Veneklasen Associates
Consultants in Acoustics & Audio-Visual Design

October 5, 2005

SOUTHERN CALIFORNIA EDISON COMPANY
2131 Walnut Grove Avenue
G.O. 3, 3rd Floor
Rosemead, California 91770

Attention: Mr. Habib Boruah

Subject: **Proposed Kimball Substation – Chino, California**
Pre-Construction Noise Survey
V. A. Project No. 14-168

RE: SCE Work Order 5176-5001

Dear Habib:

Attached please find the noise survey report for the proposed Kimball Substation project. The installation of 1 new NEMA 66/12 kV, 16.8/22.4/28 MVA NEMA -6 dB SCE standard transformer in the No. 1 bank position will maintain the transformer noise contributions in the area to below existing ambient noise conditions around the site and the noise guidelines of the City of Chino will be satisfied. No additional noise mitigation will be required at this time.

Please review the attached report. If you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

Veneklasen Associates, Inc.

Bob Robey

Bob Robey
Managing Principal

Attachments

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Kimball Substation

Pre-Construction Noise Survey

V.A. Project No. 14-168
SCE Project No. 5176-5001

Prepared for:

Southern California Edison Company
Rosemead, California 91770

By

Bob Robey
Managing Principal

Veneklasen Associates, Inc.
1711 Sixteenth Street
Santa Monica, California 90404

Kimball Substation

1.0 Introduction

On September 19 and 20, 2005, Veneklasen Associates, Inc. (VA) performed a daytime and nighttime pre-construction noise survey for the Southern California Edison Company's proposed Kimball Substation project. The daytime survey consisted of a set of noise measurements at the property lines of the substation site, and measurements at nearby noise sensitive receivers. The nighttime survey consisted of repeating all of the measurements made at the same locations. The data collected during the measurements has been used in evaluating the substation's operations and its impact to the existing ambient conditions. The project consists of constructing the basic substation and installing one new 66/12 kV, 16.8/22.4/28 MVA NEMA -6 dB SCE standard transformer located at the No. 1 south bank position.

2.0 Summary

The existing background ambient noise levels were measured and physical observations were conducted at the proposed site locations for the Kimball substation. The potential sensitive receptor locations were noted and the potential noise impact levels were calculated for the proposed substation operating noise levels. The proposed substation will contain one (1) 66/12KV, 16.8/22.4/28 MVA, SCE standard NEMA-6dB transformer to be located in the No. 1 south bank position and all noise level impact calculations were completed based upon that project description.

The projected operating equipment noise levels indicate that the transformer noise contribution will be at least 10 dBA below the existing background ambient noise levels, at all existing receptor locations, so the existing conditions will be unaffected and the City of Chino Noise Ordinance Standards will be met. No additional noise mitigation will be required for the proposed project at this time.

3.0 Substation Site

The proposed Kimball Substation site is located to the southeast corner of Chino Airport on Kimball Avenue, within the City of Chino, California. There are two alternative sites (Site 3 and Site 2B) located off Kimball Avenue to the east of the primary site (Site 5C), but both of the alternative sites are located within current dairy areas and were not specifically accessible. The primary site (5C) is located on an existing residential property north of Kimball Avenue and adjacent to the southeast corner of the Chino airport, and a future road called Walker Avenue. It is approximately one and one-half (1 ½) miles east of Euclid Avenue, which is a major north/south roadway.

The general area around the proposed substation site is currently being utilized for dairy and milk production, but the area south of Kimball Avenue is being developed as a very large residential area. Currently the project is in the grading/earthmoving phase, but will contain residential units in the near future. The Chino Airport has active aircraft operations during the daylight hours, with aircraft take-off and landing activities taking place on a frequent basis. During the nighttime hours no aircraft operations were observed.

Figure 1 shows the primary site location and the relative position of the proposed transformer. Also shown is the existing land use around the site and the identified noise receptors utilized in this analysis.

4.0 Noise Sources

The observations and noise measurements at the site location indicate that the major noise sources controlling the daytime ambient background noise levels are the aircraft operations at Chino Airport and construction activities south of Kimball Avenue. Light traffic on Kimball Avenue during the daytime and evening hours adds to the mix of other noise sources. As the residential area is developed and occupied within the coming months and years the additional traffic noise generated by the increase of the local population will greatly increase the background ambient noise level of the area during both the daytime and nighttime hours due to much higher traffic flow conditions. Currently the nighttime and early morning background ambient is being controlled by the dairy animals and dairy activities, insect noise, and an HVAC system located on a block building on the airport property in the southeast corner adjacent to the primary site location (5C).

The proposed project will install one (1) 66/12KV, 16.8/22.4/28 MVA SCE standard NEMA – 6dB transformer in the number 1 south bank position. The assumed noise level for this transformer is 64/65/66 dBA at one meter for the fans off/fans on operation. Field testing on these SCE standard transformers, of this power rating, have indicated generally noise levels that are lower than those referenced, but the referenced levels are the maximum allowable within the SCE procurement specifications.

5.0 Noise Measurements

The proposed substation site locations are either not accessible or are occupied by others so all noise measurements were conducted manually during the daytime and nighttime/early morning hours while observing what events were taking place causing changes in the background ambient noise level. Several locations were measured and observed, but as determined two locations represented the entire area, since there is no particular noise source at any one of the three proposed locations. The measurement locations are shown on Figure 1 and listed in Table 2 of this Report. The noise measurements were conducted during the daytime/evening hours of September 20 and the late night/early morning hours of September 21, 2005.

All noise levels were measured with a Type 1 sound level meter. The list of noise measurement instrumentation is presented in Table 1. All A-weighted noise measurements re reported in dB re $2x10^{-5}$ N/M^2, and are referenced to L_{50} or average noise level. The sound level meter was calibrated both prior to and after the measurements were made. Provide in Table 2 are the measured noise levels at the property lines of the substation and the received locations as well as the calculated proposed transformer noise levels at the nearest sensitive noise receivers.

The weather conditions during the measurements were as follows:

Daytime:	87° f, 41% R.H. and wind of 0 to 2 mph from the southwest
Nighttime:	68° f, 97% R.H. and no wind, cloudy skies, light rain

6.0 Noise Standards

The City of Chino has a codified noise ordinance which provides noise compliance standards for residential property. These applicable standards are to be applied at the receiver location and are contained within Title 9, Chapter 9 of the local code. Their guidelines indicate that a noise level

limit of 55 dBA daytime (7 a.m. to 10 p.m.) and 50 dBA nighttime (10 p.m. to 7 a.m.) are to be utilized for guidance for residential property. These limits can be adjusted based upon the measured ambient conditions, if applicable, and would also apply a 5 dBA penalty if an alleged noise source contains impulse or simple tone noises or contains speech or music. Since the proposed transformer is a low noise unit, the audible tones normally emitted by these types of noise sources are at a very low level, and are not expected to be measurable or audible at the nearest identified residential property, therefore the reduction of the noise standard will not apply. The applicable noise guideline is shown in Table 2 of this report for reference, at residential properties only, with no adjustment for measured ambient conditions.

7.0 Results of Noise Measurements and Analysis

The ambient noise level measurements and physical observations indicate that the existing conditions during the daytime and nighttime hours are the result of two completely different sets of noise sources, but are consistent within the general area of the primary and the two alternate sites selected for the proposed Kimball Substation. The future ambient noise conditions will drastically change in the area when the resident area is occupied and future roads are added as indicated on street maps of the area. Current noise level measurements in the area indicate that the existing ambient noise levels support the stated guidelines in the City noise ordinance, although this may change in the future, these standards were utilized to evaluate this proposed project for compliance and impact.

The proposed substation plot plan will be utilized for any site being considered with changes in the orientation of the equipment, but the numbered locations assigned for calculated transformer noise contributions will remain the same, only the receiver locations will change if any other site, besides the primary site, is utilized for the project. The calculated transformer noise contributions at the nearest residential receiver location is specific to the primary site (5C) and is an estimated distance to location R-2 since it is unknown where and how the residential development will be constructed, but the nearest location is assumed. The results of the ambient noise measurements and calculated equipment contribution are shown in Table 2 which indicates that the proposed substation noise contributions will be below the measure existing ambient noise conditions, so no negative impact will occur for the proposed station operations and the City of Chino noise guidelines will be met.

8.0 Conclusions and Recommendations

The results of the noise measurements and analysis for the installation of the proposed Kimball Substation and the No.1 south bank transformer utilizing an SCE standard NEMA -6 dB, 66/12 kV, 16.8/22.4/28 MVA transformer will not impact the existing ambient noise levels at the proposed substation site or at any existing residential receiver location and will comply with the City of Chino noise ordinance guidelines.

It is recommended to install a SCE standard NEMA -6 dB, 66/12 kV, 16.8/22.4/28 MVA transformer in the No. 1 south bank position of the proposed Kimball Substation, and any site location is acceptable, based upon the existing conditions in the general area. Any future expansion of the station equipment should be reviewed and the area and project should be subject to a noise study to determine the existing conditions in the future and changes from this study period and compliance with the existing noise guidelines in effect at the time.

Table 1

List of Equipment		
Manufacturer	**Instrument**	**Model Number**
B&K	Sound Level Meter	2230/2231
B&K	Calibrator	4230
B&K	½" Microphone	4189/4165

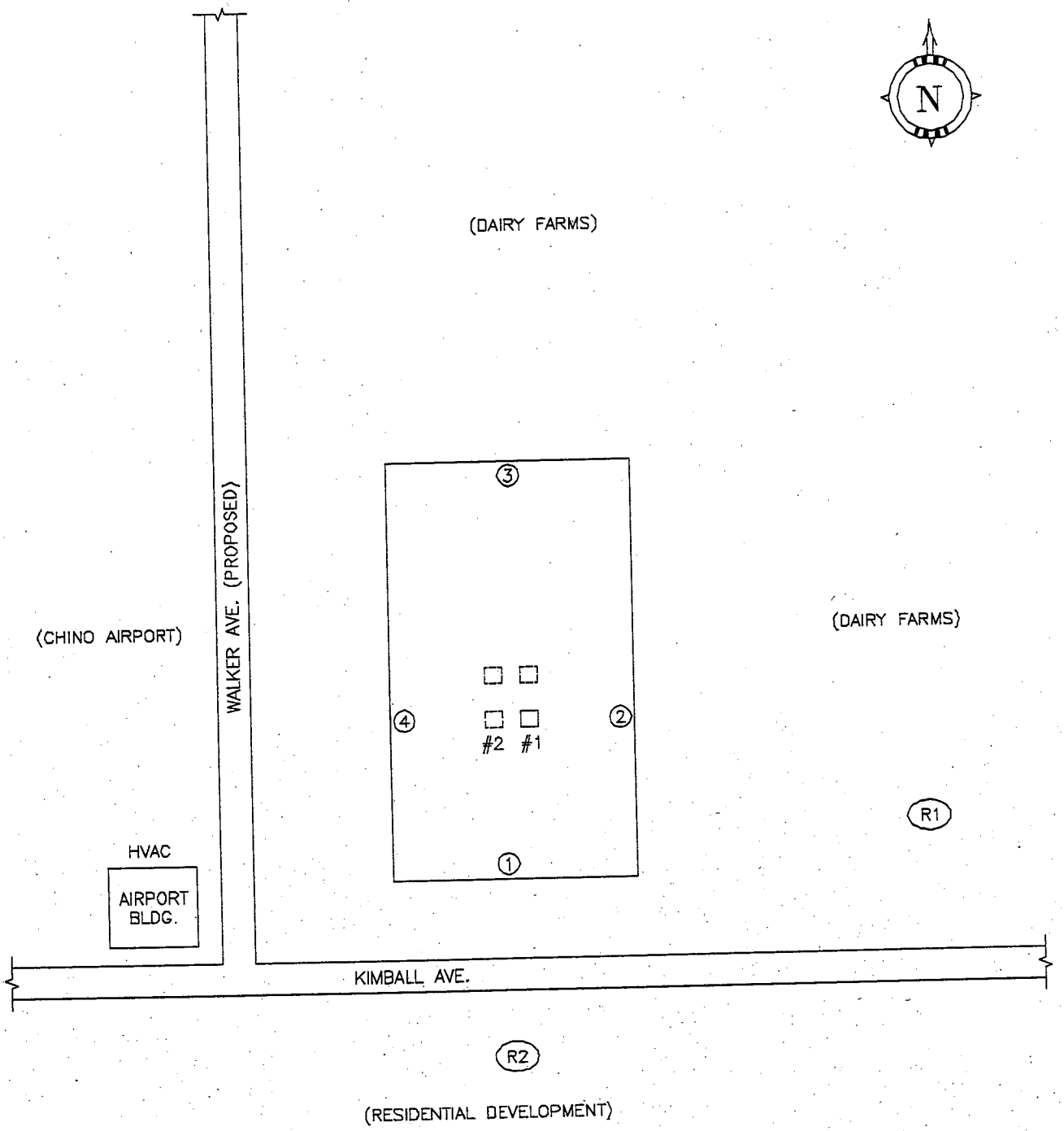
Table 2

Kimball Substation (Site 5C specific)

Measurement Location	Existing Condition Measured (2)		Transformer Contribution Only Calculated	City of Chino Noise Ordinance Guidelines	
	Day	Night	Proposed (3) OA / FA	Day	Night
1	54.3	41.6	31 / 33	N/A	N/A
2	48.4	41.6	33 / 35	N/A	N/A
3	48.4	41.6	29 / 31	N/A	N/A
4	48.4	41.6	29 / 31	N/A	N/A
R	48.4	41.6	25 / 27	55	50
R-2	48.4	41.6	22 / 24	55	50

Notes:

1. All sound levels are reported in dBA re $2x10^{-5}$ N/M^2.
2. All sound levels are referenced to the L_{50} statistical noise level.
3. It is assumed that the new transformer will be a NEMA -6 dB standard noise level rated transformer.
4. Transformer noise contribution is calculated based upon the best available information supplied by SCE.
5. OA: No fans FA: Fans operating



Kimball Substation

Veneklasen Associates Consultants in Acoustics & Audio Visual Systems 1711 Sixteenth Street, Santa Monica, CA 90404 · (310) 450-1733	SEPTEMBER 2005	FIGURE 1	#14-168