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November 8, 2006

338307

Dr. James Reede  
1516 Ninth Street  
Sacramento, CA 95814-5512

RE: Data Response, Set 1A  
Vernon Power Project (06-AFC-4)

On behalf of the City of Vernon, please find attached 12 copies and one original of the Data Responses, Set 1A, in response to Staff's Data Requests dated October 6, 2006. We are also filing copies of this Data Response electronically.

Included in this submittal are 5 CD-ROMs with meteorological data files per Data Request numbers 11 and 12.

Please call me if you have any questions.

Sincerely,

CH2M HILL

A handwritten signature in blue ink that reads "John L. Carrier".

John L. Carrier, J.D.  
Program Manager

c: Project File  
Proof of Service List

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**VERNON POWER PLANT  
(06-AFC-4)**

**DATA RESPONSE, SET 1A**

Submitted by  
**City of Vernon**

November 8, 2006



2485 Natomas Park Drive, Suite 600  
Sacramento, California 95833-2937

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# VERNON POWER PLANT (06-AFC-4) DATA RESPONSES, SET 1

**Technical Area: Air Quality**  
**CEC Authors: Joe Loyer**

## **BACKGROUND: EMISSION REDUCTION CREDITS AND OFFSETS**

The City of Vernon (Vernon) proposes three possible mitigation strategies. Staff believes that each strategy raises several timing and implementation issues. First, for Carbon Monoxide (CO) only, Vernon notes that if the District is re-designated as attainment of the federal CO standards by the U.S. Environmental Protection Agency (USEPA), the District would not require CO offsets. Currently, the USEPA expects the re-designation process to be completed in late December of 2006. However, federal re-designation can be a multi-year process and still might not occur in the time frame of this licensing proceeding. Second for CO, Volatile Organic Compounds (VOC), Sulfur Dioxide (SO<sub>2</sub>), and Particulate Matter (PM<sub>10</sub>), Vernon proposes to purchase Emissions Reduction Credits (ERCs) on the open market, where they are in short supply. Third, Vernon identified the Priority Reserve as an option for credits, whereas staff is uncertain of the preceding steps that Vernon has taken before selecting the Reserve as a mitigation strategy.

The AFC does not provide documentation that sufficient CO, VOC, SO<sub>2</sub> or PM<sub>10</sub> ERCs have been secured, either through option contracts or outright ownership, or that the applicant has made a good faith effort to first purchase ERCs through the existing market system as required for the Priority Reserve program. For staff to complete its analysis and to present testimony that the project is fully mitigated, evidence needs to be provided by the applicant that credits have been secured.

## **DATA REQUEST**

1. Please identify any CO, VOC, SO<sub>2</sub> or PM<sub>10</sub> ERCs owned by the applicant that the District will require to be surrendered as a condition for participation in the Priority Reserve. Please include the ERC number, the pollutant type and amount in pounds per day, and ERC source location.

**Response:** A summary of the emission offset credits (carbon monoxide, CO; particulate matter of diameter less than or equal to 10 microns, PM<sub>10</sub>; oxides of sulfur, SO<sub>x</sub>; and volatile organic compounds, VOC) required for the VPP is provided in Table AQ1-1.

# VERNON POWER PLANT (06-AFC-4) DATA RESPONSES, SET 1

TABLE AQ1-1  
Emission Offset Requirements for the Vernon Power Plant

Pollutant	Emission Offset Requirements, lb/day
Carbon Monoxide (CO)	1,404
Particulate Matter (PM10)	909
Oxides of Sulfur (SOx)	108
Volatile Organic Compounds (VOC)	396

City has already procured all the required VOC emission reduction credits (396 lb/day) from the open market. City has also procured 3 lb/day of CO emission reduction credits from the open market. City of Vernon has already provided the details, including certificate numbers and locations, of all the CO and 389 lb/day of VOC emission reduction credits procured from the open market to the CEC in the Data Adequacy Supplement B (September 8, 2006).

2. If the applicant is unable to adequately respond to Data Request 1 above, please provide a status report starting November 1, 2006 and continuing monthly until the report identifies option contracts and/or evidence of acquisition of ERCs for the CO, VOC, SO<sub>2</sub> and PM<sub>10</sub> liability of the project. This status report should be submitted monthly until the start of evidentiary hearings. The report should be specific to each pollutant and provide new information and update information from previous monthly status reports as appropriate. The reports should include:
  - a. contact names and telephone numbers;
  - b. company or source names;
  - c. pollutant credit types and amounts in lbs/day;
  - d. ERC certificate numbers;
  - e. the methods of emission reductions (e.g., shutdown, reduction of hours of operation, emission controls, etc.);
  - f. the status of ERC or option negotiations;
  - g. the location of the emission reduction credits.

**Response:** The information provided above in response to Data Request 1 is based on the status of emission reduction credits procured as of October 31, 2006 for the Vernon Power Plant. The City does not yet have the requested information for the last 7 lbs/day of VOC ERCs acquired from the open market. The City will provide the details of these ERCs in the next monthly status report to CEC.

# VERNON POWER PLANT (06-AFC-4) DATA RESPONSES, SET 1

## BACKGROUND: FINE PARTICULATE MATTER (PM<sub>2.5</sub>)

The applicant has not provided any discussion about mitigation of the facility's PM<sub>2.5</sub> impacts (generally 100 percent of natural gas combustion particulate matter is PM<sub>2.5</sub>) on the local and regional air quality. Because the District does not have an offset requirement for PM<sub>2.5</sub>, staff is concerned that the current or revised Priority Reserve program and PM<sub>10</sub> ERC program will not be able to specifically provide PM<sub>2.5</sub> emission reductions, thereby making it difficult to conclude that the project's PM<sub>2.5</sub> liability is mitigated.

## DATA REQUEST

3. Please provide proposal(s) to mitigate the facility's potentially significant PM<sub>2.5</sub> impacts.

**Response:** As pointed out in the data request, while there are now ambient air quality standards for PM<sub>2.5</sub>, there are no requirements under the federal, state or local air quality regulations to offset emissions of PM<sub>2.5</sub>. However, as discussed below, the PM<sub>10</sub> emission offsets that will be provided will also fully mitigate PM<sub>2.5</sub> emissions.

As described on page 8.1-59 of the AFC, the project proposes to obtain allocations from the SCAQMD's Priority Reserve to satisfy its PM<sub>10</sub> emission offset obligation. This pool of offsets was established with the June 1990 amendments to the SCAQMD Regulation XIII, its New Source Review regulation. This pool of offsets and a defined rate for future funding of the credit pool was developed to ensure that sufficient offsets would be available for innovative technology projects, research operations and essential public service projects, such as schools, hospitals, sewage treatments plants, landfills, etc. The SCAQMD has funded the Priority Reserve pool with stationary source emission reductions from its New Source Account, including "orphan shutdown credits."

Recognizing that there is a significant need to increase energy production to avoid the type of energy crisis that California experienced in 2000-2001, the SCAQMD has provided temporary access to offsets from the Priority Reserve for Electric Generating Facilities (EGF). This temporary access was made possible through amendments to SCAQMD Rule 1309.1 adopted on September 8, 2006. To qualify for access to Priority Reserve offsets, an Electric Generating Facility (EGF) must meet certain requirements and obtain Priority Reserve offsets at a ratio of 1.2 to 1.

Since Priority Reserve offsets are derived from stationary source emission reductions, the fraction of PM<sub>2.5</sub> in PM<sub>10</sub> offsets from the Priority Reserve will be reflective of traditional and existing stationary source emissions. Both the SCAQMD and CARB have published South Coast Air Basin emission inventories that have identified both PM<sub>10</sub> and the subset PM<sub>2.5</sub> emissions for stationary, area, and mobile sources. The most current published emission inventory information is contained in the California Almanac of Emissions and Air Quality, 2006 Edition. Using source-

# VERNON POWER PLANT (06-AFC-4) DATA RESPONSES, SET 1

specific PM speciation profiles, CARB has developed PM<sub>10</sub>/PM<sub>2.5</sub> emission inventories that cover the period from 1975 through 2020. Speciation data for the period from 1990 through 2005 have been excerpted from the Almanac, because these data should more accurately reflect emission reductions that the District accumulated for the Priority Reserve pool of offsets. A summary of these speciated data is presented in the following table, which shows that directly emitted PM<sub>2.5</sub> emissions, over the period from 1990 to 2005, constituted 79.7 to 85.7 percent of stationary source PM<sub>10</sub> emissions. Thus, it is reasonable to assume that the PM<sub>2.5</sub> fraction of PM<sub>10</sub> Priority Reserve offsets that would be used to offset emissions from proposed VPP would be approximately 80 percent.

TABLE AQ3-1  
South Coast Air Basin – Directly Emitted PM<sub>10</sub>/PM<sub>2.5</sub> Stationary Source Emissions (tons/day, annual average)

Summary Category Name	1990		1995		2000		2005	
	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Fuel Combustion	12.163	12.003	7.940	7.833	7.710	7.599	6.320	6.253
Waste Disposal	0.433	0.403	0.281	0.263	0.370	0.311	0.444	0.420
Cleaning and Surface Coating	0.728	0.701	0.048	0.046	0.135	0.130	0.535	0.407
Petroleum Production and Marketing	2.578	2.354	2.048	1.871	1.279	0.951	1.109	0.895
Industrial Processes	11.173	7.736	8.380	5.122	8.259	5.560	7.318	4.552
Total Stationary Sources	27.075	23.198	18.698	15.136	17.753	14.550	15.726	12.527
PM2.5 Percent		85.7		80.9		82.0		79.7

Source: California Air Resources Board, The California Almanac of Emissions and Air Quality—2006 Edition

Based upon the PM<sub>10</sub>/PM<sub>2.5</sub> fraction provided by the Priority Reserve offsets and the required offset ratio of 1.2 to 1, the PM<sub>10</sub> offsets proposed to be used for the VPP will adequately mitigate PM<sub>2.5</sub> impacts from the project.

4. Please investigate and report on the potential for local particulate matter emission reductions and mitigation measures.

**Response:** See Data Response #3.

## BACKGROUND: VOLATILE ORGANIC COMPOUNDS

The applicant has provided a significant number of the VOC Emission Reduction Credits; however, a portion of the credits have not been secured to date. Those ERCs will have to be secured prior to the District issuing its Final Determination of Compliance.

**VERNON POWER PLANT  
(06-AFC-4)  
DATA RESPONSES, SET 1**

**DATA REQUEST**

5. Please provide the ERC certificate numbers and the appropriate documentation available from the District that indicates where these emission reductions were located. Please update staff as to the status of securing the VOC ERCs as part of the monthly status report discussed in Data Request 2.

**Response:** See Data Responses #1 and #2.

**BACKGROUND: NITROGEN OXIDES**

The applicant proposes to rely on the District's nitrogen oxides (NOx) RECLAIM program to acquire emission reduction credits to mitigate the project NOx emission impacts.

6. Please provide a list of NOx RECLAIM trading credits (RTCs) that the applicant owns or has under option contract. Please update staff as to the status of securing the NOx RTCs as part of the monthly status report discussed in Data Request 2.

**Response:** The Vernon Power Plant will be subject to South Coast Air Quality Management District's RECLAIM Program. It is estimated that 295,157 lbs of NOx RTCs will be required for the first year of operation of the Vernon Power Plant. City has already procured 260,050 lbs of NOx RTCs from the open market. Thus, City has to procure only an additional 35,107 lbs of NOx RTCs. City expects to procure all the remaining NOx RTCs well in advance of the start of the initial commissioning phase of the VPP.

A list of NOx RTC Registration Numbers for the NOx RTCs owned by the City is provided in Table AQ6-1.

TABLE AQ6-1  
Registration Numbers of NOx RTCs Procured by the City of Vernon

Quantity of NOx RTC	RTC Registration Number
12,000	8137
2661	8145
31,696	8232
27,621	8314
1,925	8315
4,147	8340
50,000	8470
40,000	8547
90,000	8623
<b>Total NOx RTC Procured</b>	<b>260,050</b>

**VERNON POWER PLANT  
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DATA RESPONSES, SET 1**

**BACKGROUND: NATURAL GAS SULFUR CONTENT**

The AFC indicate that the facility will use natural gas with a maximum sulfur content of 0.35 grains per 100 standard cubic feet (gr/100scf). Staff has seen in previous siting cases that the delivered natural gas can contain as much as 1gr sulfur/100scf. If higher sulfur content natural gas fuel is used at the facility, SO<sub>x</sub> and PM emissions may be underestimated.

**DATA REQUEST**

7. Please provide specific documentation from Southern California Gas Company that the sulfur content of supplied natural gas will not be above 0.35 gr/100scf.

**Response:** The VPP project will use pipeline-quality natural gas supplied by the Southern California Gas Company (SoCal Gas). The quality of natural gas is defined in SoCal Gas Rule No. 30-Transportation of Customer-Owned Gas<sup>1</sup>. Rule No. 30, Section I-Gas Quality limits total fuel sulfur to no more than 0.75 grains/100 scf. Based on fuel composition data for 2005 through July 2006 (presented in Attachment AQ-7), fuel sulfur content of natural gas delivered to the project area averages 0.093 grains per 100 scf, with the maximum measured fuel sulfur content of 0.132 grains per 100 scf. The average fuel sulfur content is approximately 37.2 percent of the fuel sulfur content assumed for the project; with the maximum fuel sulfur content measured being approximately 53 percent. Based upon these factors, emissions of SO<sub>x</sub> and PM discussed in the AFC are not underestimated.

8. Please provide the steps the applicant would take to ensure that natural gas that has higher than 0.35 gr/100scf of sulfur will not be used at the facility.

**Response:** The City of Vernon is committed to using clean burning natural gas, which has been shown to be extremely low in total sulfur content. Because the natural gas is provided by a Public Utilities Commission regulated utility (SoCal Gas), the City will rely upon SoCal Gas to ensure that the natural gas supplied to the project is the highest quality, resulting in the lowest possible fuel sulfur content. The City will obtain and evaluate periodically data on sulfur content in the natural gas from SoCal Gas.

Pursuant to the New Source Performance Standard (NSPS) Subpart KKKK (new turbines greater than or equal to 1 MW and constructed after February 18, 2005) section 60.4365, the VPP turbines would not need to monitor (sample and analyze) fuel for sulfur content because the project is supplied with natural gas under a valid transportation tariff (SoCal Gas Rule 30).

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<sup>1</sup> <http://www.socalgas.com/regulatory/tariffs/tm2/pdf/30.pdf>

## ATTACHMENT AQ-7

SOUTHERN CALIFORNIA GAS COMPANY

FOR INFORMATION PURPOSES ONLY, NOT FOR PUBLICATION

From 01/05 to 12/05 (grains S/100 cf)

Out of State Suppliers Location	H <sub>2</sub> S			RSH			Total Sulfur*		
	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
NN	0.002	0.088	0.013	0.001	0.085	0.007	0.048	0.173	0.100
B1	0.000	0.018	0.007	0.027	0.115	0.060	0.042	0.131	0.067
B2	0.000	0.018	0.005	0.030	0.130	0.064	0.046	0.145	0.069
SN	0.000	0.024	0.007	0.047	0.214	0.084	0.047	0.236	0.092
WR/KM	0.017	0.090	0.046	0.030	0.146	0.082	0.049	0.237	0.128
KJ	0.016	0.143	0.032	0.013	0.179	0.031	0.049	0.322	0.090
							0.047	0.207	0.091

From 01/05 to 12/05 (ppmv S)

Out of State Suppliers Location	H <sub>2</sub> S			RSH			Total Sulfur*		
	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
NN	0.03	1.49	0.22	0.02	1.44	0.13	0.81	2.92	1.69
B1	0.00	0.30	0.11	0.46	1.94	1.01	0.71	2.21	1.12
B2	0.00	0.30	0.08	0.50	2.19	1.08	0.77	2.44	1.16
SN	0.00	0.40	0.13	0.79	3.62	1.42	0.79	3.98	1.54
WR/KM	0.29	1.52	0.77	0.50	2.47	1.39	0.83	3.99	2.16
KJ	0.27	2.41	0.54	0.22	3.02	0.52	0.83	5.43	1.51

Assuming 16.9 ppm = 1 grains S/Ccf

\* Includes estimated supplemental odorant based on border guidelines of 50/50 t-butyl mercaptan/thiophane

\*\* SoCalGas Specifications allow up to 0.25 gr.H<sub>2</sub>S/100scf and 0.75 gr. S/100scf Total Sulfur

The enclosed is provided for information purposes only. The Gas Company has made reasonable efforts to ensure all information is correct and consistent with the applicable Tariffs. To the extent there is any conflict with the Tariffs, the Tariffs shall govern in all cases. In addition, neither The Gas Company's publication nor verbal representations thereof constitutes any statement, recommendation, endorsement, approval or guaranty (either express or implied) of any product or service. Moreover, The Gas Company shall not be responsible for errors or omissions in this publication, for claims or damages relating to the use thereof, even if it has been advised of the possibility of such damages.

## ATTACHMENT AQ-7

SOUTHERN CALIFORNIA GAS COMPANY

FOR INFORMATION PURPOSES ONLY, NOT FOR PUBLICATION

*From 01/06 to 07/06* (grains S/100 cf)

Out of State Suppliers Location	H <sub>2</sub> S			RSH			Total Sulfur*		
	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
NN	0.001	0.084	0.009	0.001	0.146	0.006	0.070	0.230	0.106
B1	0.008	0.020	0.012	0.042	0.088	0.057	0.051	0.108	0.068
B2	0.008	0.019	0.011	0.050	0.096	0.066	0.059	0.114	0.077
SN	0.003	0.019	0.009	0.049	0.133	0.082	0.054	0.152	0.092
WR/KM	0.002	0.142	0.064	0.005	0.161	0.057	0.038	0.292	0.132
KJ	0.015	0.065	0.031	0.007	0.057	0.014	0.083	0.120	0.097
									0.095

*From 01/06 to 07/06* (ppmv S)

Out of State Suppliers Location	H <sub>2</sub> S			RSH			Total Sulfur*		
	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
NN	0.02	1.42	0.15	0.02	2.46	0.10	1.18	3.88	1.78
B1	0.14	0.34	0.19	0.72	1.48	0.96	0.86	1.82	1.15
B2	0.13	0.31	0.19	0.84	1.62	1.11	0.99	1.92	1.31
SN	0.04	0.31	0.16	0.83	2.25	1.39	0.91	2.56	1.55
WR/KM	0.04	2.39	1.08	0.08	2.71	0.96	0.64	4.92	2.22
KJ	0.25	1.10	0.51	0.12	0.96	0.24	1.39	2.02	1.63

Assuming 16.9 ppm = 1 grains S/Ccf

\* Includes estimated supplemental odorant based on border guidelines of 50/50 t-butyl mercaptan/thiophane

\*\* SoCalGas Specifications allow up to 0.25 gr.H<sub>2</sub>S/100scf and 0.75 gr. S/100scf Total Sulfur

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**VERNON POWER PLANT  
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DATA RESPONSES, SET 1**

9. Please provide the method for ensuring continuous compliance with the sulfur content limits specified for the supplied natural gas fuel.

**Response:** The City will obtain and evaluate periodically (annually) data on sulfur content in the natural gas from the Southern California Gas Company.

**BACKGROUND: CUMULATIVE ASSESSMENT**

The applicant indicates on page 8.1-63 in the AFC that the required cumulative assessment will be completed and submitted in August of 2006.

**DATA REQUEST**

10. Please provide the cumulative assessment.

**Response:** Vernon is working with CEC Staff to determine the list of sources appropriate for inclusion in the cumulative assessment. Assuming we get that information soon, we will provide the cumulative assessment by mid-December 2006.

**BACKGROUND**

Staff intends to conduct a plume modeling analysis using the Combustion Stack Visible Plume (CSVP) model and the Seasonal Annual Cooling Tower Impact (SACTI) model for the project, as is done for all projects with cooling towers. Staff will provide the applicant with a copy of the CSVP model training manual upon request.

**DATA REQUEST**

11. Please provide five complete consecutive years of meteorological data files in either the National Climate Data Center (NCDC) CD144 (surface data), NCDC-TD3280 (hourly surface observations with precipitation), or Hourly United States Weather Observations (HUSWO) format. The files should be the most recent years available. The files must include location, present weather, cloud cover, and visibility data. Please include a complete description of the source of this data (i.e. specific location, anemometer height, etc), and a discussion of why the data is representative of the area. Please also provide an electronic copy of the raw meteorological data file for each year in the format chosen from above.

**Response:** Attached are 5 compact diskettes, each containing 5 years of NCDC CD144 meteorological data files from the Los Angeles International Airport (WBan # 23174, latitude 33 Degree 56' - longitude 118 Degree 26, ground height 323 feet, station height 326 feet, barometer height 326 feet). The most current 5 years available were for 2001 to 2005. Also included on the compact diskettes are the same 5 years of data formatted for use in the ISCST3 air dispersion model. The Los Angeles International Airport is approximately 11.3 miles from the project site, with no significant terrain features in between, with the terrain sloping gradually from the project site to the ocean.

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12. Please also provide meteorological data files for the same five years in Industrial Source Complex (ISCST3) modeling format from the above data source. These files must include stability class data.

**Response:** See Data Response #11.

13. Please provide the values for heat rejection (MW/hr), exhaust temperature, and exhaust mass flow rate that affect cooling tower vapor plume formation for a range of ambient conditions that represent reasonable worst-case operating scenarios. At a minimum, please fill in all blanks in the table below. Please also update/correct the table, if necessary.

Parameter	Cooling Tower Exhausts		
Number of Cells	14		
Cell Height*	17.68 meters		
Cell Diameter*	9.14 meters		
Tower Housing Length (7 cells)*	117.35 meters		
Tower Housing Width (2 cells)*	31.70 meters		
Ambient Temperature	43 °F	59 °F	104 °F
Ambient Relative Humidity	80 %	65 %	50 %
Heat Rejection (MW/hr) or (MMBtu/hr)			
Exhaust Flow (CFM) (10 <sup>6</sup> )			
Exhaust Mass Flow Rate (lb/hr)			
Air Density (lbs/scf)			
Ambient Air Pressure (psia)			
Exhaust Temperature (°F)			

\*Stack dimensions from AFC.

Staff intends to model the cooling tower using hourly estimated exhaust conditions based on the hourly ambient conditions of the meteorological file. Staff will assume saturated cooling tower exhaust at the exhaust temperature determined through interpolation for the hourly ambient conditions. Therefore, additional combinations of temperature and relative humidity, if provided by the applicant, will more accurately represent the cooling tower exhaust conditions.

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**Response:** The completed table is presented below:

Parameter	Cooling Tower Exhausts		
Number of Cells	14		
Cell Height*	17.68 meters		
Cell Diameter*	9.14 meters		
Tower Housing Length (7 cells)*	117.35 meters		
Tower Housing Width (2 cells)*	31.70 meters		
Ambient Temperature	43 °F	59 °F	104 °F
Ambient Relative Humidity	80 %	65 %	50 %
Heat Rejection (MMBtu/hr)	2293	2283	2384
Exhaust Flow (CFM) (10 <sup>6</sup> )	20.12	20.09	20.03
Exhaust Mass Flow Rate (lb/hr)	87.76 x 10 <sup>6</sup>	86.43 x 10 <sup>6</sup>	81.78 x 10 <sup>6</sup>
Air Density (lbs/scf)	0.0727	0.0717	0.0681
Ambient Air Pressure (psia)	14.6	14.6	14.6
Exhaust Temperature (°F)	79	85	106

14. Please indicate if the cooling tower has any plume mitigation features that would reduce the exhaust moisture content below the saturated level.

**Response:** The cooling tower does not have any plume mitigation features. Plume abatement can only be used on cooling towers that have a single row of cells. The plant design uses a two-row cooling tower for which plume abatement is not available.

15. Please provide the cooling tower make and model number, and any vendor documentation available for the specific model.

**Response:** The specific cooling tower has not yet been selected. A representative manufacturer and model number is Marley, model F499A-5.0-14B. The cooling tower will be a fiberglass counterflow mechanical induced draft tower. Representative performance for the ambient temperatures of 43 °F, 59 °F and 104 °F are provided on the table above.

16. Please provide a fogging frequency curve from the cooling tower vendor, if available.

**Response:** A fogging frequency curve is provided as Attachment AQ-16.

# ATTACHMENT AQ-16

Fogging Frequency Curve for  
City of Vernon

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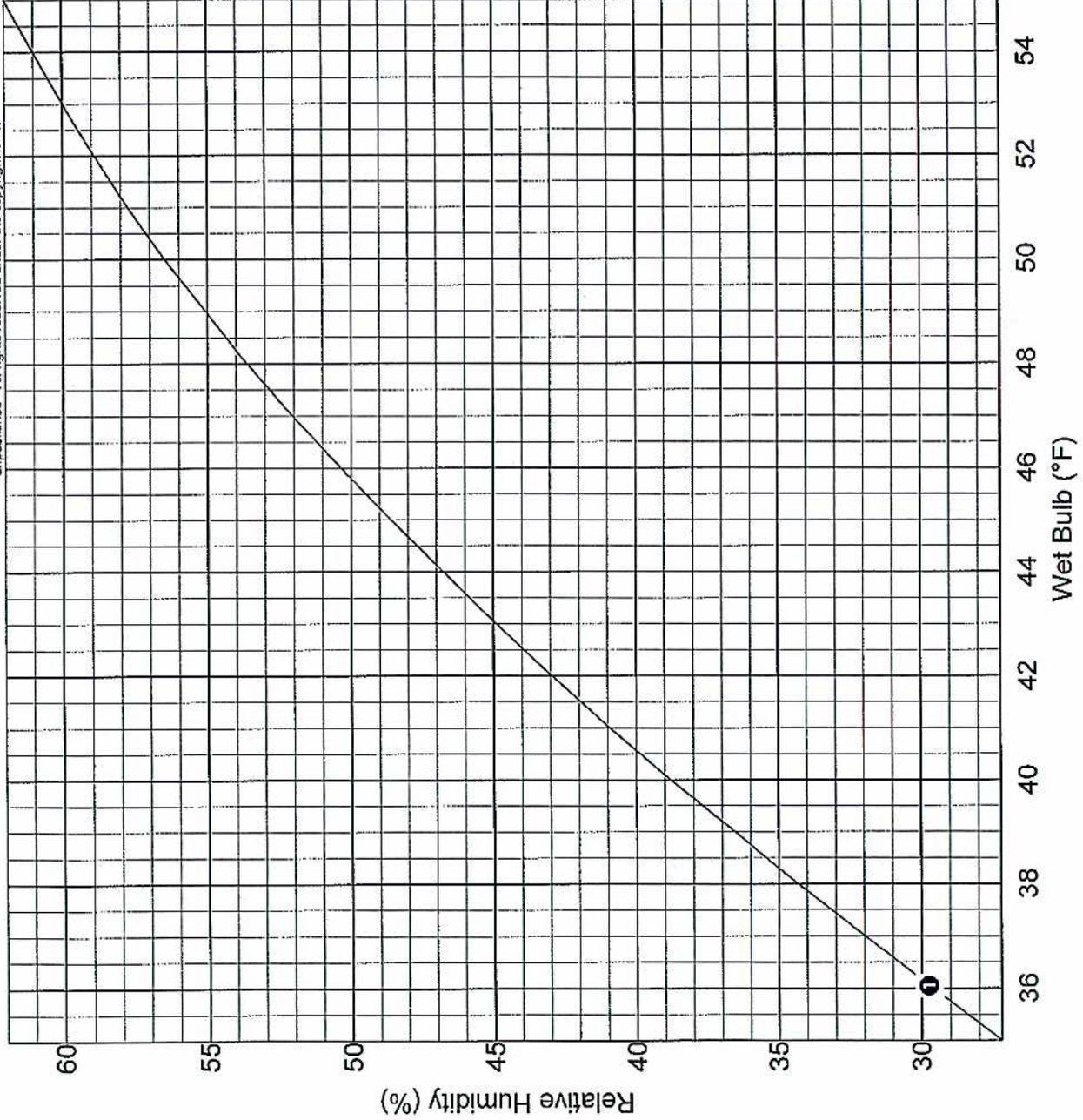
SPX Cooling Technologies  
TRACS Version 04-AUG-06

Model F499A-5.0-14B  
Number of Cells 14  
Motor Output 232.2HP  
Motor RPM 1800  
Fan 336HP7-9  
Fan RPM 129  
(Full Speed)

Design Conditions:  
Flow Rate 202000GPM  
Hot Water 98.80°F  
Cold Water 79.00°F  
Wet-Bulb 70.00°F

Curve Conditions:  
Fan Pitch Constant  
Flow Rate 202000GPM  
( 100% Design Flow )

FOGGING FREQUENCY CURVE: The curve shown to the left is referred to as a 'Fogging Frequency Curve'. The Fogging Frequency Curve separates entering cooling tower conditions that produce fog at the discharge (Top-Left region of chart) from those that do not produce fog (Bottom-Right region of chart)



1 19.8 °F Range

**SPX Cooling Technologies  
TRACS Version 04-AUG-06**

Model F499A-5.0-14B  
 Number of Cells 14  
 Motor Output 232.2HP  
 Motor RPM 1800  
 Fan 336HP7-9  
 Fan RPM 129  
 (Full Speed)

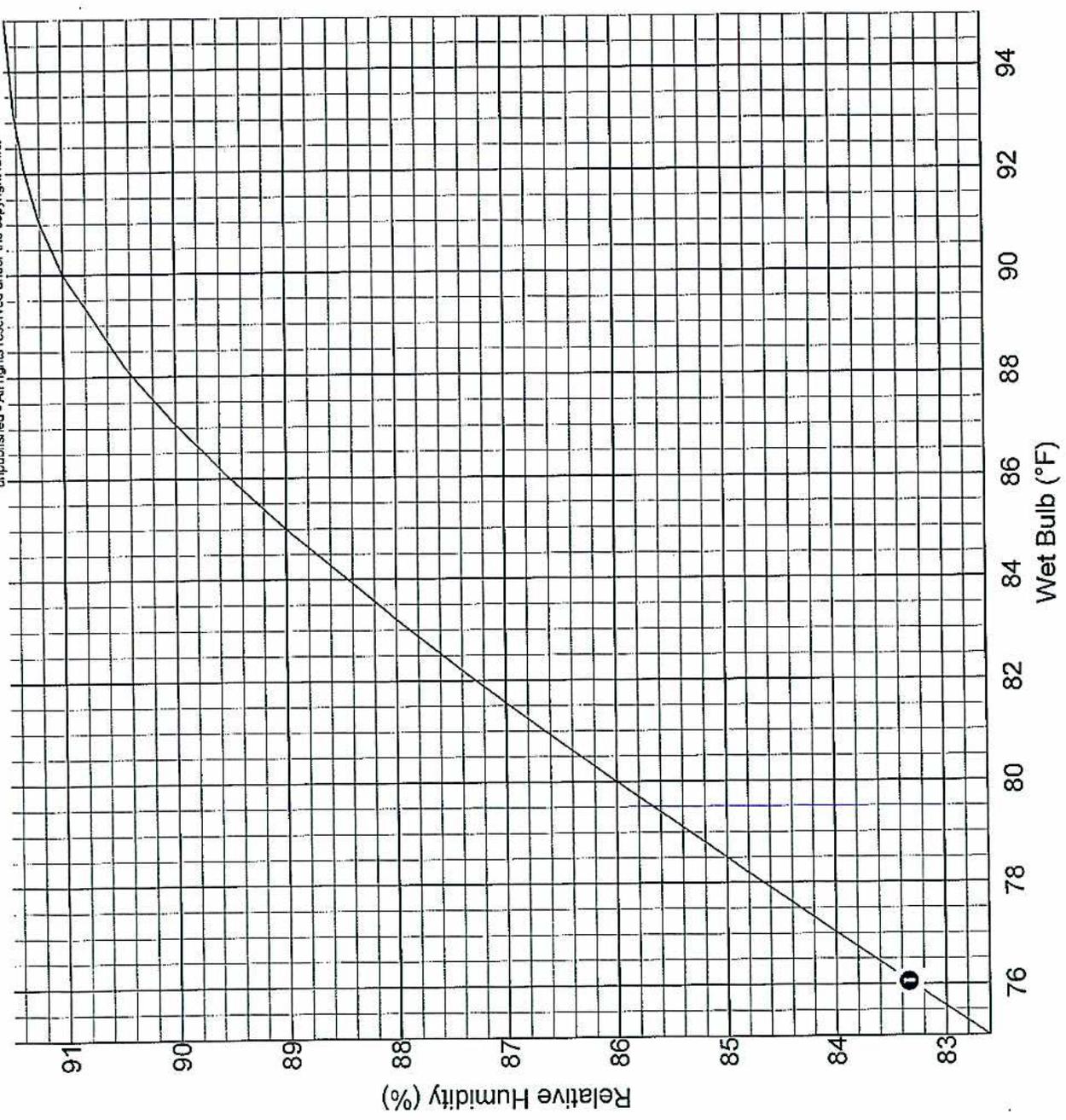
Design Conditions:  
 Flow Rate 20200GPM  
 Hot Water 98.80°F  
 Cold Water 79.00°F  
 Wet-Bulb 70.00°F

Curve Conditions:  
 Fan Pitch Constant  
 Flow Rate 20200GPM  
 ( 100% Design Flow )

FOGGING FREQUENCY CURVE: The curve shown to the left is referred to as a 'Fogging Frequency Curve'. The Fogging Frequency Curve separates entering cooling tower conditions that produce fog at the discharge (Top-Left region of chart) from those that do not produce fog (Bottom-Right region of chart)

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**Fogging Frequency Curve for  
City of Vernon**



1 19.8 °F Range

**VERNON POWER PLANT  
(06-AFC-4)  
DATA RESPONSES, SET 1**

17. Please indicate how many cooling tower cells will be turned on under different potential partial load conditions. Please also note if ambient conditions, such as cold temperatures, dictate when cells may be turned off.

**Response:** The cooling tower operation is based on the ambient meteorological conditions and plant operating rate. The number of iterations can be endless. Therefore, we have assumed that the cooling tower operates at its maximum operating rate under all plant load and ambient conditions in order to represent the worst case operating profile.

18. Please confirm that the cooling tower fan motors will not have a variable speed/flow controller.

**Response:** The cooling tower fans will not be provided with variable speed drives.

**VERNON POWER PLANT  
(06-AFC-4)  
DATA RESPONSES, SET 1**

**Technical Area: Biological Resources**  
**CEC Author: Misa Ward**

**BACKGROUND**

Section 8.2-6 on page 8.2-17 indicates that four staff members from biological resources agencies listed in Table 8.2-4 have been contacted regarding the project and potential biological issues of concern. Page 8.2-11 makes reference to a U.S. Fish and Wildlife Service (USFWS) letter of concurrence, and page 8.2-17 notes that the U.S. Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB) have stated that 401 and 404 permitting are not required. However, staff could not find any documentation on the dates, personnel, and content of communications with the California Department of Fish and Game (CDFG), RWQCB, USACE, or USFWS regarding the potential for biological resources, such as sensitive species or waters of the U.S., in the project vicinity.

**DATA REQUEST**

19. Please provide any documents (i.e. letters or records of conversation including dates and names of agency personnel) that resulted from communication with CDFG, RWQCB, USACE, and USFWS regarding potential impacts to sensitive biological resources and the jurisdictional status of the Los Angeles River.

**Response:** The following documents are provided as Attachment BR-19:

<b>Topic</b>	<b>Date of Contact</b>	<b>Contract with/Organization</b>
Streambed Alteration Agreement	February 21, 2006	Mini Elayath/CDFG
401 Certification	February 15, 2006	Dana Cole/RWQCB
404 Permit	February 1, 2006	Kenneth Wong/ACOE
	May 3, 2006	Kenneth Wong/ACOE
	October 4, 2006	Phuong Trinh/ACOE
ACOE Jurisdiction	October 4, 2006	Aaron O. Allen/ACOE
Informal Section 7 Consultation	March 8, 2006	Karen Goebel/USFWS
	July 3, 2006	Karen Goebel/USFWS

ATTACHMENT BR-19

**CH2MHILL** TELEPHONE CONVERSATION RECORD

**Call To:** Mini Elayath CDFG  
**Phone No.:** (562) 594-4450 **Date:** February 21, 2006  
**Call From:** Linda Anton **Time:** 8:44 AM  
**Message Taken By:** CH2M HILL  
**Subject:** VPP2 Streambed Alteration Agreement  
**Project No.:** 338307

On February 21, 2006, I spoke with Ms. Mini Elayath of the CDFG regarding the potential need of a Streambed Alteration Agreement for the section of the transmission line that crosses the LA River. Ms. Elayath stated that notification must be sent to the CDFG regarding the proposed project so an investigator can determine if a Streambed Alteration Agreement is required.

 You forwarded this message on 2/15/2006 1:55 PM.

**Anton, Linda/SCO**

**From:** Dana Cole [danacole@waterboards.ca.gov] **Sent:** Wed 2/15/2006 1:52 PM  
**To:** Anton, Linda/SCO  
**Cc:**  
**Subject:** Re: 401 Certification - City of Vernon  
**Attachments:**

Linda,

The project briefly described below does not require 401 certification. However, best management practices should be followed, and if the scope of the project should change, please contact this agency for further evaluation before undertaking the project.

Thanks,  
Dana

Dana Cole  
Engineering Geologist  
401 Certification Unit  
California Regional Water Quality Control Board  
Los Angeles Region  
320 W. 4th Street, Suite 200  
Los Angeles, California 90013  
Tel: (213) 576-5733  
Fax: (213) 576-6686  
Reception Desk: (213) 576-6600  
danacole@waterboards.ca.gov

>>> <Linda.Anton@CH2M.com> 2/15/06 12:53 PM >>>  
Mr. Cole,

We have a project in the City of Vernon where light to medium duty trucks would drive into the concrete-lined channel of the LA River to string a new transmission line across to reach the existing line on the east side of the channel. There would be no digging, drilling or other channel alterations. No 404 permit is required. Would 401 certification be required for this activity?

Linda Anton  
CH2M HILL/Biologist  
714-697-6689  
lanton@ch2m.com

# **CH2MHILL** TELEPHONE CONVERSATION RECORD

**Call To:** Kenneth Wong USACOE  
**Phone No.:** 213-452-3290 **Date:** February 01, 2006  
**Call From:** Linda Anton **Time:** 09:52 AM  
**Message Taken By:** CH2M HILL  
**Subject:** VPP2 404 Permitting  
**Project No.:** 338307

On February 01, 2006, I spoke with Mr. Kenneth Wong of the ACOE regarding the potential crossing of the Los Angeles River for the installation of the alternative transmission line on the Vernon Power Plant Project. The new crossing would be at District Blvd. where the Los Angeles River is a concrete-lined channel. I explained to Mr. Wong that the stringing crew would access the channel with medium duty trucks during the installation. Mr. Wong confirmed that the Corp does not regulate driving along concrete-lined channels, therefore permitting is not required. Mr. Wong stated that if the construction crew needs to build an access ramp to enter the channel, rather than entering along the City ramps, or if any concrete will be removed or filled, a 404 permit would then be required.

 You forwarded this message on 5/3/2006 1:56 PM.

**Anton, Linda/SCO**

**From:** Wong, Kenneth SPL [Kenneth.Wong@spl01.usace.army.mil] **Sent:** Wed 5/3/2006 1:09 PM  
**To:** Anton, Linda/SCO  
**Cc:**  
**Subject:** RE: Vernon Utility Poles along LA River  
**Attachments:**

Linda -

The poles are outside of 404 jurisdiction. However, this work may be under the jurisdiction of our operations branch which has jurisdiction over work that may impact or modify Corps-funded or Corps-built structures; the LA River is such a structure. As such, I've forwarded the slides to Ted Masigat (213-452-3393) of operations branch for his review. He'll be in touch with you as needed.

Ken

---

**From:** Linda.Anton@CH2M.com [mailto:Linda.Anton@CH2M.com]  
**Sent:** Wednesday, May 03, 2006 12:14 PM  
**To:** Wong, Kenneth SPL  
**Subject:** Vernon Utility Poles along LA River

Hi Ken,

Thank you for reviewing the photos for potential 404 permitting. I've attached a few PowerPoint slides showing the location where the existing utility poles would be replaced. Let me know if you need more information or clarification of the project.

Take care

Linda Anton

CH2M HILL

714-697-6689



Please PDF and send to John Carrier.

Copy to John Carrier  
Eric Gresch  
Abraham Aleman



**DEPARTMENT OF THE ARMY**  
LOS ANGELES DISTRICT, CORPS OF ENGINEERS  
P.O BOX 532711  
LOS ANGELES, CALIFORNIA 90053-2325

RECEIVED  
OCT 30 2006  
BY: *rw*

*Upp file.*

REPLY TO  
ATTENTION OF:

October 4, 2006

Office of the Chief  
Regulatory Branch

**DOCKET**  
06-AFC-4  
DATE OCT -4 2006  
REC'D OCT 10 2006

Mr. James Reede  
California Energy Commission  
1516 9th Street  
Sacramento, California 95814-5504

Dear Mr. Reede:

Reference is made to your jurisdictional determination request (No. 200601792-PHT) dated October 3, 2006 concerning construction of electrical transmission lines over Los Angeles River associated with the Vernon Power Plant Project in Vernon, Los Angeles County, California.

Information furnished by Mr. James Reede on October 4, 2006, indicate that construction of electrical transmission structures will be completed approximately 100 feet away from both river banks. Based on the above, we have determined that your proposed project does not discharge dredged or fill material into a water of the United States or an adjacent wetland. Therefore, the project is not subject to our jurisdiction under Section 404 of the Clean Water Act and a Section 404 permit is not required from our office.

Furthermore, you are hereby advised that the Corps of Engineers has established an Administrative Appeal Process for jurisdictional determinations which is fully described at 33 CFR Part 331. The Administrative Appeal Process for jurisdictional determinations is diagrammed on the enclosed Appendix C. If you decide not to accept this approved jurisdictional determination and wish to provide new information, please send the information to this office. If you do not supply additional information you may appeal this approved jurisdictional determination by completing the attached "Notification of Administrative Appeal Options and Process and Request for Appeal" form and submitting it directly to the Appeal Review Officer at the address provided on the form.

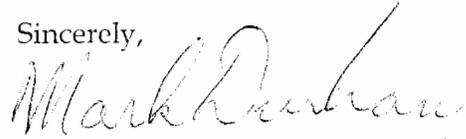
Please be aware that our determination does not preclude the need to comply with Section 13260 of the California Water Code (Porter/Cologne) and we recommend that you contact the California Regional Water Quality Control Board to insure compliance with the above regulations. Furthermore, our determination does not obviate the need to obtain other Federal, state, or local authorizations required by law.

PROOF OF SERVICE (REVISED *10/4/06*) FILED WITH ORIGINAL MAILED FROM SACRAMENTO ON *10/26/06*

*[Signature]*

If you have any questions, please contact Ms. Phuong H. Trinh of my staff at (213) 452-3372.

Sincerely,

A handwritten signature in cursive script, appearing to read "Mark Durban".

Aaron O. Allen, Ph.D.  
Chief, North Coast Section  
Regulatory Branch

Handwritten initials, possibly "AL", in cursive script.

## NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: City of Vernon	File Number: 200601792	Date: October 4, 2006
Attached is:		See Section below
<input type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<input type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
<input type="checkbox"/>	PERMIT DENIAL	C
<input checked="" type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	D
<input type="checkbox"/>	PRELIMINARY JURISDICTIONAL DETERMINATION	E

**SECTION I -** The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inet/functions/cw/cecwo/reg> or Corps regulations at 33 CFR Part 331.

**A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT:** You may accept or appeal the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**E: PRELIMINARY JURISDICTIONAL DETERMINATION:** You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

**SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT**

**REASONS FOR APPEAL OR OBJECTIONS:** (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

**ADDITIONAL INFORMATION:** The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

If you have questions regarding this decision and/or the appeal process you may contact:

DISTRICT ENGINEER  
Los Angeles District, Corps of Engineers  
ATTN: Chief, Regulatory Branch  
P.O. Box 532711  
Los Angeles, CA 90053-2325

Tel. (213) 452-3425 FAX (213) 452-4196

If you only have questions regarding the appeal process you may also contact:

Douglas R. Pomeroy, Appeal Review Officer  
U.S. Army Corps of Engineers, CESP-ET-CO  
333 Market Street  
San Francisco, CA 94015-2195

Tel. (415) 977-8035 FAX (415) 977-8047

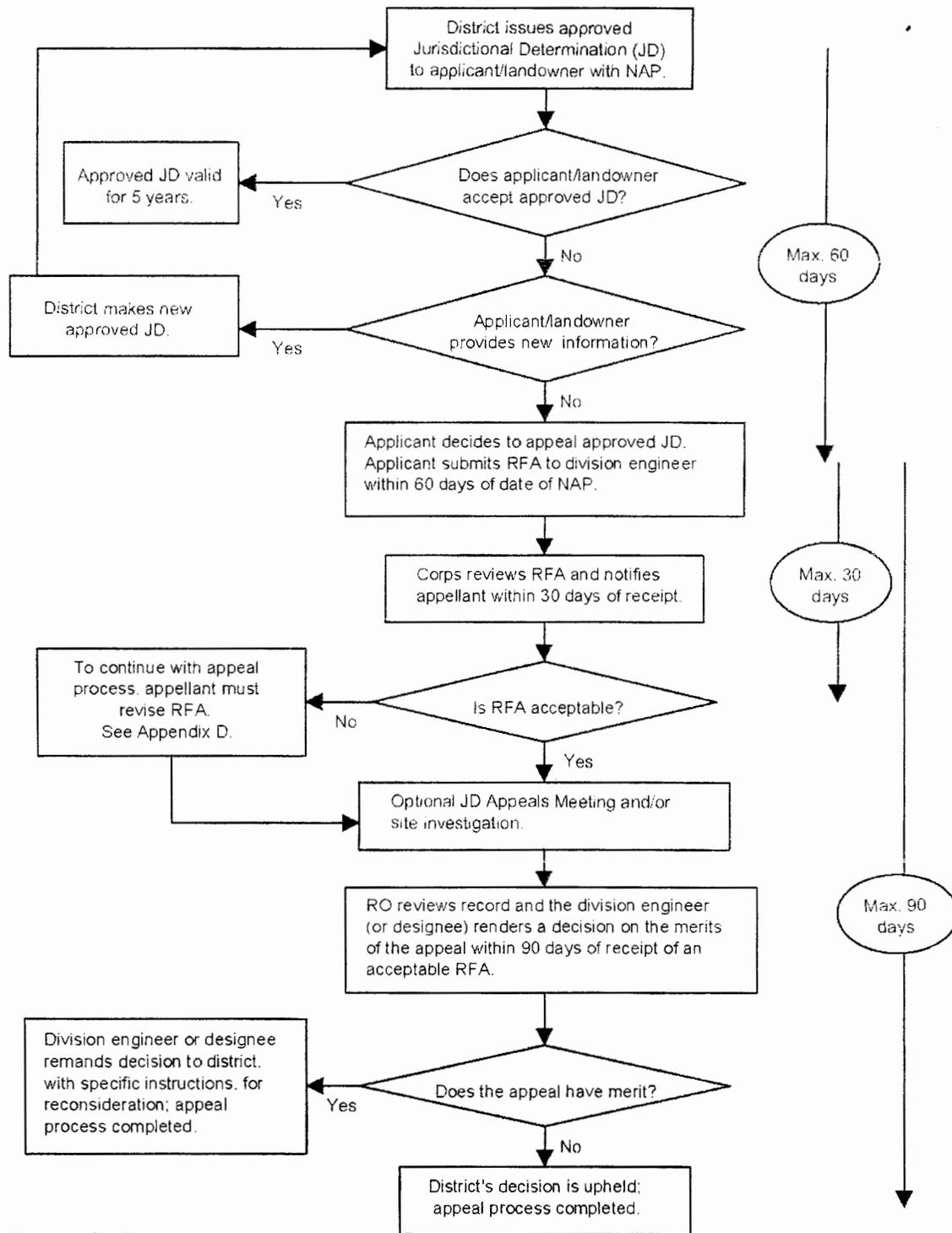
**RIGHT OF ENTRY:** Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

\_\_\_\_\_  
Signature of appellant or agent.

Date:

Telephone number:

## Administrative Appeal Process for Approved Jurisdictional Determinations





# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Ecological Services  
Carlsbad Fish and Wildlife Office  
6010 Hidden Valley Road  
Carlsbad, California 92011

MAR 08 2006

In Reply Refer To:  
FWS-LA-4745.1

Linda Anton  
CH2M HILL  
3 Hutton Centre Drive  
Santa Ana, CA 92707

Subj: Informal Section 7 Consultation for the Vernon Power Plant, City of Vernon, Los Angeles County, California

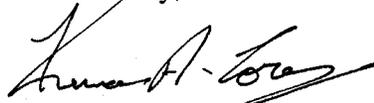
Dear Ms. Anton:

We are responding to your letter that we received by electronic mail on February 1, 2006, regarding the Vernon Power Plant, City of Vernon, Los Angeles County, California. The letter requested information on the presence of endangered and threatened species or habitats in the vicinity of the proposed project. We are providing the following determination based on our review of information contained in the letter, including aerial photographs of the project site, and our knowledge of biological resources within the project area.

Based on the location of the project in a highly urbanized area, we have determined that this project is not likely to adversely affect federally listed species, their designated critical habitat, or other Federal trust resources under our jurisdiction. Therefore, the interagency consultation requirements of section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.), have been satisfied. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

We appreciate your coordination on this project. Should you have any questions regarding this letter, please contact Fish and Wildlife Biologist Christine Medak of this office at (760) 431-9440, ext. 298.

Sincerely,

  
FC Karen A. Goebel  
Assistant Field Supervisor



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Ecological Services  
Carlsbad Fish and Wildlife Office  
6010 Hidden Valley Road  
Carlsbad, California 92011

In Reply Refer To:  
FWS-LA-4745.2

JUL 3 2006

Linda Anton  
CH2M HILL  
3 Hutton Centre Drive  
Santa Ana, CA 92707

Subj: Informal Section 7 Consultation for the Vernon Power Plant, City of Vernon, Los Angeles County, California

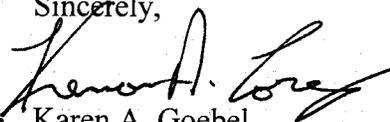
Dear Ms. Anton:

We are responding to your letter that we received by electronic mail on May 30, 2006, regarding the Vernon Power Plant, City of Vernon, Los Angeles County, California. In a previous letter, dated March 8, 2006, we had determined that the project was not likely to adversely affect federally listed species, their designated critical habitat, or other Federal trust resources under our jurisdiction. The City of Vernon has since relocated the proposed project and you have requested re-initiation of informal consultation. We are providing the following determination based on our review of information contained in the letter, including an aerial photograph of the project site, and our knowledge of biological resources within the project area.

Based on the location of the project in a highly urbanized area, we have determined that this project is not likely to adversely affect federally listed species, their designated critical habitat, or other Federal trust resources under our jurisdiction. Therefore, the interagency consultation requirements of section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.), have been satisfied. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

We appreciate your coordination on this project. Should you have any questions regarding this letter, please contact Fish and Wildlife Biologist Christine Medak of this office at (760) 431-9440, ext. 298.

Sincerely,

  
Karen A. Goebel  
Assistant Field Supervisor

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IN AMERICA 

# VERNON POWER PLANT (06-AFC-4) DATA RESPONSES, SET 1

## Technical Area: Cultural Resources

CEC Author: Beverly Bastian

**NOTE: If a response reveals archaeological site locations, please submit it under confidential cover.**

## BACKGROUND

The November, 2005, Initial Geotechnical Report for the proposed Vernon Power Plant (Appendix 8.15A) determined that the natural subsoils on the site are unsuitable for power plant structure foundations. The report recommends that 2 to 10 feet of the topmost natural soils be removed and replaced with structured and compacted fill (pp. 13-16) in various locations where foundations and pavement would be installed. The AFC does not indicate whether this would be done. Nor does it identify any off-site disposal or borrow areas, if soil removal and replacement would be done. To identify all impacts of the proposed project, staff needs to know if soil removal is planned and if the chosen soil disposal and borrow sites have been surveyed for cultural resources.

## DATA REQUEST

20. If soils will be removed, please identify the locations where this would be done, and the depth the removal would reach in each of the locations.

**Response:** The construction Contractor will perform additional geotechnical investigations to determine the soil bearing properties of the subsurface soil and to establish the foundation design requirements. If required for foundation design, in-situ soils that are not suitable for use will be removed and replaced with structured and compacted fill. Excavation will take place for the foundations for all major equipment including the combustion turbines, heat recovery steam generators, steam turbine generator, recycled water storage tank, and step-up transformers. Also excavation will be required for underground piping and electrical duct bank. It is anticipated the deepest excavation will be for the circulating water piping between the condenser and cooling tower. This will extend a minimum of 9 feet. Excavation for other foundations will typically be 4 feet or less. The location of these equipment items is shown on the Site Plan (AFC Figure 2.2-1). Soils removed during excavation may be reused onsite (for road beds or the stormwater detention basin) or disposed of offsite. See Data Response #21 for offsite disposal.

21. If removed soils will be disposed of off-site and/or new soils brought in, please provide reports of the dates, personnel, methods, and findings from any cultural resources surveys of the disposal and borrow sites, or explain why no surveys are needed. If disposal and borrow sites are not commercial operations and consequently have not been surveyed for cultural resources, please conduct such surveys and provide the personnel qualifications, methods, and findings to staff.

# **VERNON POWER PLANT (06-AFC-4) DATA RESPONSES, SET 1**

**Response:** The existing structures will be removed and any contaminated soil remediated by the current site owner prior to turning the site over to the City of Vernon in a clear and level condition. Therefore, it is too early to tell whether fill material will be needed, and if so, what quantity. However, if fill is needed it will be purchased on the commercial market. Fill material purchased commercially will have already undergone any necessary cultural resource surveys by the fill provider; therefore no cultural surveys for such purchased fill will be necessary to undertake by the City of Vernon. If there is excess soil from digging foundations or other structures that must be exported by the City of Vernon, such soil removal will be monitored by a cultural resource monitor so long as it is native soil that is being removed.

## **BACKGROUND**

Both alternative routes for the 230 kV overhead transmission line interconnecting the Vernon Power Plant with the Laguna Bell substation may necessitate the burial of segments of existing 66 kV overhead transmission lines along Randolph Street (pp. 5-5, 5-6), but no details of this option were given in the AFC. To assess the potential impact of these trenches on possible buried cultural resources, staff needs to know the location of the segments which could be buried.

## **DATA REQUESTS**

22. Please provide a map showing the transmission line segments which could be placed underground.

**Response:** There is no plan to place any transmission line segments underground.

## **BACKGROUND**

The applicant sent letters to 11 Native American individuals and groups on October 4, 2005, seeking information on traditional cultural properties and archaeological sites on or near the proposed VPP site. AFC Supplement 8.3A includes the responses of Native Americans up through February 13, 2006. Staff needs to know if the applicant has received any additional responses from Native Americans since that time. In addition, the Native American Heritage Commission (NAHC), which provided the applicant with a list of Native Americans with historic ties to the VPP project area, advises, "If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received." Native American contact efforts by the applicant are outlined in AFC section 8.3.3.5.3, but that discussion provides no indication that the officially requested follow-up telephone calls were carried out.

**VERNON POWER PLANT  
(06-AFC-4)  
DATA RESPONSES, SET 1**

**DATA REQUEST**

23. Please provide copies of any communications received from Native Americans since February 13, 2006, regarding the VPP.

**Response:** No additional responses from Native Americans have been received since February 13, 2006.

24. Please make the requested follow-up telephone calls and provide Energy Commission staff with copies of telephone logs of the calls, documenting that the letters were received and summarizing any verbal information (or lack of information) provided by Native Americans.

**Response:** An updated version of the summary table titled "Consultation Letters to Native American Contacts Provided by NAHC" previously submitted as part of Appendix 8.3A has been provided as Attachment CR-24.

## ATTACHMENT CR-24 (UPDATE TO APPENDIX 8.3A)

<b>CITY OF VERNON POWER PLANT</b>							
<b>CONSULTATION LETTERS TO NATIVE AMERICAN CONTACTS PROVIDED BY NAHC</b>							
RECIPIENT	DATE SENT	MAILED	FAXED	E-MAILED	COMMENTS RECEIVED	FOLLOW-UP PHONE CALL	COMMENTS SUMMARY (from phone)
Mercedes Dorame Tribal Administrator Gabrielino Tongva Indians of CA Tribal Council 20990 Las Flores Mesa Drive Malibu, CA 90202	10/4/05	X			None	7/10/06 9:55 AM  No phone number available.	None
Mr. Samuel H. Dunlap P.O. Box 1391 Temecula, CA 92593	10/4/05	X	No Answer		None	7/10/06 10:00 AM  Left voice mail	None
Mr. Ron Andrade Director LA city/County Native American Indian Commission 3175 West 6 <sup>th</sup> Street Room 403 Los Angeles, CA 90020	10/4/05	X	X		None	7/10/06 10:03AM  Left written message.	None
Ms. Cindi Alvitre Ti'At Society 6602 Zelsah Avenue Reseda, CA 91335	10/4/05	X			None	7/10/06 10:04 AM  Left vm.	None
John Tommy Rosas Tribal Administrator Tongva Ancestral Territorial Tribal Nation 4712 Admiralty Way, Suite 172 Marina Del Rey, CA 90202	10/4/05	X			None	7/10/06 10:07 AM  Left voicemail.	None

RECIPIENT	DATE SENT	MAILED	FAXED	E-MAILED	COMMENTS RECEIVED	FOLLOW-UP PHONE CALL	COMMENTS SUMMARY (from phone)
Craig Torres 713 E. Bishop Santa Ana, CA 92701	10/4/05	X			None	7/10/06 10:09 AM  Phone number no longer in service.	None
Mr. Jim Velasques Coastal Gabrieleno Diegueno 5776 42 <sup>nd</sup> Street Riverside, CA 92509	10/4/05	X			None	7/10/06 10:11 AM  Phone number no longer in service.	None
Ms. Susan Frank Gabrielino Band of Mission Indians of CA P.O. Box 3021 Beaumont, CA 92223	10/4/05	X	X		Voice message received 10/6. "We have monitors in our tribe that have been trained. We would like to request that one those [Native American] monitors be present when you start on your site."  Letter received 10/15/05: Requests NA monitors on site	7/10/06 10:15 AM  Phone no longer in service.	None
Mr. Sam Dunlap Tribal Secretary Gabrielino/Tongva Council Gabrielino Tongva Nation 501 Santa Monica Blvd., Suite 500 Santa Monica, CA 90401-2415	10/4/05	X	X		None	7/10/06 10:14 AM  Left written message.	None

<b>RECIPIENT</b>	<b>DATE SENT</b>	<b>MAILED</b>	<b>FAXED</b>	<b>E-MAILED</b>	<b>COMMENTS RECEIVED</b>	<b>FOLLOW-UP PHONE CALL</b>	<b>COMMENTS SUMMARY (from phone)</b>
Mr. Robert Dorame Tribal Chair/Cultural Resources Gabrielino Tongva Indians of CA Tribal Council 5450 Slauson Avenue, Suite 151 PMB Culver City, CA 90230	<b>10/4/05</b>	<b>X</b>	<b>X</b>		<b>None</b>	<b>7/10/06 10:20 AM  Called and spoke with Robert Dorame.</b>	<b>Robert requests that the tribe be notified if artifacts are found during mechanical excavation at the project site.</b>
Mr. Anthony Morales Chairperson Gabrieleno/Tongva Tribal Council P.O. Box 693 San Gabriel, CA 91778	<b>10/4/05</b>	<b>X</b>	<b>X</b>		<b>Return phone call received 10/4/05. Tribe has no concerns. Documented in phone record.</b>	<b>7/10/06 10:09 AM  Left vm.</b>	<b>None</b>

**VERNON POWER PLANT  
(06-AFC-4)  
DATA RESPONSES, SET 1**

**Technical Area: Noise and Vibration**

**CEC Author:** Steve Baker

**BACKGROUND**

Staff evaluates the likelihood that the project will comply with applicable noise laws, ordinances, regulations and standards, (LORS), and that the project will not create significant adverse impacts on nearby sensitive receptors. The Application adequately describes nearby sensitive receptors, six residences within the Vernon City Limits that lie approximately 1,000 feet NE of the project site, and describes LORS related to the City of Vernon. The application, however, fails to provide such information for the residences that lie approximately 1,700 feet E of the site in the City of Maywood, and for the residences that lie approximately 2,100 feet SW of the site in the City of Huntington Park (see AFC Figures 8.4-1 and 8.5-1). These residences are sufficiently near the project site that noise impacts are possible and must therefore be evaluated.

**DATA REQUEST**

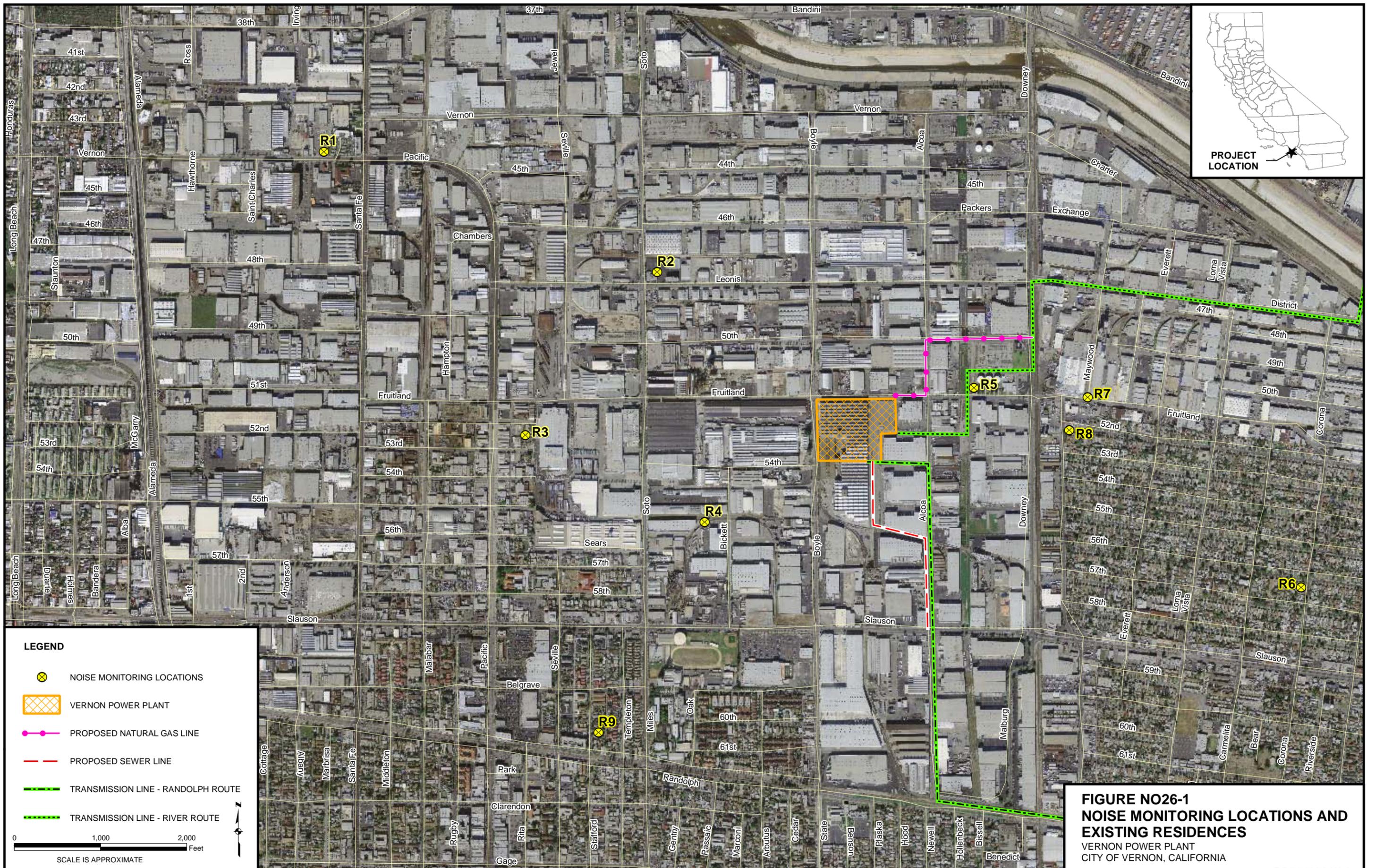
25. Please describe (by quantity and distance from the project site) the residences to the east of the project site in Maywood, and to the southwest of the site in Huntington Park.

**Response:** Large residential subdivisions are present in both the City of Maywood and City of Huntington Park. To the east, Maywood residences are located at a distance of approximately 2,400 feet from the center of project site. To the southwest, Huntington Park residences are located at a distance of approximately 2,900 feet from the center of the project site.

26. Provide ambient noise measurements for these residential neighborhoods as required in the Siting Regulations, Appendix B(g)(4)(B).

**Response:** Continuous ambient measurements were collected at a residence in the City of Maywood (R6) and a residence in the City of Huntington Park (R9) shown in Figure NO26-1. In addition, short term measurements were collected at two locations closer to the project in the City of Maywood (R7 and R8). The results are presented in Tables NO26-1 through NO26-3.

The short-term measurements document that the closest receptors to the project that are outside the City of Vernon are located in close proximity to existing industrial uses that emit considerable noise throughout the day and night.



# VERNON POWER PLANT (06-AFC-4) DATA RESPONSES, SET 1

TABLE N026-1  
Summary of Hourly Measurements at Location R6

Date	Time	Leq	L1	L10	L50	L90
24-Oct-06	20:00:00	51	61	54	47	44
24-Oct-06	21:00:00	49	58	53	46	43
24-Oct-06	22:00:00	49	59	52	44	41
24-Oct-06	23:00:00	46	56	50	41	37
25-Oct-06	0:00:00	52	65	46	38	36
25-Oct-06	1:00:00	40	53	39	35	34
25-Oct-06	2:00:00	40	53	38	35	33
25-Oct-06	3:00:00	44	57	42	35	33
25-Oct-06	4:00:00	44	57	46	36	33
25-Oct-06	5:00:00	44	55	47	39	36
25-Oct-06	6:00:00	48	59	51	44	37
25-Oct-06	7:00:00	50	59	53	48	44
25-Oct-06	8:00:00	51	62	54	46	42
25-Oct-06	9:00:00	49	58	52	46	42
25-Oct-06	10:00:00	51	59	53	47	44
25-Oct-06	11:00:00	55	65	54	47	42
25-Oct-06	12:00:00	50	59	53	48	44
25-Oct-06	13:00:00	52	62	54	49	46
25-Oct-06	14:00:00	56	66	60	50	47

TABLE N026-2  
Summary of Hourly Measurements at Location R9

Date	Time	Leq	L1	L10	L50	L90
24-Oct-06	20:00:00	50	60	54	45	41
24-Oct-06	21:00:00	49	58	53	44	40
24-Oct-06	22:00:00	47	57	51	42	37
24-Oct-06	23:00:00	46	59	49	36	33
25-Oct-06	0:00:00	44	56	42	33	31
25-Oct-06	1:00:00	38	51	34	31	30
25-Oct-06	2:00:00	37	49	33	30	29

# VERNON POWER PLANT (06-AFC-4) DATA RESPONSES, SET 1

TABLE N026-2  
Summary of Hourly Measurements at Location R9

Date	Time	Leq	L1	L10	L50	L90
25-Oct-06	3:00:00	41	57	36	31	29
25-Oct-06	4:00:00	42	55	44	32	30
25-Oct-06	5:00:00	48	62	47	36	33
25-Oct-06	6:00:00	45	56	48	41	36
25-Oct-06	7:00:00	48	56	51	46	43
25-Oct-06	8:00:00	50	59	53	46	42
25-Oct-06	9:00:00	48	57	51	45	42
25-Oct-06	10:00:00	48	57	52	46	42
25-Oct-06	11:00:00	49	59	52	45	42
25-Oct-06	12:00:00	51	60	53	46	43
25-Oct-06	13:00:00	50	59	53	47	43
25-Oct-06	14:00:00	50	58	52	47	44

TABLE N026-3  
Summary of Short Term Measurements

Date	Time	Duration	Leq	L1	L10	L50	L90
<b>R7 - Maywood &amp; Fruitland</b>							
24-Oct-06	19:59	0:10	67	77	68	65	63
24-Oct-06	23:34	0:20	63	72	63	61	60
25-Oct-06	15:48	0:10	68	75	71	65	63
<b>R8 - Maywood &amp; 52nd</b>							
25-Oct-06	15:37	0:07	62	70	65	61	59

**VERNON POWER PLANT  
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27. Provide a description of noise LORS of the Cities of Maywood and Huntington Park as required in the Siting Regulations, Appendix B(h)(1)(A).

**Response:**

**City of Maywood**

The Noise Element of the City of Maywood's General Plan establishes land use compatibility standards based on the receiving land use (refer to Table NO27-1). For residential receivers, up to 70 dBA Ldn is considered conditionally acceptable.

The City of Maywood's Noise Control Ordinance establishes the exterior noise standards shown in Table NO27-2. No person may create any noise, or allow the creation of any noise that causes the noise level when measured on any property to exceed:

- The standard for a cumulative period of more than 30 minutes in any hour.
- The standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour.
- The standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour.
- The standard plus 15 dBA for cumulative period of more than one minute in any hour.
- The standard plus 20 dBA for any period of time.

# VERNON POWER PLANT (06-AFC-4) DATA RESPONSES, SET 1

TABLE NO27-1  
City of Maywood Land Use Compatibility Guidelines

Land Use Category	Community Noise Exp. L <sub>dn</sub> or CNEL, dB					
	55	60	65	70	75	80
Residential—low-density single family, duplex, mobile homes	Normally Acceptable		Conditionally Acceptable		Normally Unacceptable	
Residential—multi-family	Normally Acceptable		Conditionally Acceptable		Normally Unacceptable	
Transient lodging—motels, hotels	Normally Acceptable		Conditionally Acceptable		Normally Unacceptable	
Schools, libraries, churches, hospitals, nursing homes	Normally Acceptable		Conditionally Acceptable		Normally Unacceptable	
Auditoriums, concert halls, amphitheaters	Normally Acceptable		Conditionally Acceptable		Normally Unacceptable	
Sports arena, outdoor spectator sports	Normally Acceptable		Conditionally Acceptable		Normally Unacceptable	
Playgrounds, neighborhood parks	Normally Acceptable		Conditionally Acceptable		Normally Unacceptable	
Golf courses, riding stables, water recreation, cemeteries	Normally Acceptable		Conditionally Acceptable		Normally Unacceptable	
Office buildings, business commercial and professional	Normally Acceptable		Conditionally Acceptable		Normally Unacceptable	
Industrial, manufacturing utilities, agriculture	Normally Acceptable		Conditionally Acceptable		Normally Unacceptable	

### LEGEND

 **Normally Acceptable**

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

 **Conditionally Acceptable**

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features have been included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

 **Normally Unacceptable**

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

 **Clearly Unacceptable**

New construction or development should generally not be undertaken.

Source: California Department of Health. Guidelines for the Preparation and Content of Noise Elements of The General Plan. February 1976.

# VERNON POWER PLANT (06-AFC-4) DATA RESPONSES, SET 1

TABLE NO27-2  
City of Maywood Noise Ordinance

Noise Zone – Land Use	Time Period	Allowable Exterior Noise Level—dBA
I – Single-family, double-family, or multiple-family residential	10 p.m. to 7 a.m.	55
	7 a.m. to 10 p.m.	60
II – Commercial	10 p.m. to 7 a.m.	65
	7 a.m. to 10 p.m.	70
III – Manufacturing or Industrial	Anytime	75

When ambient noise levels exceed the limit, the limits shall be adjusted to reflect the ambient level. If the receptor is located on the boundary of two different zones, the standards for the quieter zone shall apply. The interior noise level of 45 dBA shall apply to all residential land uses.

## City of Huntington Park

The Noise Element of the City of Huntington Park’s 1992 General Plan establishes land use compatibility standards based on the receiving land use similar to the City of Vernon (refer to AFC Table 8.5-4). According to Table N-1 of the General Plan (which is the same as AFC Table 8.5-4) for residential receivers, up to 70 dBA Ldn is considered “normally compatible.” Table N-2 of the General Plan (reproduced here as Table NO29-3) of the General Plan states that exterior noise standard for residential land uses is 65 dBA CNEL.

TABLE NO27-3  
City of Huntington Park Interior and Exterior Noise Standards by Land Use Category

LAND USE CATEGORIES		CNEL	
CATEGORIES	USES	INTERIOR <sup>1</sup>	EXTERIOR <sup>2</sup>
RESIDENTIAL	Single Family Duplex, Multiple Family	45 <sup>3</sup>	65
	Mobile Home	–	65 <sup>4</sup>
COMMERCIAL	Hotel, Motel, Transient Lodging	45	–
INDUSTRIAL	Commercial Retail, Bank, Restaurant	55	–
INSTITUTIONAL	Office Building, Research and Development, Professional Offices, City Office Building	50	–
	Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	–
	Gymnasium (multipurpose)	50	–
	Sports Club	55	–
	Manufacturing, Warehousing, Wholesale, Utilities	65	–
	Movie Theatres	45	–

# VERNON POWER PLANT (06-AFC-4) DATA RESPONSES, SET 1

TABLE NO27-3  
City of Huntington Park Interior and Exterior Noise Standards by Land Use Category

LAND USE CATEGORIES		CNEL	
CATEGORIES	USES	INTERIOR <sup>1</sup>	EXTERIOR <sup>2</sup>
INSTITUTIONAL	Hospital, School Classroom	45	65
	Church, Library	45	–
OPEN SPACE	Parks	–	65

<sup>1</sup> Indoor environment including: bathrooms, toilets, closets, corridors.

<sup>2</sup> Outdoor environment limited to: private yard of single family; multifamily private patio or balcony which is served by a means of exit from inside the dwelling; balconies 6 feet deep or less are exempt; mobile home park; park picnic area; school playground.

<sup>3</sup> Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided as of Chapter 12, Section 1205 of UBC.

<sup>4</sup> Exterior noise levels should be such that the interior noise levels will not exceed 45 CNEL.

Source: Mestre Greve Associates.

The City of Huntington Parks noise ordinance is nuisance based and does not include quantitative noise limits.

28. Provide contact information for the Cities of Maywood and Huntington Park as required in the Siting Regulations, Appendix B(h)(3).

**Response:** Contacts are provided in Table NO28-1.

TABLE NO28-1  
Involved Agencies and Agency Contacts

Agency	Contact/Title	Telephone
City of Huntington Park Community Development Department Planning Division 6550 Miles Avenue Huntington Park, CA 90255 <a href="http://www.huntingtonpark.org/">http://www.huntingtonpark.org/</a>	Adrian Gallo/ Planning Division	(323) 584-6250
City of Maywood Building and Planning Department 4319 E. Slauson Avenue Maywood, CA 90270 <a href="http://www.cityofmaywood.com/home/default.cfm">http://www.cityofmaywood.com/home/default.cfm</a>	Connie Hernandez/ Department Secretary	(323) 562-5723

29. Provide estimated levels of project noise, during both construction and operation, at these residential neighborhoods as required in the Siting Regulations, Appendix B(g)(4)(D).

**Response:** Table NO29-1 presents noise levels from various equipment at distances up to 3,000 feet. These results are conservative since the only attenuating mechanism considered was divergence of the sound waves in open air. Shielding effects of

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intervening structures are not included in the calculations nor is atmospheric attenuation. The noisiest construction activities are expected to be confined to the daytime hours.

TABLE N029-1  
Noise Levels from Common Construction Equipment at Various Distances

Construction Equipment	Typical Sound Pressure Level (dBA)		
	375 feet	1,500 feet	3,000 feet
Pile drivers (20,000-32,000 ft-lbs./blow)	86	74	74
Dozer (250-700 hp)	70	58	58
Front end loader (6-15 cu. yds.)	70	58	58
Trucks (200-400 hp)	68	56	56
Grader (13 to 16 ft. blade)	67	55	55
Shovels (2-5 cu. yds.)	66	54	54
Portable generators (50-200 kW)	66	54	54
Derrick crane (11-20 tons)	65	53	53
Mobile crane (11-20 tons)	65	53	53
Concrete pumps (30-150 cu. yds.)	63	51	51
Tractor (3/4 to 2 cu. yds.)	62	50	50
Unquieted paving breaker	62	50	50
Quieted paving breaker	55	43	43

Given the number of significant intervening structures between the residential uses and the project site it is difficult to provide operational noise estimates. The size and number of structures located in close proximity to the project site and the receptors is anticipated to result in significant shielding.

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**Technical Area: Soils and Water Resources**

**CEC Author:** Ellie Townsend-Hough/John Kessler

**BACKGROUND – STORMWATER DRAINAGE AND EROSION CONTROL**

Construction and operation of the Vernon Power Plant (VPP) may induce water and wind erosion at the 13.7-acre generation site, the adjacent 13.3-acre construction laydown/parking site, and along its linear facilities. Both the generation and laydown/parking sites are currently developed with existing industrial buildings and paving, which will be demolished and removed by the current property owner prior to initiating VPP construction. While the demolition and debris removal activity is considered a pre-project activity separate from VPP, the initial conditions for VPP construction will consist of recently disturbed soils, more vulnerable to erosion. Considering stormwater from the existing site already drains into the Los Angeles County Department of Public Works (LACDPW) storm drainage system, the quality of runoff during the approximately 2 years of construction can be significantly degraded until final drainage and erosion control measures applicable for VPP operations are employed. Discharge of stormwater runoff during VPP construction and operation is subject to a Flood Permit from LACDPW. This permit would specify limitations for flow rates and any requirements for water quality, and approval by the City of Vernon of a Drainage Concept and Stormwater Quality Plan.

In Appendix 8.14B of the AFC, the applicant has prepared an Administrative Draft of the Vernon Power Plant Construction Drainage, Erosion, and Sediment Control/Stormwater Pollution Prevention Plan (Construction DESC/SWPPP). The purpose of the draft Construction DESC/SWPPP during the AFC process is to provide staff with a document of sufficient detail that clearly identifies all potential impacts and mitigation measures, ensures that only the minimum area necessary is disturbed, protects disturbed and sensitive areas, retains and controls sediment on-site, and minimizes off-site effects of water and wind erosion. The project must comply with all applicable LORS and incorporate all related requirements of other responsible agencies, to include Los Angeles County Department of Public Works (LACDPW), City of Vernon, and the State Water Resources Control Board/Regional Water Quality Control Board (SWRCB/RWQCB).

The VPP Construction DESC/SWPPP provides much of the needed information for staff to evaluate the project. However, Commission staff and potentially LACDPW, requires some additional information on a conceptual planning level to assure proposed mitigation measures are adequate to avoid significant adverse impacts.

**DATA REQUEST**

30. Figure 1-4 in the Construction DESC/SWPPP provides a Conceptual Drainage Plan applicable to operations rather than construction. Please provide a Conceptual Drainage Plan applicable to construction, encompassing the combined total 27-acre generation and laydown/parking sites. The Conceptual Drainage Plan should indicate temporary drainage

**VERNON POWER PLANT  
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DATA RESPONSES, SET 1**

patterns, types and placement of proposed Best Management Practices (BMPs) for erosion control measures, including any detention/sediment control basins and the path for any offsite discharge into the LACDPW's stormwater drainage system.

**Response:** A conceptual Drainage Plan during construction is provided as Figure S&W30-1.

31. Provide an existing Site Topography Map, and a conceptual Rough Grading Plan, corresponding to the Conceptual Construction Drainage Plan as requested above.

**Response:** Since extensive demolition of existing site buildings and features is required to be conducted by the current site owner prior to development of the VPP, site topographic maps and rough grading plans are not available at this time. However, by agreement with the current owner, the site is to be provided to the City of Vernon in a cleared and flat condition.

32. Provide the flow rate and water quality design criteria and requirements for discharge of stormwater runoff during VPP construction and operation as would be specified under a Flood Permit from LACDPW.

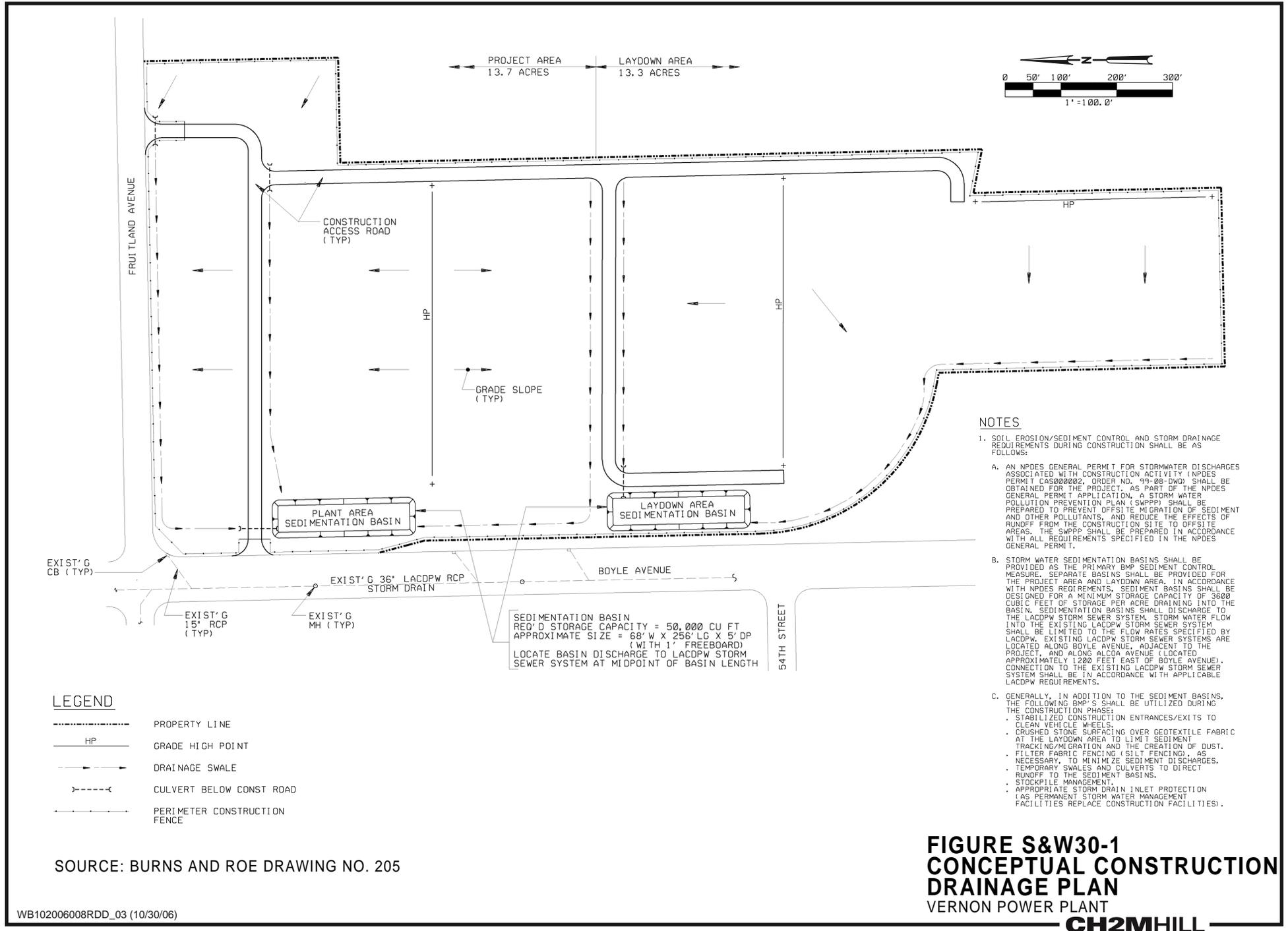
**Response:**

**General Site Characteristics**

The VPP plant will occupy a 13.7-acre site located at the corner of Boyle and Fruitland Avenues. A large building and surrounding parking lots currently occupy the proposed plant site. Parking areas for construction workers, laydown areas for construction materials and equipment, and office trailers areas will be located on a 13.3-acre site, located immediately south of the VPP plant site. The proposed laydown area site is currently occupied by buildings, asphalt surfaces, and some landscape vegetation. Under a purchase agreement between the City of Vernon and the property owner, the property owner will be responsible for removing all existing buildings and structures. After completion of construction, the 13.3-acre laydown area will be available for future use or development as determined by the City of Vernon. The 13.3-acre laydown area is not considered part of the VPP for the operations phase. Currently, stormwater runoff from the combined 27-acre site drains into the existing municipal storm sewer system, maintained by the Los Angeles County Department of Public Works (LACDPW), and located along Boyle Avenue.

**VPP Construction Phase**

The total area to be managed during the construction phase is 27 acres, divided hydrologically into the 13.7-acre VPP project area and the 13.3-acre laydown area (as shown on the Conceptual Construction Drainage Plan). The State Water Resources Control Board (SWRCB) is the permitting authority for the construction phase water quality and requires submission of a Notice of Intent for coverage under the statewide NPDES General Permit for Stormwater Discharges Associated with Construction



**NOTES**

1. SOIL EROSION/SEDIMENT CONTROL AND STORM DRAINAGE REQUIREMENTS DURING CONSTRUCTION SHALL BE AS FOLLOWS:
  - A. AN NPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (NPDES PERMIT CA000002, ORDER NO. 99-08-DWQ) SHALL BE OBTAINED FOR THE PROJECT. AS PART OF THE NPDES GENERAL PERMIT APPLICATION, A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE PREPARED TO PREVENT OFFSITE MIGRATION OF SEDIMENT AND OTHER POLLUTANTS, AND REDUCE THE EFFECTS OF RUNOFF FROM THE CONSTRUCTION SITE TO OFFSITE AREAS. THE SWPPP SHALL BE PREPARED IN ACCORDANCE WITH ALL REQUIREMENTS SPECIFIED IN THE NPDES GENERAL PERMIT.
  - B. STORM WATER SEDIMENTATION BASINS SHALL BE PROVIDED AS THE PRIMARY BMP SEDIMENT CONTROL MEASURE. SEPARATE BASINS SHALL BE PROVIDED FOR THE PROJECT AREA AND LAYDOWN AREA. IN ACCORDANCE WITH NPDES REQUIREMENTS, SEDIMENT BASINS SHALL BE DESIGNED FOR A MINIMUM STORAGE CAPACITY OF 3600 CUBIC FEET OF STORAGE PER ACRE DRAINING INTO THE BASIN. SEDIMENTATION BASINS SHALL DISCHARGE TO THE LACDPW STORM SEWER SYSTEM. STORM WATER FLOW INTO THE EXISTING LACDPW STORM SEWER SYSTEM SHALL BE LIMITED TO THE FLOW RATES SPECIFIED BY LACDPW. EXISTING LACDPW STORM SEWER SYSTEMS ARE LOCATED ALONG BOYLE AVENUE, ADJACENT TO THE PROJECT, AND ALONG ALCOA AVENUE (LOCATED APPROXIMATELY 1200 FEET EAST OF BOYLE AVENUE). CONNECTION TO THE EXISTING LACDPW STORM SEWER SYSTEM SHALL BE IN ACCORDANCE WITH APPLICABLE LACDPW REQUIREMENTS.
  - C. GENERALLY, IN ADDITION TO THE SEDIMENT BASINS, THE FOLLOWING BMP'S SHALL BE UTILIZED DURING THE CONSTRUCTION PHASE:
    - STABILIZED CONSTRUCTION ENTRANCES/EXITS TO CLEAN VEHICLE WHEELS.
    - CRUSHED STONE SURFACING OVER GEOTEXTILE FABRIC AT THE LAYDOWN AREA TO LIMIT SEDIMENT TRACKING/MIGRATION AND THE CREATION OF DUST.
    - FILTER FABRIC FENCING (SILT FENCING), AS NECESSARY, TO MINIMIZE SEDIMENT DISCHARGES.
    - TEMPORARY SWALES AND CULVERTS TO DIRECT RUNOFF TO THE SEDIMENT BASINS.
    - STOCKPILE MANAGEMENT.
    - APPROPRIATE STORM DRAIN INLET PROTECTION (AS PERMANENT STORM WATER MANAGEMENT FACILITIES REPLACE CONSTRUCTION FACILITIES).

**LEGEND**

- PROPERTY LINE
- HP GRADE HIGH POINT
- DRAINAGE SWALE
- )-)-)- CULVERT BELOW CONST ROAD
- PERIMETER CONSTRUCTION FENCE

SEDIMENTATION BASIN  
 REQ'D STORAGE CAPACITY = 50,000 CU FT  
 APPROXIMATE SIZE = 68' W X 256' LG X 5' DP  
 (WITH 1" FREEBOARD)  
 LOCATE BASIN DISCHARGE TO LACDPW STORM SEWER SYSTEM AT MIDPOINT OF BASIN LENGTH

SOURCE: BURNS AND ROE DRAWING NO. 205

**FIGURE S&W30-1**  
**CONCEPTUAL CONSTRUCTION**  
**DRAINAGE PLAN**  
 VERNON POWER PLANT  
**CH2MHILL**

# **VERNON POWER PLANT (06-AFC-4) DATA RESPONSES, SET 1**

Activity (NPDES Permit CAS000002, Order No. 99-08-DWQ). To comply with the NPDES General Construction Permit, the Design Engineer will develop a final Stormwater Pollution Prevention Plan (SWPPP) based upon the administrative draft of the SWPPP included in Appendix 8.14B of the AFC. The SWPPP will minimize offsite migration of sediment and other pollutants, and reduce the effects of runoff from the construction site to offsite areas through the installation and maintenance of Best Management Practices (BMPs) meeting the NPDES General Construction Permit's technology standards (BAT/BCT). During the Construction Phase, the Contractor will be required to follow the SWPPP. BMPs to be used at the site will be fully addressed in the SWPPP, including location, installation requirements, and maintenance schedules.

The Conceptual Construction Drainage Plan includes provisions for installation of sediment basins, sized to satisfy the NPDES General Construction Permit requirements for water quality. There will be an adequate combination of erosion and sediment control BMPs per the NPDES General Construction Permit requirements, and the sediment basins will be the primary BMP sediment control measure at the site during the construction phase. Separate sediment basins are planned for the project area and laydown area. In accordance with the NPDES General Construction Permit, the basins will be sized for a minimum storage capacity of 3,600 cubic feet of storage per acre draining into the basin. Sediment basins with approximately 50,000 cubic feet of storage will be required at the project area and laydown areas. The final sediment basin design, connection points to the LACDPW storm sewer system, and permissible flow rates into the LACDPW storm sewer system will be developed by the Design Engineer during the detailed design phase in consultation with LACDPW.

Generally, in addition to the sediment basins, the following BMPs will be used at the site during the construction phase (list is not exclusive, final SWPPP will have complete BMP list):

- Stabilized construction entrances/exits to clean vehicle wheels at both the plant site and construction laydown areas.
- Crushed stone surfacing over geotextile fabric at the laydown area to limit sediment tracking/migration and the creation of dust.
- Filter fabric fencing (silt fencing), as necessary, to minimize sediment discharges.
- Temporary drains and swales to direct runoff to the sediment basins.
- Stockpile management.
- Appropriate storm drain inlet protection (as permanent stormwater management facilities replace construction facilities).
- Cover and containment practices for construction material management.
- BMPs to manage solid and liquid construction wastes.
- BMPs governing the proper application of masonry and pavement materials to minimize water quality risks.

# **VERNON POWER PLANT (06-AFC-4) DATA RESPONSES, SET 1**

Stormwater flow rates during the construction phase will vary depending upon the phase of construction; however, rates are expected to be lower during construction than flow rates under either the pre-construction phase (the site under current conditions is completely covered by impervious surfaces) or the operations phase (where the majority of the site will be covered by impervious surfaces); this reduced flow rate during construction is due to the greater percentage of the site being pervious surface. As stated above, the site will be delivered to the City of Vernon from the current site owner as a clean and level site generally devoid of impervious surfaces. The stormwater detention basins discussed above, in combination with other construction phase BMPs, will serve not only as water quality devices but will also serve to reduce peak flow rates during construction. Through implementation of BMPs, such as the proposed sedimentation basins, stormwater flows from the site will be controlled as required by the applicable NPDES General Construction Permit. Control of flow through compliance with the NPDES Construction Permit and the site conditions during construction (more pervious surfaces than under existing conditions) will equate to flow rates and volumes to the LACDPW storm drain system below that of existing conditions. Compliance with the NPDES General Construction Permit will satisfy the necessary construction mitigation required by regulations applicable to the LACDPW (LA County Code §§ 12.80.450, 12.80.510) and to the City of Vernon (City Code § 21.5.5, "Control of Pollutants from Industrial Activities").

## **VPP Operation Phase**

The total developed area for the operation phase is approximately 13.7 acres. The 13.3-acre laydown area is not considered part of the VPP for the operations phase. The laydown area will be left in a stabilized condition as required by the NPDES General Construction Permit – through a combination of crushed stone surfaces, landscaping, or equivalent. Due to the lack of developed structures or impervious parking areas at the laydown site, that area will not trigger the requirements of the Standard Urban Stormwater Management Plan (SUSMP) program; therefore, no permanent water quality treatment devices will be provided for the laydown site by the City of Vernon as part of the VPP. Future development of the laydown area by the City of Vernon or other site owners will determine the applicability of the SUSMP program to the 13.3-acre parcel.

Impervious surfaces (i.e., buildings and pavement) cover the entire existing site, making the runoff coefficient during current conditions 0.95. After development of the VPP, approximately 9 percent of the site will be dedicated to areas that retain runoff (i.e., the cooling tower, ammonia unloading area, and the step-up/auxiliary transformer areas). These retention areas will not discharge to the plant storm drain system and, therefore, will not contribute to the peak flow associated with the drainage system design storm (these areas will drain to the sanitary sewer). For the remaining developed project areas, approximately 51 percent will be impervious surfaces (i.e., buildings, equipment, foundations and pavement), and 40 percent will be pervious surfaces (i.e., crushed stone surfacing and grass). Runoff coefficients associated with the pervious and impervious surfaces of the VPP site in the post-development condition are 0.95 and 0.70, respectively. Because the overall site runoff coefficient is decreasing

# **VERNON POWER PLANT (06-AFC-4) DATA RESPONSES, SET 1**

(i.e., areas of the VPP will not drain to the storm drain system) and because the VPP will include stormwater detention basins (see further below), the volume and rate of runoff from the developed project site will be less than values currently generated at the existing site.

An LACDPW Flood Permit Application will be required for connection of the VPP site to the existing LACDPW storm sewer system. Stormwater flow into the existing LACDPW storm sewer system is limited by the existing available LACDPW storm sewer system capacity. The Drainage Plan included with the AFC (Figure 8.14-3) provides for a permanent stormwater detention basin to ensure that the stormwater flow from the site can be reduced below the LACDPW maximum specified flow rates. The stormwater detention basin has been sized to retain all stormwater runoff from a 10-year design storm (10-year design storm frequency specified by the LACDPW Hydrology Manual). The total runoff from the 10-year design storm can be stored in the detention basin. Allowing discharge from the detention basin to be delayed for gradual release into the LACDPW storm sewer system after the design storm event. For the basin discharge, use of a “normally closed” valve (with gravity flow to the LACDPW storm sewer system), or a pumped system (if hydraulics constraints prohibit the use of a gravity system) ensures that the LACDPW storm sewer system will not be adversely affected during the design storm event. The final design of the detention basin, its connection points to the LACDPW storm sewer system, and permissible flow rates into the LACDPW storm sewer system will be confirmed by the Design Engineer during the detailed design phase of the project in consultation with LACDPW and in accordance with the LACDPW Hydrology Manual and by reference to the AFC. Consultation with LACDPW and successful issuance of the Flood Permit will ensure that drainage impacts to the LACDPW storm sewer system are adequately mitigated.

Stormwater from the site will be discharged to the LACDPW storm sewer system. As discussed in AFC Subsection 8.14.6.3, because this site is considered “redevelopment,” a SUSMP will be developed by the Design Engineer and submitted to the City of Vernon and LACDPW. It will detail the proposed facilities and measures to mitigate impacts to water quality during the post-construction phase. The SUSMP requires post-construction treatment control for the volume of runoff produced by the 0.75-inch design storm event, prior to discharge to a stormwater conveyance system.

As previously discussed, the VPP Drainage Plan includes provisions for installation of a stormwater detention basin serving the 13.7-acre VPP site and providing control of runoff volumes/rates; this detention basin will also serve as a treatment control BMP meeting the SUSMP program’s requirements for design storm event.

In accordance with the SUSMP requirements and the requirements of the statewide NPDES General Permit for Stormwater Discharges Associated with Industrial Activities (discussed in Subsection 8.14.6.3 of the AFC), additional BMPs will be implemented during the operation phase to ensure that downstream water quality is protected. BMPs will be selected by the Design Engineer, in consultation with the LACDPW, to address the potential pollutants generated onsite, including industrial areas exposed to the elements, material loading/storage areas, dust generating activities, spill and leak

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prevention, potential non-stormwater flows, waste handling, employee training, and the monitoring program and reporting requirements. Specific BMPs that could be used are listed below:

## Structural Stormwater Management Controls

- **Secondary Containment and Covering of Potential Pollutants.** The secondary containment will consist of concrete berms or walls around all hazardous materials storage areas. All hazardous wastes including waste lubricant materials and solvents will be stored in closed containers that meet the City of Vernon Fire Department's approval. The waste containers will be stored in a designated area that will be covered and will have secondary containment. The location of hazardous waste storage will be identified in the final design drawings and described in this plan.

Liquid wastes, empty drums and containers will be stored in specified collection areas prior to removal or disposal. Thus, collected wastes will be isolated from contact with stormwater.

- **Stormwater Retention Basins.** A large stormwater retention basin will be in place onsite (see AFC Figure 8.14-3). This basin will be designed to capture the first 3/4-inch of storm runoff from each storm event in compliance with the SUSMP.

## Management Practices

The management practices to be used will consist of procedures and policies designed to ensure that equipment is operated in a manner that minimizes the contact of potential pollutants with stormwater. They would include:

- Spill Prevention and Response
- Maintenance Schedules (including visual inspections)
- Erosion Control
- Annual Update of the Stormwater Pollution Prevention Plan
- Employee Training of personnel responsible for implementing the SWPPP
- Waste Collection, Recycling and Disposal Practices
- Record Keeping Procedures

Compliance with the NPDES General Industrial Permit and the SUSMP program will satisfy the necessary operational water quality mitigation required by regulations applicable to the LACDPW (LA County Code §§ 12.80.400, 12.80.470, 12.80.520) and to the City of Vernon (Environmental Health Dept. "Stormwater pollution prevention and standard urban stormwater mitigation plan approval guide").

33. Provide the flow rate and water quality design criteria and requirements for discharge of stormwater runoff during VPP construction and operation as is

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specified by City of Vernon of a Drainage Concept and Stormwater Quality Plan.

**Response:** As described in Section 8.14.2.3.3 of the AFC, discharge of stormwater into the storm drainage system is regulated under Chapter 21 of the Vernon Municipal Code (Stormwater and Runoff Pollution Control). The requirements of Chapter 21 simply provide local authority to implement the requirements of the countywide general permit for stormwater discharges (NPDES Permit CAS004001), commonly known as the SUSMP requirements. This includes submitting a drainage plan and stormwater BMPs, including appropriate calculations, as described above in the response to Data Request 32. There is no separate local requirement for a "Drainage Concept and Stormwater Quality Plan."

34. Provide calculations of storm water flow rate estimates for construction and operational phases as applicable to demonstrate compliance with design criteria and requirements for both LACDPW and City of Vernon.

**Response:** See Data Response #32.

35. Address the need for a stormwater detention/sediment control basin during construction. If needed, please provide the calculations for sizing the basin and note the location of the basin on the Conceptual Construction Drainage Control Plan.

**Response:** See Data Response #32.

36. Appendix B of the Construction DESC/SWPPP provides calculations for sizing the stormwater detention basin for the operational phase of the project applicable to only the generation site area of 13.7 acres. If during operations the 13.3-acre laydown/parking area will combine its drainage with the generation area, please provide calculations supporting the total 27-acre drainage area. If the two areas will drain separately into the LACDPW storm drain system, please provide conceptual drainage plans and calculations supporting this configuration to demonstrate compliance with the design criteria and requirements of LACDPW and City of Vernon.

**Response:** See Data Response #32.

### **BACKGROUND – WATER SUPPLY**

Recycled water for VPP industrial purposes will be provided by Central Basin Municipal Water District (CBMWD). Backup industrial water supply will consist of potable water from the City of Vernon's potable water system. The VPP is estimated to require an average annual supply of 6,266 acre-feet/year of recycled water, with about 96% used for cooling, and the balance used for inlet air-cooling to the gas turbines, makeup water for the Heat Recovery Steam Generators, and landscape irrigation. The existing uses of recycled water within CBMWD's service area are primarily for landscape irrigation, representing about 85% of the total, with the balance used for industrial purposes. Industrial use is expected to significantly

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increase in the future, as particularly attributable to the Malburg Generating Station and VPP. As demands for regional and statewide fresh water supplies increase with the growing population, there will be an increasing demand for recycled water to replace deliveries for non-potable uses of water that have been traditionally supplied with fresh water.

**DATA REQUEST**

37. AFC Table 7.3-1 provides the Projected Recycled Water Use within CBMWD Service Area through the year 2030. However, there is no comparison of the available supply for meeting those demands. Please provide projections through 2030 of the expected supply of recycled water available to the CBMWD.

**Response:** Recycled water is provided to CBMWD by the Sanitation Districts of Los Angeles County (LACSD) from their Los Coyotes and San Jose Creek Water Reclamation Plants (WRPs). The Los Coyotes WRP produced 36,852 acre-feet of recycled water during Fiscal Year (FY) 2004-2005; of this amount, 5,041 acre-feet was reused and the remaining water was discharged into the San Gabriel River. The San Jose Creek WRP (consisting of two separate plants - San Jose Creek East and San Jose Creek West) produced a combined 90,866 acre-feet of recycled water during FY 2004-2005; of this amount, 24,508 acre-feet was reused and the remaining water was discharged into the San Gabriel River. The majority of LACSD's recycled water use is for groundwater recharge; because this use is not time-dependent, industrial customers are typically guaranteed an uninterrupted supply during off-peak periods and scheduled maintenance periods. A major expansion of the San Jose Creek WRP is planned within a 10-year timeframe; the expansion would increase recycled water production by about 25 percent. No information is available for the 2030 timeframe; however, as shown by these numbers, there is substantial amount of excess recycled water being produced by these two sources.

38. Please provide a projected monthly schedule for VPP recycled water demands in acre-feet/month for both the average and peak annual water demand conditions.

**Response:** The monthly breakdown of peak annual recycled water use is shown on the following table.

TABLE S&W38-1  
Monthly Breakdown of Peak Annual Recycled Water Use

Month	Peak Recycled Water Use (acre-feet/month)
January	506.7
February	460.2
March	512.4
April	502.0

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TABLE S&W38-1  
Monthly Breakdown of Peak Annual Recycled Water Use

Month	Peak Recycled Water Use (acre-feet/month)
May	534.5
June	530.0
July	547.7
August	564.5
September	542.8
October	547.7
November	508.2
December	509.5
<b>TOTAL</b>	<b>6,266</b>

As noted in the AFC (Table 2.2-1), the annual recycled water consumption value of 6,266 acre-feet is based on full load operation for 8,760 hours per year. This very conservative value represents the peak use. In actual operation, the recycled water consumption will be a function of the operating hours and operating load as determined by the electricity demand in the VPP service area.

An alternate operating scenario, based on an assumed annual plant capacity factor of 80 percent is presented in the following table to illustrate a monthly variation in recycled water consumption under average annual conditions.

TABLE S&W38-2  
Monthly Breakdown of Average Annual Recycled Water Use

Month	Average Recycled Water Use (acre-feet/month)
January	391.1
February	332.2
March	334.6
April	325.8
May	349.1
June	404.4
July	531.2
August	547.5
September	526.5

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TABLE S&W38-2  
Monthly Breakdown of Average Annual Recycled Water Use

Month	Average Recycled Water Use (acre-feet/month)
October	449.6
November	430.9
December	409.6
<b>TOTAL</b>	<b>5,032</b>

39. Please describe any seasonal variations in the availability of CBMWD's recycled water, and the ability of CBMWD to meet both VPP's average and peak annual water demands.

**Response:** LACSD provides recycled water to the CBMWD recycled water system from its San Jose Creek and Los Coyotes WRPs. These plants produce recycled water year-round, reliably producing 81.11 million gallons per day (mgd) and 32.89 mgd, respectively. Additional wastewater inflows occur in the winter when rainwater infiltrates into the wastewater system; however, this additional flow does not affect LACSD's reliable production capacity. Compared to VPP's average and peak daily demand – 3,885 gpm (5.6 mgd) and 5,000 gpm (7.2 mgd), respectively – adequate production capacity clearly exists. The current limitation is CBMWD's distribution system, which will be addressed by the Southeast Water Reliability Project described in Section 7.3.2 of the AFC.

40. Based on the historical reliability of the CBMWD's recycled water system, please describe the circumstances and expected frequency that VPP may need to depend on potable water for meeting its industrial water supply, and the associated annual volume of potable water for meeting VPP industrial purposes.

**Response:** LACSD typically conducts approximately three maintenance procedures at each of its plants per year, usually during off-peak periods (e.g., 8:00 p.m. to 8:00 a.m.) to minimize disruptions to the recycled water system. The maintenance activities are conducted on only one plant at a time so that adequate flow to the recycled water system is provided by the other plants. Based on the historical reliability of CBMWD's recycled water system, it is expected that VPP may need to depend on potable water for meeting its industrial supply for 3 to 4 days per year. Use of this alternative supply will be required for maintenance activities or unscheduled shutdowns (usually related to poor water quality events that temporarily stop the production of recycled water). Based on the expected industrial water use described in the AFC, between 52 and 88 acre-feet of potable water per year could be required. This is an addition to the 0.34 acre-feet normally expected for potable water use (e.g., sinks, showers), but doesn't include any potable water that

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might be used for fire suppression. It is possible that longer shutdowns of the recycled water system could occur due to catastrophic events. The last major disruption - a major upset at one of the LACSD treatment plants - occurred in 1981. If such an event occurred, LACSD would work diligently to get its treatment plant back online as soon as possible and service should not be disrupted for more than 1 or 2 weeks. VPP requests the ability to use potable water should such a catastrophic event occur.

41. Please explain the need for VPP to secure a recycled water supply contract amount of 13,500 acre-feet/year when its average annual use is estimated to be 6,266 acre-feet/year.

**Response:** The contract is for recycled water for the City of Vernon's use, not solely for VPP.

## **BACKGROUND - WASTEWATER**

Table 8.14-5 of the AFC provides a Summary of Average Water Quality Characteristics for VPP Wastewater Compared to Los Angeles County Sanitation District's (LACSD) Industrial Discharge Limits, excluding Total Dissolved Solids (TDS). The AFC describes the need to discharge cooling water in order to maintain the concentration of dissolved solids within acceptable ranges. Cooling tower blowdown will be discharged to LACSD's sanitary sewer line and be subject to specifications of an Industrial Wastewater Discharge Permit. In many cases, power plants are limited in the cycles of concentration of cooling water subject to the discharge limits for TDS.

## **DATA REQUEST**

42. Please provide the estimated concentration of TDS for the VPP wastewater compared to Los Angeles County Sanitation District's (LACSD) industrial discharge limits.

**Response:** LACSD wastewater discharge limitations are summarized in Table 8.14-5 of the AFC; there is no standard for TDS. This is because LACSD discharges to the ocean (average TDS of approximately 33,000 - 35,000 mg/L).

43. Provide a comparison for managing industrial wastewater from a Zero-Liquid Discharge System versus the proposed discharge to LACSD's sanitary sewer system. For each alternative, please include a description of the process and equipment necessary, operational and disposal issues, a brief preliminary environmental assessment, advantages/disadvantages, and capital and operation/maintenance costs.

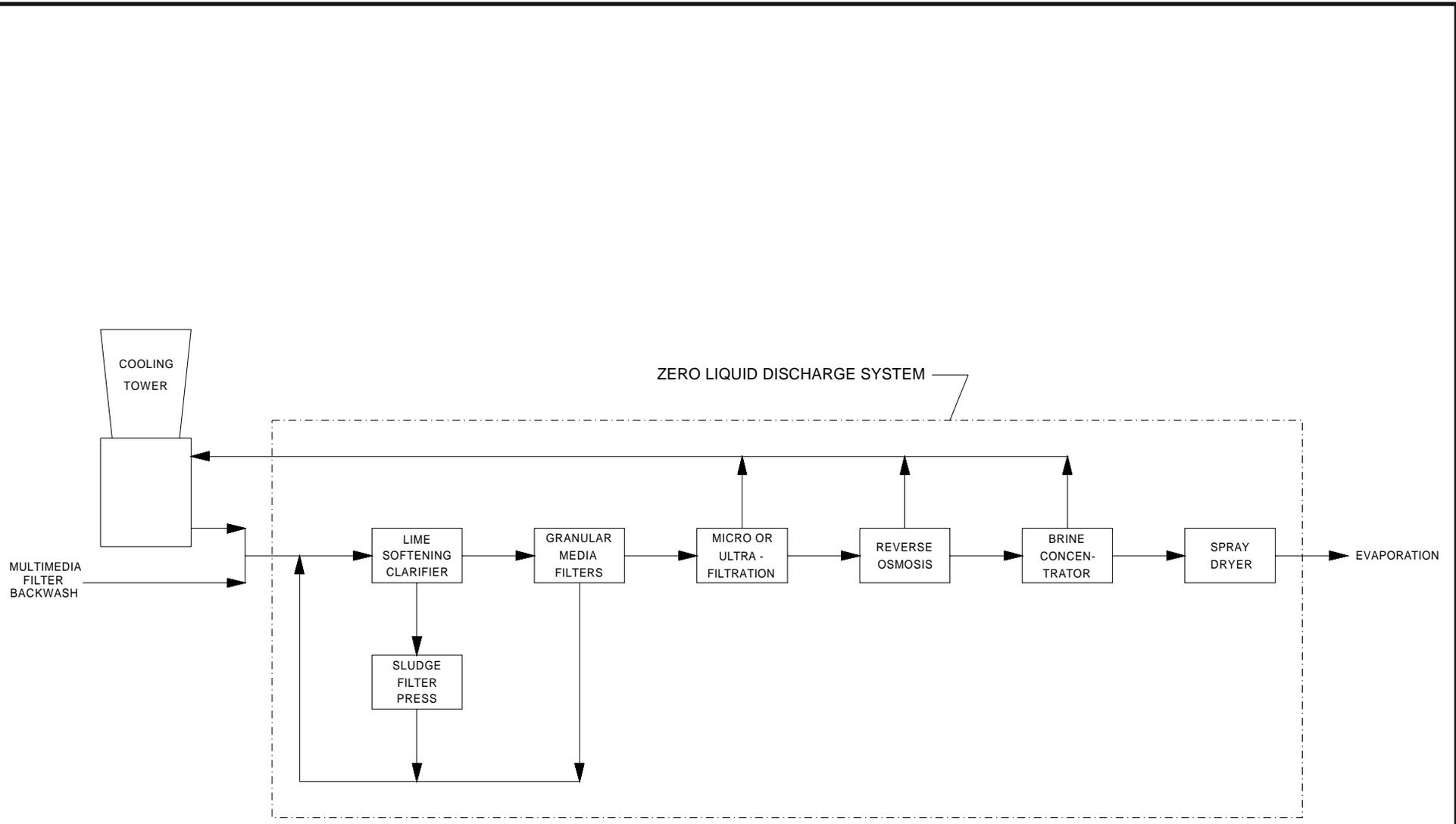
**Response:** As indicated on the plant water balance diagram (Figure 2.2-6a) approximately 765 gpm of wastewater is discharged to the sanitary sewer system under annual average conditions. With a zero-liquid discharge system this discharge would be eliminated. A power plant designed for zero-liquid discharge would consume

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approximately 18 percent less recycled water because treated wastewater from the zero-liquid discharge system would be returned to the cooling tower allowing a higher number of cycles of concentration. However, since a power plant designed for zero-liquid discharge does not return any wastewater, the net water consumed by the plant (recycled water supplied less wastewater returned) is essentially unchanged.

A description of the process and necessary equipment for a zero-liquid discharge system is as follows:

- The attached schematic diagram (Figure S&W43-1) shows the major system components.
- Approximately 800 gpm of cooling water would first be treated in a lime softening clarifier where lime, soda ash, coagulant, and polymer would be added to reduce hardness and silica. Lime and soda ash would be stored in silos, added to mixing tanks by dry chemical feeders, and pumped to the clarifier. Coagulant and polymer would be stored in tanks and added to the clarifier by metering pumps.
- Settled sludge from the clarifier would be pumped to a vertical sludge storage tank and then dewatered in a filter press. Filter press filtrate would be recycled to the clarifier inlet and dewatered solids would be disposed in a landfill.
- Clarifier effluent pH would be reduced by sulfuric acid addition.
- Clarifier effluent would be pumped through granular media filters. Filter backwash would be recycled to the clarifier inlet.
- Granular filter effluent would be pumped through micro or ultra filtration membranes to a permeate tank. Approximately 40 gpm of micro or ultra filtration backflush (5 percent of the quantity filtered) would be recycled to the cooling tower.
- Approximately 760 gpm of micro or ultra filtration permeate would be pumped through reverse osmosis membranes to a second permeate tank. Approximately 665 gpm of reverse osmosis permeate (87.5 percent recovery) would be recycled to the cooling tower.
- Approximately 95 gpm of reverse osmosis reject would be treated in a vapor compression type brine concentrator. Approximately 76 gpm of treated brine concentrator effluent would be recycled to the cooling tower (80 percent recovery).
- The remaining 19 gpm of concentrate from the brine concentrator would be evaporated in a natural gas fired spray dryer. Solids remaining after evaporation would be sent to a landfill.



SOURCE: BURNS AND ROE

**FIGURE S&W43-1**  
**SCHEMATIC ZLD SYSTEM**  
 VERNON POWER PLANT

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Some operational and disposal issues associated with a zero liquid discharge system are as follows:

- The system would require a minimum of one operator for three shifts per day, seven days per week.
- Truck deliveries of lime, soda ash, coagulant (ferric sulfate solution), polymer, sulfuric acid, sodium bisulfite, and antiscalant would be required.
- Dewatered sludge from the filter press and solids from the spray dryer would need to be transported to a landfill by trucks.

A power plant designed for zero liquid discharge would not discharge wastewater to the sanitary sewer and would utilize approximately 18 percent less water than the present VPP design (due to increased water recycling through the zero-discharge system), but the zero discharge system would have the following additional environmental impacts:

- Additional space on the site would be required for the zero liquid discharge system. Outdoor equipment would be installed in an area approximately 50 feet by 150 feet. Indoor equipment would be installed in a building approximately 50 feet by 100 feet. These areas would be excavated and concrete foundations constructed.
- Dewatered sludge from the filter press and solids from the spray dryer would be disposed in a landfill.
- A gas fired spray dryer would discharge combustion products to the atmosphere. The use of steam to evaporate the remaining brine concentrate is an alternative, but is more complex and negatively impacts power plant output.
- The height of the lime and soda ash silos, and gas fired spray dryer would have a visual impact not present with the present proposed VPP configuration.

The capital, operational, and maintenance costs associated with a power plant designed for zero liquid discharge are as follows:

- The installed cost of a zero liquid discharge system is estimated to be \$ 9.5 to \$ 10 million.
- The operating and maintenance costs for a zero liquid discharge system are estimated to be \$1,500,000 per year. This includes power consumption, gas use for the spray drier, filtration and RO membrane replacement parts, additional plant operators, and chemical costs.

The capital, operational, and maintenance costs associated with a power plant designed to discharge wastewater to the sanitary sewer (as the proposed VPP is presently designed) would include an initial cost of about \$6.5 million to cover the purchase of sewer capacity units and the pipeline for the sewer connection, and annual discharge fees of about \$340,000.

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In summary, the advantage of a power plant designed for zero liquid discharge is that it would not discharge brackish wastewater to the sanitary sewer and would use moderately lower amounts of source water. The disadvantages of a power plant designed for zero liquid discharge include a higher capital and operating cost, increased land use and potential environmental impacts associated with gas firing in the spray dryer and solid waste disposal, and increased truck traffic.

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**Technical Area: Waste Management**

**CEC Author:** Ellie Townsend-Hough

**BACKGROUND**

Staff needs additional information in order to assess potential impacts from soil excavation during construction of the proposed Vernon Power Project. Section 8.13.3 of the AFC Waste section states that Phase II Environmental Site Assessment (ESA) detected soil contamination by Stoddard solvent at the proposed project site.

**DATA REQUEST**

44. Please provide 7 copies of the Vernon Power Plant Phase II ESA.

**Response:** The Phase II ESA has not been released. It will be submitted when it becomes available.

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**Technical Area: Traffic and Transportation**

**Author:** James Adams

**BACKGROUND**

Staff relies on information in the Application for Certification (AFC) to assess the existing traffic and transportation system near the proposed power plant site, and to analyze the impacts from project construction and operation. On pg. 8.10-2 of the Traffic and Transportation section of the AFC, it notes that construction personnel will commute to four construction parking areas. The location or size of these areas is not provided. However, pg. 8.10-19 has a statement that construction parking areas will be located on a separate 13.3 acre parcel south of the plant site.

**DATA REQUEST**

45. Please explain the discrepancy between the two statements and provide the location and dimensions of the parking areas on Figure 8.10-2 (Local Roadways).

**Response:** The reference to four parking areas is an error. Construction parking will be located on the 13.3-acre parcel south of the plant site. The third sentence in the first full paragraph on page 8.10-12 of the AFC, is revised to read as follows:

“To provide a ‘worst-case’ analysis, it is assumed that ~~most of~~ the construction personnel will commute to ~~four~~ the construction parking areas in private automobiles using a typical vehicle occupancy rate of 1.15 persons per vehicle.”

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**Technical Area: Visual Resources**

**Author:** Gary Collard

**BACKGROUND**

The AFC's analysis of KOP 2, relative to the Randolph Street transmission line, indicates that the proposed 230 kV line would replace the existing 66 kV line with "new poles spaced twice the distance as the existing poles, reducing the visual clutter on Randolph Street." In the KOP 2 simulation, the new poles appear to be in the same general location, with the same spacing, as the existing poles, and the existing poles are reduced in height but still in place (apparently to provide power to the businesses and residences along the street). Therefore the AFC's analysis of the project's pole construction and replacement activities, and the associated visual impact, does not appear to match the simulation provided.

**DATA REQUEST**

46. Please provide a corrected KOP 2 simulation or a corrected AFC analysis of pole construction and replacement activities, and the associated visual impact.

**Response:** During conceptual design of the 230 kV inter-tie to Laguna Bell several different transmission pole structures were considered. The original concept presumed that LADWP would be willing to share its current Century to Velasco 230 kV right-of-way from the plant to Laguna Bell. A medium span tower was proposed for this conceptual design. This design was to be used throughout the entire length to the interconnection. When LADWP informed Vernon that they would not share their right-of-way, the route was modified to follow Alcoa Street. To accomplish this, a "short-span" pole was selected as the conceptual basis for the visual simulation on this portion of the route. The assumption was made that this new "short-span" pole would be used throughout the route. For the portion of the route along Alcoa Street, the poles will most likely have to be placed with a short span length of approximately 150 feet, which is the average span length of the existing 66 kV poles. This short span length is required by the need to limit conductor "blow-out" along this congested section of the route. However, along Randolph Street the span length can be doubled, or tripled depending on the detailed design that requires significant engineering, land surveying, and public coordination effort. At the final engineering stage, it is intended to have the new towers located at optimal sites that will be approximately at every other existing transmission pole on the transmission route.

However, to present the most-conservative, worst-case impact, the simulation (AFC Figure 8.11-3) indicates a new transmission pole at the site of each existing 66 kV transmission pole location. The written analysis of the project's impact on the view from KOP 2 provided in the AFC reflected the expected visual conditions, not the worse-case seen in the simulation presented as AFC Figure 8.11-3. VPP would be pleased to submit a new simulation but it is felt that this would be misleading as well for several reasons. First, we believe that detailed design with survey, plan and profile,

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and public input will produce a line that is significantly more appealing than even one showing alternate poles replaced. The line will be optimized so that poles are located according to a wide variety of criteria that were not a concern when the 66 kV line was put in service. For example, poles can be located away from intersections and other high visibility locations. Second, the pole design itself may change. SCE has indicated a preference for a “vee-string” pole and information available during detailed design is likely to identify opportunities for improvements with respect to visual impact and other aspects as well.

There is one minor change to the text in Subsection 8.11.3.4.2 that we should note. In the first paragraph of that subsection, it states, “The new 230-kV transmission line would replace an existing 66-kV transmission line in the same aboveground utility corridor on the north side of Randolph Street.” That sentence should be revised to state that the utility corridor is in the median of Randolph Street.

### **BACKGROUND**

The AFC indicates that the Randolph Street transmission line route will traverse a distance of 4.4 miles, through several cities, between the proposed power plant and the substation located in the City of Bell Gardens. It appears there are numerous residences, businesses, and a high school, among other uses, along Randolph Street which will have a view of the proposed power line. Portions of the 4.8-mile River Route transmission line, particularly the last mile along Randolph Street, (KOP 3) will also be visible from residences, businesses and the high school along Randolph Street. The AFC does not identify the number of residences, businesses and other land uses that potentially will be affected by the visual impact of the proposed transmission lines.

### **DATA REQUEST**

47. Please provide the number of residences, businesses, and other land uses that could potentially be affected by the visual impact of the proposed Randolph Street and River Route transmission corridors.

**Response:** It is likely that a large number of people will benefit from the visual and safety improvements the new VPP-related line will add. While the electric power capability of the circuits is being greatly increased, the net visual impact will be improved by replacing a line designed to standard of the first half of the last century with one designed to meet today’s standards. With respect to visual impacts, for this line this will mean fewer poles, located at safer and less conspicuous locations, designed to maximize the use of natural and manmade features to minimize visual impacts. In addition to meeting minimum clearance requirements, pole heights can be chosen to minimize visual impact and EMF. Poles will be new, steel construction with appropriate foundations so poles that are not quite plumb will no longer exist. Guy wires used to stabilize old wood poles are no longer necessary. At the most fundamental level, this transmission line will be designed with visual aesthetics as a criterion; whereas, it is highly likely that the 66 kV line to be replaced was designed to strictly utilitarian criteria.

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Land use conditions along the proposed Randolph Street transmission line corridor vary by segment. A segment by segment description of these conditions is provided below.

The approximately one mile portion of the Randolph Street transmission line route that lies between the power plant site and Randolph Street travels along an existing transmission corridor that is lined on both sides by properties occupied by large, boxy buildings devoted to industrial and warehouse activities.

From Bissel Street where the transmission line route joins Randolph Street to the Los Angeles River, the total distance is 2.3 miles. Along this transmission line segment, Randolph Street is 177 to 200 feet wide, and for most of its length, the center of the street is occupied by a median that accommodates a rail line and two transmission lines. The proposed transmission line would consist of a replacement of one of the transmission lines that now occupies the median. This median ranges from 100 to 120 feet in width. From Maywood Avenue to Fishburn Avenue, the northern half of this median is thickly planted with shrubs and large trees. From Fishburn Avenue eastward to the Los Angeles River, the planting along the median's northern half is less dense than it is west of Fishburn Avenue. Close analysis of recent air photos indicates that there is a total of nearly 240 residential properties that line Randolph Street between Bissel Street and the river. Because some of these properties include more than one residential unit, the total number of individual dwelling units is likely to be more than 240.

There are some substantial differences in the orientation of the residential structures to the proposed transmission line alignment. Along the north side of Randolph Street, there are 63 residential properties in the area between Maywood Avenue and Fishburn Avenue. Because of the dense tree and shrub planting in the northern half of the median strip in the center of the street, views toward the proposed transmission corridor are substantially screened. Between Fishburn Avenue and the river, where the screening is less dense, there is a total of 54 residential properties, and from these properties, the views toward the proposed transmission alignment are partially screened. In the area along the south side of Randolph Street between Maywood Avenue and Carmelita Avenue, there are 23 residential properties, but these properties actually front on Randolph Place, a street that parallels Randolph Street to the south. As a consequence, it is the garages and back fences of these properties that line Randolph Street, and thus the transmission line route is not prominently visible in the primary views from these properties. From Carmelita Street eastward to the Los Angeles River, 97 residential properties front on the south side of Randolph Street. The nature of the existing views from these properties toward the proposed transmission route is portrayed in AFC Figure 8.11-3a, which depicts the view toward the transmission line route from the south side of Randolph Street. The view from the residences on the south side of the street in this area toward the transmission corridor is unscreened, and the view is of a streetscape that already has the character of a highly developed infrastructure corridor. As comparison of the existing visual conditions in Figure 8.11-3a with the simulated with-project conditions in Figure 8.11-3b indicates that the visual changes the project will bring about will be incremental, and will not

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substantially alter either the existing visual character of the view or the view's existing visual quality.

The land uses along the segment of Randolph Street between Bissel Street and the Los Angeles River also include three churches, the Nueva Vista Elementary School in Bell, and a variety of businesses, including a grocery store, a pizza restaurant, and a number of auto-related businesses. As the comparison of the existing and with-project views depicted in Figures 8.11-3a and 8.11-3b indicates, the project will result in relatively small changes in the character and quality of views seen from these facilities.

On the segment of Randolph Street the Randolph route follows between the Los Angeles River and the Laguna Bell Substation, the northern side of the street is lined with industrial and warehouse buildings located on relatively large parcels, and the southern side of the street is bordered by an infrastructure corridor occupied by two railroad tracks devoted to rail freight traffic and storage of rail freight cars, and by a transmission line carried on lattice steel towers and a second transmission line carried on tall wood poles. No residences front on Randolph Street in the area between the river and the substation. However, as described in Section 8.11.2.6.3 of the AFC, residences located on Watcher Street, a street that runs parallel to Randolph Street, back up to the infrastructure right-of-way located along Randolph Street's southern edge. As Section 8.11.2.6.3 points out, a total of approximately 200 residences line both sides of Watcher Street between I-710 at the Los Angeles River and the Laguna Bell Substation. As the discussion in Section 8.11.2.6.3 indicates, KOP 3 (AFC Figure 8.11-4) represents the views seen from residences along Watcher Street, and from Bell Gardens High School, which is also located in the area to the south of the infrastructure corridor that borders Randolph Street's southern edge. As the comparison of the existing view from this area (Figure 8.11-4a) with the with-project simulation (Figure 8.11-4b) indicates, the project-related changes in the visual character and quality of views from this area will be minor.

**VERNON POWER PLAN  
(06-AFC-4)  
DATA REQUESTS**

**Technical Area: Land Use**

**Author: David Flores**

**BACKGROUND**

On Pg.8.10-19 of the Traffic and Transportation analysis, the AFC indicates that construction parking areas will be located on one or more parcels, but this concept is not discussed in the land use section of the AFC.

**DATA REQUEST**

48. Please provide a land use analysis of each of the parcels to be used as construction parking area. Discussion should include zoning and general plan designation of the sites and whether the sites would be leased or owned by the applicant.

**Response:** See Data Response #45. The 13.3-acre parcel adjacent to the project site will be the only location used for construction parking. The zoning and general plan designations for the 13.3-acre parcel are the same as for the plant site which are General Industrial (M) (zoning) and General Industrial (general plan designation). The City has executed a purchase agreement for the 27-acre parcel (i.e., the plant site and the construction parking/laydown area).