South Bay Substation and construction of the transmission interconnections under this alternative would be similar to noise levels previously identified in Section D.12.3 for the Proposed Project, and therefore, resulting N-1 impacts associated with dismantling and construction activities (including helicopter activities

used for conductor stringing) would be less than significant (Class II) with implementation of Mitigation Measure NOI-1.

Because sensitive receptors are located more than 50 feet from construction work areas associated with the new substation at the H Street Yard site and the existing South Bay Substation (see N-1 discussion above for approximation of distance between the substation site and sensitive receptors), vibration impacts resulting from construction of these components would be less than significant (Class III). Similar to the Proposed Project, transmission interconnection work is assumed to be required to extend existing infrastructure to the new substation site; however, work areas associated with the interconnections would be located more than 50 feet from buildings associated with sensitive land uses (for example, work areas would be located greater than 50 feet from the Pima Medical Institute along the SDG&E transmission easement area to the south of the alternative substation site). Therefore, with consideration given to all project components, N-2 impacts during construction of this alternative would be less than significant (Class III). Once constructed, project components would not generate overly perceivable ground-borne vibrations; and therefore, no N-2 operational impacts would occur (No Impact).

The closest sensitive receptors to the substation facility at the H Street Yard site, park users at Bayside Park, would be located approximately 400 feet south of the site. Because 44 dBA noise contours generated by operation of transformers at the substation facility are anticipated to extend to the graded substation yard boundary (see Figure D.12.3, Proposed Noise Contours, for the Proposed Project) and based on the assumed location of the substation facility (in the northeastern portion of the site, west and adjacent to the existing SDG&E transmission easement, and south of H Street) the measured noise at Bayside Park would be significantly less than 44 dBA as would noise levels at the Chula Vista RV Resort. Although the City's noise ordinance does not consider park land uses in its exterior noise limit restrictions, the most restrictive limit (45 dBA for single-family residential land uses) is considered in this analysis to characterize general conformance with noise level limits during operations. Therefore, because noise levels at Bayside Park and the Chula Vista RV Resort would be less than 44 dBA (and less than the most restrictive limit established in the City's noise ordinance), operational noise generated by the new substation facility impacts would be considered a less-than-significant (Class III) impact. No operational noise impacts would occur at the South Bay Substation (the substation would be dismantled and demolished) and because transmission interconnections would include the removal, replacement, and installation of transmission structures in locations where similar structures are currently sited, operational noise levels from corona noise would not change substantially. Therefore, N-3 impacts under this alternative would be less than significant (Class III).

Ongoing maintenance of the H Street Yard substation facility would involve testing, monitoring, and repair of equipment, as well as emergency and routine procedures to enable efficient

provision of SDG&E services. Also, a single pickup truck would visit the substation several times each week for switching, and several larger substation construction and maintenance trucks would visit the site several times a year for equipment maintenance. Noise generated by maintenance activities would temporarily increase noise levels in the area; however, due to the short-term duration of activities and the sporadic nature of site visits, impacts are anticipated to be less than significant (Class III). Maintenance activities associated with the transmission interconnection component of this alternative would occur in a manner similar to activities currently deployed for transmission structures and lines in the project area. As such, noise from inspection and maintenance activities (Impact N-4) would be less than significant (Class III).

Comparison to the Proposed Project

Because this alternative substation site would be located closer to sensitive receptors (park users at Bayside Park) than the proposed Bay Boulevard Substation site, the H Street Yard Site – Air Insulated Substation Alternative would result in greater N-1 impacts. Although this alternative would be located closer to sensitive receptors and would therefore have potential to generate greater construction-generated vibration impacts (Impact N-2), operational noise impacts (Impact N-3) and impacts associated with operation and maintenance activities (Impact N-4), additional impacts beyond those identified for the Proposed Project, would not occur. Therefore, Impacts N-2, N-3, and N-4 under this alternative would be similar to those identified in Section D.12.3 for the Proposed Project.

D.12.4.7.2 H Street Yard Site – Gas Insulated Substation Alternative

Environmental Impacts and Mitigation Measures

Construction activities associated with the new substation, dismantling of the existing South Bay Substation, and transmission interconnections would occur in similar locations as activities associated with the Air Insulated Substation Alternative, and because construction schedules (as well as necessary equipment and vehicles) would be similar, N-1, N-2, and N-4 impacts anticipated under the H Street Yard Site – Gas Insulated Substation Alternative would be similar to the impacts characterized in Section D.12.4.7.1 for the H Street Yard Site – Air Insulated Substation Alternative (less than significant (Class II) with implementation of mitigation). Substation transformers, the primary source of noise associated with operation of the Gas Insulated Substation facility, would be housed within metallic buildings unique to the Gas Insulated Substation Alternative at the substation site. The placement of transformers within enclosed buildings would alter the dispersion pattern of transformer noise previously identified for the Air Insulated Substation Alternative, which would result in reduced operational noise as measured at surrounding sensitive receptor locations. Therefore, exterior noise levels at Bayside Park during operations of the Gas Insulated Substation Alternative would be less than those

anticipated during operation of the Air Insulated Substation Alternative and would be less than significant (Class III). Lastly, because transmission structures associated with the transmission interconnection component of this alternative would occur near (or at) locations where similar transmission structures are currently sited, operational noise (i.e., corona noise) generated by newly installed and replaced transmission structures would not substantially alter the existing noise environment. Therefore, N-3 impacts under this alternative would be less than significant (Class III). Comparison to the Proposed Project

Compared to the proposed Bay Boulevard Substation site, the Gas Insulated Substation at the H Street Yard site would be located closer in proximity to sensitive receptors and would produce greater construction noise impacts (Impact N-1). While this alternative would have potential to generate greater construction-generated vibration impacts (Impact N-2), operational noise impacts (Impact N-3) and impacts associated with operation and maintenance activities (Impact N-4) due to the substation site being located closer to sensitive receptors (compared to the proposed Bay Boulevard substation site), additional impacts beyond those identified for the Proposed Project, would not occur. Therefore, Impacts N-2, N-3, and N-4 under this alternative would be similar to those identified in Section D.12.3 for the Proposed Project.

D.12.4.8 Bayside Site Alternative

The Bayside site that is located west of I-5, east of Bayside Park, and approximately 0.8 mile north of the existing South Bay Substation. Sandpiper Way traverses the site and separates the previously developed eastern portion of the site from the disturbed yet undeveloped western portion of the site adjacent to Bayside Park. The easternmost portion of the site is entirely paved and vacant. The area west of Sandpiper Way consists of two disturbed vacant lots. Industrial land uses and open space is located to the north (industrial uses are also located to the east across Marina Parkway), and commercial and recreational uses (Bayside Park and the Chula Vista Marina) are located to the south. The northern portion of Bayside Park is also located to the northwestern-most portions of the site, and the Chula Vista RV Resort is located adjacent to the western boundary of the site.

Primary noise sources in the project area consist of vehicular traffic on local roadways (Marina Parkway and Bay Boulevard), a regional freeway (I-5), and industrial land uses located north of H Street. Occasionally, air traffic generates ambient noise within the immediate vicinity.

The environmental setting for the Air Insulated Substation and Gas Insulated Substation Alternatives at the Bayside Site would be the same, and therefore, environmental setting is not further discussed in Sections D.12.4.8.1 and D.12.4.8.2.

For purposes of the following analysis, it is assumed that the new substation at the Bayside site would be located in the eastern portion of the site, south of G Street, and adjacent to Marina Parkway. Placement of the substation in this location would minimize conflicts with recreational land uses to the west.

D.12.4.8.1 Bayside Site – Air Insulated Substation Alternative

Environmental Impacts and Mitigation Measures

Substation facility construction at the Bayside site would temporarily increase local noise levels, which would be perceptible at nearby sensitive land uses/receptors in the immediate vicinity, including park users at Bayside Park (located approximately 1,400 feet west of the assumed substation location on the Bayside site) and recreationists at the Chula Vista RV Resort (located approximately 950 feet southwest of the assumed substation location on the Bayside site). Industrial land uses would be located 200 feet northeast and 400 feet southeast of the substation facility. As stated previously, during construction the maximum noise levels at 50 feet from the substation site could range from 81 to 89 dB(A) and would attenuate at approximately 6 dB per doubling of distance. Therefore, noise levels could range from 54 to 62 dBA at Bayside Park and approximately 57 to 65 dBA at the Chula Vista RV Resort. To ensure that construction activities are limited to those allowed by the City, Mitigation Measure NOI-1 is provided. Implementation of Mitigation Measure NOI-1 would ensure that noise impacts due to construction activities would be less than significant (Class II).

While daytime construction activities are anticipated to result in less-than-significant noise impacts, nighttime construction activities, including electrical system transfers, at the substation site may be required and would occur outside of the permitted construction hours established by the City's Municipal Code (considered a significant impact). Implementation of Mitigation Measure NOI-1 would ensure that impacts associated with construction during the evening and nighttime hours would be reduced to less than significant (Class II).

Noise levels generated during dismantling of the existing South Bay Substation and construction of transmission interconnections within the SDG&E transmission easement under this alternative would be similar to noise levels previously identified in Section D.12.3 for the Proposed Project. Impacts associated with construction activities required to extend transmission infrastructure outside of the SDG&E transmission easement to the Bayside Substation facility could be minimized by installing transmission structures west of the easement along H Street to the Bayside site or along H Street and then north within disturbed lands adjacent to Marina Parkway and west to the substation facility. These routes would place work areas near non-sensitive land uses, which would minimize resulting construction noise impacts associated with transmission interconnections. Therefore, resulting N-1 impacts associated with dismantling and construction

activities (including helicopter activities used for conductor stringing) would be less than significant (Class II) with implementation of Mitigation Measure NOI-1.

Because sensitive receptors are located more than 50 feet from construction work areas for the substation facility at the Bayside site and the existing South Bay Substation (see previous N-1 discussion for approximation of distance between the alternative substation facility and sensitive receptors), vibration impacts resulting from construction of these components would be less than significant (Class III). Similar to the Proposed Project, transmission interconnection work is assumed to be required to extend existing infrastructure to the new substation site; however, work areas associated with the interconnections would be located more than 50 feet from sensitive land uses (in particular, Bayside Park and the Chula Vista RV Resort). Therefore, with consideration given to all project components, N-2 impacts during construction of this alternative would be less than significant (Class III). Once constructed, project components would not generate overly perceivable ground-borne vibrations, and therefore, no N-2 operational impacts would occur (No Impact).

The closest sensitive receptors to the substation facility at the Bayside site, recreationists at the Chula Vista RV Resort (approximately 950 feet southwest of the substation facility) and park users at Bayside Park (approximately 1,400 feet west of the site), would not be substantially affected by operational noise of the Air Insulated Substation facility. Because 44 dBA noise contours generated by operation of transformers at the substation facility are anticipated to extend to the graded substation yard boundary (see Figure D.12.3, Proposed Noise Contours, for the Proposed Project) and based on the assumed location of the substation facility (in the northeastern corner of the site), the measured noise at land uses located 950 and 1,400 feet away from the noise source would be significantly less than 44 dBA. Although the City's noise ordinance does not consider park land uses in its exterior noise limit restrictions, the most restrictive limit (45 dBA for single-family residential land uses) is considered in this analysis to characterize general conformance with noise level limits during operations. Therefore, because noise levels at Bayside Park and the Chula Vista RV Resort would be less than 44 dBA (and less than the most restrictive limit established in the City's noise ordinance) operational noise generated by the new substation facility impacts would be considered a less-than-significant (Class III) impact. No operational noise impacts would occur at the South Bay Substation (the substation would be dismantled and demolished) and because transmission interconnections would include the removal, replacement, and installation of transmission structures in locations where similar structures are currently sited, operational noise levels from corona noise would not change substantially. Therefore, N-3 impacts under this alternative would be less than significant (Class III).

Noise generated by maintenance activities at the Bayside Site – Air Insulated Substation facility would temporarily increase noise levels in the area; however, due to the short-term duration of activities and sporadic nature of site visits, impacts are anticipated to be less than significant (Class III). Maintenance activities associated with the transmission interconnection component of this alternative would occur in a manner similar to activities currently deployed for transmission structures and lines in the project area. As such, noise from inspection and maintenance activities (Impact N-4) would be less than significant (Class III).

Comparison to the Proposed Project

No noise impacts beyond those previously identified for the Proposed Project are anticipated under the Bayside Site – Air Insulated Substation Alternative. Therefore, with consideration given to all project components, Impacts N-1, N-2, N-3, and N-4 resulting from construction and operation of this alternative would be similar to the anticipated N-1 through N-4 impacts associated with the Proposed Project.

D.12.4.8.2 Bayside Site – Gas Insulated Substation Alternative

Environmental Impacts and Mitigation Measures

Construction of the new Gas Insulated Substation facility at the Bayside site, dismantling of the existing South Bay Substation, and activities associated with transmission interconnections would occur in similar locations as activities associated with the Air Insulated Substation Alternative and because construction schedules (as well as necessary equipment and vehicles) would be similar, N-1, N-2, and N-4 impacts anticipated under the Bayside Site – Gas Insulated Substation Alternative would be similar to the impacts characterized in Section D.12.4.8.1 for the Bayside Site – Air Insulated Substation Alternative (less than significant (Class II) with implementation of mitigation. However, under the Gas Insulated Substation Alternative, substation transformers would be located within metallic buildings that would alter the dispersion pattern of transformer noise previously identified for the Air Insulated Substation Alternative and result in reduced operational noise as measured at surrounding sensitive receptor locations. Therefore, exterior noise levels at Bayside Park and the Chula Vista RV Resort during operations of the Gas Insulated Substation Alternative would be less than the noise levels anticipated during operation of the Air Insulated Substation Alternative and would be less than significant (Class III). Lastly, because transmission structures associated with the transmission interconnection component of this alternative would occur near (or at) locations where similar transmission structures are currently sited, operational noise (i.e., corona noise) generated by newly installed and replaced transmission structures would not substantially alter the existing noise environment. Because the route (as discussed in Section D.12.4.8.1) would be located adjacent to non-sensitive land uses and because similar structures are located in the general area

(within the transmission easement and along G Street to the north), the extension of transmission infrastructure outside of the SDG&E transmission easement to the Bayside Site – Gas Insulated Substation facility is not anticipated to result in significant operational noise impacts. Therefore, N-3 impacts under this alternative would be less than significant (Class III).

Comparison to the Proposed Project

No noise impacts beyond those previously identified for the Proposed Project are anticipated under the Bayside Site – Gas Insulated Substation Alternative. Therefore, with consideration given to all project components, Impacts N-1, N-2, N-3, and N-4 resulting from construction and operation of this alternative would be similar to the anticipated N-1 through N-4 impacts associated with the Proposed Project.

D.12.4.9 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, none of the facilities associated with the project would be constructed, and therefore, none of the potential impacts from construction activity to sensitive noise receptors discussed in this section would occur. However, under the No Project Alternative SDG&E may be required to develop additional transmission upgrades as described in Section C.7 in this EIR, which would generate potential short-term construction-related noise impacts. Operational noise associated with transmission upgrades would not be substantially different from operational noise produced by existing facilities. While construction activities would generate short-term noise impacts, overall impacts to noise would be reduced due to the elimination of demolition activities associated with the dismantling of the South Bay Substation, construction of the Bay Boulevard Substation, construction of the transmission interconnections, and associated construction-related noise impacts.

D.12.5 Mitigation Monitoring, Compliance, and Reporting

Table D.12-5, shows the mitigation monitoring, compliance, and reporting program (MMCRP) for noise. CPUC will be responsible for ensuring compliance with the MMCRP for noise. The agency mitigation measure is listed and includes implementation actions, monitoring requirements, effectiveness criteria, and timing or location of action

**Table D.12-5
MMCRP for Noise**

Impact	MM	APM No.	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
Impact N-1: Construction Activities Would Temporarily Increase Local Noise Levels	NOI-1	—	SDG&E shall conduct all construction activities in accordance with the City of Chula Vista Municipal Code allowable hours for construction <u>unless otherwise approved by the City</u> . For any evening and nighttime construction activities that are required outside of the permitted hours, SDG&E shall notice all property owners within 300 feet of the proposed work at least 1 week in advance of the construction activities. SDG&E shall obtain approval from the local jurisdiction and notify the <u>local jurisdiction and the California Public Utilities Commission</u> prior to conducting any work that may deviate from the City noise ordinance. Nighttime work <u>and the use of heavy construction equipment shall be limited to the extent practicable. shall apply only where nighttime and weekend construction activities are necessary to perform electrical system transfers and cutovers as required by California Independent System Operator. Electrical system transfers and cutover work shall not include the use of heavy construction equipment (i.e., excavators, drill rigs, jack hammers, etc.).</u>	SDG&E to restrict construction activities as defined and incorporate measure into construction contract. SDG&E shall conduct public notification as defined.	CPUC to ensure that restrictions have been incorporated into construction contracts. CPUC to inspect periodically for evidence of successful compliance with local municipal code. SDG&E to provide CPUC with construction notices for review and approval to ensure advance notice has been given.	During construction for all work areas. Notification provided prior to construction to all property owners within 300 feet of proposed work areas.

D.12.6 References

- 14 CCR 15000–15387 and Appendix A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.
- 29 CFR 1910.95. Title 29, Occupational Safety and Health Administration, Department of Labor, Part 1910, Occupational Safety and Health Standards, Subpart G, Occupational health and Environment Control, Section 1910.95, Occupational Noise Exposure.
- AcenTech (AcenTech Incorporated). 2010. South Bay Substation Relocation Project – Noise Measurement Addendum, November 2010.
- Aspen (Aspen Environmental Group). 2010. “Transmission Line Noise Fact Sheet.” March 2009. Accessed October 5, 2010.
http://docs.cpuc.ca.gov/enviro/tehachapi_renewables/FS7.pdf.
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