Appendix H
Noise

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PALO VERDE MESA SOLAR PROJECT

Noise Study

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124278

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PALO VERDE MESA SOLAR PROJECT

NOISE STUDY

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CONTENTS

FIGURES

TABLES

1.0 ENVIRONMENTAL SETTING

This section describes the environmental setting and regulatory framework in regards to noise for the proposed Project. Noise can be defined as unwanted sound. Human response to noise is most commonly expressed as an annoyance, and the level of annoyance may be affected by the amplitude (intensity or energy content) of the noise, its frequency (pitch), its duration of exposure, and/or its recurrence. Environmental noise is measured in decibels (dB). The A-weighted decibel scale (dBA) is used to approximate the range of sensitivity of the human ear to sounds of different frequencies. A noise level is a measure of noise at a given instance in time. A change in level of at least 5 dBA is noticeable to most people, and a 10-dBA increase is judged by most people as a doubling of the sound level. Typical noise sources and noise environments for common indoor and outdoor activities are listed in Table 1. In this section, the terms "Project area" and "PVMSP area" focus on the proposed 470 MW PV facility and gen-tie line that would occupy approximately 3,400 acres, along with areas immediately adjacent to the proposed facilities. "Solar facility site" in this section is defined as the solar facility site boundary consisting of 3,250 acres.

Table 1. Typical Noise Sources and Noise Environments

COMMON OUTDOOR ACTIVITIES	NOISE LEVELS (dBA)	COMMON INDOOR ACTIVITIES
Jet Fly-over at 1,000 feet	110-120	Rock Band
Gas Lawn Mower at 3 feet	90-100	n/a
Diesel Truck at 50 feet, at 50 mph	80-90	Food Blender at 3 feet
Commercial Area, Gas Lawn Mover at 100 feet	70	Vacuum Cleaner at 10 feet
Heavy Traffic at 300 feet	60	Normal Speech at 3 feet
Quiet Urban Area (daytime)	40-50	Large Business Office
Quiet Urban Area/Suburban Nighttime	30-50	Theater, large Conference Room (background)
Quiet Rural Nighttime	20-30	Library, Bedroom at Night, Concert Hall (background)
n/a	20-10	Broadcast/Recording Studio

Source: Caltrans 2009
mph = miles per hour
n/a = not available

The decibel scale is based on logarithms, and two noise sources do not combine in a simple additive fashion; rather, they combine logarithmically. For example, if two identical noise sources produced noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Exposure and Community Noise

Community noise is primarily the product of many distant noise sources, which change gradually throughout a typical day. During the nighttime, exterior background noises are generally lower than the daytime levels. Most household noise also decreases at night and exterior noise becomes more noticeable. Further, most people sleep at night and are more sensitive to noise intrusion during evening and nighttime hours. To account for human sensitivity to noise levels at differing times of day, the Community Noise Equivalent Level (CNEL) was developed. CNEL is a noise index that accounts for the greater annoyance of noise during the evening and nighttime hours. CNEL values are calculated by averaging hourly L_{eq} (equivalent continuous noise level) sound levels for a 24-hour period, and apply a weighting factor to evening and nighttime L_{eq} values. To account for the fluctuation in noise levels over time, noise impacts are commonly evaluated using time-averaged noise levels. The weighting factor, which reflects increased sensitivity to noise during evening and nighttime hours, is added to each hourly L_{eq} sound level before the 24-hour CNEL is calculated. For the purposes of assessing noise, the 24-hour day is divided into three time periods with the following weighting:

- Daytime: 7 a.m. to 7 p.m., weighting factor of 0 dB

- Evening: 7 p.m. to 10 p.m., weighting factor of 5 dB
- Nighttime: 10 p.m. to 7 a.m., weighting factor of 10 dB

Surrounding land uses dictate what noise levels would be considered acceptable or unacceptable. Rural and suburban areas generally have lower noise levels (approximately 20 to 50 dBA) than commercial or industrial zones (approximately 70 dBA). Levels around 75 dBA are more common around busy urban areas, and levels up to 85 dBA occur near major freeways and airports. In areas with human occupants, noise levels above 45 dBA during nighttime hours may disrupt sleep and therefore may be considered adverse. At 70 dBA, sleep interference effects become considerable (EPA 1974).

Noise Attenuation

Sound level naturally decreases as one moves farther away from the source. The ground surface (reflective or absorptive) is also a factor in the sound levels. "Point" sources of noise, such as stationary mobile equipment or on-site construction equipment, attenuate (lessen) at a rate of 6.0 dBA per doubling of distance from the source when in an area with a reflective ground surface (e.g., parking lots). In areas where the ground is absorptive (e.g., soft dirt, grass, or scattered bushes and trees), noise attenuation from a point source is 7.5 dBA for each doubling of distance due to ground absorption (Caltrans 1998).

Widely distributed noises, such as a street with moving vehicles (a "line" source), typically would attenuate at a lower rate of approximately 3.0 dBA for each doubling of distance between the source and the receiver. If the ground surface between source and receiver is absorptive, the excess ground attenuation rate would be 4.5 dBA for each doubling of distance (Caltrans 1998).

Noise from large construction sites would have characteristics of both "point" and "line" sources, so attenuation would generally range between 4.5 and 7.5 dBA per doubling of distance. Noise attenuation rates for both line and point sources of noise may also be influenced by atmospheric effects, such as wind and temperature gradients. Trees and vegetation, buildings, and barriers reduce the noise level that would otherwise occur at a given receptor distance.

Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as a maximum instantaneous peak of the vibration signal and is typically expressed in units of inches per second (in/sec). The PPV is most frequently used to describe vibration impacts to buildings. The room mean square (RMS) amplitude is the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration.

1.1 Environmental Setting

The primary noise sources in the Project area and surrounding the Project site are traffic from I-10 and nearby roadways; airplane noise from the Blythe Airport; noise generated from the Blythe Energy Center; sounds from agricultural operations; sounds emanating from neighborhoods (e.g., voices, radio and television broadcasts); and naturally occurring sounds (e.g., winds, wind-generated noises). Generally, intermittent, short-term noises do not significantly contribute to longer-term noise averages.

I-10 is a major transportation artery and the primary noise source in the area. Noise measurements within 300 feet of I-10 range from 65 dBA to levels exceeding 83 dBA caused by the passage of heavy trucks

(Blythe 2007). During peak use periods, traffic noise levels can range from 80 to 90 dBA at 50 feet from the shoulder of the interstate. State Route 78 experiences lower traffic volumes and vehicle speeds and therefore likely has somewhat lower associated noise levels (BLM 2005). Agricultural activities are conducted on land within the proposed Project boundary. Noise associated with farming activities includes that generated by heavy equipment used for cultivation and harvesting. Maximum noise levels associated with farm equipment typically range from 75 to 85 dBA at a distance of 50 feet. Noise impact contours for the Blythe Airport range from 65 CNEL, to 60 CNEL, to 55 CNEL. The most stringent noise contour boundary (55 CNEL) is approximately 1,000 feet from the runways (RCALUCP 2004).

Ambient noise measurements were not conducted for the proposed Project because information could be extrapolated from noise measurements that were taken for the Blythe Energy Center Project. With the Blythe Energy Center in operation, the lowest average background noise level measured at 16531 West Hobsonway (APN 824-090-025) over any four-hour period was 47 dBA (L_{90}) (CEC 2005). L_{90} is generally taken as the background noise level. The noise level is primarily influenced by highway traffic. Other background noise contributions were attributed to airplane overflights associated with the Blythe Airport. The average ambient noise level on the northern boundary of the Blythe Energy Center was 44 dBA L_{eq} (BEP 1999). The lower noise level is a result of the property being farther away from I-10.

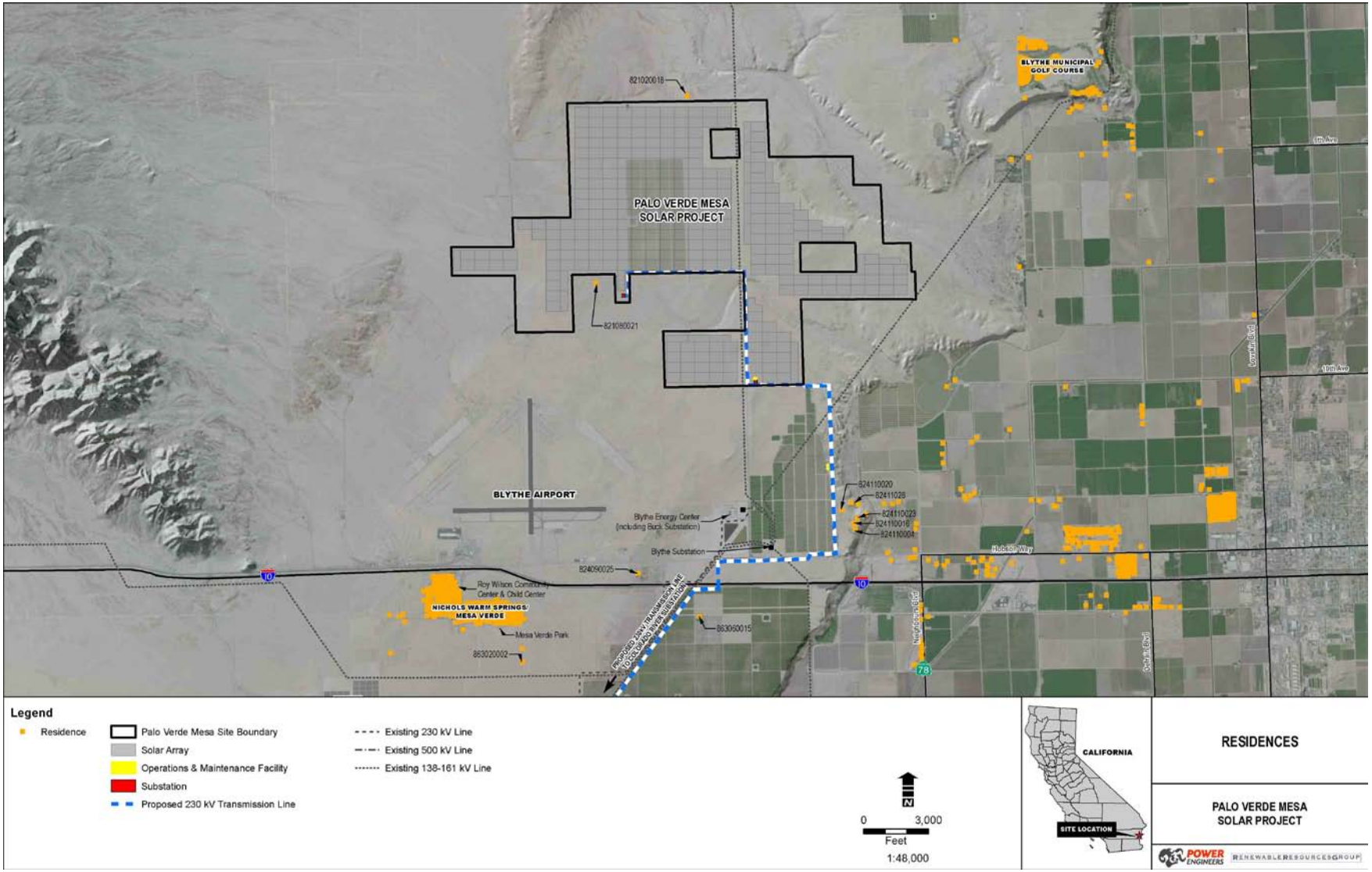
Noise-Sensitive Receptors

In general, residences, schools, hotels, hospitals, and nursing homes are considered to be the most sensitive to noise. Places such as churches, libraries, and cemeteries are also sensitive to noise. Commercial and industrial uses are considered the least noise-sensitive. There are 223 residences within one mile of the solar facility. Figure 1 illustrates nine individual residences located within 0.25 mile (approximately 1,320 feet) of the proposed Project, and Table 2 lists the parcel numbers and distances of those residences from the Project components. The closest residence (APN 821-020-018) is approximately 230 feet away from the solar facility boundary. The closest residence to the gen-tie line is approximately 390 feet away. The solar facility is approximately 0.6 mile from Palo Verde College and 1.5 miles from the Blythe Municipal Golf Course. The gen-tie line would be located approximately 0.4 mile (2,220 feet) from the Mesa Verde Park and approximately 0.8 mile (4,400 feet) from the Roy Wilson Community and Child Center. No hospitals or convalescent homes are located within one mile of the proposed Project.

Table 2. Residences Within 0.25 mile of the Project Components

Parcel Number	Distance
821-020-018	230 feet from the solar array
824-110-020	390 feet from the gen-tie line
821-080-021	420 feet from the solar array
824-110-028	825 feet and 1,150 feet from the gen-tie line (two residences)
824-110-016	925 feet from the gen-tie line
863-060-015	900 feet from the gen-tie line
824-110-004	990 feet from the gen-tie line
824-110-023	1,080 feet from the gen-tie line

FIGURE 1. RESIDENCES WITHIN THREE MILES OF PROPOSED PROJECT



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1.2 Regulatory Framework

1.2.1 Federal

Occupational Safety and Health Act

The Occupational Safety and Health Act of 1970 (OSHA) set onsite occupational noise exposure levels, which are regulated in California via the California Occupational Safety and Health Administration (Cal/OSHA). The maximum time-weighted average noise exposure level of workers is 90 dBA over an eight-hour work shift (29 CFR Section 1910.95).

1.2.2 State

California Occupational Safety and Health Administration

The California Department of Industrial Relations, Division of Occupational Safety and Health, enforces Cal/OSHA regulations, which are the same as the federal OSHA regulations described above. The regulations are contained in Title 8 of the CCR, General Industrial Safety Orders, Article 105, Control of Noise Exposure, Section 5095.

California Vehicle Code

The California Vehicle Code, Sections 23130 and 23130.5, limits highway vehicle noise and is enforced by the California Highway Patrol and the County Sheriff's Office.

California State Planning Law

The State of California requires local jurisdictions (via California Government Code Section 65302(f)) to develop general plans that include "Noise Elements." A key component of determining land use compatibility is defining appropriate noise thresholds and where such standards apply. "Noise-sensitive" land use classifications in the state of California include residential areas, schools, convalescent and acute care hospitals, parks and recreational areas, and churches. For exterior living areas, such as yards and patios, the noise threshold guideline for new residential land uses is 55 dBA CNEL and must not exceed 65 dBA CNEL.

1.2.3 Local

Riverside County General Plan

The Riverside County General Plan's Noise Element includes noise compatibility guidance. The Land Use Compatibility for Community Noise Exposure, included in the noise element, indicates that residential low density, single family, duplex, and mobile homes are normally acceptable up to 60 dBA L_{dn} or CNEL.

Riverside County's Ordinance No. 847, Section 4, lists maximum nighttime and daytime sound levels for occupied property by General Plan land use designation (Riverside County 2011). The most restrictive limit would apply to the nearest occupied receptors, which are classified as Rural Residential. The ordinance indicates the maximum decibel level allowed in Rural Residential is a daytime and nighttime limit of 45 dBA L_{max} (maximum sound level) when measured at the exterior of an occupied property. Section 2 of Ordinance No. 847 does, however, exempt from its provisions the following construction activities:

- Private construction projects located one-quarter of a mile or more from an inhabited dwelling; or
- private construction projects located within one-quarter of a mile from an inhabited dwelling, provided that: 1) Construction does not occur between the hours of 6 p.m. and 6 a.m. during the months of June through September; and 1) Construction does not occur between the hours of 6 p.m. and 7 a.m. during the months of October through May.

The Riverside County General Plan includes policies that address noise within the County boundaries. The policies that would be applicable to the proposed Project are included below.

Noise Element

Policy N 1.4. *Determine if existing land uses will present noise compatibility issues with proposed projects by undertaking site surveys.*

Policy N 1.5. *Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.*

Policy N 3.3. *Ensure compatibility between industrial development and adjacent land uses. To achieve compatibility, industrial development projects may be required to include noise mitigation measures to avoid or minimize project impacts on adjacent uses.*

Policy N 7.1. *New land use development within Airport Influence Areas shall comply with airport land use noise compatibility criteria contained in the corresponding airport land use compatibility plan for the area. Each Area Plan affected by a public-use airport includes one or more Airport Influence Areas, one for each airport. The applicable noise compatibility criteria are fully set forth in Appendix L and summarized in the Policy Area section of the affected Area Plan.*

Policy N 7.4. *Check each development proposal to determine if it is located within an airport noise impact area as depicted in the applicable Area Plan's Policy Area section regarding Airport Influence Areas. Development proposals within a noise impact area shall comply with applicable airport land use noise compatibility criteria.*

Policy N 12.1. *Minimize the impacts of construction noise on adjacent uses within acceptable practices.*

Policy N 12.2. *Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.*

Land Use Element (LU)

Policy LU 6.2(a). *The facility is compatible in scale and design with surrounding land uses, and does not generate excessive noise, traffic, light, fumes, or odors that might have a negative impact on adjacent neighborhoods.*

Policy LU 6.4. *Retain and enhance the integrity of existing residential, employment, agricultural, and open space areas by protecting them from encroachment of land uses that would result in impacts from noise, noxious fumes, glare, shadowing, and traffic.*

Riverside County Airport Land Use Commission New Compatibility Plan

Noise policies related to the Riverside County Airport Land Use Commission's New Compatibility Plan are provided below.

Policy 3.1.4. *Nonresidential Development:* The compatibility of nonresidential development shall be assessed primarily with respect to its usage intensity (the number of people per acre) and the noise-sensitivity of the use. Additional criteria listed in Table 2A shall also apply.

(a) The total number of people permitted on a project site at any time, except for rare special events, must not exceed the indicated usage intensity times the gross acreage of the site.

(1) Usage intensity calculations shall include all people (e.g., employees, customers/ visitors, etc.) who may be on the property at any single point in time, whether indoors or outside.

(2) Rare special events are ones (such as an air show at an airport) for which a facility is not designed and normally not used and for which extra safety precautions can be taken as appropriate.

(b) No single acre of a project site shall exceed the number of people per acre indicated in Policy 4.2.5(b) and listed in Table 2A unless special risk reduction building design measures are taken as described in Policy 4.2.6.

(c) The noise exposure limitations cited in Policy 4.1.4 and listed in Table 2B shall be the basis for assessing the acceptability of proposed nonresidential land uses relative to noise impacts. The ability of buildings to satisfy the interior noise level criteria noted in Policy 4.1.6 shall also be considered.

Policy 3.1.6. *Other Development Conditions:* All types of proposed development shall be required to meet the additional conditions listed in Table 2A for the respective compatibility zone where the development is to be located. Among these conditions are the following:

(a) Avigation Easement Dedication: See Policy 4.3.5.

(b) Deed Notice: See Policy 4.4.3.

(c) Real Estate Disclosure: See Policy 4.4.2.

(d) Noise Level Reduction: See Policy 4.1.6.

(e) Airspace Review: See Policy 4.3.3.

Policy 4.1.1. *Policy Objective:* The purpose of noise compatibility policies is to avoid establishment of noise-sensitive land uses in the portions of airport environs that are exposed to significant levels of aircraft noise.

Policy 4.1.2. *Noise Contours:* The evaluation of airport/land use noise compatibility shall consider both the current and future Community Noise Equivalent Level (CNEL) contours of each airport as depicted in Chapter 3 of this *Plan*.

(a) At most airports in the county, anticipated growth in aircraft operations results in projected future noise contours being larger than current ones. However, in some instances, factors such as introduction of a quieter aircraft fleet mix, planned changes to the configuration of airport runways, or expected modifications to flight procedures can result in current contours being larger than the future contours in some or all of the airport environs. In these cases, a composite of the contours for the two time frames shall be considered in compatibility analyses.

(b) For airport at which aircraft activity has substantial seasonal or weekly characteristics, noise contours associated with the peak operating season or days of the week shall be taken into account in assessing land use compatibility.

(c) Projected noise contours included in Chapter 3 are calculated based upon forecasted aircraft activity as indicated in an airport master plan or that is considered by the Riverside County Airport Land Use Commission to be plausible (refer to activity data in the Background Data volumes). The Airport Land Use Commission or the entities that operate airports in Riverside

County should periodically review these projected noise level contours and update them if appropriate.

Policy 4.1.3. *Application of Noise Contours:* The locations of CNEL contours are among the factors used to define compatibility zone boundaries and criteria. Because of the inherent variability of flight paths and other factors that influence noise emissions, the depicted contour boundaries are not absolute determinants of the compatibility or incompatibility of a given land use on a specific site or a portion thereof. Noise contours can only quantify noise impacts in a general manner. Except on large parcels or blocks of land (sites large enough to have 3 dB or more of variation in CNELs), they should *not* be used as site design criteria. (Note, though, that the airport noise contours set forth in this *Plan* are to be used as the basis for determining compliance with interior noise level criteria as listed in Policy 4.1.6.)

Policy 4.1.4. *Noise Exposure in Residential Areas:* Unless otherwise indicated in the airport-specific policies listed in Chapter 3, the maximum CNEL considered normally acceptable for new residential land uses in the vicinity of the airports covered by this *Plan* is 60 dB for all airports except low-activity outlying airports (Chiriaco Summit and Desert Center) for which the criterion is 55 dB. These standards shall be based upon noise contours calculated as described above.

Policy 4.1.5. *Noise Exposure for Other Land Uses:* Noise level compatibility standards for other types of land uses shall be applied in the same manner as the above residential noise level criteria. The extent of outdoor activity associated with a particular land use is an important factor to be considered in evaluating its compatibility with airport noise. Examples of acceptable noise levels for other land uses in an airport's vicinity are presented in Table 2B.

Policy 4.1.6. *Interior Noise Levels:* Land uses for which interior activities may be easily disrupted by noise shall be required to comply with the following interior noise level criteria.

(a) The maximum, aircraft-related, interior noise level that shall be considered acceptable for land uses near airports is 45 dB CNEL in:
- Any habitable room of single- or multi-family residences;
- Hotels and motels;
- Hospitals and nursing homes;
- Churches, meeting halls, theaters, and mortuaries;
- Office buildings; and
- Schools, libraries, and museums.

(b) The noise contours depicted in Chapter 3 of this Plan shall be used in calculating compliance with these criteria. The calculations should assume that windows are closed.

(c) When reviewed as part of a general plan or zoning ordinance amendment or as a major land use action, evidence that proposed structures will be designed to comply with the above criteria shall be submitted to the ALUC under the following circumstances:
   (1) Any mobile home situated within an airport's 55-dB CNEL contour. [A typical mobile home has an average exterior-to-interior noise level reduction (NLR) of approximately 15 dB with windows closed.]

City of Blythe General Plan 2025

City policies in the City of Blythe General Plan 2025 (2007) related to noise are located in the Noise Element Guiding Policies of the City General Plan, and include:

Noise Element

Policy 1 (Noise): Protect the citizens of the City of Blythe from the harmful effects of exposure to excessive noise.

Policy S-1. Areas shall be recognized as noise impacted if exposed to existing or projected future noise levels at the property line which exceed 65 L_{dn} (or CNEL).

Policy S-2. Noise sensitive land uses should be discouraged in noise impacted areas unless effective mitigation measures are incorporated into the specific design of such projects to reduce exterior noise levels to 65 dB L_{dn} (or CNEL) or less and 45 dB L_{dn} (or CNEL) or less within interior living spaces. Areas shall be designated as noise-impacted if exposed to existing or projected future noise levels at the exterior of buildings which exceed 60 dB L_{dn} (or CNEL).

Policy S-3. New industrial, commercial or other noise generating land uses (including roadways, railroads, and airports) should be discouraged if resulting noise levels will exceed 65 dB L_{dn} (or CNEL) at the boundary areas of planned or zoned noise sensitive land uses.

Policy S-7. The City shall review all relevant development plans, programs and proposals to ensure their conformance with the policy framework outlined in this Noise Element.

Policy S-9. Development on the Blythe Municipal Airport shall conform with the Blythe Airport Master Plan to minimize the impact of airport operation on noise sensitive land uses.

Policy S-10. Proposed land uses within the Airport Influence Area shall be reviewed for consistency with the Noise Compatibility Criteria set forth in Table 8.2-2, with Figure 8-5 Ultimate Noise Impacts used as a review guide.

Policy 1 (Land Use Compatibility): Areas within the City of Blythe shall be designated as noise impacted if exposed to existing or projected future noise levels at the exterior of buildings which exceed 60 dB L_{dn} (or CNEL).

2.0 ENVIRONMENTAL EFFECTS

This section describes the impact analysis relating to potential noise and vibration impacts from the construction, operation, and decommissioning of the PVMSP and mitigation measures that would reduce or avoid adverse noise impacts.

2.1 Methodology for Analysis

Noise and vibration impacts associated with the PVMSP would be created by short-term construction activities and by normal long-term operation of the solar facility, including noise from the tracker motors, electrical collection system, substation, and operation and maintenance activities.

Construction noise from the Project would include both on- and off-site noise sources. On-site noise sources would be generated by equipment associated with construction activities described in the Project Description (see Chapter 2). Off-site construction noise would be generated by trucks delivering equipment and materials, as well as workers commuting to and from the proposed solar facility.

Operational noise associated with the Project would include off-site worker traffic; noise generated by the tracker motors, transformers, substation, and gen-tie line; and panel washing.

Noise associated with decommissioning would be similar to that of construction; however, it would be less intense and require a shorter duration.

For vibration impacts, human reactions and building damage potential have different thresholds depending on whether the vibration events are isolated discrete events or frequent/continuous events. Based on Caltrans' *Transportation- and Construction-Induced Vibration Guidance Manual* (Caltrans 2004), building damage potential is based on cosmetic (not structural) damage to buildings or structures of various types and ages. Building damage categories are:

- Extremely Low: exceeds cosmetic damage threshold for extremely fragile historic buildings, ruins, or monuments
- Very Low: exceeds cosmetic damage threshold for fragile buildings
- Low: exceeds cosmetic damage threshold for historic buildings
- Moderate: exceeds cosmetic damage threshold for older residential buildings
- High: exceeds cosmetic damage threshold for newer residential buildings
- Very High: exceeds cosmetic damage thresholds for modern commercial and industrial buildings

A peak particle velocity (PPV) threshold of 0.20 inch per second (in/sec) was identified as the level of vibration impacts related to adverse human reaction and risk of architectural damage to normal buildings[1] (Caltrans 2004). This PPV threshold was used in this analysis to determine significant impacts associated with the PVMSP.

The purpose of this analysis is to identify and examine likely noise and vibration impacts from construction, operation and maintenance, and decommissioning of the Project and to recommend mitigation measures to minimize adverse affects. Though noise is not an impact of the Project and thus not a subject encompassed under CEQA, this section also discusses whether the Project (including its employees) would be exposed to substantial noise levels.

[1]Architectural damage could be structural damage, such as cracking of floor slabs, foundations, columns, beams, or wells, or cosmetic architectural damage, such as cracked plaster, stucco, or tile.

2.1.1 Description of Solar Facility and Gen-tie Noise

Construction

Construction of the PVMSP would occur over a three-year period and construction workers would typically work Monday through Friday from 7:00 a.m. to 6:00 p.m. The peak of construction (construction of the solar array field, O&M buildings, substations, and gen-tie line) would occur over a two-year period and require approximately 300 to 500 workers. Up to 400 workers would be at the site during array installation and assembly. The solar facility would be developed in six-month phases with six blocks constructed at a time (each block would be 100 acres, for a total of 600 acres at a time).

Construction noise would be created from sources at the work sites and around staging areas or access routes. On-site noise generated during construction would occur primarily from heavy-duty diesel-powered construction equipment and other construction equipment. Off-site noise would be generated by trucks delivering materials and equipment to construction sites, as well as trucks hauling soil and vehicles used by workers commuting to and from the sites.

Noise from On-site Construction Activities

Construction equipment would include graders, bulldozers, backhoes, cranes, water trucks, generators, and delivery trucks. Table 3 provides the estimated noise that would be generated by each of the individual pieces of equipment, similar to what would be required to construct the Project, based on the Federal Highway Administration (FHWA) Roadway Construction Noise Model. Equipment and operation noise levels are expressed in terms of L_{max} (maximum sound level) noise levels. The acoustical usage factor estimates the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during construction. Noise levels for each of the individual pieces of equipment would generate a maximum noise level ranging from 74 to 85 A-weighted decibels (dBA) L_{max} at 50 feet from the source, as shown in Table 3.

Table 3. Construction Equipment Noise Emission Levels

Equipment	Acoustical Usage Factor (%)	Measured L_{max} (at 50 feet)
Backhoe	40	78
Compactor (ground)	20	83
Compressor (air)	40	78
Concrete Mixer Truck	40	79
Concrete Pump Truck	20	81
Dozer	40	82
Dump Truck	40	76
Excavator	40	81
Flat Bed Truck/Water Truck	40	74
Front End Loader	40	79
Truck-mounted crane	16	81
Generator	50	81
Grader	40	83
Paver	50	77
Pickup Truck	40	75
Pneumatic Tools	50	85
Pumps	50	81
Roller	20	80
Scraper	40	84
Welder/Torch	40	74

Source: FHWA 2006

Based on similar solar projects, it is anticipated that the operation of heavy equipment for the construction of the Project would generate a combined maximum noise level of up to approximately 84 dBA L_{eq} (equivalent continuous noise level) at 75 feet from the construction activity (Aspen 2009). This noise level would diminish approximately 6 dBA per doubling of distance. At approximately 105 feet from the construction activity, noise levels would be approximately 78 dBA L_{eq} and at 300 feet, noise levels would be approximately 72 dBA L_{eq}. At approximately 1,200 feet from the construction activity, it is anticipated that noise levels would be 60 dBA L_{eq}. Implementation of BMP-18 would minimize construction noise impacts to sensitive receptors and wildlife.

For the residents adjacent to the Project area, located north of I-10 and west of the Project boundary, the assumed ambient noise level is 40.0 dBA L_{eq}. Projected ambient noise levels during construction are estimated to be 65 dBA L_{eq}.

The construction of the gen-tie line, which is a long linear facility, would move along the length at a rapid pace and therefore would not subject any one sensitive noise receptor to noise impacts for more than a week. Furthermore, construction activities would be limited to daytime hours.

Off-site Noise

Construction of the Project would cause off-site noise, primarily from commuting construction workers and materials and equipment deliveries to the construction sites. It is anticipated that most workers would be drawn from the Blythe/Palo Verde Valley region and the Desert Center region, with a smaller portion drawn from the Imperial Valley or Eastern Riverside County region. Anticipated average material deliveries would consist of about 20 truck deliveries per day for 24 months. Workers and delivery trucks would utilize the Neighbours Boulevard off ramp from I-10 and gain primary access to the site from Buck Boulevard. Typical on-site work hours would be from 7:00 a.m. to 6:00 p.m. During the installation period, construction workers are projected to be on site five days per week, year-round. Due to weather or other major-type delays, times may shift to start as early as 5:00 a.m. and end as late as 8:00 p.m., as well as continue into the weekends. To minimize impacts to residents within 1,200 feet of construction activity to the maximum extent possible, non-typical construction hours would occur at a minimum of a quarter-mile (1,320 feet) from residents. Security would be on site 24 hours per day. As shown in Table 4.2.11-1, the maximum pass-by noise levels from trucks would be 74 to 76 dBA L_{max} at 50 feet. Although construction of the Project would occur over a three-year period, the solar array field would be developed in six-month phases with six blocks constructed at a time (approximately 600 acres at a time).

Vibration

Temporary sources of groundborne vibration and noise during construction would result from operation of conventional heavy construction equipment such as pile drivers, graders, bulldozers, and loaded haul trucks. Based on information from Caltrans' *Transportation- and Construction-Induced Vibration Guidance Manual*, Table 4 lists the anticipated ground vibration from typical construction equipment used to construct a solar facility. These pieces of equipment can generate vibration levels of up to 0.089 in/sec at a distance of 25 feet (Caltrans 2004).

Table 4. Ground Vibration Levels for Typical Construction Equipment

Equipment Type	Vibratory Type	Parameter	Distance from Operating Equipment			
			25 feet	100 feet	200 feet	300 feet
Vibratory Pile Driver, Typical	Frequent or Continuous	PPV, in/sec	0.170	0.028	0.011	0.007
		Human Response	Mildly annoying	Barely perceptible	Barely perceptible	Not perceptible
		Building Damage Potential	Very low	None	None	None
Self-Loading Scraper	Frequent or Continuous	PPV, in/sec	0.089	0.015	0.006	0.004
		Human Response	Distinctly perceptible	Barely perceptible	Not perceptible	Not perceptible
		Building Damage Potential	Extremely low	None	None	None
Static Roller-Compactor	Frequent or Continuous	PPV, in/sec	0.089	0.015	0.006	0.004
		Human Response	Distinctly perceptible	Distinctly perceptible	Not perceptible	Not perceptible
		Building Damage Potential	Extremely low	None	None	none
Loaded Truck	Single Event	PPV, in/sec	0.076	0.013	0.005	0.003
		Human Response	Barely perceptible	Not perceptible	Not perceptible	Not perceptible
		Building Damage Potential	None	None	None	None
Small Bulldozer	Frequent or Continuous	PPV, in/sec	0.003	0.000	0.000	0.000
		Human Response	Not perceptible	Not perceptible	Not perceptible	Not perceptible
		Building Damage Potential	None	None	None	None
Excavator or Backhoe	Frequent or Continuous	PPV, in/sec	0.003	0.000	0.000	0.000
		Human Response	Not perceptible	Not perceptible	Not perceptible	Not perceptible
		Building Damage Potential	None	None	None	None
Wheeled Loader	Frequent or Continuous	PPV, in/sec	0.003	0.000	0.000	0.000
		Human Response	Not perceptible	Not perceptible	Not perceptible	Not perceptible
		Building Damage Potential	None	None	None	None

Source: BLM 2011

For the construction of a solar facility, the vibratory pile driver would produce the highest PPV level of 0.170 in/sec at 50 feet, which would not exceed Caltrans' PPV threshold of 0.20 in/sec. The closest building, which is a residence, is approximately 230 feet from the proposed solar facility boundary and approximately 480 feet away from the closest solar panel. At a distance of 300 feet, ground vibration from a vibratory pile driver would not be perceptible by humans and would have no potential for damage to buildings. Ground vibration from other construction equipment at 300 feet would not be perceptible to humans and would pose no risk of cosmetic damage to any existing buildings in the vicinity of the solar facility.

Operation and Maintenance

The primary noise sources associated with the operation and maintenance of the Project would be the tracker unit motors, substation transformers, modular power block inverters and medium voltage transformers, gen-tie line corona discharge, and maintenance activities.

Modular Power Blocks

The modular power blocks would each comprise four to six individual tracker units. Each tracker unit would include a drive unit that would consist of a 0.5-horsepower motor that would rotate the drive strut so that the solar PV panels would have the ability to maximize exposure to sunlight throughout the day. Based on specification of tracking motors for a similar PV project, the noise level of each proposed tracking motor is expected to be approximately 48 dBA at 50 feet (ICF 2010). Assuming that each of the six motors of a power block would operate simultaneously, the combined noise level would be as high as 50 dBA at 50 feet, which would equate to 44 dBA at 100 feet and 38 dBA at 200 feet.

The modular power blocks also include an inverter and medium voltage transformer. Inverters would be housed in containers that would attenuate any inverter noise to negligible levels. It is anticipated that the medium-voltage transformers would result in noise levels substantially less than the high-voltage transformers located within the proposed substation (i.e., less than 53 dBA at 50 feet; see substation transformer discussion under *Gen-tie Line* below).

At 150 feet, the maximum noise from the power block's combined motors and transformers would be less than 45 dBA. Although not typical, during the summer months, there may be days when the power block motors and medium transformers would operate slightly before 7:00 a.m.

O&M Buildings

After the construction phase, the O&M buildings would serve the Project's approximately 12 permanent full-time employees, which would include one plant manager, five engineers/technicians, and six security staff. Project facilities would be monitored during operating (daylight) hours, even though the Project facilities would be capable of automatic start up, shutdown, self-diagnosis, and fault detection. No heavy equipment would be used during normal operation.

Noise from the operation and maintenance of the Project would be created by security patrols, maintenance crews, wash crews, and the sound of electrical equipment, such as inverters and transformers. Security and maintenance staff would traverse the solar array field by utilizing lightweight vehicles along interior access roads. Panel washing crews would clean the panels up to twice a year with a lightweight to medium-duty truck. The truck would be fitted with a water tank and air compressor to operate a high-pressure sprayer and cleaning brush system.

Gen-tie Line

Electric transmission lines can generate a small amount of sound energy as a result of corona. Corona is a phenomenon associated with all transmission lines. Under certain conditions, the localized electric field near energized components and conductors can produce a tiny electric discharge or corona that causes the surrounding air molecules to ionize or undergo a slight localized change of electric charge. Utility companies try to reduce the amount of corona because, in addition to the low levels of noise that result, corona is a power loss, and, in extreme cases, it can damage system components over time. Under fair weather conditions, the audible noise from corona is minor and rarely noticed. During wet and humid conditions, water drops collect on the conductors and increase corona activity. Under these conditions, a crackling or humming sound may be heard in the immediate vicinity of the gen-tie line. The Electric Power Research Institute (EPRI) *Transmission Line Reference Book* (2005) indicates that the audible noise from a typical 240 kV line would likely be 40.5 dBA L_{50} (noise level exceeded 50 percent of the time) at approximately 50 feet (15 meters) during wet conditions; noise levels would be less during fair weather conditions. It is anticipated that the PVMSP's 230 kV gen-tie line would create noise levels similar to the 240 kV line. The transformers (located within the substations) would create noise levels of

approximately 40 dBA L_{eq} (equivalent continuous noise level) at 200 feet. The inverters would be housed in steel and concrete enclosures and are anticipated to create noise levels of approximately 58 dBA L_{eq} at the source.

Decommissioning

Equipment used during decommissioning activities would be similar to those used during construction, including cranes, excavators, and air hammers. Decommissioning activities would generate a temporary, localized increase in ambient noise levels that would be similar, but less than, noise generated during construction. Decommissioning activities would be less intense and for a shorter duration.

2.2 CEQA Significance Criteria

CEQA does not define what noise level increase would be considered substantial. Typically, an increase in noise level of at least 5 dBA is noticeable by most people and in a residential setting would not be a substantial adverse impact. An increase in noise level of 10 dBA is judged by most people as a doubling of the sound level, which would be considered a substantial adverse impact. Other factors that are considered in determining adverse noise impacts include: (1) the resulting combined noise level; (2) the duration and frequency of the noise; (3) the number of people affected; and (4) the land use designation of the affected receptor sites. Mitigation measures must be considered if potential adverse impacts to noise would occur from the construction, operation and maintenance, and decommissioning of the Project.

Typically, noise impacts due to construction activities are not considered substantial as long as construction activities are temporary, intermittently affect any one location, limit the use of heavy equipment and noise activities to daytime hours, and implement all industry standard noise abatement measures for noise-producing equipment.

Vibration-sensitive land uses would include high-precision manufacturing facilities or research facilities with optical and electron microscopes. None of these occur in the Project area. Therefore, a substantial impact resulting from excessive ground-borne vibration would depend on whether a nuisance, annoyance, or physical damage to any structure could occur.

The following was used to determine CEQA significance of impacts to noise and were derived from Appendix G of the CEQA Guidelines. Impacts of the PVMSP would be considered significant and would require mitigation if they result in:

NOI-1) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
NOI-2) Substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
NOI-3) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
NOI-4) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the exposure of people residing or working in the project area to excessive noise levels.
NOI-5) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

The following additional significance criterion from the County of Riverside's Environmental Assessment Form was used in the analysis. A project could have potentially significant impacts if it results in:

NOI-6) Impacts from railroad or highway noise.

CEQA significance conclusions are based on thresholds defined by local rules, standards, and/or ordinances. During operation of the Project, it is anticipated that noise levels would operate at or below the existing ambient noise levels. The Project would not utilize railroad service for delivery of materials or workers; therefore, no impacts related to railroad noise would occur. During construction, workers commuting to the Project area and delivery of materials would result in a slight increase in traffic along the I-10. However, the Project's construction traffic would result in a nominal increase in highway noise. Therefore, impacts related to highway noise would be less than significant. No impacts related to highway noise during operation of the Project would occur.

2.3 Applicable Best Management Practices

The following applicable BMP would reduce the environmental impacts associated with the proposed Project for this particular resource topic. The full BMP has been detailed below (see also Table 2-4 in Chapter 2) and is further referenced (by number) within the impact discussion.

BMP-18	Noise. The Project would minimize construction- and operation-related noise levels to minimize impacts to wildlife and nearby residents.

2.4 Effects Found Not To Be Significant

Section 15128 of the CEQA Guidelines requires a brief statement of the reasons why various possible significant effects of a project have been determined not to be significant and, therefore, are not discussed in detail in the EIR. It was determined that all of the significance thresholds would have a least one potentially significant impact. Therefore, no significant effects have been eliminated from detailed consideration.

2.5 Project Impacts

2.5.1 Impact NOI-1

Would the Project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Construction

Construction of the Project would occur over a three-year period and the solar facility would be developed in six-month phases with six blocks constructed at a time (approximately 600 acres at a time). Construction noises associated with each phase would accordingly move when construction activities move to the next phase. Construction activities would be temporary and only intermittently affect any one location. Typical construction hours would occur between the hours of 7:00 a.m. and 6:00 p.m., which would meet the criteria under which the noise would be considered acceptable and be exempt from provisions of Riverside County's Ordinance No. 847.

Based on similar solar projects, it is anticipated that the operation of heavy equipment for the construction of the solar facility would generate a combined maximum noise level of up to approximately 84 dBA L_{eq} at 75 feet from the construction activity (Aspen 2009). This noise level would diminish approximately 6 dBA per doubling of distance. At approximately 150 feet from the construction activity, noise levels would be approximately 78 dBA L_{eq} and at 300 feet, noise levels would be approximately 72 dBA L_{eq}.

The closest resident is located approximately 231 feet from the Project boundary. Based on the noise measurements taken on the north end of the Blythe Energy Center property, it is assumed that the ambient noise level for the proposed Project is 44.0 dBA L_{eq} (BEP 1999). Projected ambient noise levels during construction are estimated to be 65 dBA L_{eq}. The solar facility would be developed in six-month phases with six blocks constructed at a time (each block would be 100 acres, for a total of 600 acres at a time). Construction activities would be temporary and only intermittently affect any one location. Noise levels would increase during construction; however, construction would occur between the hours of 7:00 a.m. and 6:00 p.m. and therefore be exempt from the County of Riverside's Ordinance No. 847. Noise levels would also be within the City of Blythe's noise threshold of 65 dB L_{dn} (day-night average sound level). Therefore, impacts would be considered less than significant. Implementation of Mitigation Measure Noise-1 to notify residents adjacent to the Project area would further minimize noise impacts. However, noise levels for residents within 0.25 mile would increase greater than 10 dBA, which would result in an adverse impact. To minimize impacts to sensitive receptors, implementation of Mitigation Measure Noise-1 would restrict construction hours to comply with the County of Riverside's Noise Ordinance No. 847. In addition, implementation of BMP-18 and Mitigation Measure Noise-2 to notify residents within 2,400 feet of the Project area would further minimize noise impacts.

There are four residences in close proximity to the proposed gen-tie line; construction activities would be temporary and only intermittently affect any one location. BMP-18 would also be implemented to minimize construction- and operation-related noise levels. Therefore, impacts would be considered less than significant.

With implementation of Mitigation Measure Noise-3, impacts to workers that may be exposed to excessive noise levels would be reduced to less than significant levels.

Operation

At 150 feet, the maximum noise from the power block's combined motors and transformers would be less than 45 dBA. Although not typical, during the summer months, there may be days when the power block motors and medium transformers would operate slightly before 7:00 a.m. The noise generated by the modular power blocks would be similar to the assumed existing ambient noise level on the Project site, which is 44 dBA L_{eq} (refer to Section 1.1.11, *Noise*, in Chapter 3). The closest residence is 231 feet from the Project boundary and noise attenuates with distance; therefore, the noise levels would be less than 45 dBA, which is the County of Riverside's maximum decibel level limit allowed in rural residential areas for daytime and nighttime, as well as within the City of Blythe's acceptable noise levels.

The anticipated audible noise from a typical 240 kV line would likely be 40.5 dBA L_{50} at approximately 50 feet (15 meters) during wet conditions; noise levels would be less during fair weather conditions (EPRI 2005). It is anticipated that the PVMSP's 230 kV gen-tie line would create noise levels similar to the 240 kV line. Noise attenuates with distance; therefore, audible noise for the gen-tie line would be less than ambient noise levels. The transformers (located within the substations) would create noise levels of approximately 40 dBA L_{eq} at 200 feet. The inverters would be housed in steel and concrete enclosures and are anticipated to create noise levels of approximately 58 dBA L_{eq} at the source. The closest residence to the substation would be approximately 1,250 feet away. From this distance, noise levels of the transformers and inverters would be similar to ambient noise levels. Therefore, impacts would be less than significant. Impacts during operation and decommissioning would be less than significant. There are no sensitive receptors in close proximity to the proposed gen-tie line; therefore, no impacts would occur.

Decommissioning

Decommissioning of the PVMSP would require removal of the solar equipment and facilities and transportation of all components off site. Equipment used for decommissioning would generally be similar to that used for construction; however, it is anticipated that the overall activity necessary during decommissioning could be completed in one year and would be less intense than that of construction. Therefore, impacts would be less than significant.

Mitigation Measure

Noise-1 Construction shall be prohibited in areas within 0.25 mile (1,320 feet) of residents, from the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September and hours of 6:00 p.m. and 7:00 a.m. during the months of October through May.

Noise-2 Prior to and during construction, decommissioning, and ground disturbing activities, the Applicant shall provide at least two weeks' advance notice of construction and decommissioning. Notices shall be mailed directly to land owners and residents within 2,400 feet of the Project boundary, and/or signs shall be posted at the solar facility in areas accessible to the public. Notices shall announce when and where construction would occur; provide tips on reducing noise intrusion (e.g., closing windows facing the planned construction); and provide contact information for the local public liaison for any noise complaints.

Noise-3 The Applicant would implement a Hearing Conservation Program and Personal Protective Equipment Program that would provide personal protective devices for specific jobs that would produce excessive noise levels. The Applicant shall comply with the Occupational Safety and Health Administration's (OSHA) regulations on occupational noise exposure.

Residual Impacts After Mitigation

With implementation of Mitigation Measures Noise-1 through Noise-3, exposure of persons to or generation of noise levels in excess of standards established by local general plans and noise ordinances would be less than significant.

2.5.2 Impact NOI-2

Substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.

Construction

Project construction would temporarily increase ambient noise levels in the Project vicinity above existing levels. However, construction would move along at a rapid pace throughout the Project site and would only intermittently affect any one location. Therefore, impacts would be considered less than significant.

Operations

As discussed in Impact NOI-1, the operation of a solar facility and gen-tie line would not result in substantial temporary or periodic increase in ambient noise levels in the Project vicinity above existing noise levels.

Decommissioning

Equipment used for decommissioning would generally be similar to that used for construction; however, it is anticipated that the overall activity necessary during decommissioning could be completed in one year and would be less intense than that of construction. Therefore, impacts would be less than significant.

Mitigation Measures

Noise-1 Construction shall be prohibited in areas within 0.25 mile (1,320 feet) of residents, from the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September and hours of 6:00 p.m. and 7:00 a.m. during the months of October through May.

Noise-2 Prior to and during construction, decommissioning, and ground disturbing activities, the Applicant shall provide at least two weeks' advance notice of construction and decommissioning. Notices shall be mailed directly to land owners and residents within 2,400 feet of the Project boundary, and/or signs shall be posted at the solar facility in areas accessible to the public. Notices shall announce when and where construction would occur; provide tips on reducing noise intrusion (e.g., closing windows facing the planned construction); and provide contact information for the local public liaison for any noise complaints.

Noise-3 The Applicant would implement a Hearing Conservation Program and Personal Protective Equipment Program that would provide personal protective devices for specific jobs that would produce excessive noise levels. The Applicant shall comply with the Occupational Safety and Health Administration's (OSHA) regulations on occupational noise exposure.

Residual Impacts After Mitigation

With implementation of Mitigation Measures Noise-1 through Noise-3, temporary or periodic increase in ambient noise levels in the Project vicinity above existing noise levels would be would be less than significant.

2.5.3 Impact NOI-3

Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Construction

Project construction activities would require the use of heavy construction equipment that would result in ground-borne vibration. The vibratory post driver used for installation of the solar array piles would result in the highest vibration levels. Vibration levels at the closest residence locations would be well below peak particle velocity (PPV) thresholds. Therefore, construction-related vibration impacts would be less than significant.

Project construction activities would require the use of heavy construction equipment that would result in ground-borne vibration. The vibratory post driver used for installation of the solar array piles would result in the highest vibration levels; however, it would be below PPV thresholds and would not result in adverse impacts to humans or physical damage to buildings in the vicinity of the Project area. Therefore, construction-related vibration impacts would be less than significant. Impacts related to decommissioning would be similar to construction, but the construction equipment utilized for decommissioning would

result in lower levels of ground vibration. Project operation would not introduce any new sources of perceivable ground-borne vibration to sensitive receptors surrounding the Project area. Therefore, there would be no operation-related vibration levels.

Operation

Project operation would not introduce any new sources of perceivable ground-borne vibration to the area surrounding the Project site. Therefore, there would be no operation-related vibration impacts.

Decommissioning

Decommissioning of the PVMSP would require removal of the solar equipment and facilities and transportation of all components off site. However, it would not require the use of vibratory post drivers or introduce any new source of perceivable ground-borne vibration to the area surrounding the Project site and no impact would occur.

Mitigation Measures

No mitigation measures are recommended.

Residual Impacts

Based on the thresholds of significance set forth in this EIR, less than significant impacts would occur relative to excessive ground-borne vibration and ground-borne noise levels.

2.5.4 Impact NOI-4

For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the exposure of people residing or working in the project area to excessive noise levels.

Construction, Operation, and Decommissioning

The Project would be located approximately 0.5 mile from the Blythe Municipal Airport, and the Project area also experiences considerable ambient noise from I-10. Construction activities from the Project would potentially exceed ambient levels for residents with parcels adjacent to the solar facility and gen-tie corridor. Also, construction personnel working close to the Blythe Municipal Airport may be exposed to elevated noise levels from aircraft. Also, construction personnel working close to the Blythe Municipal Airport may be exposed to elevated noise levels from aircraft. With the implementation of Mitigation Measures Noise-1 and Noise-2, impacts would be reduced to a less than significant level.

Mitigation Measures

Noise-1 Prior to and during construction, decommissioning, and ground disturbing activities, the Applicant shall provide at least two weeks' advance notice of construction and decommissioning. Notices shall be mailed directly to land owners and residents within 2,400 feet of the Project boundary, and/or signs shall be posted at the solar facility in areas accessible to the public. Notices shall announce when and where construction would occur; provide tips on reducing noise intrusion (e.g., closing windows facing the planned construction); and provide contact information for the local public liaison for any noise complaints.

Noise-2 The Applicant would implement a Hearing Conservation Program and Personal Protective Equipment Program that would provide personal protective devices for specific jobs that would produce excessive noise levels.

Residual Impacts After Mitigation

With the implementation of Mitigation Measures Noise-1 and Noise-2, impacts would be reduced to a less than significant level. Noise impacts during operation and decommissioning would be less than significant.

2.5.5 Impact NOI-5

A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

As previously described, the Project would generate noise associated with the operation and maintenance of the tracker unit motors, substation transformers, modular power block inverters and medium voltage transformers, transmission line corona discharge, and maintenance activities. However, noise attenuates with distance and the Project would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are recommended.

Residual Impacts

Based on the thresholds of significance set forth in this EIR, less than significant impacts would occur relative to permanent increases in ambient noise levels in the Project vicinity above existing noise levels.

2.5.6 Impact NOI-6

Impacts from railroad or highway noise.

The Project would not utilize railroad service for delivery of materials or workers; therefore, no impacts related to railroad noise would occur from the construction, operation, and decommissioning of the Project.

Construction

During construction, workers commuting to the Project area and delivery of materials would result in a nominal increase in traffic along the I-10 (approximately 300 to 500 workers); I-10 is a four-lane freeway with an annual average daily traffic of 22,500 (Caltrans 2011). Therefore, the Project's construction traffic would result in a nominal increase in highway traffic and noise. Impacts related to highway noise would be less than significant.

Operations

Operation of the Project would require 12 full-time permanent employees. No impacts related to highway noise during operation of the Project would occur.

Mitigation Measures

No mitigation measures are recommended.

Residual Impacts

Based on the thresholds of significance set forth in this EIR, less than significant impacts would occur to highway noise levels.

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