

APPENDIX K

Corona Noise Technical Memorandum

TECHNICAL MEMORANDUM

TO: Rita Wilke
Panorama Environmental Inc.

FROM: Paul Miller and Dan Jones
RCH Group

DATE: July 11, 2017

SUBJECT: Corona Noise Measurements -- Riverside Transmission Reliability Project

Corona Noise Measurements

RCH Group (RCH) conducted noise measurements underneath an existing SCE 230 kV transmission line in Chino Hills, CA. The noise measurement location is shown in **Figure 1** (the white vertical line depicts the transmission line). The noise measurement was conducted on a hilltop accessed via a dirt road off of Park Crest Drive.

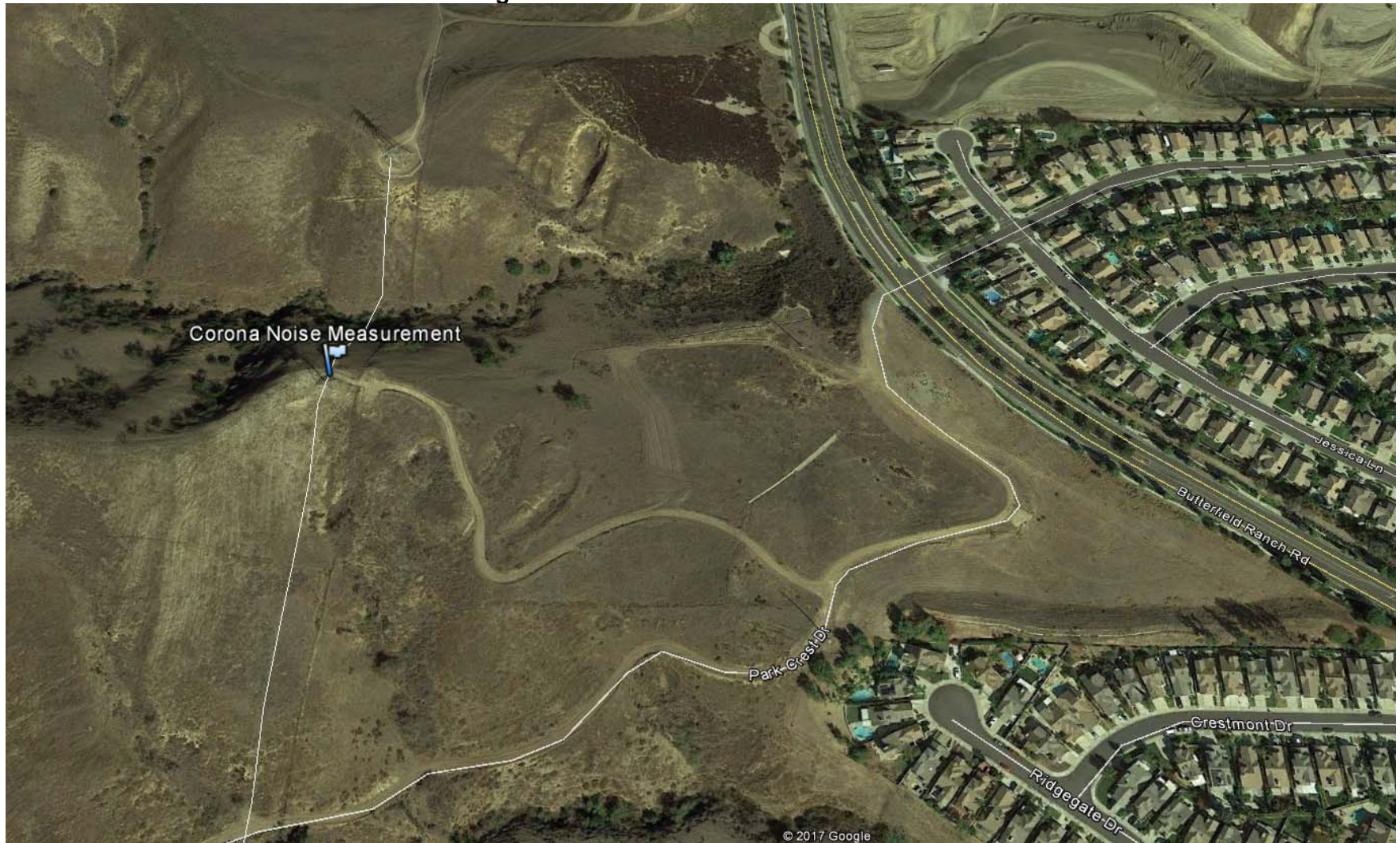
Noise measurements were conducted using a Larson Davis LxT1 (serial #4715) noise meter, calibrated before and after the measurement. Noise measurements were conducted from approximately 6:27 p.m. to 6:37 p.m. on Thursday July 6, 2017. The temperature was 88°F and the humidity was 38%. Wind speeds were intermittent, reaching approximately ten miles per hour at times.

Corona noise was not audible while RCH was present. During a calm period with no winds the L_{min} reached 37.8 dB. Even with no wind affecting background noise levels RCH was unable to hear any corona noise. RCH estimates they were approximately 50 feet directly below the transmission line and approximately 10 feet away from the transmission tower. The noise measurement field data sheet is attached.

Conclusion

Corona noise was not audible underneath the 230kV transmission line (approximately 50 feet above the noise meter). It is unlikely residences would hear corona noise from the proposed 230 kV line at a distance of 50 feet.

Figure 1: Noise Measurement Location



Observers: Paul Miller
Dan Jones

Field Noise Measurement Data Form

Project Name: CPUC Riverside RTRP		Date: 7/6/17	Record: 1 of 1
Location		Weather Data	
Monitoring ID:	Location Description: (cross streets/address) Dirt road off Park Crest Drive	Wind: Steady / <u>Gusty</u> / <u>Calm</u> intermittent gusts (~10mph)	Precipitation: <u>No</u> / Yes Type:
Topography and Terrain: on top of hill / vegetation	GPS Coordinates:	Average Wind Speed:	Temperature: 88°F
			Humidity: 38%
		Other Weather Notes: partly cloudy	
Sound Level Meter		Field Calibration	
Model #: Larson Davis LXT 1	Serial #: 4715	Model #: Larson Davis CAL200	Serial #: 11081
Weighting: <u>A</u> / C / Flat	Response: <u>Slow</u> / Fast / Impl	Calibration Level (dBA): 114	Pre-Test: 114 dBA
Windscreen: <u>Yes</u> / No (explain)		Post-Test: 114 dBA	

ID	Start Time	Stop Time	Leq (2-min.)	Lmin	Lmax	L0290	L50	Notes/Events
1	19:27:03	19:28:03	40.2	38.4	42.6	39.3	40.2	distant traffic noise
2	19:28:03	19:29:03	39.8	38.4	41.6	38.8	39.6	wind event >41dB
3	19:29:03	19:30:03	39.8	38.3	41.6	38.9	39.7	wind event >43dB
4	19:30:03	19:31:03	41.1	39.9	43.4	40.1	40.7	distant traffic/helicopter
5	19:31:03	19:32:03	41.7	38.6	44.6	39.2	41.5	loud truck on Butterfield ~45dB
6	19:32:03	19:33:03	40.6	38.8	43.0	39.2	40.2	distant traffic noise
7	19:33:03	19:34:03	39.5	37.8	40.8	38.6	39.5	distant traffic noise
8	19:34:03	19:35:03	40.8	39.2	42.5	39.9	40.7	loud motorcycle on Butterfield ~43dB
9	19:35:03	19:36:03	40.9	40.0	42.0	40.3	40.8	wind event >41dB
10	19:36:03	19:37:03	40.5	39.9	42.8	39.3	40.4	distant traffic noise



Noise Sources:
Distant traffic
Wind/moving vegetation
Birds and insects

Additional Notes:

- Directly under 230KV line ~ 10 feet from tower
- No corona noise was heard, was not audible
- Intermittent winds were the most prominent noise source

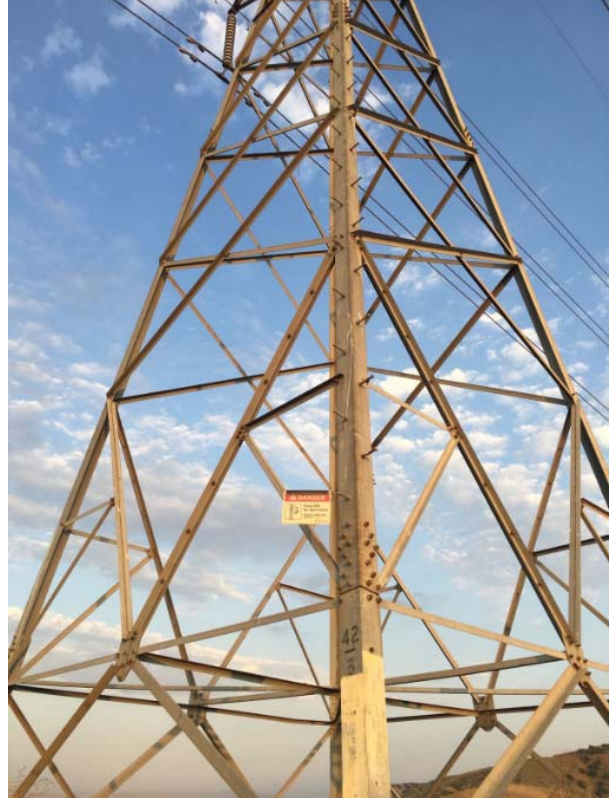
Corona Noise Measurements – Site Visit Photos



View from the west of the corona noise measurement location (facing east)



View from the south of the corona noise measurement location (facing north)



Views from underneath the transmission line at the corona noise measurement location