

5.12 NOISE

This section assesses noise impacts and compliance issues associated with ESPR. Included in this section are:

- Prepared CEC data adequacy checklist with locations specified for information required for each data requirement
- Stipulation to standard CEC noise conditions.

The ESPR team has prepared this AFC and this noise section of the AFC with a candid fresh approach towards the presentation of needed information and direction towards key issues. In the area of noise two key issues will require careful assessment and consideration by the CEC and the City of El Segundo:

1. The classification of the adjacent bike path and corresponding treatment of facilities for sound attenuation
2. Means by which demolition can occur around the clock and construction on double shifts to shorten the time that it takes to replace the electricity generation of aged units 1 and 2 at ESGS.

5.12.1 Affected Environment

The El Segundo Power Redevelopment (ESPR) Project is located within the existing El Segundo Generating Station (ESGS) in El Segundo, California. ESGS is located 2.5 miles south of Los Angeles International Airport and west of the I-405 freeway, on the eastern shore of Santa Monica Bay. The site is bordered by Vista Del Mar to the east, 45th Street in the City of Manhattan Beach to the south, Santa Monica Bay to the west, and the Chevron Refinery to the east. Generally, the topography of the area slopes downward from east to west. The ESPR site, located on the northern end of the existing ESGS, has been graded and paved, with the top of asphalt pavement varying from Elevation 18 feet to Elevation 20 feet mean lower low water (MLLW) in the area of the proposed power block. The site is adjacent to a variety of land uses, including industrial, recreational (bike path and beach use) and residential. The nearest residential noise receptors are located approximately 2,200 feet south of the acoustical center of the proposed ESPR site, in the City of Manhattan Beach. Additional residential uses are located to the northeast of the proposed ESPR site, approximately 2,400 feet from the acoustical center of the proposed project site, in the City of El Segundo. The residences in El Segundo are acoustically shielded from the project by intervening terrain and tank farms. Figure 5.12-1 identifies the sensitive receptors (i.e., schools, hospitals, libraries, and places of worship) within a 2-mile radius of the project site.

The proposed project includes several linear routes for pipelines. New pipelines for water, sanitary waste and aqueous ammonia would be constructed. These linear routes are located primarily but not exclusively in non-noise-sensitive areas. A portion of the water supply line and a portion of the sanitary sewer line would be constructed adjacent to residential areas in El Segundo and Manhattan Beach, respectively. No new off-site transmission lines or natural gas pipelines are required for the project.

5.12.1.1 Acoustical Definitions

Sound levels are measured on a logarithmic scale in decibels, dB. The universal measure for environmental sound is the “A”-weighted sound level, dBA. “A” scale weighting is a “filter” or adjustment curve applied by the measuring instrument to shape the frequency content of the sound in a manner similar to the way the human ear responds to sounds. “Noise” is defined as unwanted sound.

The residual environmental noise level is the quasi-static noise level that exists in the absence of all identifiable, sporadic, individual noise events such as caused by automobile pass-bys, aircraft overflights, intermittent dog barking, etc. In most environments this residual level is called the ambient or background noise level and is composed of the cumulative sum of all noise sources, both near and far, and includes indistinguishable noise from road transportation, fixed and mobile machinery, aircraft, and other sources. The ambient level varies slowly with time as these sources increase or diminish. It has been found that the (measurable) statistical sound level quantity, L_{90} (in dBA), well represents the background sound level. L_{90} is the level that is exceeded 90 percent of the time during a given interval. Likewise, L_{50} is the level that is exceeded 50 percent of the time during a given time interval, while L_{10} is the level that is exceeded 10 percent of the time during a given time interval. L_{50} is the primary noise descriptor used in the El Segundo and Manhattan Beach Noise Ordinance statutes for as they apply to this project.

Environmental noise, by nature, varies with time, and is beneficial to define certain measurement terms that are used to characterize fluctuating quantities. The true energy average level over a specific time period is defined as the equivalent level, abbreviated as L_{eq} . L_{eq} is the level over an interval that is equivalent to a perfectly constant level containing the same acoustic energy over the same interval. Hence, L_{eq} provides a measure of the true energy average sound level in an area and includes all sporadic or transient events.

Other descriptors of noise are also commonly used to help predict an average community reaction to adverse effects of environmental noise including traffic-generated and industrial noise. These descriptors include the Day-Night Average Noise Level (L_{dn}), and (in California) the Community Noise Equivalent Level (CNEL). Each of these descriptors use units of dBA. Both L_{dn} and CNEL noise metrics represent 24-hour periods and both apply a

time-weighted factor designed to penalize noise events that occur during evening and nighttime hours, when relaxation and sleep disturbance is of more concern. In the case of CNEL, noise occurring during the daytime hours between 7:00 a.m. and 7:00 p.m. receives no penalty. Noise occurring between 7:00 p.m. to 10:00 p.m. is penalized by adding 5 dB to the measured noise level, while noise occurring from 10:00 p.m. to 7:00 a.m. is penalized by adding 10 dB to the measured level. L_{dn} differs from CNEL by not adding the penalty between 7:00 p.m. and 10:00 p.m. Both CNEL and L_{dn} are the predominant metrics used by local governments to describe noise environments within their jurisdictions and for planning purposes. The cities of El Segundo and Manhattan Beach use the CNEL descriptor in their respective General Plan Noise Elements.

Bikepath Recreational Use. The nearest of the recreational land uses, the bikepath and El Segundo City Beach, is located approximately 270 feet west of the project's acoustical center. As described in Section 5.11, Traffic and Transportation, this established bikepath traverses the western perimeter of the ESGS and is regularly used by pedestrians, joggers, skaters, and bicyclists moving between Manhattan Beach on the south end of the plant and El Segundo City Beach and Marina Del Ray on the north side of the plant. During peak construction activities, these users could be temporarily exposed to high noise levels while passing the plant.

5.12.1.2 Ambient Noise Survey

In order to evaluate current conditions and assess potential project noise impacts on the surrounding communities, ambient sound level surveys were conducted on three separate occasions: July 20-21, August 31-September 1, and November 13-14, 2000. The noise surveys were conducted at the proposed plant site and at selected offsite locations. These offsite locations represent the nearest noise-sensitive receptors (consisting of residential, recreational and school receptors) to the proposed site as well as locations chosen to evaluate construction and operational noise impacts along the linear facilities' routes. The nearest recreational land use (El Segundo City Beach area and bicycle path) is located approximately 270 feet west of the project's acoustical center. Because of the various operating modes of the existing ESGS (ranging from all four existing units operating to only one unit operating), several noise surveys were conducted. Figure 5.12-2 identifies the location of offsite noise measurement locations. Figure 5.12-3 identifies the location of onsite noise measurement locations.

Unattended long-term (varying from 12 to 25 hours in duration) and attended short-term (generally 10 minutes in duration) noise measurements were conducted. The long-term measurements were made with Type 2, Metrosonics db308 community noise analyzers. The short-term measurements were made with a tripod-mounted Type 1 Brüel & Kjær Type 2231 sound level meter (SLM) with statistical analyzer. The sound measuring instruments used for

the survey were set on “slow-time” response using the A-weighted decibel (dBA) scale for all of the noise measurements. To ensure accuracy, the instruments were field calibrated before and after each measurement. The accuracy of the acoustical calibrator is maintained through a program established through the manufacturer and traceable to the National Institute of Standards and Technology. The sound measurement instruments meet the requirements of the American National Standard (S 1.4-1983) and the International Electrotechnical Commission Publications (804 and 651.) In all cases, the microphone height was 5 feet above the ground and the microphone was equipped with a windscreen.

During the July 20-21 noise measurements, Power Units 1, 2, 3 and 4 were operational. According to ESGS plant operations personnel, this condition (all four units running simultaneously) occurs only during peak summer months when electricity demand is highest. A more typical operating condition is to have 2 units running at any one time. Generally, Units 3 and 4 are the primary units and Units 1 and 2 function as back-up power sources. Thus, a second set of noise measurements was conducted at selected locations on August 31 and September 1, 2000. During the August 31-September 1 noise measurements, only Unit 3 was operational. Noise measurements from the July 20-21, 2000 noise survey thus constitute an “upper boundary” of existing plant operations noise, while noise measurements from the August 31 and September 1, 2000 measurements constitute a “lower boundary” of existing plant noise operations. A third noise survey was conducted from November 13-14, 2000, during which Units 3 and 4 were in operation and Units 1 and 2 were not in operation. The results of the July 20-21, August 31-September 1 and November 13-14 noise measurements are summarized below.

July 20-21, 2000 Noise Measurements. Two long-term noise measurements (25 hours each) were conducted; the monitor designated Long-Term 1 (LT-1) was located at the northwest corner of the ESGS property, while the monitor designated Long-Term 2 (LT-2) was located along the southern boundary of the ESGS property. Because of its location near the power units (Units 1, 2, 3 and 4, all four of which were operational during the two days of measurements), noise at LT-1 was dominated during the daytime hours by noise from the existing facility. Unfortunately, the noise measurements at LT-1 during the nighttime hours were contaminated by a nearby offsite electrical generator used for nighttime construction operations at the adjacent Chevron Marine Terminal property. The noise levels at LT-1 from 8:00 p.m. until 7:00 a.m. were dominated by the offsite construction activities. Excluding the hours from 8:00 p.m. until 7:00 a.m., the hourly noise levels at LT-1 varied from 60 dBA L₉₀ to 66 dBA L₉₀ (60 dBA L₅₀ to 68 dBA L₅₀). LT-2 was representative of the residential area near the ESGS southern boundary. LT-2 was located along the ESGS southern fenceline, north of 45th Street and approximately 75 feet north of the nearest residences. LT-2 was located approximately 2,000 feet south of the power units, and was shielded from the power units by several large storage tanks; as a result, noise from the ESGS was not audible at LT-2. With the exception of several measurement intervals in which the noise levels were

relatively high (believed to be caused by tanker trucks passing very near the LT-2 monitor site), noise levels at LT-2 varied from 50 dBA L₉₀ to 56 dBA L₉₀ (52 dBA L₅₀ to 58 dBA L₅₀). The long-term noise measurement data is summarized in Table 5.12-1.

Twelve short-term noise measurements (ST-1 through 12) were conducted concurrently with the long-term noise measurements. The short-term noise measurement data for the July 20-21 noise measurements are summarized in Table 5.12-2. ST-1, ST-2, ST-3 and ST-12 were conducted on the ESGS property, while the remaining short-term noise measurements were conducted at selected locations in the surrounding community. With the exception of ST-5, existing ESGS operations were not a predominant source of noise (and generally were not audible) at off-site representative noise-sensitive locations. At location ST-5 (on the beach, approximately 300 feet northwest of Units 1 and 2), the ambient noise level was found to be 61 dBA L₉₀ (62 dBA L₅₀), with the noise from the power plant dominating the noise environment. At other off-site locations, ambient noise levels varied from 45 dBA L₉₀ (46 dBA L₅₀) at Grand View Elementary School in Manhattan Beach to 59 dBA L₉₀ (61 dBA L₅₀) adjacent to 45th Street in Manhattan Beach. Typical ambient noise sources at off-site locations included distant aircraft noise from LAX, vehicular traffic, distant landscaping equipment noise, and beach noise (waves breaking, children playing).

TABLE 5.12-1**LONG-TERM NOISE MEASUREMENT DATA SUMMARY**

Site ID	Measurement Date	Location	25 hr L _{eq}	24 hr L _{dn}	24 hr CNEL	25 hr Average L ₅₀	25 hr Average L ₉₀
LT-1 ¹	7/20-7/21/00	NW corner on P/L fence	63.3	68.5	68.9	62.9	61.5
LT-2	7/20-7/21/00	South P/L fence E. of locked gate	58.6	62.0	62.4	55.6	53.8
LT-1a ¹	8/31-9/1/00	Same as LT-1	59.8	65.6	65.9	58.6	57.3
LT-2a	8/31-9/1/00	Same as LT-2	58.3	64.3	64.6	57.3	55.8
LT-3	8/31-9/1/00	West P/L fence at South end of ESGS employee break area	60.6	66.4	66.8	59.5	58.4
LT-3a	11/13–11/14/00	Same as LT-3	61.7 ²	N/A	N/A	61.0	60.2

¹ The hours 2000 to 0700 for LT-1 and 1900 to 0700 for LT-1a were adjusted to eliminate noise contamination from nearby construction activities.

² Noise measurements conducted at LT-3a for 12 hours.

Weather conditions were mild and stable, with clear skies, temperatures varying from 73° F to 76° F, 52 percent to 66 percent relative humidity, and winds varying from 0 to 9 miles per hour, typically from the west.

August 31-September 1, 2000 Noise Measurements. During the August 31-September 1 measurements Units 1, 2 and 4 were shut down; only Unit 3 was operational. Three long-term noise measurements (25 hours each) were conducted; two of the long-term measurements (LT-1a and LT-2a) corresponded to the same locations as for the July 20-21 measurements (LT-1 and LT-2) and one was at a new location (LT-3). LT-3 was sited approximately 400 feet south of LT-1a along the western plant boundary fence, in the southern portion of the grass-covered employee recreation area. Whereas LT-1a was located northwest of Units 1 and 2, LT-3 was located west of Units 1 and 2 and northwest of Units 3 and 4. Because of their locations near the power units, noise at LT-1a and LT-3 were dominated during the daytime hours by noise from the existing facility (Unit 3, in this case). As before, the noise measurements at LT-1a during the evening and nighttime hours were contaminated by construction activities at Chevron Marine Terminal. Excluding the hours from 7:30 p.m. until 7:00 a.m., the hourly noise levels at LT-1a varied from 56 dBA L₉₀ to 58 dBA L₉₀ (58 dBA L₅₀ to 60 dBA L₅₀). LT-3 was far enough from the construction activities such that the nighttime noise levels were not influenced by construction noise; the hourly noise levels at LT-3 varied from 57 dBA L₉₀ to 61 dBA L₉₀ (58 dBA L₅₀ to 63 dBA L₅₀).

Similarly to the July 20-21 measurements, noise from the ESGS was not audible at LT-2a. Noise levels at LT-2a varied from 53 dBA L₉₀ to 57 dBA L₉₀ (56 dBA L₅₀ to 58 dBA L₅₀). The long-term noise measurement data from both the July 20-21 and the August 31-September 1 noise surveys are summarized in Table 5.12-1.

Six short-term noise measurements (ST-1a, ST-3a, ST-5a, ST-6a, ST-13 and ST-14) were conducted concurrently with the long-term noise measurements. ST-1a, ST-3a, ST-5a and ST-6a were conducted in the same locations as ST-1, ST-3, ST-5 and ST-6, respectively. The short-term noise measurement data for the August 31 – September 1 noise survey is summarized in Table 5.12-3. ST-1a, ST-3a, ST-13 and ST-14 were conducted on the ESGS property, while ST-5a and ST-6a were conducted at selected locations in the surrounding community. Noise measurement ST-14 was located on-site, approximately 120 feet northwest of Unit 3, with an unobstructed view of Unit 3, the sole operating power unit. The noise level at ST-14 was 71 dBA L₉₀ (71 dBA L₅₀).

TABLE 5.12-2

SHORT-TERM NOISE MEASUREMENT DATA SUMMARY (7/20/00-7/21/00)

Site ID	Measurement Location	Date	Measurement Period			Measurement Results, dBA					
			Start time	Duration (minutes)	Predominant Noise Source	L _{eq}	L _{max}	L _{min}	L ₉₀	L ₅₀	L ₁₀
ST-1	NW corner of plant by P/L (near LT-1)	7/20/00	11:15	11	Power plant, Aircraft	61.1	73.8	58.5	59.4	60.4	61.9
ST-2	SW corner of plant by P/L fence	7/20/00	11:45	10	Waves, people on beach, aircraft	60.0	65.8	55.5	58.4	59.9	61.4
ST-3	Mid-point along south P/L (near LT-2)	7/20/00	12:34	10	Waves, people on beach, distant aircraft	56.3	67.0	52.0	54.4	55.9	57.4
ST-4	Near 120 45th St.	7/20/00	14:18	10	Traffic, Pump by fuel tank	64.4	78.5	58.3	59.4	61.4	66.9
ST-5	Near lifeguard station 61	7/20/00	14:45	10	Power plant, Aircraft	63.1	69.3	60.2	60.9	62.4	64.9
ST-6	Boardwalk by 4220 43rd St.	7/20/00	15:13	10	People on beach, kite, distant aircraft	58.0	64.0	53.2	55.4	57.4	60.4
ST-7	Sand Dune Park	7/20/00	15:42	10	Aircraft, children playing	57.1	65.5	50.9	52.9	56.4	59.9
ST-8	Grand View Elementary School	7/21/00	11:24	10	Distant construction, distant aircraft	48.1	54.0	43.0	44.9	46.4	51.4
ST-9	Beach Babies Children's Center, 540 Rosecrans Ave	7/21/00	11:49	10	Traffic	61.3	77.0	49.8	53.9	59.4	63.9
ST-10	Dockweiler State Beach	7/21/00	12:28	10	Aircraft, distant breaking waves	63.7	77.3	55.4	57.4	59.4	65.4
ST-11	119 Loma Vista St.	7/21/00	12:58	10	Distant landscaping noise, birds, distant aircraft	52.8	62.1	47.4	49.9	51.4	54.4
ST-12	Opposite Unit 1 in recreation area of plant	7/21/00	15:00	5	Power plant	65.8	68.3	63.1	64.9	65.9	66.9

At location ST-5a (on the beach, approximately 700 feet north-northwest of Unit 3), the ambient noise level was 57 dBA L₉₀ (59 dBA L₅₀), with waves and aircraft dominating the noise environment. The power plant noise was just barely audible. The power plant constituted the minimum noise level measured, at approximately 55 dBA. At the other off-site location measured (ST-6a), the ambient noise level was also 57 dBA L₉₀ (59 dBA L₅₀). This noise level agrees to within 2 decibels with the July 20-21 measurement (ST-6). As before, the existing ESGS operations were not audible at ST-6a.

Weather conditions were mild and stable, with clear skies, temperatures varying from 73° F to 80° F, 50 percent to percent relative humidity, and winds varying from 2 to 10 miles per hour, typically from the west.

November 13-14, 2000 Noise Measurements. During the November 13-14 measurements Units 1 and 2 were shut down, and Units 3 and 4 were operational. The noise measurements conducted during the November 13-14 noise survey consisted of one long-term location (LT-3a, same location as LT-3) of 12-hour duration and four short-term locations (10 to 15 minutes duration). Additionally, noise from existing plant operations was measured on a one-third octave and full octave band basis. The spectral noise data was collected at locations ST-14a, ST-15 and ST-17, discussed in further detail below.

Because of its location near the power units, noise at LT-3a was dominated by noise from the existing facility (Units 3 and 4, in this case). The hourly noise levels at LT-3a varied from 58 dBA L₉₀ to 62 dBA L₉₀ (59 dBA L₅₀ to 62 dBA L₅₀). The long-term noise measurement data from the November 13-14 noise survey is summarized in Table 5.12-1.

The short-term noise data for the November 13-14 noise survey is summarized in Table 5.12-4. Four short-term noise measurements (ST-13a, ST-14a, ST-15 and ST-16) were conducted concurrently with the long-term noise measurement. ST-13a and ST-14a were conducted in the same locations as ST-13, and ST-14, respectively. ST-15 and ST-16 were conducted at selected locations in the surrounding community. Noise measurement ST-15

TABLE 5.12-3

SHORT-TERM NOISE MEASUREMENT DATA SUMMARY: 8/31/00 - 9/1/00

Site ID	Measurement Location	Date	Measurement Period		Predominant Noise Source	Measurement Results, dBA					
			Start Time	Duration (minutes)		L _{eq}	L _{max}	L _{min}	L ₉₀	L ₅₀	L ₁₀
ST-1a	Same as ST-1: NW corner of plant by P/L (LT-1a)	8/31/00	13:35	10	Power plant, Aircraft, Waves	58.4	66.5	54.6	55.9	57.9	59.9
ST-3a	Same as ST-3: Mid-point along south P/L (Near LT-2a)	8/31/00	13:10	10	Waves, distant aircraft, traffic	55.1	66.6	48.6	51.9	54.4	56.9
ST-5a	Same as ST-5: Near lifeguard station 61	9/1/00	14:20	10	Aircraft, waves, power plant	61.2	75.0	54.5	56.9	59.4	63.4
ST-6a	Same as ST-6: Boardwalk by 4220 43rd St.	9/1/00	15:02	10	Waves, people on beach, traffic	59.2	65.9	45.8	57.4	58.9	60.4
ST-13	South end of recreation area (LT-3)	8/31/00	13:48	10	Power plant, Aircraft, Waves	59.5	65.4	57.3	57.9	58.9	60.9
ST-14	120ft from NW corner of Units 3 & 4	8/31/00	14:10	2	Power plant	71.4	71.9	71.0	71.4	71.4	71.9

TABLE 5.12-4

SHORT-TERM NOISE MEASUREMENT DATA SUMMARY: 11/13/00 - 11/14/00

Site ID	Measurement Location	Date	Measurement Period			Measurement Results, dBA					
			Start Time	Duration (minutes)	Predominant Noise Source	L _{eq}	L _{max}	L _{min}	L ₉₀	L ₅₀	L ₁₀
ST-13a	Same as ST-13: South end of recreation area (LT-3)	11/13/00	13:57	10	Power plant, distant aircraft	60.1	65.9	44.7	59.4	59.9	60.9
ST-14a	Same as ST-14: 120ft from NW corner of Units 3 & 4	11/13/00	14:20	10	Power plant	71.8	73.4	70.5	70.9	71.9	72.4
ST-15	Southeast of ESGS, Near 318 45 th Street; residential area overlooking project site	11/13/00	15:45	10	Traffic, distant aircraft	61.3	68.9	52.7	55.4	60.4	64.4
ST-16	304 Loma Vista Street, adjacent to Grand Avenue	11/14/00	15:00	15	Traffic, distant aircraft	65.4	85.5	44.7	50.9	59.9	67.4

was located near the top of 45th Street, a residential area southeast of the ESGS, which has a view of the powerplant. Noise measurement ST-16 was located along Grand Avenue, adjacent to residential land uses. ST-16 was selected as a measurement location to assess any potential effect from pipeline construction and operations associated with the ESPR project.

At location ST-15, the ambient noise level was 55 dBA L_{90} (60 dBA L_{50}) with traffic noise dominating the noise environment. Noise from ESGS operations was barely audible. At the other off-site location measured (ST-16), the ambient noise level was 51 dBA L_{90} (60 dBA L_{50}). Traffic noise dominated the noise environment, with aircraft noise from LAX also influencing the noise level. Noise from the ESGS was not audible at ST-16.

With the exception of the bicycle path/beach area in the vicinity of the power units, existing ESGS operations were not a predominant source of noise (and generally not audible) at off-site representative noise-sensitive locations during either the July 20-21, August 31-September 1 or November 13-14 noise surveys. Comparing the measurements conducted on November 13-14 with those from August 31-September 1 at LT-3 / LT-3a, the effect of having Units 3 and 4 operational versus only having Unit 3 operational appears to be an increase in the L_{90} noise level of approximately 1 decibel.

Spectral noise measurements (octave band and $1/3^{\text{rd}}$ octave band) were conducted at the same location as ST-14a. Additionally, spectral noise measurements were conducted at ST-15 and ST-17. ST-17 was located approximately 120 feet south of the southwest corner of Unit 4. A Brüel & Kjær Type 2144 Dual Channel Real Time Frequency Analyzer was used to collect the spectral noise data. The noise levels from the existing plant operations with Units 3 and 4 operating and Units 1 and 2 not operating were measured for successive 8-second sampling periods, during which time the noise levels were observed to be stable. Table 5.12-5 presents the results of the octave band noise measurements. The results for the $1/3^{\text{rd}}$ octave band noise measurements are presented graphically in Figure 5.12-4.

Weather conditions during the November 13-14 noise survey were mild and stable, with clear skies, temperatures varying from 58° F to 65° F, 36 percent to 48 percent relative humidity, and winds varying from 0 to 8 miles per hour, typically from the west.

5.12.1.3 Recommended A-Weighted Sound Level Design Goals

Although the ESPR project is sited within the City of El Segundo, several other jurisdictional boundaries are nearby: The City of Manhattan Beach is adjacent to the project's southern boundary; the City of Los Angeles has jurisdiction over an industrial area north of the project, along the east side of Vista Del Mar; The State of California's Dockweiler State

TABLE 5.12-5

OCTAVE BAND NOISE MEASUREMENTS (IN DB)

Noise Measurement Location Date/Time; Dominant Noise Source	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
ST-14a (on-site, northwest of Units 3 & 4); 11-13-00 / 2:40 p.m.; Existing ESGS operations	81	84	77.9	69.6	67.1	63.9	61.7	56.2	44.7
ST-17 (on-site, south of units 3 & 4); 11-13-00 / 2:50 p.m.; Existing ESGS operations	78.8	83.5	84	76.5	69.7	67.7	66.9	62.3	51.5
ST-15 (off-site, near 318 45 th Street); 11-14-00 / 2:00 p.m.; traffic	68.3	64.3	59.5	56.2	57.6	60.3	56.8	45.9	33.5

Beach is north of the project. The County of Los Angeles operates Dockweiler State Beach, as well as the beaches of Manhattan Beach and El Segundo; however, regulatory authority of these beaches remains with the Cities in which they lie. The Noise Elements and Noise Ordinances of the Cities of El Segundo, Manhattan Beach and Los Angeles have been reviewed and the portions relevant to this project are summarized in Section 5.12.5, Laws, Ordinances and Regulations Compliance.

Several categories of noise receptors are found near the proposed project site: industrial usage, which abuts the proposed site on the northern and eastern sides, recreational land uses on the west side, and residential land uses on the south of the project site. The nearest of the residential land uses is located approximately 2,200 feet south of the acoustical center of the project site, in the City of Manhattan Beach.

Consistent with California Energy Commission (CEC), El Segundo and Manhattan Beach regulations regarding noise, new-source noise impacts at residential/recreational receptors are evaluated with respect to the pre-existing background noise level or specific performance noise level limits. The CEC defines the area impacted by the project as that area where there is a potential increase in existing ambient noise levels of 5 dBA or more during either construction or operation. The City of El Segundo's Noise Ordinance permits an increase of up to 5 decibels above the ambient noise level for residential (and, by extension, recreational) land uses, and an increase of up to 8 decibels above the ambient level for industrial land uses. Based upon a review of recent projects, CEC reviewers have generally recommended use of L_{90} to describe ambient noise levels and to use as a basis for impact assessment. The El Segundo and Manhattan Beach Noise Ordinances are structured such that the "ambient" noise level is represented by L_{50} (the base noise standards are based upon noise levels lasting 30 minutes or more during any one-hour period). In the case of the ambient noise levels near the ESGS, the difference between hourly L_{50} and L_{90} noise levels is small (approximately 1 decibel), due to the continuous nature of powerplant operations.

During the November 13-14 noise measurements (Units 3 and 4 operational, Units 1 and 2 not operational), the lowest of the ambient noise levels, measured at the plant's western boundary, was 58 dBA L_{90} and 59 dBA L_{50} . Thus, the CEC impact criteria would be 63 dBA (58 dBA L_{90} plus 5 dBA) at the nearest property boundary, approximately 270 feet west of the project's nominal acoustical center. The City of El Segundo's maximum permissible noise level increase from the ESPR project would be 64 dBA (59 dBA L_{50} plus 5 dBA). In order for the project not to exceed this standard with the remaining Units 3 and 4 operational as well, the noise level from the project at the nearest residence would need to be no louder than 62 dBA at the nearest property boundary. Thus, the recommended A-weighted design goal is a maximum permissible noise level from the proposed project of 62 dBA at the nearest property boundary, approximately 270 feet west of the project's nominal acoustical center.

The City of Manhattan Beach's Noise Ordinance has a nighttime noise standard of 45 dBA L₅₀. However, the City's Noise Ordinance also states that in the event that the ambient noise level exceeds the noise standards, the noise standard may be increased to reflect said ambient noise level. Also, the Noise Ordinance states that if the location of concern is on the boundary between two different land use classifications (such as residential and industrial, for example), the noise limit applicable to the more restrictive land use plus 5 decibels shall apply. The lowest hourly noise level measured at the southern property boundary (LT-2) was 52 dBA L₅₀. Additionally, because the residential area is adjacent to the industrial land use area in which the project is sited, the relevant adjusted noise standard would be 52 dBA L₅₀ plus 5 dBA. Thus, the adjusted City of Manhattan Beach noise standard is 57 dBA L₅₀. For the project not to exceed this standard with the remaining Units 3 and 4 operational as well, the noise level from the project would need to be 54 dBA or less at the nearest residence. Because the nearest residence is almost 2,000 feet further from the ESPR project site than the bicycle path/recreational area, the more stringent noise standard remains the standard of 62 dBA at the plant's western property boundary. The lowest hourly L₉₀ noise level measured at LT-2 was 50 dBA. Therefore the CEC noise impact criteria at the nearest residential area would be 55 dBA (50 dBA L₉₀ plus 5 dBA)

5.12.1.4 Noise Prediction Modeling of Operational Noise

The preliminary plant design including a complete listing of major plant equipment and its associated noise level rating was provided by the project engineers (Black & Veatch) as the basis for this noise impact evaluation. The equipment listing with maximum sound pressure levels at various distances is presented in Table 5.12-6. Black & Veatch supplied URS with the 1/3rd octave band sound power levels (PWLs) of the major subcomponents. The PWLs were used to calculate the corresponding sound pressure levels (SPLs) for the equipment. Multiples of the same equipment type were accounted for and added together to estimate the total sound pressure for all of the equipment currently planned to be used on the site. The spectral PWL data for the major equipment and the resultant calculations are contained in Appendix R. The formula used to derive the sound pressure levels (in dBA) is as follows:

$$\text{SPL} = \text{PWL} - 10 \log(2\pi r^2) \text{ dBA}$$

Where: r is in meters.

TABLE 5.12-6**ESTIMATED SOUND PRESSURE LEVELS (SPL, DBA) FOR MAJOR EQUIPMENT
AT EL SEGUNDO POWER REDEVELOPMENT PROJECT¹**

Quantity	Description	SPL (dBA)²
2	Combustion Gas Turbine and Generator	65 dBA @ 400 feet
2	Heat Recovery Steam Generator (HRSG)	65 dBA @ 400 feet
2	HP/IP Boiler Feedwater Pumps	90 dBA @ 50 feet
2	Closed Cycle Cooling Water Pumps	90 dBA @ 5 feet
2	Condensate Pumps	90 dBA @ 5 feet
1	Steam Turbine and Generator	65 dBA @ 400 feet
2	Fin Fan Cooler	85 dBA @ 1 foot
2	Gas Compressor	90 dBA @ 5 feet
3	Step-up Transformers	85 dBA @ 1 foot

¹ Source: Black & Veatch.

² SPL's represent maximum A-weighted sound pressure levels (ref: 20 microPa) per unit.

The predicted far field noise levels, in dBA, were then calculated. Additional propagation losses affecting the sound level due to distance, air absorption, average meteorological conditions and ground absorption were conservatively considered and subtracted based upon recognized standards. Barrier effects of existing or planned structures between the plant site and receiver locations were not included in the predictions. Thus, the predictions are conservative for far field noise impact levels.

Noise contours (lines representing locations of equal and constant sound levels) were then developed based upon these sound pressure levels, by calculating the distance to the 62 dBA contour based upon the proposed project's noise contribution. The 61 and 62 dBA contour was determined to be approximately 1,150 feet away from the plant's acoustic center. At 270 feet (the distance to the western property boundary from the acoustic center of the project site), the noise level from the proposed project was calculated to be approximately 75 dBA. At 2,200 feet (the distance to the nearest residential receptor from the acoustic center of the site), the noise level from the proposed project was calculated to be approximately 55 dBA .

5.12.2 Environmental Consequences

5.12.2.1 Power Plant Site

Construction Phase Noise. The demolition and construction phases of the plant are scheduled to last approximately 24 months. During that time many activities will be taking

place, including demolition of Units 1 and 2, construction of foundations, installing major piping and equipment, connecting major site interfaces, erecting major structures and startup/testing. During these activities a varying number of pieces of construction equipment and personnel will be on site, resulting in varying levels of construction noise. The construction schedule currently assumes that the demolition, site preparation and construction of major equipment foundations will be accomplished using a double-shift work schedule (7 a.m. to 3 a.m.). Subsequent construction activities are planned to take place using a single-shift work schedule during a normal work week (Monday through Friday) between the hours of 7 a.m. to 6 p.m.

An extensive field study was conducted by Bolt Beranek and Newman on various types of construction projects including industrial projects. This study data was used to develop Table 5.12-7, which contains a listing of typical ranges of noise levels for the construction activities anticipated for this project. As Table 5.12-7 shows, the loudest phase of the construction effort is expected to occur during finishing. The average noise level during finishing with all pertinent equipment operating is estimated to be approximately 89 dBA at a distance of 50 feet with a range of plus or minus 7 decibels. Accounting for the attenuation of sound by distance, the equipment noise would be reduced to a noise level of approximately 75 dBA at a distance of 270 feet from the construction activity. These noise levels would be approximately 13 to 16 decibels higher than the measured daytime ambient noise levels measured in the area (ST-5 and ST-5a). However, construction noise is temporary and in the case of the bicycle path, would result in a single event pass by of a bike path user; therefore, no significant noise impacts are expected at this area. At the nearest residential land use at a distance of 2,200 feet from the construction activity, the construction equipment noise would be approximately 54 dBA. This noise level is approximately 7 decibels below the daytime ambient noise level in the area as measured at ST-4, and approximately 4 decibels above the lowest hourly nighttime ambient noise level in the area as measured at LT-2/LT-2A. Again, the residential area south of the ESGS would not be impacted by the project during construction activities.

Based upon the construction noise data, noise levels on the construction site could exceed federal Occupational Safety and Health Act (OSHA) and California Occupational Safety and Health Association (Cal-OSHA) guidelines for worker noise exposure. Compliance with Cal-OSHA regulations will ensure that construction personnel are adequately protected from potential noise hazards. The noise exposure level to protect the hearing of workers is regulated at 90 dBA over an 8-hour work shift. Areas above 85 dBA will be posted as high noise level areas and hearing protection will be required. The project owners will implement a hearing conservation program for applicable employees as outlined in Cal-OSHA regulations.

TABLE 5.12-7

**TYPICAL NOISE LEVELS FROM
CONSTRUCTION ACTIVITIES FOR INDUSTRIAL PROJECTS**

Construction Activity	Average Sound Level at 50 feet		Average Sound Level at 50 feet	
	(dBA) ¹	Variation (dB)	(dBA) ²	Variation (dB)
Demolition Activities	84	9	83	16
Foundations	77	4	77	5
Erection of Major Components	84	9	84	7
Finishing	89	7	89	10

Source: Bolt, Beranek and Newman. (Prepared under contract for the U.S. Environmental Protection Agency), Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, December 31, 1971.

¹ Sound level with all pertinent equipment operating.

² Sound level with the minimum required equipment operating.

The City of El Segundo's Noise Ordinance exempts noise from construction activities, provided said activities do not take place between the hours of 6:00 p.m. and 7:00 a.m. Monday through Saturday, or any time on Sunday or federal holidays, and provided that the noise from construction operations does not exceed 70 dBA at a residential property line.

Steam Blows. Steam blows are typically the loudest noise inherent in the construction of projects incorporating a steam turbine. After erection and assembly of the feedwater and steam systems, the piping and tubing that comprise the steam path has accumulated dirt, rust, scale and construction debris such as weld splatter, welding rods, etc. To thoroughly clean the system, the steam line is temporarily routed to the atmosphere, effectively flushing out the lines. This procedure, referred to as steam blow, is typically conducted in short bursts, lasting two to three minutes each, several times daily over a period of two to three weeks. At the end of this procedure the steam line is connected to the steam turbine, and the system is ready for operation.

Steam blows can produce noise levels as high as 130 dBA at a distance of 100 feet; this noise level would attenuate to approximately 103 dBA at the nearest residential area. A noise level of 103 dBA, although brief, would be very disruptive. Noise 4 and Noise 5 in section 5.12.3 provide the standard CEC mitigation for the steam blows.

Operations Phase Noise. The noise impact calculations indicate that without noise mitigation measures, the operations noise from the proposed power plant would be approximately 75 dBA at the nearest noise-sensitive location (the bicycle path and beach area

at the western ESGS boundary). This level is above the maximum allowable noise level of 62 dBA by 13 dBA. The predicted noise level at the nearest residential land use, on the plant's southern boundary is 55 dBA. This noise level is above the maximum allowable noise level of 54 dBA. Because the proposed project would cause an increase in the ambient noise levels of 5 decibels at either the bicycle path/beach area west of the ESGS boundary or the nearest residential land uses, without mitigation measures the proposed project would exceed the CEC's noise impact criteria and the noise ordinance standards of the City of El Segundo and the City of Manhattan Beach. With incorporation of the mitigation measures listed in Section 5.12.4.1, the noise levels from operation of the ESPR would be lowered sufficiently to meet the CEC's noise impact criteria and the noise ordinance standards of the City of El Segundo and the City of Manhattan Beach. At the nearest property boundary location, the mitigated noise level is predicted to be 61.4 dBA. The mitigated noise level at the nearest residential land use, on the plant's southern boundary is predicted to be 42.2 dBA.

Based upon the noise level data, noise levels inside and near the ESPR project would be similar in magnitude to comparably sized power plants and other large industrial projects. These high noise levels could exceed federal Occupational Safety and Health Act (OSHA) and California Occupational Safety and Health Association (Cal-OSHA) guidelines for worker noise exposure. Compliance with Cal-OSHA regulations will ensure that construction personnel are adequately protected from potential noise hazards. The noise exposure level to protect hearing of workers is regulated at 90 dBA over an 8-hour work shift. Areas above 85 dBA will be posted as high noise level areas and hearing protection will be required. The project owners will implement a hearing conservation program for applicable employees as outlined in Cal-OSHA regulations.

5.12.2.2 Transmission Line Routes

Electricity generated by the ESPR project will be delivered to the 230 kV Southern California Edison (SCE) substation located adjacent to the ESGS property. From SCE's substation, electricity will be transmitted to users by the existing transmission and distribution network.

Construction Phase Noise. No new off-site transmission line construction or reconductoring is proposed as part of this project. Consequently, no significant construction noise is anticipated relating to transmission lines.

Operations Phase Noise. Noise sources associated with power transmission include occasional breaker operation in the switchyard, and corona noise and very low magnetostriction hum from the conductors. Breaker noise is considered impulsive in nature, lasting a very short duration and may occur only a very few times per year. Corona noise is

characterized as a buzz or hum and is usually worse when the conductors are wet, such as in rain or fog.

The Electric Power Research Institute (EPRI) has conducted noise tests and studies and has published reference material on transmission line noise. EPRI states that noise produced by a conductor decreases at a rate of three decibels per doubling of distance from the source. The EPRI Transmission Line Reference Book indicates that the audible noise from a typical 230 kV line with two conductors per phase would likely be less than 40 dBA at a distance of 40 feet from the outside conductor at ground level. If only one conductor per phase is used the noise level will be less.

Based upon this analysis of transmission line operational noise levels, no significant noise impact will occur because the transmission line and switchyard is not proposed to be located near noise-sensitive land uses and thus, this project component will not create adverse noise impact.

5.12.2.3 Offsite Pipelines

The proposed project will require several new offsite pipelines. These include two new water supply lines, a sanitary discharge line, and an aqueous ammonia supply line. The new water supply lines will consist of a City of El Segundo Metropolitan Water District potable water line (for firewater), and a West Basin Municipal Water District reclaimed water line. The reclaimed water line will be extended from the Chevron Refinery entrance on El Segundo Boulevard to the ESPR project site. Both water lines will be buried in the same trench starting in El Segundo at about El Segundo Boulevard and Main Street, north to Grand Avenue, west on Grand, then south on Vista del Mar Boulevard to the ESPR project site. The sanitary discharge will involve connection to an existing line approximately 200 feet south of the southern plant boundary, to the municipal sanitary sewer operated by the City of Manhattan Beach. The aqueous ammonia supply line is to be routed from the Chevron refinery under Vista del Mar into the plant at the northern fence line.

Construction Phase Noise. All of the pipelines associated with the project will be underground. The methods to be used for constructing these pipelines will be trenching (approximately 2 to 3 feet wide by up to 6 feet deep), pipe installation and backfill, compaction and repaving, where applicable. The total duration of construction will be approximately four months for all pipelines. Scheduled work and other construction activities will be coordinated with the local agencies having jurisdiction in the areas involved. Generally, linear projects of this type proceed in a sequential fashion from one section of pipe to the next, and can install several hundred feet of pipe per day. Thus, construction noise will be taking place at different locations along the route at any given time, and noise impacts at any one point are short-term, typically lasting less than a week. Construction is planned to

take place during normal weekday working hours, although some local agencies prefer nighttime work in order to minimize traffic impacts. Listed in Table 5.12-8 are typical noise levels generated by pipeline construction activities. As Table 5.12-8 shows, typical noise levels from pipeline construction are approximately 87 to 88 dBA at a distance of 50 feet.

TABLE 5.12-8
NOISE LEVELS FROM TYPICAL
PIPELINE CONSTRUCTION ACTIVITIES

Construction Activity	Average Noise Level @ 50 feet (dBA)
Trench Excavation	87
Pipe Laying	87
Pipe Bedding and Backfill	88

Source: Acentech, 1999

While the majority of the land uses through which the pipelines would run are industrial and therefore not noise sensitive, a portion of Route 1 would be adjacent to residences along Grand Avenue between Loma Vista Street and Richmond Street, a distance of approximately 1,100 feet. Additionally, a portion of Route 2 would be routed along about 150 feet of The Strand. Because the construction activities will be moving along the routes on a daily basis, the residences closest to the pipeline alignments will be exposed to only short periods of construction noise above ambient, lasting from a few hours to a few days as the construction activities pass by any given location during the construction phase. As a result, significant impacts to residential use are not expected from construction related noise.

Ambient noise was measured at typical residential locations adjacent to Routes 1 and 2. The data reported for Location ST-16 in Table 5.12-4 indicates existing maximum noise levels of 86 dBA and average ambient noise levels of 60 dBA L_{50} from existing sources of environmental noise (primarily traffic on Grand Avenue and aircraft at Los Angeles Airport). Noise levels were also measured at Location ST-6/ST-6a, along The Strand. The maximum noise levels on the two occasions measured were 64 dBA and 66 dBA respectively, and the average ambient noise levels were 57 dBA L_{50} and 59 dBA L_{50} , respectively. Because of distance and shielding by the first two rows of residences, the pipeline construction noise would not adversely impact other residences, nor would it impact schools, libraries, hospitals, churches or other locations where quiet is expected. As discussed previously in Section 5.12.5.5, the project owner will apply to the City of El Segundo for a noise permit. The noise permit will include a variance for the short-term construction noise impacts from pipeline construction activities.

Operations Phase Noise. All of the pipelines will be below ground and will not produce audible noise. Thus, there will be no noise impact created by operation of the pipelines associated with the project.

5.12.2.4 Access Road

Construction of Access Road. No new access road is proposed as part of this project. Consequently, no construction noise is anticipated relating to access roads.

Operation of Access Road. The existing on-site access road is expected to provide adequate service for construction worker access (varying between approximately 44 and 422 construction workers) and operational access (up to 50 full-time employees) and occasional delivery of materials to the ESPR project site. Traffic on this road will be minimal and speeds are very low (speed limit of 15 miles per hour). Consequently, noise associated with use of the road will generally not be audible at any noise-sensitive receptor. Noise associated with use of this road will not cause any impact.

5.12.2.5 Cumulative Impacts

Based upon a review of anticipated projects in the area, the nearest approved project is located at the former Data General Building, at 1500 Rosecrans Boulevard, in the City of Manhattan Beach. A 62,000 square foot expansion for offices is planned and approved. Construction date and schedule are not known. The former Data General Building project is approximately 1.5 miles east of the ESPR project, and shielded from the ESPR project site by local terrain. In addition, no ESPR project-related linears are planned to be routed in the vicinity of the Data General Building project or other known projects. Thus, no cumulative noise impacts related to construction or operations are anticipated.

5.12.3 Stipulated Conditions

As a means of cooperating with the CEC and establishing a conciliatory relationship, and an open efficient AFC process that allows the Commission to utilize its resources in the most efficient manner possible, ESPR expresses a willingness to stipulate to and accept the following CEC standard general conditions as promulgated by the CEC that apply to the issue area of noise.

NOISE-1: Notification of Commencement of Project Construction. At least fifteen (15) days prior to the start of rough grading, the project owner shall notify all residents within one mile of the site, by email or other effective means, of the commencement of project construction. At the same time, the project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and

operation of the project. If the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the project site during construction in a manner visible to passersby. This telephone number shall be maintained until the project has been operational for at least one year.

Verification: The project owner shall transmit to the CPM in the first Monthly Construction Report following the start of rough grading a statement, signed by the project manager, attesting that the above notification has been performed, and describing the method of that notification. This statement shall also attest that the telephone number has been established and posted at the site.

NOISE-2: Documentation of Noise Complaints. Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project related noise complaints. The project owner shall:

- Use the Noise Complaint Resolution Form or functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint.
- Attempt to contact the person(s) making the noise complaint within 24 hours.
- Conduct an investigation to determine the source of noise related to the complaint.
- If the noise is project related, take all reasonable measures to reduce the noise.
- Submit a report documenting the complaint and actions taken.

The report shall include a complaint summary, including final results of noise reduction efforts; and if obtainable, a signed statement by the complainant stating that the noise problem is resolved to complainant's satisfaction.

Verification: Within thirty (30) days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form, or similar instrument approved by the CPM, with the Cities of Los Angeles and El Segundo and Manhattan Beach as appropriate, and with the CPM documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a 30-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

NOISE-3: Submittal of a Noise Control Program. Prior to the start of project construction, the project owner shall submit to the CPM for review a noise control program. The noise

control program shall be used to reduce employee exposure to high noise levels during construction and also to comply with applicable OSHA standards.

Verification: At least 30 days prior to the start of rough grading, the project owner shall submit a noise control program to the CPM the above referenced program. The project owner shall make the program available to OSHA upon request.

NOISE-4: Steam Blow Process. If a traditional, high-pressure steam blow process is employed, the project owner shall equip steam blow piping with a temporary silencer that quiets the noise of steam blows to no greater than 110 dBA measured at a distance of 100 feet. The project owner shall conduct steam blows only during the hours of 7:00 a.m. to 7:00 p.m. weekdays and 8:00 a.m. to 6:00 p.m. weekends and holidays. If a modern low-pressure continuous steam blow process is employed, the project owner shall submit to the CPM a description of this process, with expected noise levels and projected hours of execution.

Verification: At least fifteen (15) days prior to the first low-pressure continuous steam blow, the project owner shall submit to the CPM drawings or other information describing the process, including the noise levels expected and the expected time schedule for execution of the process.

NOISE-5: Public Notification of Steam Blow Activities. The project owner shall conduct a public notification program, which will alert residents within one mile of the site prior to the start of steam blow activities. The notification shall include a description of the purpose and nature of the steam blow(s), the proposed schedule, the expected sound levels and the explanation that it is a one-time operation and not a part of normal plant operation.

Verification: At least fifteen (15) days prior to the first steam blow(s) the project owner shall notify all residents within one mile of the site of the planned steam blow activity, and shall make the notification available to other area residents in an appropriate manner. The notification may be in the form of letters to the area residences, telephone calls, fliers, or other effective means. Within five (5) days of notifying these entities, the project owner shall send a letter to the CPM confirming that they have been notified of the planned steam blow activities, including a description of the method(s) of that notification.

NOISE-6: 25-Hour Community Noise Survey. Upon first achieving an output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey, utilizing the same monitoring sites employed in the pre-project ambient noise survey as a minimum. The survey shall also include the octave band pressure levels to ensure that no new pure-tone noise components have been introduced. If the results from the survey indicate that operation of the power plant causes noise levels in excess of 45 dBA measured at the nearest resident, additional mitigation measures shall be implemented to reduce noise

to a level of compliance with this limit. No single piece of equipment shall be allowed to stand out as a dominant source of noise.

Verification: Within thirty (30) days after first achieving an output of 80% or greater of rated output, the project owner shall conduct the above described noise survey. Within thirty (30) days after completing the survey, the project owner shall submit a summary report of the survey to the appropriate local governmental agency and to the CPM. Included in the report will be a description of the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures. Within thirty (30) days of completion of installation of these measures, the project owner shall submit to the CPM a summary report of a new noise survey, performed as described above and showing compliance with this condition.

NOISE-7: Occupational Noise Survey. The project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility. The survey shall be conducted within thirty (30) days after the facility is in full operation, and shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations, Section 5095-5100 (Article 105) and Title 29, Code of Federal Regulations, Part 1910. The survey results shall be used to determine the magnitude of employee noise exposure. The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures that will be employed to comply with the applicable California and federal regulations.

Verification: Within thirty (30) days after completing the survey, the project manager shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA upon request.

NOISE-8: Avoid Unnecessary Residential Annoyance. The project owner shall ensure that noise levels during non-exempt hours in residential areas near the project site and along the natural gas pipeline route are minimized and mitigated by:

- Identifying residential regions along pipeline route and scheduling noisy construction work during exempt hours in such areas whenever possible;
- Coordinate with appropriate City personnel when construction activities are required during non-exempt hours in residential areas due to traffic or logistical impact reasons to ensure such construction is minimized and mitigated;
- Mitigate such construction by using sound panels and other means as agreed upon with local authorities; and
- Attend to and resolve noise complaints as outlined in condition of certification NOISE-2.

Verification: At least thirty (30) days prior to commencing construction in a particular City, the project owner shall submit a report to the CPM indicating that project owner has met with that City regarding an anticipated non-exempt residential construction likely to cause annoyances.

5.12.4 Mitigation Measures

5.12.4.1 Power Plant Site

Power Plant Construction. With the incorporation of the stipulated conditions contained in the Section 5.12.3, impacts associated with power plant construction noise are less than significant. As a result, additional conditions and mitigation measures are not necessary.

Power Plant Operations. Without mitigation, noise levels from the ESPR project would exceed CEC and local noise standards at the plant's west boundary. However, with incorporation of the following mitigation measures or their equivalent and the stipulated conditions in Section 5.12.3, noise levels from the project would be below CEC and local noise standards. Figure 5.12-5 presents the predicted noise contours from the ESPR project with mitigation measures. On-site noise levels in and near the proposed power units would require normal industrial occupational safety measures relating to noise.

- An enclosure will be placed around the combustion gas turbine compartments. A noise barrier will be placed around the combustion gas generators and an acoustic shroud will be placed around the combustion gas turbine exhaust ducts.
- An acoustic shroud will be placed around transition ductwork, noise barriers will be placed around boilers or the boiler casing will be increased in thickness and silencers will be incorporated at the exit stack.
- An enclosure will be placed around the steam turbine package as well as the generator package.
- A firewall/noise barrier will be placed around transformers.
- Pumps will incorporate enclosures (major pumps; including boiler feed pump/motor assemblies).
- Enclosures will be placed around gas compressors.
- Noise barriers will be placed around fin-fan coolers.

The mitigation measures shown in Table 5.12-9 represent a preliminary assessment of feasible measures which would provide the level of noise reduction necessary to meet the sound level design goals.

Alternatives to the mitigation measures listed in Table 5.12-9 may be developed as the final design progresses. The eventual Engineering Procurement Construction (EPC) Contractor may further optimize the acoustical budgeting based upon changes in equipment and/or plant configuration.

5.12.4.2 Transmission Line Routes

Transmission Line Construction. No new off-site transmission line construction or reconducting is proposed as part of this project. Consequently, no noise mitigation is required.

Transmission Line Operation. Operation of the existing high voltage transmission line will not cause significant noise impacts; thus, no noise mitigation is required.

5.12.4.3 Offsite Pipelines

Offsite Pipeline Construction. Most of the pipelines will be located within industrial areas and construction noise will be consistent with the land uses and associated activities conducted thereon. Construction of portions of the water pipelines (Route 1) and the sanitary sewer pipeline (Route 2) will generate elevated short-term noise levels in proximity to residential land uses. However, because construction noise will only be above ambient for a few hours or days, noise impacts are not considered significant.

Offsite Pipeline Operation. Because the offsite pipelines are underground, no noise mitigation is required.

5.12.4.4 Access Road

Access Road Construction. No new access road is proposed as part of this project. Consequently, no noise mitigation is required.

Access Road Operation. Noise associated with use of the existing access road by vehicles associated with the ESPR project will generally not be audible at any noise-sensitive receptor. No mitigation measures are necessary.

TABLE 5.12-9

ANTICIPATED NOISE MITIGATION MEASURES, UNMITIGATED AND MITIGATED SOUND PRESSURE LEVELS AT 400-FOOT DISTANCE (dBA)

	Standard Packaged Equipment¹	Anticipated Mitigation Measures (or Equivalent)	Mitigated Noise Level²
Combustion Turbine Generator (includes CT Inlet, CT Compartment, Generator Compartment, Exhaust Duct and all auxiliary components included in the scope-of-supply)	65	Enclosure around CT compartments, noise barrier around CT generators, acoustic shroud around CT exhaust ducts.	53
HRSG (includes transition ductwork, boiler section, stack exit and all auxiliary components included in the scope-of-supply)	65	Acoustic shroud around transition ductwork, noise barrier around boilers or increased boiler casing thickness, silencers at stack exit.	49
Steam Turbine Generator (includes ST Package, Generator Package and all auxiliary components included in the scope-of-supply)	65	Enclosure around ST package and generator package.	50
Standard Generator Step-up Transformer (each) – includes operation at maximum cooling	55 (85 dBA @ 1 ft per ANSI/IEEE57.1 2.90)	Firewall / noise barrier around transformers.	50 (80 dBA @ 1 ft per ANSI/IEEE57.1 2.90)
Major Pumps (each) – includes boiler feed pump/motor assemblies	59 (90 dBA @ 3 feet)	Enclosure around pumps.	41 (72 dBA @ 3 ft)
Gas Compressor & Fin-Fan Cooler (2 of each operating)	75	Enclosure around gas compressors, and noise barrier around fin-fan coolers.	46 ³

¹ Based upon sound power data for “standard” package. Standard packaged equipment includes noise mitigation options typically available with equipment at no additional cost.

² The not-to-exceed noise level of each component group at a nominal distance of 400' in order to meet the goal of a Combined noise level of 61 dBA or less at a distance of approximately 270 feet from the project's acoustic center.

³ Mitigated noise level for compressors and fin fan coolers determined by an analysis of the estimated noise levels at the nearest property boundary, approximately 85 feet west of the compressors/coolers.

5.12.4.5 Cumulative Noise Impacts

No cumulative noise impacts from either construction or operations are anticipated as a result of the ESPR project. Consequently, no noise mitigation is required.

5.12.5 Applicable Laws, Ordinances and Regulations (LORS) Compliance

The proposed facility will meet or exceed all applicable LORS pertaining to noise emissions. The following sections summarize LORS compliance with respect to noise. The applicable LORS are also summarized in Table 5.12-10.

5.12.5.1 Federal

There are no noise-related federal laws, ordinances or regulations that affect this project. However, there are guidelines at the federal level that direct the consideration of a broad range of noise and vibration issues as listed below:

- National Environmental Policy Act (42 U.S.C. 4321, et. seq.) (PL-91-190) (40 C.F.R. §1506.5)
- Noise Control Act of 1972 (42 U.S.C. 4910).

Additional noise emission/exposure guidelines, regulations, codes, and statutes exist that are promulgated and/or enforced by various federal agencies including the National Park Service, the US Coast Guard, Fish and Wildlife Service, etc. that are focused on their respective area of expertise. The U.S. Environmental Protection Agency has not promulgated standards or regulations for environmental noise generated by power plants. However, as listed above, the EPA has published a guideline (EPA Levels Document, Report No. 556/9-74-664) containing recommendations for noise levels affecting residential land use of Ldn 55 dBA for outdoors and Ldn 45 dBA for indoors. The agency is careful to stress that the recommendations contain a factor of safety and do not consider technical or economic feasibility issues, and therefore should not be construed as standards or regulations.

TABLE 5.12-10

LAWS, ORDINANCES AND REGULATIONS (LORS) APPLICABLE TO NOISE

LORS	Applicability	Conformance (Section)
Federal:		
EPA 1974 Noise Guidelines	Guidelines for State and Local Governments.	N/A
The Occupational Safety and Health Act of 1970 (OSHA), (29 CFR § 1919 et seq.).	Guidelines for exposure of workers to noise during construction and operations.	Section 5.16.5.1
Noise Control Act (1972) as amended by the Quiet Communities Act (1978); (42 USC 4901 - 4918)	Separate noise-sensitive areas are encouraged.	N/A
State:		
Cal/OSHA Occupational Noise Exposure Regulations (8 CCR, General Industrial Safety Orders, Article 105, Control of Noise Exposure, § 5095, et seq.).	Sets employee noise exposure limits. Equivalent to Federal OSHA standards.	Section 5.12.5.2
Cal. Noise Control Act of 1973 (Cal. Health and Safety Code, Division 28).	Comply with local noise ordinances.	N/A
Local:		
City of El Segundo Noise Element, Program N1-2.1C	The City shall strictly enforce the El Segundo Municipal Code's noise standards for stationary sources, particularly industrial facilities and construction activities.	Sections 5.12.2.3, 5.12.5.3
City of El Segundo Noise Ordinance (Chapter 9.06, Noise and Vibration regulations, El Segundo Municipal Code), Section 9.06.040	Sets permissible project-related increases above ambient noise levels by land use; 5 dBA above ambient noise level for residential, 8 dBA above ambient noise level for commercial and industrial.	Sections 5.12.2.3, 5.12.5.3

TABLE 5.12-10**(CONTINUED)**

LORS	Applicability	Conformance (Section)
City of El Segundo Noise Ordinance, Section 9.06.060	Prohibits the creation of any loud, unusual or unnecessary noise. Any device or equipment producing highly tonal in nature or otherwise distinct could be considered as being in violation of the city's noise ordinance.	Section 5.12.5.3
City of El Segundo Noise Ordinance, Section 9.06.080(4)	Exempts construction activities from the noise ordinance, provided that construction does not take place between the hours of 6:00 p.m. and 7:00 a.m. Monday – Saturday or any time on Sunday or a federal holiday, and provided the noise level from such activities does not exceed the noise standard of 65 dBA plus the allowable limits by land use (5 dBA for residential, 8 dBA for industrial/ commercial).	Section 5.12.5.3
City of Manhattan Beach Noise Element, Page N-4	Establishes the Community Noise Ordinance as the most effective method to control noise impacts from non-transportation related noise sources.	N/A
City of Manhattan Beach Noise Element, Policy 3.2 (Non-Transportation Noise Impacts)	Requires that the potential for noise be considered when approving new development to reduce the possibility of adverse noise effects.	N/A
City of Manhattan Beach Noise Element, Policy 3.3 (Non-Transportation Noise Impacts)	Requires that noise generated by construction activities be evaluated to ensure compliance with the Community Noise Ordinance.	Section 5.12.5.3

TABLE 5.12-10

(CONTINUED)

LORS	Applicability	Conformance (Section)
City of Manhattan Beach Noise Ordinance, Chapter 5.48.160	Specifies exterior noise standards for residential land uses by time of day; 10:00 p.m. to 7:00 a.m., 45 dBA for noises having a duration of 30 minutes or more in any one-hour period. From 7:00 a.m. to 10:00 p.m., 50 dBA. If the ambient noise level exceeds the noise standards, the noise standard may be increased to reflect said ambient noise level. Also, if the location is on the boundary between two different land use classifications, the noise limit applicable to the more restrictive land use plus 5 decibels shall apply.	Section 5.12.5.3
City of Manhattan Beach Noise Ordinance, Chapter 5.48.060	Exempts noise from construction activities, provided said activities do not take place between the hours of 6:00 p.m. and 7:30 a.m. Monday through Friday, 6:00 p.m. and 9:00 a.m. Saturday, 4:00 p.m. and 10:00 a.m. Sunday or City-designated holidays.	Section 5.12.5.3

TABLE 5.12-10

(CONTINUED)

LORS	Applicability	Conformance (Section)
City of Los Angeles Draft L.A. California Environmental Quality Act (CEQA) Thresholds Guide.	A project is considered to have a significant impact if the project causes the ambient noise level measured at the property line of affected uses to increase by 3 dBA CNEL to or within the “normally unacceptable” category, or any 5 dBA or greater noise level increase. The applicable noise standards are 70 – 80 dBA CNEL for “conditionally acceptable”, and above 75 dBA CNEL for “normally unacceptable”.	Section 5.12.5.3

5.12.5.2 State of California

The California Department of Industrial Relations, Division of Occupational Safety and Health (Cal OSHA) (8 CCR, General Industrial Safety Orders, Article 105, Control of Noise Exposure, §5095) requires that all in-plant noise levels be limited to 85 dBA at three feet from equipment sources to protect worker safety. If areas of the plant exceed 85 dBA then all aspects of the hearing conservation program must be implemented by the employer.

There are likely to be areas within the plant with noise levels above 85 dBA, but none of them can be considered a normal stationary eight hour working station. Full-time operations and maintenance personnel will have only limited exposure to these high noise areas under most circumstances. In areas where 85 dBA is typically exceeded, signs will be posted requiring the use of hearing protection. Additionally hearing conservation programs must be implemented.

The State also requires local jurisdictions (CCR 65302F) to prepare General Plans which include Land Use and Noise Elements.

5.12.5.3 Local Noise Regulations

The project is governed by the City of El Segundo and City of Manhattan Beach Noise Ordinances. Project noise at the plant site boundaries must comply with the Noise Ordinance

guidelines established for residential and recreational land uses. Industrial land uses under the jurisdiction of the City of Los Angeles also exist to the north of the project site.

City of El Segundo.

Noise Element. The City of El Segundo is heavily affected by noise from nearby Los Angeles International Airport (LAX), as well as from local industrial operations and surface transportation (including freeways and rail traffic). Although some of these noise sources (such as LAX) are out of the City's direct control, the City's objective is to exert influence whenever possible to reduce noise levels at sensitive receptors. With regard to stationary noise sources, Objective N1-2 states: "It is the objective of the City of El Segundo to ensure that City residents are not exposed to stationary noise levels in excess of El Segundo's Noise Ordinance Standards". As such, Program N1-2.1C states: "The City shall strictly enforce the El Segundo Municipal Code's time-dependent noise standards for stationary sources. Two of the major sources which shall be closely monitored are industrial facilities and construction activities".

Noise Ordinance. The City of El Segundo's Noise Ordinance (Chapter 9.06, Noise and Vibration Regulations, El Segundo Municipal Code) limits noise from an individual source by restricting the amount to which that source increases the ambient noise level at any other property. The City's Noise Ordinance permits an increase of up to 5 decibels above the ambient level for residential land uses, and an increase of up to 8 decibels above the ambient noise level for industrial land uses (Section 9.06.040). No standard is listed for open space land uses. Because the beach area to the west of the project is designated as open space in the City of El Segundo's Zoning Map, City Planning personnel were consulted for guidance. City of El Segundo Planning personnel recommended that the same standard as that used for residential land use (an increase of up to 5 decibels above the ambient noise level) be used for open space. The Noise Ordinance states that if the location of concern is on the boundary between two different land use classifications (such as residential and industrial, for example), the noise limit applicable to the more restrictive land use shall apply.

Also of note is Section 9.06.060, "Loud, Unusual and Unnecessary Noises Prohibited". Section 9.06.060 prohibits the creation of any loud, unusual or unnecessary noise that disturbs the peace, quiet and comfort or annoyance to any reasonable person of normal sensitivity in the area. Thus, any device or piece of equipment producing noise that is highly tonal in nature or otherwise clearly distinct from the ambient noise environment could be considered as being in violation of the City's Noise Ordinance.

The Noise Ordinance exempts noise from construction activities, provided said activities do not take place between the hours of 6:00 p.m. and 7:00 a.m. Monday through Saturday, or

any time on Sunday or federal holidays, and provided that the noise from construction operations does not exceed 70 dBA at the residential property line.

City of Manhattan Beach. Like El Segundo, the City of Manhattan Beach relies upon its Noise Ordinance as the most effective method to control community noise impacts from non-transportation-related sources.

Noise Element. Used primarily for transportation-related noises, the Noise Element's Land Use Noise Compatibility Matrix (Table N-1) lists noise levels in terms of the 24-hour, weighted noise metric known as the Community Noise Equivalent Level (CNEL). For single family, duplex and multiple family land uses, Table N-1 lists 60 – 70 dBA CNEL as being normally compatible, while 70 – 75 dBA CNEL is considered normally incompatible.

Noise Ordinance. The City of Manhattan Beach's Noise Ordinance specifies exterior noise standards for residential land uses by time of day. From 10:00 p.m. to 7:00 a.m., the noise standard is 45 dBA for noises having a duration of 30 minutes or more in any one-hour period. From 7:00 a.m. to 10:00 p.m., the noise standard is 50 dBA. Because of the continuous nature of the project, the critical noise standard would be the nighttime standard of 45 dBA. However, the City's Noise Ordinance also states that in the event that the ambient noise level exceeds the noise standards, the noise standard may be increased to reflect said ambient noise level. The Noise Ordinance also states that if the location of concern is on the boundary between two different land use classifications (such as residential and industrial, for example), the noise limit applicable to the more restrictive land use plus 5 decibels shall apply.

The City of Manhattan Beach's Noise Ordinance exempts noise from construction activities, provided said activities do not take place between the hours of 6:00 p.m. and 7:30 a.m. Monday through Friday, 6:00 p.m. and 9:00 a.m. Saturday, 4:00 p.m. and 10:00 a.m. Sunday or City-designated holidays.

City of Los Angeles.

Draft Los Angeles California Environmental Quality Act (CEQA) Thresholds Guide. A project is considered to have a significant impact if the project causes the ambient noise level measured at the property line of affected uses to increase by 3 dBA CNEL to or within the "normally unacceptable" category, or any 5 dBA or greater noise level increase. Because the only nearby property within the jurisdiction of the City of Los Angeles consists of industrial land use (the Hyperion Sewage Treatment Plant and a power plant operated by the Department of Water and Power), the applicable noise standards are 70 – 80 dBA CNEL for "conditionally acceptable", and above 75 dBA CNEL for "normally unacceptable".

5.12.5.4 Agency Contacts

Agencies with jurisdiction to issue applicable permits and/or enforce LORS related to noise are shown in Table 5.12-11.

TABLE 5.12-11

AGENCY CONTACTS

Agency	Contact	Title	Telephone
City of El Segundo Planning & Building Division	Loran Hammond	Noise Control Officer	(310) 524-2312

5.12.5.5 Applicable Permits

The City's Noise Ordinance provides for "noise permits" to be granted to applicants for temporary exemptions to the limitations on activities including construction (Section 9.06.090, Permits) are shown in Table 5.12-12. Such permits are granted at the discretion of the City's Noise Control Officer and, if controversial, the City Council. Because a portion of construction activities is planned to take place beyond the normally exempted daily hours, a noise permit will be requested from the City's Noise Control Officer.

TABLE 5.12-12

APPLICABLE PERMITS

JURISDICTION	POTENTIAL PERMIT REQUIREMENTS
Federal	No federal permits are required
State	No state permits are required
Local	
City of El Segundo	Construction noise will have established hourly limits and mitigation requirements may be included.

5.12.6 **References**

Acentech Incorporated Databases, 1999.

Beranek, L.L. and I.L. Ver, eds. 1992. *Noise and Vibration Control Engineering*. John Wiley & Sons, Inc. New York, NY.

Black and Veatch. 2000. El Segundo AFC Project Description. October 13, 2000.

California Energy Commission. 1997. Rules of Practice and Procedure, Power Plant Site Certification Regulations.

City of El Segundo. ND. El Segundo Municipal Code, Title 9 – Peace, Safety, and Morals, Chapter 9.06, Noise and Vibration Regulations.

1992. El Segundo General Plan – 1992, Section 9, Noise Element.

City of Los Angeles, Department of City Planning. 1999. Noise Element. February 3, 1999.

1998. Draft L.A. CEQA Thresholds Guide. May 14, 1998

City of Manhattan Beach. 1996. City of Manhattan Beach Municipal Code, Chapter 5.48 Noise Regulations-General Provisions.

1988. Manhattan Beach General Plan, Noise Element.

DuBois, T.J. 1995. Southern California Edison and Acentech Consultants. Personal communication with R. Robey (Robey and Associates).

EEI. 1983. *Electric Power Plant Environmental Noise Guide*. 2nd Edition, Revised.

Harris, Cyril M. 1979. *Handbook of Noise Control*. 2nd Edition, McGraw-Hill, Inc. , New York.

U.S. Environmental Protection Agency (USEPA). 1971. *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*. (Prepared under contract by Bolt, et. al., Bolt, Beranek & Newman, Boston, MA). Washington, DC.

Adequacy Issue: Adequate _____ Inadequate _____

DATA ADEQUACY WORKSHEET

Revision No. _____ Date _____

Technical Area: **Noise** _____

Project: _____

Technical Staff: _____

Project Manager: _____

Docket: _____

Technical Senior: _____

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	Sections 5.12.2, 5.12.2.1, 5.12.2.2, 5.12.2.3, 5.12.2.4, 5.12.2.5		
Appendix B (g) (4) (A)	A land use map which identifies residences, hospitals, libraries, schools, places of worship, or other facilities where quiet is an important attribute of the environment within the area impacted by the proposed project. The area impacted by the proposed project is that area where there is a potential increase of 5 dB(A) or more, during either construction or operation, over existing background levels.	Figures 5.12-1, 5.9-1		

Adequacy Issue: Adequate _____ Inadequate _____

DATA ADEQUACY WORKSHEET

Revision No. _____ Date _____

Technical Area: **Noise** _____

Project: _____

Technical Staff: _____

Project Manager: _____

Docket: _____

Technical Senior: _____

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (4) (B)	A description of the ambient noise levels at those sites identified under subsection (g)(4)(A) which the applicant believes provide a representative characterization of the ambient noise levels in the project vicinity, and a discussion of the general atmospheric conditions, including temperature, humidity, and the presence of wind and rain at the time of the measurements. The existing noise levels shall be determined by taking noise measurements for a minimum of 25 consecutive hours at a minimum of one site. Other sites may be monitored for duration at the applicant's discretion during the same 25-hour period. The results of the noise level measurements shall be reported in L_{eq} (equivalent sound or noise level), L_{dn} (day-night sound or noise level) or CNEL (Community Noise Equivalent Level) in units of dB(A). The L_{10} , L_{50} , and L_{90} values (noise levels exceeded 10 percent, 50 percent, and 90 percent of the time, respectively) shall also be reported.	Section 5.12.1.2 Tables 5.12-1, 5.12-2, 5.12-3, 5.12-4		
Appendix B (g) (4) (C)	A description of the major noise sources of the project, including the range of noise levels and the tonal and frequency characteristics of the noise emitted.	Section 5.12.1.2 Tables 5.12-1, 5.12-2, 5.12-3, 5.12-4		
Appendix B (g) (4) (D)	An estimate of the project noise levels, during both construction and operation, at residences, hospitals, libraries, schools, places of worship or other facilities where quiet is an important attribute of the environment, within the area impacted by the proposed project.	Section 5.12.2 Tables 5.12-1, 5.12-2, 5.12-3, 5.12-4		

Adequacy Issue: Adequate _____ Inadequate _____

DATA ADEQUACY WORKSHEET

Revision No. _____ Date _____

Technical Area: **Noise**

Project: _____

Technical Staff: _____

Project Manager: _____

Docket: _____

Technical Senior: _____

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (4) (E)	An estimate of the project noise levels within the project site boundary during both construction and operation and the impact to the workers at the site due to the estimated noise levels.	Sections 5.12.2.1 and 5.12.2.3		
Appendix B (g) (4) (F)	The audible noise from existing switchyards and overhead transmission lines that would be affected by the project and estimates of the future audible noise levels that would result from existing and proposed switchyards and transmission lines. Noise levels shall be calculated at the property boundary for switchyards and at the edge of the rights-of-way for transmission lines.	Section 5.12.2.2		
Appendix B (h) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, and permits applicable to the proposed project, and a discussion of the applicability of each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed;	Sections 5.12.5.1, 5.12.5.2 and 5.12.5.3 Table 5.12-10		

Adequacy Issue: Adequate _____ Inadequate _____

DATA ADEQUACY WORKSHEET

Revision No. _____ Date _____

Technical Area: **Noise**

Project: _____

Technical Staff: _____

Project Manager: _____

Docket: _____

Technical Senior: _____

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (h) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.	Section 5.12.5.4 Table 5.12-11		
Appendix B (h) (2)	A discussion of the conformity of the project with the requirements listed in subsection (h)(1)(A).	Sections 5.12.2, 5.12.3, 5.12.4 and 5.12.5.1		
Appendix B (h) (3)	The name, title, phone number, and address, if known, of an official within each agency who will serve as a contact person for the agency.	Section 5.12.5.5 Table 5.12-11		
Appendix B (h) (4)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.	Section 5.12.5.5 Table 5.12-11		