STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of: The Application for Certification for the CITY OF RIVERSIDE PUBLIC UTILITIES RIVERSIDE ENERGY RESOURCE CENTER	Docket No. 04-SPPE-1

MOTION OF THE CALIFORNIA UNIONS FOR RELIABLE ENERGY TO CONVERT THIS PROCEEDING TO AN APPLICATION FOR CERTIFICATION AND COMMENTS ON THE STAFF'S DRAFT INITIAL STUDY

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The California Unions for Reliable Energy move the Commission to promptly convert this proceeding into an Application for Certification. As described in these comments, the Riverside Energy Resource Center is not eligible for a Small Power Plant Exemption because (1) under the "fair argument" standard, there is substantial evidence in the record which supports a fair argument that the MEGS project may have a significant effect upon the environment, and (2) under the Commission's definition of "generating capacity" it appears that the Project would add generating capacity in excess of 100 MW.

The list of potentially significant environmental impacts is long. Evidence of any one of which precludes granting an SPPE. Together, they make clear that the Commission would simply be wasting its time and the time of the Applicant, Staff and intervenors to continue considering an SPPE. The list of potentially significant issues includes:

- Daily emissions of PM10 from operating the Project will exceed the SCAQMD's CEQA significance threshold
- Annual emissions of PM10 will exceed 4 tons per year. The Project will violate SCAQMD Rule 1303 by not providing required emission reduction credits
- When the potential emissions of PM10 from operation are calculated according to SCAQMD rules (even using the Applicant's incorrect emission rate), annual emissions of PM10 will exceed 4 tons per year. The Project will violate SCAQMD Rule 1303 by not providing required emission reduction credits
- Construction of the Project will cause significant unmitigated increases in NOx and PM10 emissions
- Construction of the project will cause a significant unmitigated increase in the existing violation of the PM10 ambient air quality standard at the nearest residence
- Construction of the project will cause a significant unmitigated increase in the existing violation of the PM2.5 ambient air quality standard
- Operation of the Project will cause a significant unmitigated increase in the existing violation of the PM10 ambient air quality standard
- The Project's local impacts disproportionately affect a significant minority population within a six mile radius of the project site
- The impacts of Units 3 and 4 were not analyzed. Those impacts, when combined with the impacts of Units 1 and 2, will be significant

- The cumulative impacts of the projects at the adjacent wastewater treatment facility were not analyzed. Those impacts, when combined with the Project, will be significant
- The noise from constructing the Project will be significant
- The noise from operating the Project will be significant

If the Commission is concerned with processing this case expeditiously, rather than wasting time with hearings that cannot change the legal conclusion under the fair argument standard, it should promptly convert this proceeding to an AFC.

In this Motion and Comments, we describe the legal standard under which the Commission must determine if this Project qualifies for an SPPE. Then we describe the many potentially significant issues. Finally, we explain why this Project, according to the Commission's definition, likely would add generating capacity of more than 100 MW.

I. THE PROJECT IS NOT ELIGIBLE FOR AN EXEMPTION IF THERE IS SUBSTANTIAL EVIDENCE THAT SUPPORTS A FAIR ARGUMENT THAT THE PROJECT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT

The legal standard for exempting a project from the Commission's AFC process is neither novel nor complicated. It is the standard that has been in use for several decades under CEQA for determining whether an EIR is required or whether a negative declaration will suffice. If the project would

require an EIR, the Commission may not issue a negative declaration and exempt it from the AFC process.

Nor is the standard disputed. In the Commission's recent decision on the Modesto Irrigation District Electric Generation Station ("MEGS") Ripon decision, the Commission explained the standard. We reproduce it here:

> The Initial Study performed for this Small Power Plant Exemption (SPPE) process is fundamentally a preliminary analysis to determine whether we must pursue our environmental impact report (EIR) equivalent Application for Certification (AFC) process or whether we may exempt the project from that process. In reviewing the evidence of record, and in deciding whether to grant the MEGS project an exemption, we have applied the "fair argument" standard. Under this standard, ***we must require AFC level review if there is any substantial evidence in the record which supports a fair argument that the MEGS project may have a significant effect upon the environment***. In applying the fair argument standard, ***our task is not to weigh competing evidence*** and determine which is more persuasive, but rather to determine whether substantial evidence exists in the record to support the prescribed fair argument. If such evidence is found, ***it cannot be overcome by substantial evidence to the contrary***.
>
> We reviewed the evidence in light of the record as a whole in order to determine whether substantial evidence of a significant adverse impact attributable to the MEGS project exists. For these purposes, "substantial evidence" includes "fact, a reasonable assumption predicated upon fact, or expert opinion supported by fact." It does not include "argument, speculation, unsubstantiated opinion or narrative, evidence that is clearly inaccurate or erroneous, or evidence of social or economic impacts that do not contribute to, or are not caused by, physical impacts on the environment."
>
> Opinions submitted by qualified experts, and based upon reliable and credible foundations, are generally ***conclusive***. Statements by members of the public may constitute substantial

> evidence if these statements are supported by an adequate factual foundation.

(Modesto Irrigation District Electric Generating Station Small Power Plant Exemption Decision And Mitigated Negative Declaration, February 2004, pp. 6-7, emphasis added, footnotes omitted.) The Commission applied the same fair argument two months ago in its May 2004 decision on the Kings River Conservation District Peaking Plant, 03-SPPE-02, p. 8.

As we describe in this document, there is substantial evidence from qualified experts of the many potential significant impacts of this Project. These experts include Phyllis Fox, Ph.D, PE, DEE; Petra Pless, D. Env.; and Camille Sears. Their resumes are attached as Exhibits 1 – 3. The qualifications of these experts are more than adequate to support their opinions. Indeed, in *Berkeley Keep Jets Over The Bay Committee v. Board of Port Commissioners of the City of Oakland*, the Court specifically relied on Dr. Fox as "an expert in air quality analysis."[1]

As the Commission explained in its Modesto decision, it does not matter that the Applicant or Staff may disagree with the analysis of our experts. "Opinions submitted by qualified experts, and based upon reliable and credible foundations, are generally conclusive." "If such evidence is found, it cannot be overcome by substantial evidence to the contrary."

[1] *Berkeley Keep Jets Over The Bay Committee v. Board of Port Commissioners of the City of Oakland* (2001) 91 Cal.App.4th 1344, 1365 [111 Cal.Rptr.2d 598, 614].

Thus, it would serve no purpose to hold hearings in which these comments are repeated as testimony. Based on these comments alone, the Commission cannot issue a legally valid negative declaration for this Project or exempt it from the EIR process embodied in an AFC proceeding.

II. EMISSIONS OF PM10 FROM OPERATING THE PROJECT WILL BE SIGNIFICANT BECAUSE THEY EXCEED SCAQMD'S DAILY EMISSION THRESHOLD AND SCAQMD'S 4 TON-PER-YEAR OFFSET THRESHOLD

The Draft IS states that the Project will have maximum daily emissions of PM10 of 144.0 lb/day from the turbines. (DIS, Table 16, p. 4-26.) The Draft IS also states that the Project is exempt from providing offsets for its operational PM10 emissions because they are below the 4 ton per year threshold in SCAQMD Regulation XIII. (DIS, p. 4-41.) Staff based this conclusion on the Applicant's incorrect estimate of emissions. In fact, the Project's PM10 emissions during operation will exceed 150 pounds per day and 4 tons per year, even when calculated based on a permit limit of 1,330 hours per year.[2] Thus, the Project's PM10 emissions are significant because they (1) exceed the SCAQMD's CEQA daily significance threshold and (2) violate SCAQMD's SIP rule requiring that the Applicant supply valid offsets for annual emissions that exceed 4 tons per year.

The Applicant claimed, and Staff accepted, an estimate of PM10 emissions of 3.0 lb/hr for each turbine, totaling 144.0 lb/day and 3.94 ton/yr.

[2] In subsequent comments, we explain why this annual emission limitation is irrelevant. However, for purposes of this comment, we accept the Applicant's incorrect use of this annual limit.

(DIS, p. 4-26, 4-27, AQ Tables 15 – 17.) However, the information provided by the Applicant that Staff relied on does not represent worst-case operating conditions and is inconsistent with emission estimates previously prepared by the SCAQMD for nearly identical facilities. Further, the emissions apparently are only filterable PM10 and do not represent the normal operating mode of the turbines. Each of these issues is discussed below.

A. Operational Emissions Are Not Based On Worst-Case Operating Conditions

The maximum operational PM10 emissions were estimated to be 3.99 ton/yr. (DIS, AQ Table 17.) Of this total, 3.94 ton/yr is from the turbines and 0.05 ton/yr from the cooling tower. This comment only addresses the turbine emissions.

The PM10 emissions for both turbines were computed from the sum of the emissions from: (1) 400 hrs of startup at 2.74 lb/hr; (2) 400 hrs of shutdown at 3.0 lb/hr; (3) 40 hrs of maintenance at 3.0 lb/hr; and (4) 1,820 hours of normal operation at 3.0 lb/hr. (DIS, pp. 4-25 to 4-27, AQ Tables 14, 15, and 17.)

The tables and notes to the tables in the Draft IS that summarize the emission rates characterize these emissions as "worst-case hourly emissions," "worst-case daily," and "maximum," based on the Application. (DIS, AQ Tables 14-15.) However, these emissions are not maximum or worst-case.

The PM10 emissions of 3 lb/hr per turbine are based on the GE guarantee for the turbines. The GE emission guarantees for the Project are

included in the Application, Appendix A, second page and Appendix B, third page. This page shows that particulate matter emissions from the turbines are guaranteed at 3 lb/hr, the emission rate used in the so-called worst-case calculations. The guarantee applies at an ambient dry bulb temperature of ***100.0°F*** and wet bulb of 68.0°F.

However, emissions depend on the amount of fuel that is burned. The amount of fuel that is burned depends on the mass flow rate into the turbine. The mass flow rate decreases as temperature decreases. Therefore, emissions increase as ambient temperatures decrease. The emissions of PM10 and other pollutants would increase at temperatures lower than 100°F. The CEC and air permitting agencies have consistently based emission estimates on the worst-case, which is cold weather conditions. There is no reason why emissions from this Project should be based on minimum emission, hot weather operation.

Normally, an application to the CEC for licensing includes performance runs at a range of conditions that include cold, average, and hot weather conditions. See, for example, the Roseville application for certification[3] and for an air permit[4] for a similar project that includes two LM6000 Sprint turbines. These applications were based on three performance runs: a hot case (99°F), an average case (62°F), and a cold case

[3] Roseville Electric, Application for Certification for the Roseville Energy Park, Roseville, CA, v. II: Appendices, October 2003, Appendix 8.69.81-A and 63.

[4] Roseville Electric, Authority to Construct and Permit to Operate Application for the Roseville Energy Park, Roseville, California, October 2003, Appendix 3.1-A.

(34°F). The Roseville hot case resulted in PM10 emissions of 2.8 lb/hr, the average case in PM10 emissions of 3.0 lb/hr, and the cold case in PM10 emissions of 3.2 lb/hr. These may seem like small differences. However, because Riverside annual emissions are 3.99 ton/yr, only 0.01 ton/yr below the offset threshold, these changes in emissions at lower temperatures are high enough to increase annual emissions over the offset threshold.

The SCAQMD also routinely relies on performance runs over a range of ambient temperatures. The Wildflower Indigo project[5] is located in Palm Springs and is a similar peaking project based on LM6000 turbines. This project was permitted by the SCAQMD in March 2001. Maximum PM10 emissions were selected from five full load operating conditions at ambient temperatures of 32°F, 70°F, and 112°F, with the chiller on and off.

The Riverside Application only reports emissions for hot conditions, at 100°F, which is the lowest emission case, not the worst-case or maximum, as required for certification and air permitting. Further, supporting performance data, comparable to that provided in Roseville and many other siting cases, for other operating conditions, was not provided.

Although the Project will reportedly be primarily used for summer peaking service, it is not limited to operating only during the summer, or precluded from operating on cooler summer or winter days when electrical output and emissions would be higher than assumed. Temperature data for

[5] Docket 01-EP-2, Indigo Energy Facility, Staff Assessment for Emergency Permit, March 31, 2001 and SCAQMD, Permit to Construct, Application No. 366.58378045, Wildflower Energy LP, March 28, 2001.59.176.

a number of nearby sites, summarized in Table 1, indicate that much lower average ambient temperatures occur during summer months than 100°F. The average June temperature ranges from 69.8 to 73°F, the average July temperature from 74.6 to 78°F, the average August temperature from 76.3 to 78°F, and the average September temperature from 72.8 to 76°F for three nearby stations. Minimum summer temperatures are as low as 55°F. Thus, it is not reasonable to estimate maximum emissions at an ambient temperature of 100°F, which would be experienced on very few days.

Table 1
Monthly Average Dry Bulb Temperature
In Vicinity Of Riverside Project Site

Month	UC Riverside 1986-2003	Riverside Fire Station 1927-2004	Ontario Airport 1973-1993
January	54.5	53.2	54
February	55.4	54.9	57
March	57.6	57.3	58
April	61.2	61.4	63
May	64.8	66.1	67
June	69.8	71.2	73
July	74.6	77.2	78
August	76.3	77.5	78
September	72.8	74.2	76
October	66.5	67.0	70
November	59.1	58.9	61
December	53.8	53.7	55
Annual	63.9	64.4	66

Worst-case emissions should be based on cold weather conditions, not hot weather conditions, for PM10 and other pollutants. Further, even if the

Project were restricted to summer peaking service, many summer days have a much lower ambient temperature than 100°F. We will demonstrate below that even at 72°F, the design basis, PM10 emissions would be about 3.2 lb/day.

At 3.2 lb/day for each turbine, the daily emissions would be 153.6 pounds, which exceeds the SCAQMD's threshold of significance of 150 lb/day. This is a significant impact.

In addition, we recalculated the annual operational PM10 emissions, assuming maximum PM10 emissions are 3.2 lb/hr, which is the cold weather PM10 emission rate estimated by GE for a nearly identical turbine in the Roseville siting case:

Table 2
Revised PM10 Emissions

Emission Source	Emission Rate (lb/hr)	Total Hours[b]	Total Emissions (ton/yr)
Turbine Startup	2.92[a]	400	0.58
Turbine Shutdown	3.2	400	0.64
Turbine Maintenance	3.2	40	0.06
Turbine Normal Op.	3.2	1820	2.91
Cooling Tower			0.05
TOTAL			**4.24**

[a] Based on the same ratio of startup to normal operation as used in the DIS, Table AQ 14, or (2.74/3.0)(3.2) = 2.92 lb/hr.
[b] For two turbines, based on DIS, p.4-26

The total PM10 emissions, calculated based on a cold weather PM10 emission rate of 3.2 lb/hr, exceed the offset threshold of 4 ton/yr. Therefore,

these emissions must be offset under SCAQMD Rule 1303. The cold weather hourly PM10 emission rate for Riverside could be higher than 3.2 lb/hr because its firing rate is higher than the firing rate of Roseville. As explained in section III.D, failing to provide offsets under Rule 1303 is a violation of the State Implementation Plan, which is a significant impact under CEQA.[6]

Further, the emissions of other regulated pollutants that are not controlled by a pollution control device, including SO_2 and VOCs, are underestimated for the same reason. Therefore, the Applicant requires more VOC offsets than reported in the Draft IS.

B. Inconsistent With Similar SCAQMD Projects

The SCAQMD has permitted (and the CEC has licensed) two other very similar LM6000 peaker projects: Wildflower Indigo and Pegasus.[7] Wildflower Indigo commenced operation in July 2001 and consists of three LM6000 enhanced Sprint turbines. Pegasus, approved in June 2001, then later abandoned, proposed four LM6000 enhanced Sprint turbines.

In both of these cases, the SCAQMD rejected the Applicant's PM10 emissions based on GE guarantees and calculated total PM10 emissions from an emission factor of 0.0066 lb/MMBtu, comprising filterable and

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[6] "Standards adopted by regulatory agencies for the protection of the environment can provide a reasonable benchmark for gauging the significance of an environmental impact." See Kostka and Zichke, CEB, "Practice under the California Environmental Quality Act," § 6.47; p.293.

[7] Docket 01-EP-9, Pegasus Project (01-EP-9), Staff Assessment for Emergency Permit, June 2, 2001 and SCAQMD, Permit to Construct, Application No. 385555-385567, Pegasus Power Partners, May 25, 2001.

condensable PM10, based on AP-42, Table 3.1-2a.[8] The maximum PM10 emissions calculated for Wildflower Indigo were 3.3 lb/hr and for Pegasus, 3.1 lb/hr. The CEC accepted this calculation procedure in these siting cases, as well as others, e.g., Hanford and Henrietta.

Using the AP-42 PM10 emission factor of 0.0066 lb/MMBtu, the PM10 emission rate for Riverside would be 3.23 lb/hr,[9] based on the higher heating value fuel consumption of 490 MMBtu/hr for the 72°F design case. (Ap., Appx. A, p. 1.) The annual emissions corresponding to an hourly emission rate of 3.23 lb/hr are 4.30 ton/yr, which exceeds the offset threshold of 4 ton/yr. Therefore, if the SCAQMD's standard procedure of estimating PM10 emissions using AP-42 is used, PM10 emission offsets would have to be provided. The 72°F firing rate of 490 MMBtu/hr used in this calculation, which is based on an ambient temperature of 72°F, is not the highest possible firing rate because it is based on an average design case, rather than the cold weather case, as discussed above. Therefore, worst-case PM10 emissions could be higher than 3.23 lb/hr and 4.30 ton/yr.

C. GE Guarantee Based On Filterable PM10 Emissions

The GE guarantee does not appear to be based on total PM10 emissions, which is the pollutant that is regulated by SCAQMD. SCAQMD

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[8] U.S. EPA, Compilation of Air Pollutant Emission Factors. Volume I: Stationary Point and Area Sources, Section 3.1, April 2000.

[9] Revised PM10 emission rate: (0.0066 lb/MMBtu)(490.0 MMBtu/hr) = 3.23 lb/hr. The emission factor of 0.0066 lb/MMBtu is from AP-42, Table 3.1-2a and the firing rate is from the Application, Appendix A, p. 1, "Turbine Performance Specifications," fuel consumption based on the higher heating value.

Rule 102 ("Particulate matter means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.") The GE guarantee is based on SCAQMD Method 5.1. This method measures both total PM10 (comprised of filterable and condensable), and filterable PM10 alone. It is unclear whether the GE guarantee applies to total PM10 or filterable PM10 only. However, we note that the 100°F design performance data in the Application estimated PM10 emissions of 5.5 lb/hr per turbine (Ap., Appx. A, p. 4), while the guarantee is based on only 3 lb/hr. Condensable PM10 is typically about 50% of total PM10. Therefore, an emission rate of 3 lb/hr is consistent with what would be expected from counting the filterable portion only.

Further, the measured PM10 emissions from LM6000 turbines frequently exceed 3 lb/hr. The results of 15 source tests on similar LM6000 turbines indicate that a total PM10 emission rate of 3 lb/hr is exceeded about 33% of the time and range up to 6.1 lb/hr, as follows:

Table 3
PM10 Source Tests for GE LM6000 Turbines

					PM10 (lb/hr)			
		Power Output (MW)	Sample Duration (min)	Analytical Method	Filterable	Condensable	Total	Percent Condensable
P&G Cogen ,Sacramento (2 GE LM 6000 45 MW ea) (SCR and CO Catalyst)								
2/4/97	Turbine A/HRSG on	43		CARB Method 5	1.44	2.89	4.33	67%
3/19/97	Turbine A/HRSG off	44.3		CARB Method 5	3.70	1.07	4.77	22%
2/6/97	Turbine B/HRSG on	43		CARB Method 5	2.04	1.70	3.74	45%
2/18/97	Turbine B/HRSG off	43.9		CARB Method 5	3.99	2.11	6.10	35%
3/19/97	Turbine A/HRSG on	43		EPA Method 201/202	0.130	0.075	0.205	37%
3/20/97	Turbine A/HRSG off	43		EPA Method 201/202	0.231	0.662	0.893	74%
3/17/97	Turbine B/HRSG on	43		EPA Method 201/202	0.167	1.043	1.21	86%
3/18/97	Turbine B/HRSG off	43		EPA Method 201/202	0.21	1.08	1.29	84%
3/11/98	Turbine A/HRSG on	44.1	120	EPA Method 5/8/202	1.26	0.38	1.64	23%
3/12/98	Turbine B/HRSG on	43.6	60	EPA Method 5/8	1.87	0.767	2.64	29%

Carson Ice-Gen, Sacramento (2 GE LM 6000)
(SCR + Water Inj; Peaker has CO Catalyst)

9/95	Peaking Unit	42.1	240	EPA Method 201/202	0.45	0.18	0.63	29%
10/95	Combined Cycle (Mixed Fuel)	43.6	240	EPA Method 201/202	0.40	0.61	1.01	60%
11/96	Peaking Unit CTG2	44	120	EPA Method 201/202	0.364	0.518	0.882	59%
	Peaking Unit CTG2a	44	120	EPA Method 201/202	1.94	4.11	6.05	68%
11/96	Combined Cycle (Mixed Fuel)	44	120	EPA Method 201/202	< 0.149	1.93	2.08	93%
						Average		**54%**

Thus, it is unclear whether the 3 lb/hr, which was used to calculate annual emissions for purposes of offsetting, is based on total or filterable PM10. Actual source tests on similar turbines as well as GE performance data (Application ("Ap."), Appx. A, p. 3) suggests that the GE guarantee is based only on the filterable portion of PM10 and total PM10 emissions could be much higher than 3 lb/hr. This is very important as source tests typically only occur annually or less frequently and do not represent actual operating conditions. Thus, the Commission should assume that the 3 lb/hr is only filterable PM10 unless the Applicant can provide evidence that the 3 lb/hr emission rate used to calculate annual emissions is total PM10, comprising filterable plus condensable, as required by SCAQMD regulations. The Applicant should also be required to supply consecutive annual source tests

for a number of similar turbines over an extended period of time that demonstrate that this limit can be routinely meet.

D. GE Guarantee Inconsistent With Routine Operating Conditions

The GE guarantee, which is the basis for the Applicant's claim of 3 lb/hr emission rate, does not appear to represent normal operating conditions for a peaker. The guarantee requires that each turbine must have "more than 300 fired hours of operation prior to testing." Thus, it is based on new and clean conditions. Further, "…each unit must operate at Base load 3 to 4 hours just prior to commencing PM Compliance Test." (Ap., Appx. A, p. 2.) A peaker, by definition, will not normally be operating at base load for extended periods of time. Therefore, this restricted condition does not represent normal operating conditions. Finally, the guarantee requires the use of SCAQMD Method 5.1, while the SCAQMD usually requires that total PM10 emissions from gas turbines be measured with SCAQMD Method 5.2.

III. THE APPLICANT'S FAILURE TO PROVIDE THE EMISSION REDUCTION CREDITS REQUIRED BY AIR DISTRICT RULES VIOLATES THE STATE IMPLEMENTATION PLAN AND IS A SIGNIFICANT CEQA IMPACT

Even if the Applicant had correctly estimated the PM10 emissions from the Project, it still is proposing to construct the facility without providing valid emission reduction credits for PM10 or VOCs. This violates the SCAQMD New Source Review ("NSR") requirements and the federal Clean Air Act, rendering the project ineligible for a SCAQMD preconstruction

permit. Furthermore, the City's failure to comply with the SCAQMD's offset requirement is a significant impact under CEQA.

A. RERC Must Offset Its Emissions of VOCs and PM10 With Valid Emission Reduction Credits

SCAQMD's NSR program requires all new or modified emitting facilities with the "potential to emit" of 4 or more tons per year of PM10 and VOCs to provide Emission Reduction Credits ("ERCs") to offset the potential emission of nonattainment pollutants. SCAQMD Rule 1303 (b)(2). The 4 ton per year threshold must be calculated using the facility's *daily* emission rate. The Applicant has attempted to avoid exceeding the 4 ton per year threshold by citing its proposed condition to limit operation to 1,330 hours per year. However, when calculating whether a facility must provide ERCs, an *annual* emission limitation is not properly part of the determination of the facility's potential to emit.

1. RERC's "Potential To Emit" Must Be Calculated on a Pound-Per-Day Basis, Using A Calendar Monthly Average

SCAQMD's Rule 1302(y) defines "potential to emit" as follows:

> (y) POTENTIAL TO EMIT means the amount of pollutants calculated (1) using a ***calendar monthly average***, and, (2) on a ***pound-per-day basis*** from permit conditions which directly limit the emissions, or, when no such conditions are imposed, from:
>
> (1) the maximum rated capacity; and
>
> (2) the maximum daily hours of operation; and
>
> (3) the physical characteristics of the materials processed.

> Fugitive emissions associated with the source shall be included in the potential to emit. [Emphasis added.]

Furthermore, SCAQMD Rule 1306,[10] which sets forth emission calculation procedures that mirror the definition of potential to emit specifically states:

> This rule shall be used as the basis for calculating applicability of Regulation XIII as stated in Rule 1301(b) and Rule 1303. This rule shall also be the basis for calculating daily emission increases and decreases used for offset requirements and Emission Reduction Credits.

SCAQMD Rule 1306 (a) (emphasis added). 61 FR 64291 (December 4, 1996). Thus, the 30-day average of daily emissions determines whether a facility triggers the requirements for offsets and ERCs.

SCAQMD's interpretative guidance on potential to emit also connects the pound-per day definition of "potential to emit" in Rule 1302 to the 4 ton per year offset thresholds contained in SCAQMD Rule 1304(d). July 29, 1997 Memorandum from Jack Broadbent to LCCH Permit Processing Staff, attached as Exhibit 4. That interpretative guidance states that:

> Rule 1304(d) exempts facilities from offset requirements if their potential to emit is less than the values provided in Table A (4

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[10] Rule 1306 defines "emission increases" as:

(b) Emission Increases

Emission increases for new sources and the new total emissions for modified sources shall be calculated, as approved by the Executive Officer or designee, (1) using calendar monthly emissions divided by 30 for determination of the required amount of offsets, and (2) on a pound per day basis for determination of BACT and modeling applicability, from permit conditions which directly limit the emissions or, when no such conditions are imposed, from:

(1) the maximum rated capacity; and

(2) the maximum daily or monthly hours of operation as applicable; and

(3) the physical characteristics of the material processed.

> tons per year of VOC). In implementing this requirement, specify monthly emissions instead of annual emissions in a permit condition in order to comply with Rule 1313(g)(2)[11]. . . .
>
> Some companies which operate on a cyclical schedule have requested that the ton per year exemption level in Rule 1304(d) be implemented for their facilities based on conditions limiting annual emissions instead of monthly emissions. ***Such requests cannot be honored since Rule 1313(g)(2) requires every permit to have a condition which limits the monthly maximum emissions.*** . . .

Id at p.2 (emphasis added). In short, the SCAQMD has specifically rejected, in a formal written interpretative guidance, the attempt to use limits on ***annual*** hours of operation as a basis for granting an exemption from offset requirements under 1304(d).

The SCAQMD's rejection of the use of annual limits in determining whether a source is exempt from offset requirements is consistent with the EPA's interpretation of "potential to emit."

> For any limit or condition to be a legitimate restriction on potential to emit, that limit or condition must be federally-enforceable, which in turn requires practical enforceability . . . [U.S. v. Louisiana Pacific Corporation, 682 F. Supp. 1122 (D. Colorado, 1988)] . . .
>
> ***A permit that limits actual source emissions on an annual basis only*** (e.g., the facility is limited solely to 249 tpy) ***cannot be considered in determining potential to emit.*** It contains none of the basic requirements and is therefore not capable of ensuring continual compliance, i.e., it is not enforceable as a practical matter.

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[11] 1313(g)(2) states:

(g) Emission Limitation Permit Conditions

Every permit shall have the following conditions:

1. Identified BACT conditions;
2. Monthly maximum emissions from the permitted source.

EPA New Source Review Workshop Manual (Draft, October 1990), § II.B.2.; p A.5 - A.6.[12] In short, the RERC's proposed annual restriction of 1330 hours per year of operation for each turbine has no legal relevance in determining the facility's "potential to emit" for purposes of determining whether offsets or ERCs are required.

B. RERC's "Potential to Emit" Exceeds 4 Tons Per Year for VOCs and PM10

1. The Draft Initial Study Estimates RERC's Potential to Emit To Be Over Four Tons Per Year

Page 4-26 of the Draft Initial Study states that RERC's potential to emit PM10 pollution is145.68 lbs/day. This translates to 26.59 tons per year of PM10. The same page of the initial study estimates RERC's potential to emit VOCs at 54.52 lbs/day. This translates to 9.95 tons per year of VOCs. Put another way, when converted to pounds per day, the offset thresholds of 4 tons per year equals 22 lbs/day. RERC's potential to emit exceeds this daily threshold for PM10 and VOCs. Because both of these pollutants exceed the 4 ton-per-year offset threshold contained in SCAQMD Rule 1304(d)(1), the Applicant must provide ERCs to offset its emissions under SCAQMD Rule 1303.

[12] Beginning on January 1, 2004, this NSR Workshop Manual became the official interpretative guidance for interpreting local air district rules on NSR under state law. Cal. Gov. Code § 42506.

2. The Applicant Itself Admits that RERC's Potential to Emit PM10 and VOCs Exceeds 4 Tons Per Year

According to the calculations provided by the Applicant itself, the facility's potential to emit will exceed 4 tons per year of VOCs, SOx and PM10. The Revised Application states that RERC will have the potential to emit 46.4 pounds per day of VOCs, 77.7 pounds per day of SOx, and 142.48 pounds per day of PM10. Revised Application, Table 6.1.23. These estimated emissions are provided in a column labeled "30DA." The Application provides the following explanation of the emissions estimates provided under the "30 DA" column.

> ***The 30 DA emissions reflect SCAQMD calculation methodology for determining offset requirements***. SCAQMD offsets for pollutants other than NOx are to be provided based upon the maximum daily emissions and adjusted only to reflect the number of operating days per month, divided by 30 days. For this application, maximum daily operations are assumed to be 24-hours, and maximum operating days are assumed to be 30 days in a peak month, with the exception of maintenance operations, which would be averaged over 5 days per month.

Revised Application, p. 78-79 (emphasis added). When converted to units of tons per year,[13] the Application's estimates show 8.468 tons per year of VOCs, 14.18025 tons per year of SOx, and 26.0026 tons per year of PM10. Again, each of these exceeds the 4 ton per year offset threshold contained in

[13] This conversion is accomplished by multiplying the pound per day estimate by 365 (days per year) and dividing that number by 2000 (pounds per ton).

SCAQMD Rule 1304(d)(1). As such, the Applicant must provide ERCs to offset its emissions under SCAQMD Rule 1303.

C. RERC Is Not Eligible For the District's Internal Emissions Accounts

The RERC proposes to offset its emissions by tapping into "SCAQMD reserves." Revised Application, p.83. Although it is unclear which "reserves" this refers to, the RERC is not eligible for any of the District's "reserve" accounts.

The Applicant discussed the "Community Bank" in the last CEC workshop. The Community Bank no longer exists.

The SCAQMD's rules establish a "Priority Reserve." This was available to electrical generating sources that submitted complete applications for certification to the CEC or a permit to construct application during 2000-2003, not for facilities that submitted applications this year, such as RERC. SCAQMD Rule 1309.1(a)(4).

Finally, the SCAQMD's internal offset accounts have been discussed as a potential source for offsets. These too are unavailable to RERC. As explained in the attached NSR Staff report from SCAQMD, those accounts are only available to sources that are ***exempt*** from the SCAQMD's offset requirements. See Exhibit 5, p.6-7. RERC is not exempt from the SCAQMD's offset requirements because its potential emissions exceed the SCAQMD's offset thresholds of 4 tons per year of PM10, VOCs and SOx. Rule 1304(d)(2). As a result of exceeding these thresholds, the facility must

provide ERCs that comply with Rule 1309. The SCAQMD's internal offset account for exempt sources are not ERCs created in accordance with 1309.[14] Because these internal accounts do not contain ERCs that were created in accordance with 1309, offsets from these accounts do not satisfy RERC's offset obligation under Rule 1303(b)(2).

D. RERC's Failure to Comply with California's State Implementation Plan Is a Significant Impact Under CEQA

CEQA requires an assessment of any inconsistencies between the Project and applicable general plans and regional plans. CEQA Guidelines § 15125(a), (d). "Such regional plans include, but are not limited to, the applicable air quality attainment or maintenance plan (or State Implementation Plan) . . . ." It is a significant impact if the Project would "[c]onflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project … adopted for the purpose of

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[14] In fact, as explained by SCAQMD Staff, the internal offset account consists of the following:

> [p]rior to issuing an ERC, AQMD 'discounts' this reduction to the level of reduction that would have been realized if the source had been operating at current BACT levels. The difference between the actual quantified emission reduction and the amount of ERCs issued is credited to AQMD's account of available offsets. Additionally, if the permit holder for the source generating the emission reduction had previously received offsets from an AQMD account or has a "positive balance" (i.e., pre-1990 net emission increase), the quantity of AQMD credits used or the amount of the positive balance is subtracted from the reduction and "paid back" to AQMD's accounts prior to issuance of an ERC pursuant to Rule 1306. In other cases, permit holders do not always submit applications to claim ERCs for their equipment shutdowns or other eligible emission reductions. These unclaimed reductions are referred to as "orphan shutdowns" or "surplus reductions" and are credited to AQMD's accounts.

See Exhibit 5, p.7.

avoiding or mitigating an environmental effect." (CEQA Guidelines Appendix G, section IX(b).) "Environmental effects" include direct and indirect impacts to air quality. (*Id.*) By failing to provide valid ERCs, the RERC conflicts with the SIP requirements that were adopted to mitigate effects on air quality. This is a significant impact under CEQA.[15]

IV. WHEN ERRORS IN CALCULATION OF CONSTRUCTION EMISSIONS AND MITIGATION ARE CORRECTED, CONSTRUCTION EMISSIONS WILL CAUSE SIGNIFICANT UNMITIGATED IMPACTS[16]

The Draft Initial Study concludes that "with appropriate mitigation the proposed RERC project will not result in significant air quality impacts." (DIS, p. 4-46.) The DIS finds that "residential land uses may experience short-term adverse air quality impacts" from construction emissions but concludes that "through the implementation of the suggested mitigation measures and Conditions of Exemption during construction, it is assumed that the project would not result in any significant air quality impacts." (DIS, p. 4-45.)

This conclusion is incorrect for two reasons. First, the DIS relies on the Applicant's construction emissions estimate, which, on the whole, significantly underestimates emissions (although one of the errors actually *over*estimates emissions). Second, only one of the mitigation measures

[15] "Standards adopted by regulatory agencies for the protection of the environment can provide a reasonable benchmark for gauging the significance of an environmental impact." See Kostka and Zichke, CEB, "Practice under the California Environmental Quality Act," § 6.47; p.293.

[16] The comments in this section were provided in advance to Staff. At Staff's request, they are also included in these comments.

proposed in the DIS actually reduces the construction emissions calculated by the Applicant. All other mitigation measures were either already assumed when the Applicant calculated the emissions estimates or apply to emission categories that were not included in the Applicant's emission estimates.

When these errors are corrected, emissions associated with Project construction remain significant despite the mitigation proposed by the DIS. Some of the following issues have previously been addressed in CURE Data Requests Set No. 4 and are repeated below. We provide a summary of emissions and revised calculations at the end of this section.

A. Maximum Daily Construction Emissions Are Underestimated

1. Silt Content

The Applicant estimates fugitive dust emissions during construction based on equations contained in the CEQA Handbook published by the South Coast Air Quality Management District ("SCAQMD"). (SCAQMD 04/93[17]). The magnitude of emissions calculated with these equations for three of the fugitive dust generating activities, *i.e.* vehicle travel on unpaved roads, dirt pushing/bulldozing operations, and wind erosion, depend on the silt content of the surface material. Rather than plugging into the equations the *site-specific* silt content provided in the Project's geotechnical reports, the

[17] South Coast Air Quality Management District, CEQA Air Quality Handbook, April 1993, Tables A9-9-A through A9-9-G, pp. A9-96 through A9-9-101.

Applicant uses *generic* silt content values from various sources. This substantially understates the actual emissions.

For vehicle travel on unpaved roads, the Applicant assumed a mean silt content of 8.5 percent (from a range of 0.56 to 23 percent) for construction site scraper routes based on U.S. EPA's AP-42, Section 13.2.2 for unpaved roads. For dirt-pushing/bulldozing operations and wind erosion, the Applicant used a mean silt content of 6.9 percent (from a range of 3.8 to 15.1 percent) for bulldozing overburden at western surface coal mines determined from U.S. EPA's AP-42, Section 11.9. These selected silt contents are considerably lower than the actual silt content determined at the site in two geotechnical investigations.

The Applicant commissioned 29 exploratory borings across the site and an additional 33 backhoe excavation trenches at selected locations around the proposed location of the combustion turbines, cooling towers, transformers, and sumps. (LOR 1/04[18] and LOR 05/04[19].) Results from these borings and trench excavations show that the silt content in topsoil and underlying fill at the site varies from 15 to 40 percent with an average of 28.3 percent,[20,21]

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[18] LOR Geotechnical Group, Inc., Geotechnical Investigation, Acorn Generating Project, Northern Terminus of Acorn Street, Riverside, California, Project No. 61833.1, January 21, 2004.

[19] LOR Geotechnical Group, Inc., Results of Additional Subsurface Analysis, Acorn Generation Project, Riverside, Project No. 61833.12, California, May 21, 2004.

[20] Average silt content from 6 boring logs and 33 trenching logs for topsoil and fill: 28.3 percent; 23 of the boring logs did not include topsoil or fill.

[21] CURE's Data Requests Set No. 4 assumed an average silt content of 28.6 percent based on the 33 trenching logs for topsoil and fill only.

substantially higher than the 6.9 to 8.5 percent used in the Applicant's emission estimates. (*See* attached Table 'Silt Content in Topsoil and Fill at Riverside Energy Resource Center Site'.)

An accurate calculation should use the specific silt content measured at the site, rather than generic silt values derived from other sites.

2. Watering Control Efficiency

We previously pointed out that the Applicant's assumptions for fugitive dust suppression by watering the site are unrealistic. (CURE Data Requests 65–68.) For example, the Applicant assumed a watering control efficiency of 90 percent for fugitive dust emissions from onsite vehicle travel on unpaved roads. Staff in the DIS agreed that this control efficiency is "very aggressive." (DIS, p. 4-35.)

For dirt pushing/bulldozing operations and dirt loading/handling, watering appears to also have been assumed as a control measure when calculating emissions because a moisture content of 15 percent was used, which is substantially higher than the documented level of moisture content of the soil on the Project site. Specifically, a geotechnical assessment conducted in November 2003 measured moisture content in topsoil and fill ranging from about 1.3 percent to 2.5 percent. (LOR 1/04, Appx. B, boring logs.) Since the moisture content chosen by the Applicant to calculate fugitive dust emissions assumes watering of the site, adding additional reductions of dust would double count the effectiveness of water.

In addition, it is unlikely that watering of the site will increase the moisture content of the surface material to 15 percent. The Applicant's fugitive dust emission estimates for dirt pushing/bulldozing operations and dirt loading/handling, as used in the DIS are therefore underestimated.

Further, vehicle miles traveled per day by the water truck appear to be too low because of a decimal point error. According to the Applicant's emission estimates, the water truck travels the site four times daily for 45 minutes each over a distance of only 0.2625 mile or 1,386 feet per trip during Project excavation. (*See* attached Table 'On-site Vehicle Travel on Unpaved Roads.') These times and distances would result in a vehicle speed of 0.35 mph, which is an unreasonable assumption.[22] It appears that the Applicant made an order of magnitude mistake when calculating the vehicle miles traveled "VMT") per trip. The Applicant calculated vehicles miles traveled per trip for the water truck as 0.35 mph × 0.75 hours (45 minutes), yet indicated a mean vehicle speed of 3.5 mph. (*See* spreadsheet 'Site Fugitive November Earthmov', cells E14 and I14.[23])

Further, water trucks typically have spray patterns with a reach of 35 to 50 feet; some high-pressure equipment can reach over 100 feet on both sides.[24] It is unlikely that four trips of 1,386 feet each would ensure that the

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[22] 0.2625 miles per trip / 0.75 hours = 0.35 mph

[23] Contained in the Applicant's revised construction emission estimates, file '2248.2201xls3b - Nov.Construction equipment and Emissions.xls' provided June 30, 2004.

[24] *For example*, http://www.klein-tanks.com/spray%20first%20page.htm, accessed July 21, 2004.

entire area under excavation is continuously watered. However, assuming a mean vehicle speed of 3.5 mph and assuming 45 minutes of continuous watering would result in an increase in the distance traveled by the water truck to 2.625 VMT/trip, which is a more reasonable assumption of average truck speed needed to cover the site. Because either VMT/trip or vehicle speed are underestimated, the DIS further underestimates fugitive dust emissions.

3. Unpaved Roads

The emissions estimate for vehicle travel on unpaved roads contains an error, which *over*estimates fugitive dust emissions by about 50 percent. The Applicant calculated fugitive dust PM10 emissions associated with delivery trucks based on an equation found in SCAQMD's CEQA Handbook. This equation includes a factor for silt loading of the streets. The Applicant calculated this silt loading value based on an assumption of 5 percent local, 5 percent collector, and 90 percent freeway with silt loading values allegedly found in SCAQMD's CEQA Handbook, Table A-9-C-1. However, comparison with this Table shows that different values have been used, which results in a much higher silt loading and consequently in much higher fugitive dust emissions from vehicle travel on unpaved roads than suggested by the SCAQMD CEQA Handbook. The Applicant calculated a silt loading of

0.1348 ounces per square yard ("oz/yd^2")[25] instead of a silt loading of 0.0041 oz/yd^2.[26] Total fugitive dust emissions associated with vehicle travel on unpaved roads, *i.e.* 38.8 lb/day instead of 110.9 lb/day, are therefore overestimated by a factor of almost three.

4. Engineered Fill

The Project's geotechnical report indicates that fill material at the site will have to be replaced with a compacted engineered fill. Existing fill can likely be reused, provided it does not contain any organic material. (LOR 1/04, p. 22.) The DIS is silent on whether fugitive dust and combustion exhaust emissions from excavating existing fill and replacing it with an engineered fill were factored into the emission estimates.

Emission sources include fugitive dust emissions as well as combustion exhaust emissions from loading the fill material into trucks, unloading onto temporary storage piles, wind erosion from temporary storage piles, loading from temporary storage piles onto trucks, unloading the fill at the final destination, removal of organic materials, and spreading and compacting of fill. The Applicant's emission calculations as used in the DIS, for example, do not include any drop emissions, which would be significant in this type of operation.

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[25] Applicant's calculation of silt loading: local (1.4 oz/yd^2 × 0.05) + collector (0.9 oz/yd^2 × 0.05) + freeway (0.022 oz/yd^2 × 0.9) = 0.1348 oz/yd^2; corresponding daily emissions for vehicle travel of unpaved roads: 0.77 × ((silt loading × 0.35)^0.3) × 360 VMT/day = 110.9 lb/day.

[26] Calculation of silt loading based on SCAQMD's CEQA Handbook, Table A-9-C-1: local (0.04 oz/yd^2 × 0.05) + collector (0.03 oz/yd^2 × 0.05) + freeway (0.00065 oz/yd^2 × 0.9) = 0.0041 oz/yd^2; corresponding daily emissions for vehicle travel of unpaved roads: 0.77 × ((silt loading × 0.35)^0.3) × 360 VMT/day = 38.8 lb/day.

5. Fuel Consumption Of Grading/Excavating Equipment

The geotechnical report concluded that "the bulk of the material at the site is rippable to the proposed depths if standard heavy-duty grading equipment is used, such as single shanked D-8 dozers and larger." (LOR 05/01, p. 3.) However, the Applicant calculated emissions for much smaller equipment with lower fuel consumption, inadequate for grading operations at the site according to the geotechnical report.

For example, the Applicant assumed a bulldozer of the Caterpillar ***D-6*** series instead of the recommended ***D-8*** or larger series. Based on hourly fuel consumption tables published by Caterpillar, the D-6 series has a fuel consumption of 3.5 to 6.5 gallons per hour ("gal/hour") at medium load,[27] consistent with the Applicant's assumption of 5.5 gal/hour. In contrast, fuel consumption at medium load in the category D-8 is 7.5 to 10.0 gal/hour. Fuel consumption for larger series, D-9 through D-11, range from 12.5 to 29.5 gal/hour at medium load. Even at low load, which is based on considerable idling or travel with no load, fuel consumption for the D-8 series ranges from 6 to 7.5 gal/hour. (Caterpillar, 10/00[28], p. 22-13.)

For the motor grader, the Applicant assumed a fuel consumption of 5.0 gal/hour. Caterpillar reports fuel consumption for medium-sized motor

[27] Medium load represents production dozing, pulling scrapers, and most push-loading; agricultural drawbar work at full throttle but not always lugging machine; some idling and some travel with no load. (Caterpillar 10/00, p. 22-13.)

[28] Caterpillar Performance Handbook, Edition 31, Caterpillar, Peoria, IL, October 2000.

graders at high load[29]—representative for the grading phase—on the order of 5.5 to 8.5 gal/hour. Fuel consumption for larger motor graders at high load ranges from 7.5 to 19.4 gal/hour. (Caterpillar, 10/00, p. 22-14.)

Clearly, the assumption of smaller equipment, inadequate for grading the Project site, considerably underestimates fuel consumption and consequently combustion emissions. Revising fuel consumption for the bulldozer and motor grader to more realistic values considerably increases emissions as shown in the inset table below.

Table 4

Equipment		Fuel Consumption (gal/hour)	Emissions Nox (lb/day)	CO (lb/day)	ROG (lb/day)	PM10 (lb/day)
Bulldozer	DIS	5.5	9.07	2.24	0.60	0.44
	Caterpillar (10/00)	8.75	10.61	7.22	1.09	0.97
	Difference	**3.25**	**1.54**	**4.98**	**0.49**	**0.53**
Motor Grader	DIS	5.0	9.07	2.24	0.60	0.44
	Caterpillar (10/00)	7.0	22.43	22.14	4.27	3.04
	Difference	**2.0**	**13.36**	**19.90**	**3.67**	**2.60**

Other equipment for which assumed fuel consumption appears to be unreasonably low are the trencher and loader with only 2.0 and 2.5 gal/hour. The emissions inventory for all equipment should be revised to reflect the type of equipment required for grading operations at the site.

[29] High load represents ditching, fill spreading, spreading base material, ripping, heavy road maintenance, and snow plowing. (Caterpillar 10/00, p. 22-14.)

6. Offsite On-road Travel

The DIS calculates criteria pollutant emissions associated with on-road vehicle combustion emissions using the EMFAC 2002 model and reflect South Coast fleet-weighted average emission factors. Emission rates were determined for light-duty passenger vehicles, light-duty trucks, and heavy-duty diesel trucks by dividing total daily basin-wide emissions from the EMFAC2002 BURDEN report by the number of basin-wide vehicle miles traveled ("VMT"). (Application, revised Air Quality section, p. 86.) The calculations presented in Appendix 6.1-D contain several calculation and rounding errors, which lead to an underestimate of emissions.

First, the Applicant used a pen to circle results on the EMFAC BURDEN report and a calculator to calculate the results, which resulted in several calculation and rounding errors. For example, the Applicant circled the VMT and criteria pollutant emissions for each vehicle class on EMFAC's BURDEN output with a pen. In one instance, the hand-drawn line circling the heavy-duty diesel truck CO emissions on the EMFAC printout goes through the first number which makes the number look like 19.34 ton/day, when in fact it is 39.34 ton/day. The Applicant proceeded to calculate the emission factor for CO from heavy duty-diesel truck of based on 19.34 ton/day, which underestimated CO emissions by a factor of two.[30]

[30] (19.34 ton/day) / (13,522,000 VMT/day) × (2,000 lb/ton) = 0.0029 lb/VMT;
(39.34 ton/day) / (13,522,000 VMT/day) × (2,000 lb/ton) = 0.0058 lb/VMT.

The NOx emission factor calculated for heavy-duty trucks also contains a substantial calculation error. Instead of the 0.0380 pounds per VMT ("lb/VMT") reported in the Application, the correctly calculated emission factor is 0.0395 lb/VMT.[31] In other instances, the emission factors are rounded incorrectly. Further, the Application arbitrarily used four or five significant digits for the calculated emission factors, emphasizing the importance of using a spreadsheet, which defers any rounding to the end of the calculation. The inset table below summarizes calculation and rounding errors.

[31] (267.05 ton/day) / (13,522,000 VMT/day) × (2,000 lb/ton) = 0.0395 lb/VMT.

Table 5

Vehicle Type **Source**	**VMT/ (1,000 vehicles-day)**	**Unit**	**CO**	**Nox**	**PM10 Exhaust**	**PM10 Tire Wear**	**PM10 Total**
Heavy-duty Trucks							
BURDEN printout	13,522						
BURDEN printout		(ton/day)	39.34	267.05			5.26
Handwritten on BURDEN printout		(lb/VMT)	**0.0029**	**0.0380**			**0.00079**
Correct value		(lb/VMT)	**0.0058**	**0.0395**			**0.00078**
Light-duty Passenger Cars							
BURDEN printout	197,662						
BURDEN printout		(ton/day)				4.47	
Handwritten on BURDEN printout		(lb/VMT)				**0.00004**	
Correct value		(lb/VMT)				**0.00005**	
Construction Worker Vehicle (50% Light-duty Diesel Trucks and 50% Light-duty Passenger Cars)							
BURDEN printout	147,405						
BURDEN printout		(ton/day)	1,153.85		2.38		
Handwritten on BURDEN printout		(lb/VMT)	**0.01635**		**0.000035**		
Correct value		(lb/VMT)	**0.01636**		**0.000034**		

7. Construction Schedule

The Applicant's emission estimates are based on an 8-hour construction schedule while the DIS allows a 12-hour per day schedule during site mobilization, ground disturbance and grading activities and even authorizes "[s]hort excursion to this twelve-hour per day schedule." (DIS, p. 4-36, and AQ-C5, pp. 4-49/50.) The DIS states that the Applicant modeled construction emission for 8 hours of construction per day and acknowledges that "[a] significant increase to this schedule, under most cases, could

significantly increase the quantity of daily emissions of dust and significantly increase the local impacts." (DIS, p. 4-36.)

The DIS then proceeds to state that the recommendation to limit construction to between 7 am to 7 pm on weekdays is "necessary to mitigate the maximum 24-hour PM10 construction impact potential to levels below the significance threshold." (DIS, p. 4-36.) This statement is baffling. The construction emissions were calculated for eight hours only. The construction emissions are close to the SCAQMD's CEQA emission significance thresholds for construction for both NOx and PM10. The significance thresholds for NOx and PM10 are 100 and 150 lb/day, respectively, and construction emissions during the grading phase were estimated at 80 lb/day NOx and 136 lb/day PM10. Increasing the construction schedule from 8 hours to 12 hours would increase maximum daily emissions from the Project by about 50 percent, which would result in greatly exceeding both NOx and PM10 thresholds. The dispersion modeling for 24-hour and annual PM10 impacts was also performed for 8 hours, specifically from 6 am to 2 pm, and showed the SCAQMD local significance threshold of 10.4 $\mu g/m^3$ at the fenceline was exceeded. Increasing the construction schedule to 12 hours/day would exceed the threshold even farther from the fenceline.

Consequently, even ignoring the Applicant's calculation errors, it appears that "limiting" construction to between 7 am and 7 pm does not prevent, but actually ensures, that the construction emission significance

thresholds as well as ambient air quality standards and SCAQMD's local PM10 concentration significance threshold will be exceeded.

B. Mitigation Measures Are Inadequate And/Or Not Applicable

In addition to requiring an on-site air quality construction manager and a construction mitigation plan, the DIS proposes 14 mitigation measures for fugitive dust control and five mitigation measures to control diesel exhaust emissions from onsite construction equipment. (DIS, pp. 4-47/49.) (*See* attached Table "Mitigation Measures," Exhibit 6.) However, only one of these proposed mitigation measures has the potential to effectively decrease emissions from the amounts estimated. All other mitigation measures are already built into the assumptions for the Applicant's construction emission estimates or they apply to emissions that are not included in the emission estimates. Therefore, the suggested mitigation measures will not decrease NOx and PM10 emissions to below significance thresholds. (*See* attached Table 'Efficacy of Proposed Mitigation Measures To Reduce Emission Estimates,' Exhibit 6.)

1. Measures Address Emissions That Were Not Included In Emission Estimates

A number of proposed mitigation measures (AQ-C3d, e, f, g, h, and j) address fugitive dust emissions from trackout and runoff. (DIS, pp. 4-47 to 4-49.) Emissions from trackout and runoff were not included in the Applicant's emission estimates. Likewise, mitigation measure AQ-C3l (covering trucks or wetting materials that are loaded into trucks), addresses

fugitive dust emissions that were not included in the Applicant's emission estimate. Consequently, these mitigation measures, while effective in reducing actual emissions due to trackout, runoff, and emissions from loaded trucks, have no effect on reducing the emission estimate provided by the Applicant and included in the dispersion modeling.

2. Measures Already Included In Emission Estimates

The DIS proposes a number of mitigation measures that were already assumed in the Applicant's emission estimates. Therefore, the imposition of these measures does not result in any additional reduction of the Project's significant air quality impacts. Instead, the mitigation would be double-counted.

Mitigation measure AQ-C3a addresses watering of the project and linear construction sites, which potentially control fugitive dust emissions from vehicle travel on unpaved roads and dirt pushing/bulldozing operations as well as dirt loading/handling. As discussed in Comment IV.A.2 above, the Applicant's emission estimate already assumed a watering control efficiency of 90 percent for unpaved roads. Further, the calculations of fugitive dust emissions from dirt pushing/bulldozing operations and dirt loading/handling assume a topsoil moisture content of 15 percent, considerably higher than the typical moisture content observed at the site, and, thus, de facto watering for dust control. Thus, watering will not result in an *additional* 90 percent control.

Mitigation measures AQ-C3b and c limit vehicle speed on site to 15 miles per hour ("mph"), which potentially addresses fugitive dust emissions from vehicle travel on unpaved roads. The Applicant's emission estimate already assumes vehicle speeds of less than 15 mph, specifically 3.5 mph for the dump trucks and water trucks and 7 mph for the service and delivery trucks as well as crew and visitor vehicles. (As discussed in Comment IV.A.2 above, the watering truck appears to travel at a speed of less than 1 mph.)

Mitigation measure AQ-C3k, covering or treating soil storage piles and disturbed areas that remain inactive for more than 10 days, does not provide wind erosion control for maximum daily emissions before the piles and disturbed areas are covered.

Mitigation measure AQ-C3n requires that construction activities that may cause fugitive dust emissions in excess of the visible emission limits shall cease when the wind speed exceeds 25 mph *unless* water, chemical dust suppressants, or other measures have been applied. This measure is ineffective for two reasons. First, the measure allows continuance of construction activities if water is applied, which negates the mitigation measure. Second, the Applicant's construction emission estimates are based on typical wind speeds and do not include estimates for times when wind speed exceeds 25 mph, which could occur on the worst-case day.

3. Applicable Measure

The only mitigation measure that has the potential to reduce emissions beyond what was included in the emissions estimate is measure AQ-C3m. This measure addresses control of fugitive dust emissions caused by wind erosion using windbreaks, watering, chemical dust suppressants, and vegetation. The Applicant's emission estimate for fugitive dust emissions from wind erosion does not already include any control efficiency due to the proposed watering. The SCAQMD CEQA Handbook proposes a watering control efficiency of 34 to 68 percent for watering a construction site at least twice daily. (SCAQMD CEQA Handbook, p. 11-15.) The Handbook further cautions to use the lowest number given if project-specific efficiency is unknown.

4. Mass Emissions Remain Significant After Mitigation

The comments above demonstrate that the Project construction emissions inventory presented in the DIS considerably underestimates actual construction emissions. The Applicant provided revised construction emission estimates with file '2248.2201xls3b – Nov.Construction equipment and Emissions.xls' on June 30, 2004. We modified this file as summarized below. The cited spreadsheets in the following list refer to our revised file (excel files and printouts attached as Exhibit 6),which will be submitted electronically as file '2248.2201xls3b – Nov.Construction equipment and Emissions – CURE rev.xls').

Onsite and transmission line fugitive dust emissions:

- Vehicle travel on unpaved roads: silt content of 28.3 percent; watering control efficiency of 85 percent (*see* Comments IV.A.1 and I.A.2 and spreadsheet 'Site Fugitive November Earthmov')
- Dirt pushing/bulldozing: silt content of 28.3 percent (*see* Comment IV.A.1 and spreadsheet 'Site Fugitive November Earthmov')
- Wind erosion: silt content of 28.3 percent; watering control efficiency of 68 percent (conservative upper end of range—34 to 68 percent—recommended by SCAQMD CEQA Handbook) (*see* Comments IV.A.1 and IV.A.2 and spreadsheet 'Site Fugitive November Earthmov')
- Travel on paved roads: paved road silt content of 0.0041 oz/yd^2 (*see* Comment IV.A.3 and spreadsheet 'Site Fugitive November Earthmov')
- Construction equipment combustion emissions, unpaved road travel fugitive PM emissions, grading/bulldozing fugitive PM emissions, earth loading fugitive PM emissions: construction schedule of 12 hours instead of 8 hours (*see* Comment IV.A.8 and spreadsheets 'Site Total 12 hours' and 'Line Total 12 hours'); adjusted by the ratio of 12 hours/day over 8 hours/day.

On-road combustion emissions:

- Emission factors for off-site on-road vehicle travel : corrected as discussed in Comment IV.A.7 (*see* spreadsheets 'Hwy Emissions' and 'Revised Hwy Emission Factors')

The following inset table summarizes estimates for construction emissions if only the above few parameters in the Applicant's emissions inventory are adjusted to correct just some of the errors described above.

Table 6

	Construction Emissions			
	NOx (lb/day)	**CO** (lb/day)	**ROG** (lb/day)	**PM10** (lb/day)
On-site Emissions	90.44	45.74	8.41	143.57
On-road Emissions	20.71	60.99	6.61	47.10
Transmission Line	22.70	18.30	2.71	2.44
Total Emissions	**133.85**	**125.03**	**17.73**	**193.11**
SCAQMD CEQA Threshold of Significance	100	550	75	150
Significant?	**YES**	**NO**	**NO**	**YES**

The construction emissions summarized in the above table present a low estimate. Actual emissions are likely considerably higher for a number of reasons. First, we made no adjustment for the moisture content of 15 percent, the fuel consumption of construction equipment, or the distance traveled by the water truck each trip as assumed by the Applicant. (*See* Comments IV.A.2 and IV.A.7.) Second, we assumed the upper end of the recommended range for watering control efficiency for paved roads of 85 percent and of 68 percent for wind erosion. It is unlikely that such high control efficiencies can be achieved by watering the site with one water truck four times a day. (*See* Comment IV.A.2.) Third, the estimates do not include emissions from moving engineered fill nor do they include trackout and runoff emissions or idling emissions. (*See* Comments IV.A.4, IV.A.5, and IV.B.1.)

V. THE PROJECT WILL CAUSE SIGNIFICANT LOCAL, UNMITIGATED AMBIENT AIR QUALITY IMPACTS

According to the draft initial study, both construction and operation of the Project will exacerbate violations of the ambient air quality standard for

PM10. This means that the Project will cause significant impacts to the air quality in the area around the Project. DIS, Tables 19 and 20; p. 4-33, 4-37. In addition to the offsets needed to comply with SCAQMD rules, these significant local impacts must be mitigated to a level of insignificance or the Project is ineligible for an SPPE. The Applicant offers no local offsets or any other type of local mitigation for air quality impacts resulting from either construction-related or operational PM10 emissions. These significant unmitigated impacts make the Project ineligible for the SPPE. The lack of mitigation for localized impact is a particular cause for concern in light of the environmental justice concerns stemming from Project, as described in VI. of these comments.

A. Construction Of The Project Will Cause A Significant Increase In The Existing Violation of The PM10 Ambient Air Quality Standard

The Applicant prepared an air quality impact analysis for onsite project construction PM10 emissions, which is described in the Application for Certification for a Small Power Plant Exemption (SPPE, Section 6.1; SPPE Air Quality Appendix H) and the Draft Initial Study (DIS, Section 4-1). Specifically, the air dispersion modeling was performed with the USEPA ISCST3 air dispersion model, with the input file RIVERSIDECEC04.DAT used for assessing project construction PM10 impacts.

Due to discrepancies between the ISCST3 input file RIVERSIDECEC04.DAT and the SPPE Air Quality Appendix H, we

submitted a Data Request dated July 20, 2003 to verify which modeling parameters were correct. The Applicant responded: "The ISCST files contain the correct volume source data."[32] Based on this response, we prepared a project construction air quality impact analysis using emission release parameters, receptor location and elevation data, meteorological data, and control options identified in the ISCST3 input file RIVERSIDECEC04.DAT.

In section IV, we addressed and recalculated RERC's construction PM10 emissions. We provided corrected PM10 emission rates from construction combustion and fugitive dust, including the wind erosion component.

To assess the consequences of revised emission rates and operating schedule, we prepared an analysis of the 24-hour and annual-average ambient air quality impacts from RERC combustion exhaust and fugitive dust emissions. We used the USEPA ISCST3 air dispersion model (v. 02035), with one year of Riverside meteorological data collected by SCAQMD (1981). This is the same model and meteorological data used by the Applicant. We also applied the same model source release parameters and receptor data used by the Applicant in their ISCST3 input file RIVERSIDECEC04.DAT. Our analysis differs from the Applicant's in that we included the revised PM10 emission rates described above, and we analyzed impacts from eight

[32] Email from William Walters, Aspen Environmental Group, to Camille Sears. July 23, 2004, 1:44 p.m.

and 12-hour construction schedules. In addition, emissions of both PM2.5 and PM10 were included in our analysis.

In total, we analyzed four construction-modeling scenarios:

AQ4PMA.ISC:	CURE-revised RERC construction PM10 emissions 12-Hour equipment operating schedule
AQ4PMB.ISC:	CURE-revised RERC construction PM10 emissions 8-Hour equipment operating schedule
AQ4PMC.ISC:	CURE-revised RERC construction PM2.5 emissions 12-Hour equipment operating schedule
AQ4PMD.ISC:	CURE-revised RERC construction PM2.5 emissions 8-Hour equipment operating schedule

The ISCST3 model input files we used, including meteorological data, are attached as Exhibit 14 in electronic format (see file CUREMOD2.ZIP).

For the 12-hour construction-operating scenario, combustion and fugitive dust emissions were modeled for the hours 7:00 a.m. through 7:00 p.m. For the eight-hour construction activity scenario, these emissions were modeled from 6:00 a.m. through 2:00 p.m. This 8-hour analysis is the same schedule modeled by the Applicant in their ISCST3 input file RIVERSIDECEC04.DAT. In all cases, we used the same seasonal and day of week inputs prepared by the Applicant for their construction air quality modeling.

In addition to construction combustion and equipment-created fugitive dust, wind erosion emissions were modeled as an AREAPOLY source with five vertices. We used the same AREAPOLY modeling parameters as

provided by the Applicant, which consisted of a wind erosion area of 11.02 acres (44,600 square meters).

1. Construction Emissions

The construction and wind erosion PM10 and PM2.5 emissions were modeled with the emission rates presented in the two tables below. For all construction air quality impact analyses, we used the same source location and release parameters (source height, initial vertical dispersion, and initial horizontal dispersion) as prepared by the Applicant.

Table 7

	Modeled PM10 Emissions	Modeled PM10 Emissions
Source	(lb/hr)	(g/s)
Volume Source 1 – Combustion	0.1216	1.532E-02
Volume Source 2 – Combustion	0.1946	2.452E-02
Volume Source 3 – Combustion	0.0973	1.226E-02
Volume Source 4 – Combustion	0.0730	9.198E-03
Volume Source 5 – Fugitive dust	2.3855	3.006E-01
Volume Source 6 – Fugitive dust	4.4953	5.664E-01
Volume Source 7 – Fugitive dust	2.2936	2.890E-01
Volume Source 8 – Fugitive dust	2.2936	2.890E-01
		(g/s-m^2)
Areapoly Source 9 – Wind erosion	0.0048	1.356E-08

We modeled a total of 143.57 pounds of PM10 per day for the 12-hour scenario and 95.67 pounds of PM10 per day for the eight-hour construction period.

In our analyses, we assumed that the construction combustion PM2.5 emission rates are equivalent to the PM10 values presented above. The

PM2.5 fugitive dust emissions were assessed at 16.6% of the PM10 values by mass.[33]

Table 8

	Modeled PM2.5 Emissions	Modeled PM2.5 Emissions
Source	(lb/hr)	(g/s)
Volume Source 1 – Combustion	0.1216	1.532E-02
Volume Source 2 – Combustion	0.1946	2.452E-02
Volume Source 3 – Combustion	0.0973	1.226E-02
Volume Source 4 – Combustion	0.0730	9.198E-03
Volume Source 5 – Fugitive dust	0.3960	4.990E-02
Volume Source 6 – Fugitive dust	0.7462	9.402E-02
Volume Source 7 – Fugitive dust	0.3807	4.797E-02
Volume Source 8 – Fugitive dust	0.3807	4.797E-02
		(g/s-m^2)
Areapoly Source 9 – Wind erosion	0.0008	2.251E-09

We modeled a total of 28.70 pounds PM2.5 per day for the 12-hour scenario and 19.14 pounds PM2.5 per day for the eight-hour construction period.

2. Construction Air Quality Impacts from PM10 Are Significant

The peak offsite (property boundary and beyond) PM10 concentrations from our analyses are listed below. The impacts include the contribution from construction combustion and fugitive dust and wind erosion emissions.

[33] California Air Resource Board, Determination of Particle Size Distribution and Chemical Composition of Particulate Matter from Selected Sources in California, NTIS Report PB89-232805, June 30, 1989, Figure 5.2-2.

Table 9

Pollutant	Construction Hours per Day	Averaging Period	Peak Modeled Concentration ($\mu g/m^3$)	CAAQS ($\mu g/m^3$)	Easting Coordinate (m)	Northing Coordinate (m)
PM10	12	24-hr	140.68	50	458360	3758086
PM10	8	24-hr	101.51	50	458360	3757876
PM10	12	Annual	28.41	20	458360	3758056
PM10	8	Annual	14.43	20	458360	3758056

Our modeling results show that the 24-hour and annual PM10 California Ambient Air Quality Standards ("CAAQS") are exceeded using both the eight and 12-hour construction operating scenarios. The annual-average PM10 impacts exceed the CAAQS of 20 $\mu g/m^3$ for the 12-hour operating scenario. The Project's violation of an ambient air quality standard is a significant impact under CEQA. 14 Cal. Code of Regs, Div. 6, Ch.3, Appendix G (section III(b)).

3. Construction air quality impacts at the nearest residential receptor from PM10 are significant

Both the eight and 12-hour construction scenarios cause 24-hour PM10 concentrations that significantly exceed the DIS' construction concentration significance threshold of 10.4 $\mu g/m^3$ at the nearest residential receptor

We determined that the Hidden Valley Kennel, located near the corner of Acorn Street and Jurupa Avenue, is connected to a 24-hour residence. The kennel address, (7297 Jurupa Avenue, Riverside, California), is about 200 meters due south of the RERC southernmost property boundary. The modeled incremental PM10 air concentrations at this location are as follows:

Table 10

Pollutant	Construction Hours per Day	Averaging Period	Modeled Concentration ($\mu g/m^3$)	SCAQMD CEQA Significance ($\mu g/m^3$)	Easting Coordinate (m)	Northing Coordinate (m)
PM10	12	24-hr	28.42	10.4	458226	3757634
PM10	8	24-hr	23.21	10.4	458226	3757634

As this chart demonstrates, under a 12-hour construction day schedule, the incremental PM10 concentration at the nearest residential receptor will be 28.42 $\mu g/m^3$, far above the 10.4 $\mu g/m^3$ significance threshold contained in the DIS. Even assuming a shorter construction day of 8 hours, the incremental increase of PM10 concentration due to Project construction at the nearest residential receptor will be 23.21 $\mu g/m^3$, again more than double the significance threshold.

4. Construction air quality impacts from PM2.5 are significant

The peak offsite (property boundary and beyond) PM2.5 concentrations from our analysis are listed in the following table. The impacts include the contribution from construction combustion and fugitive dust and wind erosion emissions. As can be seen from the table, the Project would dramatically increase the existing violations of the PM2.5 ambient air quality standard. This is a significant unmitigated impact.

Table 11

Pollutant	Construction Hours per Day	Averaging Period	Peak Modeled Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$) [34]	Total Concentration ($\mu g/m^3$)	CAAQS/ NAAQS ($\mu g/m^3$)	Easting Coordinate (m)	Northing Coordinate (m)
PM2.5	12	24-hr	27.23	77.6	104.8	65	458300	3757821
PM2.5	8	24-hr	19.68	77.6	97.3	65	458314	3757176
PM2.5	12	Annual	5.41	27.5	32.9	12	458360	3758876
PM2.5	8	Annual	2.76	27.5	30.3	12	458360	3758086

B. Operation Of The Project Will Cause A Significant Increase In The Existing Violation of The PM10 Ambient Air Quality Standard

Prior decisions by the CEC have recognized that merely complying with air district offset requirements does not, for purposes of CEQA, necessarily eliminate all air quality impacts. For example, in the Tesla case, just as the current case, emissions from the Project threatened to exacerbate violations of the ambient air quality standard for PM10 in the area around the project. (Commission Decision in Tesla Power Plant Project, p. 138-150). As a result, even though that project would satisfy the air district's offset requirements, the CEC properly required local mitigation in the northern San Joaquin Valley to address the local air quality impacts of that project. (Commission Decision in Tesla Power Plant Project, p. 138-150). Interestingly, in that case, the air district's representative testified that "compliance with the District's offset regulations pertains to the no-net-increase program for NSR and is not based on CEQA requirements." *Id.* at p. 149.

[34] SCAQMD 2002 Air Quality Report – Card Format.

The same rationale applies here. The South Coast air district's internal offset account, the source of the City's proposed offsets, exists to comply with the Clean Air Act, not CEQA. Because of the informal nature of these accounts, the credits are not assigned distinguishing characteristics, meaning that it is impossible to determine the location from which those offsets originate. Thus, even if the City's use of those internal accounts were legal, they still would not satisfy the requirements of CEQA to mitigate the local air quality impacts of the Project.

Another example comes from the Three Mountain Power case. There, like in this case, Staff found that the "project's impacts **will** contribute to the PM10 violations" of the ambient air quality standard. Commission Decision in Three Mountain Power Plant, p.121 (emphasis in original). To mitigate these impacts, Staff recommended the project PM10 by emission reductions in the local area." *Id*. at p. 122.

Similarly, in the Pico Power Plant, the Commission required local offsets to mitigate the project's contribution to the region's violation of the PM10 ambient air quality standard. In recognizing the local air quality and public health impacts of PM10, the Commission decided to impose the following mitigation under CEQA:

> Under the proposed retrofit/replacement program, financial incentives will be provided to encourage residents ***within a 15-mile and 25-mile radius of the project*** to replace existing wood stoves with gas stoves and EPA-certified solid fuel devices or to retrofit existing wood-burning fireplaces to gas fireplaces. The Applicant will provide the BAAQMD with a grant, based on

> a maximum of $1,250 for each retrofit/replacement, in order to fund this program. (Ex. 40, p. 3.1 -7). This plan is similar to the one proposed for the Los Esteros Critical Energy Facility and for the Russell City Energy Center. The proposed mitigation package will provide reductions in emissions of directly emitted PM10, PM10 precursors, and other pollutants that will mitigate both the ambient air quality and the public health impacts of the PM10 emissions from the [Pico Power Plant] project. (Ex. 36, p. 3.1-28).

Commission Decision in the Pico Power Plant Decision, p. 77 (emphasis added).

In the Los Medanos case, "in response to public comments, Staff added a condition to require [the Applicant] to use the local emission reduction credits (ERCs) generated in Antioch before non-local offsets may be used" as mitigation for the project's PM10 emissions. Final Commission Decision on Pittsburg District Energy Facility, p.100.

Here, consistent with the CEC's findings in all of these cases, the Project is not eligible for the Small Power Plant Exemption because the localized impacts of its Project's PM10 emissions have not been reduced to a level of insignificance.

VI. THE PROJECT'S LOCAL IMPACTS DISPROPORTIONATELY AFFECT A SIGNIFICANT MINORITY POPULATION WITHIN A SIX MILE RADIUS OF THE PROJECT SITE

Under the CEC's CEQA checklist, a disproportionate impact on a significant minority population within a 6-mile radius of the project is a significant impact. See Draft Initial Study, p. 14-5. The initial study acknowledges that the percentage of people of color within a six-mile radius

of the facility exceeds 50 percent and that the census block where the Project is being proposed is 75% to 100% minority. The document also acknowledges that PM10 emissions from the Project's construction and operation are significant. *Id.* at 4-33, 4-37. Based on the air quality data provided by the Applicant, which include the pollution concentrations and coordinates for the sites of the maximum point of impact for operational and construction emissions[35], the maximum point of impact for NOx, SOx, CO and particulate matter will be within one and one half miles of the Project site. See Exhibit 7.

Despite these facts, the draft initial study provides no analysis to justify its conclusion that there will be no disproportionate impact to this community. *Id.* at p. 11-3; 14-6. The lack of discussion on the Project's localized impacts is particularly troubling in light of the sharp contrast between the demographic make-up of the community immediately surrounding the Project site and that of the City's general population, which is nearly 60% white. http://www.riversideca.gov/planning/PDF-FOLDER/WEB/dem-profile.pdf. In short, the localized impacts of the Project's air emissions on the surrounding community of color are neither revealed nor cured in the initial study.

The community of color surrounding the Project site also faces other disproportionate health risks related to the Project. For example, in the

[35] See Appendices F and H to the Air Quality.

event of an on-site ammonia spill, the maximum point of impact would be the people who lives closest to the facility, people who happen to be 75 to 100% non-white. Additionally, accidents involving the transport of ammonia to the project site may also be more likely to occur in this 6-mile radius. The draft initial study does not address the general public health or specific environmental justice impacts associated with an accidental release of ammonia during Project operations. These are specific unmitigated impacts that render the Project ineligible for an SPPE.

A specific cause for concern for the surrounding community is the public health impacts of particulate matter. New scientific information regarding PM pollution has surfaced showing that "the inhalation of particulate matter, particularly the smallest particles, causes a variety of health effects, including premature mortality, aggravation of respiratory (*e.g.*, cough, shortness of breath, wheezing, bronchitis, asthma attacks) and cardiovascular disease, declines in lung function, changes to lung tissues and structure, altered respiratory defense mechanisms, and cancer, among others." (U.S. EPA 4/96; 61 FR 65638.[36]) A recent article linked long-term exposure to combustion-related fine particulate air pollution to cardiopulmonary and lung cancer mortality.[37] Particulate matter is a non-

[36] National Ambient Air Quality Standards for Particulate Matter: Proposed Decision, Federal Register, v. 61, no. 241, December 13, 1996, pp. 65638-65675.

[37] A.A. Pope and others, Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution, Journal of the American Medical Association, v. 287, no. 9, pp. 1132-1141.

threshold pollutant, which means that there is some possibility of an adverse health impact at any concentration. See *American Trucking v. EPA*: Unjustified Revival of the Nondelegation Doctrine, 23-SPG Environs Envtl. L & Pol'y J. 17, 26. In response to this new information, both the federal and state EPAs have created new standards for the smaller PM pollution. The disproportionate impact of PM pollution on the Project's neighbors also render the Project ineligible for an SPPE.

Furthermore, under state law, the City of Riverside may not engage in any activity that would unlawfully subject the overwhelmingly minority community surrounding the Project site to a discriminatory impact.

> No person in the State of California shall, on the basis of race, national origin, ethnic group identification, religion, age, sex, color or disability, be unlawfully denied full and equal access to the benefits of, or be unlawfully subjected to discrimination under, any program or activity that is conducted, operated, or administered by the state or by any state agency, is funded directly by the state, or receives any financial assistance from the state.

Gov. Code section 11135, subd. (a). By siting the RERC in this community of color, which is already overburdened by the environmental impacts of the City's wastewater treatment plant (along with the construction impacts of the improvement projects to that plant) and by not addressing the localized impacts of the RERC Project as required by CEQA, the community of color that surrounds the Project is being "unlawfully subjected to discrimination under an activity that is conducted by" the City of Riverside, which receives funds from the State of California. *Id.*

VII. THE INITIAL STUDY DOES NOT ANALYZE THE "WHOLE OF THE PROJECT"

The Project, as a whole, will include 4 units, not simply the two units currently proposed. Based on evidence provided by the Applicant itself, construction and operation of Units 1 and 2 are merely the first phase of a two-phase project that will include Units 3 and 4. Under CEQA, the draft initial study must analyze and mitigate the impacts of the Project in its entirety, rather than "piecemeal" review of the Project, as is the case here.

A. CEQA Requires Analysis Of All "Reasonably Foreseeable" Future Phases of a Project

The Supreme Court in *Laurel Heights I*[38] set forth a two-pronged test for determining whether reasonably foreseeable future activities must be included in a project description:

> We hold that an EIR must include an analysis of the environmental effects of future expansion or other action if: (1) it is a reasonably foreseeable consequence of the initial project; and (2) the future expansion or action will be significant in that it will likely change the scope or nature of the initial project or its environmental effects.

Failure to consider all phases of a Project constitutes "piecemealing" of a single project into two or more separate phases. CEQA prohibits piecemealing and requires the CEQA document to analyze the "whole project." CEQA mandates "that environmental considerations do not become submerged by chopping a large project into many little ones -- each with a minimal

[38] *Laurel Heights Improvement Assn. v. Regents of the University of California* ("*Laurel Heights I*") (1989) 47 Cal.3d 376, 390.

potential impact on the environment -- which cumulatively may have disastrous consequences."[39] Before undertaking a project, the lead agency must assess the environmental impacts of all reasonably foreseeable phases of a project.[40] A public agency may not segment a large project into two or more smaller projects in order to mask serious environmental consequences. As the Second District very recently stated:

> The CEQA process is intended to be a careful examination, fully open to the public, of the environmental consequences of a given project, covering the entire project, from start to finish. . . the purpose of CEQA is not to generate paper, but to compel government at all levels to make decision with environmental consequences in mind.[41]

For example, in *San Joaquin Raptor v. County of Stanislaus,*[42] the court held that an EIR was deficient because it did not consider the impacts of a sewer system that would serve a new residential development. The County was required to prepare a new EIR analyzing the whole project, including the residential development, and the sewer and other services that were a reasonably foreseeable component of the project.

The importance of now considering all phases of the Project is easy to understand. For the Applicant, it is important to design Units 1 and 2 as part of the full buildout that includes Units 3 and 4. Tanks must be

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[39] *Bozung v. LAFCO* (1975) 13 Cal.3d 263, 283-84; *City of Santee v. County of San Diego*, (1989) 214 Cal.App.3d 1438, 1452.

[40] *Laurel Heights Improvement Assoc. v. Regents of the Univ. of Calif.* (1988) 47 Cal.3d 376, 396-97, 253 Cal.Rptr. 426) (EIR held inadequate for failure to assess impacts of second phase of pharmacy school's occupancy of a new medical research facility).

[41] Natural Resources Defense Council v. City of Los Angeles (2002) 103 Cal.App.4th 268.

[42] (1994) 27 Cal.App.4th 713.

appropriately sized, the layout must allow space for full buildout and underground piping must be designed to supply all four units. For the CEC, it is important to consider the potential impacts of all four units so that it can design mitigation whole project now, when the CEC retains maximum flexibility to control the design of the full project.

B. Documents Provided By the Applicant Show That Construction and Operation of Units 3 and 4 Are Reasonably Foreseeable Future Phases of the Project

The Applicant has supplied voluminous evidence that Units 1 and 2 are part of the ultimate four unit power plant.

First, there is no question that the City will need more power than can be supplied by two units alone.

The May 6, 2003 meeting notes of a meeting between Riverside Public Utilities ("RPU") and POWER Engineers[43] provided by the Applicant indicate that "RPU's contract for Baseload power expires in 2010-2011 creating the need for another 50 MW [in addition to the project]. Thus the plant could ultimately evolve into a 2x1 or a 3x1 power plant. The site layout and conceptual design should keep this in mind."

The May 19, 2003 "50 MW Peaker Plant Evaluation"[44] likewise notes that "[b]eyond that, it may be necessary add [sic] additional base load

[43] Attached as Exhibit 8.

[44] Attached as Exhibit 9.

generating capacity when the current base load energy supply contract expires in 2010." (p. 2 of 8.).

The June 24, 2003 meeting notes[45] indicate: "[b]ased on the proceeding, and RPU needing 50 MW of peaking in 2005, another 50 MW of peaking in 2008, and 120 MW of base/intermediate in 2012, develop the GA showing the maximum generation potential (assume all LM6000's for now)."

These statements demonstrate that more than the proposed 96 MW is required by 2010 when existing contracts expire. Rather than propose a whole new facility elsewhere, the City is naturally planning to add to the generating capacity at a site that already contains the necessary infrastructure to accommodate additional generating capacity. It is for this reason that, at the May 26, 2004 public informational hearing on this Project, the City acknowledged that it is "making provisions" to add two additional turbines to the Project site.[46]

Not only does the Applicant need the additional generating capacity, it has made specific, concrete provisions for Units 3 and 4.

- The Applicant has provided numerous visual design schemes for the Plant that contemplate four turbines.[47]
- The Applicant has sized the water tanks with spare capacity
- The Applicant has included tees in the piping for critical systems and in the natural gas line for easy extension to Units 3 and 4.[48]

[45] Attached as Exhibit 10.

[46] See Transcript of May 26, 2004 Public Informational Hearing, p.42-43.

[47] See diagrams attached as Exhibit 11.

- Most tellingly, the Applicant has produced a specific, detailed design plan showing the location of all equipment for all four units.[49]

The Applicant's argument that it is not yet possible to study the impacts of phase two of the Project "because the specific design for Units 3 and 4 is not known and will not be known until a decision in made to pursue them"[50] has been roundly rejected by California courts. For example, in *Bozung v. LAFCO*, (1974) 13 Cal. 3d 263, the Supreme Court ordered CEQA review of the LAFCO's proposed annexation approval of land for future development. The fact the development plans for that project site would require several future approvals or the fact that those plans were at a preliminary stage and therefore subject to change had no bearing on the lead agency's duty to study the impacts of those potential development activities at the earliest possible stage of the Project's approval process. *Id* at 279.

The Second District recently elaborated on the rationale leading to the outcome in *Bozung* as follows:

> The CEQA process is intended to be a careful examination, fully open to the public, of the environmental consequences of a given project, covering the entire project, from start to finish. This examination is intended to provide the fullest information reasonably available upon which the decision makers and the public they serve can rely in determining whether or not to start the project at all, not merely to decide whether to finish it. The EIR is intended to furnish both the road map and the environmental price tag for a project, so that the decision maker

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[48] Applicant's Response to CURE's Data Requests Set One, Response to Data Request 1.b.; p.1-2.

[49] Exhibit 11.

[50] Applicant's Response to CURE's Data Requests Set One (Requests 1.d. and 1.d.i., p.2).

> and the public both know, before the journey begins, just where the journey will lead, and how much they--and the environment--will have to give up in order to take that journey.

Natural Resources Defense Council v. City of Los Angeles, (2002) 103 Cal. App. 4th 268, 271. In this case, full disclosure of the City's "journey" is essential to meaningful public involvement and to public accountability.

Given the significance of the impacts of Units 1 and 2, the construction and operation of Units 3 and 4, when combined with the impacts of Units 1 and 2, will be significant.

VIII. THE CUMULATIVE IMPACTS ANALYSIS FAILS TO ANALYZE THE IMPACTS OF THE VARIOUS CAPITAL IMPROVEMENT PROJECTS AT THE ADJACENT WASTEWATER TREATMENT FACILITY

The Draft Initial Study ignored the cumulative impacts of capital improvement projects at the adjacent wastewater treatment facility despite a large billboard advertising that project. (See Exhibit 12, attached.)[51]

CEQA section 21083 requires a finding that a project may have a significant effect on the environment if "the possible effects of a project are individually limited but cumulatively considerable. . . . 'Cumulatively considerable' means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." **"**Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase

[51] See Exhibit 12 (photograph) of sign advertising the capital improvement project at the wastewater treatment plant, taken July 15, 2004).

other environmental impacts." CEQA Guidelines section 15355(a). "[I]ndividual effects may be changes resulting from a single project or a number of separate projects." CEQA Guidelines section 15355(a).

"The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." *Communities for a Better Environment v. Cal. Resources Agency ("CBE v. CRA")*, (2002) 103 Cal.App.4th 98, 117. A legally adequate cumulative impacts analysis views a particular project over time and in conjunction with other related past, present, and reasonably foreseeable probable future projects whose impacts might compound or interrelate with those of the project at hand. "Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." CEQA Guidelines § 15355(b).

As the court recently stated in *CBE v. CRA,* 103 Cal. App. 4th at 114:

> Cumulative impact analysis is necessary because the full environmental impact of a proposed project cannot be gauged in a vacuum. One of the most important environmental lessons that has been learned is that environmental damage often occurs incrementally from a variety of small sources. These sources appear insignificant when considered individually, but assume threatening dimensions when considered collectively with other sources with which they interact.

(Citations omitted).

In *Friends of Eel River v. Sonoma County Water Agency,* (2003)108 Cal. App. 4th 859, the court recently held that the EIR for a project that would divert water from the Eel River had to consider the cumulative impacts of the project together with other past, present and reasonably foreseeable future projects that also divert water from the same river system. The court held that the EIR even had to disclose and analyze projects that were merely proposed, but not yet approved. The court stated, CEQA requires "the Agency to consider 'past, present, and probable future projects producing related or cumulative impacts . . . .' (Guidelines, § 15130, subd. (b)(1)(A).) The Agency must interpret this requirement in such a way as to 'afford the fullest possible protection of the environment.'" Id. at 867, 869. The court held that the failure of the EIR to analyze the impacts of the project together with other proposed projects rendered the document invalid. "The absence of this analysis makes the EIR an inadequate informational document." Id. at 872.

The court in *Citizens to Preserve the Ojai v. Bd. of Supervisors,* 176 Cal.App.3d 421 (1985), held that an EIR prepared to consider the expansion and modification of an oil refinery was inadequate because it failed to consider the cumulative air quality impacts of other oil refining and extraction activities combined with the project. The court held that the EIR's use of an Air District Air Emissions Inventory did not constitute an adequate cumulative impacts analysis. The court ordered the agency to prepare a new

EIR analyzing the combined impacts of the proposed refinery expansion together with the other oil extraction projects.

Here, despite the prominent display of a billboard advertising a $9 million capital improvement project at the neighboring wastewater treatment facility (a project that is being undertaken by the Applicant itself), no mention of this neighboring project exists in the Applicant's materials or in the draft initial study.

Our independent investigation of this project reveals that the City plans to implement a comprehensive overhaul of its wastewater treatment facility and cogeneration plant, including construction of a new primary treatment system, construction of new various pieces of new equipment and a host of other types of modifications to the facility, including the associated cogeneration plant. Attached as Exhibit 13 is a description of the wastewater treatment plant capital improvement project generated by the City of Riverside. The improvement and expansion of the facility is projected to span six years.

The impacts from construction and operation of all the City's improvement and modification activities at this adjacent site, including the activities described in Exhibit 13, must be disclosed and will likely be cumulatively significant.

IX. CONSTRUCTION NOISE IMPACTS ARE SIGNIFICANT

The Applicant estimated that construction of the Project would result in a noise level of 50 dBA on the recreational trail north of the site. (Ap., Table 6.7-5, p. 205.) The Draft IS estimated the increase in noise due to construction by subtracting the measured existing ambient daytime noise level, 46 dBA, from the applicant's construction estimate of 50 dBA. This calculation indicates that Project construction would increase ambient noise levels by 5 dBA. (DIS, Noise Table 4, p. 12-9.) The DIS concludes that this is not a significant noise impact. This conclusion is incorrect for several reasons, as discussed below.

A. The Wrong Significance Threshold Was Used

The Draft IS calculated a 5 dBA increase and concluded that it was not significant. However, a 5 dBA increase would ordinarily be considered to be a significant noise impact because it represents a more than doubling of the sound levels. This threshold is widely used to determine the significance of noise impacts for purposes of CEQA. In particular, in many other siting cases the Commission has assumed noise impacts were significant if the increase in noise is 5 dBA or greater.[52]

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[52] Blythe Energy Power Plant Project, November 2000, p. 252; Malburg Generating Station Project, May 2003, p. 259; Contra Cost Unit 8 Power Project, May 2001, pp. 60, 66; Henrietta Peaker Project, March 2002, pp. 99, 105; High Desert Power Project, May 2000, p. 193; Inland Empire Energy Center, pp. 300, 307; Los Esteros Critical Energy Facility Project, July 2002, p. 291; Metcalf Energy Center, September 2001, p. 396 (nighttime noise levels); Palomar Energy Project, August 2003, p. 322; Potrero Unit 7 Project, p. 57; Roseville Energy Park, June 2004, p. 4.6-9; San Joaquin Valley, January 2004, pp. 308, 317; Cosumnes Power

However, in this case, the Draft IS argues that construction "will occur only on weekdays between the hours of 7 a.m. and 7 p.m., and Saturdays between 8 a.m. and 5 p.m.…. Because construction noise is temporary in nature and construction activities will occur during daytime hours, the noise effect of plant construction is considered to be insignificant." (DIS, p. 12-9.) However, as discussed below, longer hours of operation may occur. Further, the temporary nature of an impact does not render it insignificant.

B. The Wrong Operating Hours Were Used

The construction noise analysis assumes that construction noise would not be significant because construction would occur only 12 hr/day, during daytime hours. However, COE AQ-C5 allows "short excursions" above 12 hr/day, with CPM approval." Thus, the Draft IS should either eliminate this COE, or revise the noise analysis to consider impacts during nighttime construction.

C. Temporary Noise Impacts Are Significant

The Draft IS states that noise due to construction "is usually considered to be insignificant" if "the construction activity is temporary." (DIS, p. 12-7.) The staff's analysis estimated that construction would increase ambient noise levels by 5 dBA, but argued that this increase is not significant because "construction noise is temporary in nature…" (DIS, p. 12-

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Plant Project, September 2003, p. 126 ("past precedent"); Tesla Power Project, June 2004, pp. 417, 418.

7.) CEQA does not grant any exemptions for significant impacts that are temporary. To the contrary, construction-related impacts such as air quality impacts, which are necessarily temporary, have their own thresholds of significance under CEQA. Further, construction would last 9 months, a significant amount of time. (DIS, p. 12-8.) Thus, the DIS' argument is contrary to CEQA law.

The impacts of noise – nuisance, degradation of performance, and a wide range of physiological reactions, including loss of hearing and degradation of sleep – occur on a scale much shorter than the duration of construction. A noted acoustical handbook states: "Long-term effects are measurable in hours, days, or longer, although there is some overlap with the definition of short-term effects. In the long-term category are responses such as alteration in rate of secretion into the bloodstream of substances (hormones), so modifying their concentration for hours, days, or longer, with various real or postulated functional consequences." (Harris 1991,[53] p. 25.14.)

The U.S. EPA conducted a comprehensive study of construction noise, specifically because of its well-known significant impacts. (EPA 12/31/71.[54]) In its introduction, the EPA notes: "The thunder of these engines not only degrades the quality of life in our communities but also causes the operators to incur substantial levels of permanent hearing loss." (EPA 12/21/71, p. 1.)

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[53] Cyril M. Harris, Handbook of Acoustical Measurements and Noise Control, 3rd Ed., McGraw-Hill, Inc., New York, 1991.

[54] Bolt, Beranek and Newman, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, U.S. EPA Report NTID300.1, December 31, 1971.

The EPA concluded with respect to a typical construction site: "The noise from this site will be sufficiently high to interfere with their conversation most of the day.... Many will either find it more difficult to fall asleep or be awakened during sleep because of construction noise…. Some pedestrians are exposed to levels that could contribute to hearing loss particularly if these people are exposed to high noise levels during other times of the day…. They have no control over the noise nor do they have much respite from it. The argument that construction is temporary has little appeal to people living near a several year project or one series of projects after another located all around them – after all, they argue, life itself is temporary." (EPA 12/31/71, p. 166.)

Construction of the Project will increase the noise by a factor of two (based on staff's calculations) to over a factor of three (based on our calculation in Table 12) along the recreational trail, 790 feet north of the acoustical center of the site. This is a significant noise impact that is simply not mitigated by its temporary nature.

D. The Construction Noise Level Of 50 dBA Is Not Correct Because All Construction Equipment Was Not Included

The Applicant estimated the 50 dBA noise level on the recreational trail, assuming that only six pieces of equipment would be operating: backhoe, large mobile crane, dozer, grader, scraper, and dump truck. Response to CURE DR 41 and Ap. Table 6.7-7. However, the air pollutant

emissions from constructing the Project were based on a much larger construction fleet and a construction schedule, presumably more accurate. (Ap., Appx. C.) This additional equipment includes five cranes, a forklift, backhoe loader, vibratory roller, portable compaction roller, two vibratory plate compactors, and nine trucks, among other items. The ambient construction noise level, assuming the same equipment included in the analysis of construction air pollutant emissions, but otherwise adopting the applicant's assumptions, is as follows:

Table 12
Construction Equipment Noise Levels

Equipment	Rating (hp)	Noise Level at 50 ft[a] (dBA)
Crawler Crane- Greater than 300 ton	175-300	89
Crawler Crane- Greater than 200 ton	175-300	87
Crane – Mobile 65 ton	175-300	87
Cranes -Mobile 45 ton	100-175	87
Cranes - Mobile 35 ton	100-175	87
Bulldozer D6H	100-175	88[b]
Bulldozer D4C	50-100	80
Excavator- Trencher	50-100	89
Excavator- Earth Scraper	175-300	89[b]
Excavator-Motor Grader	100-175	86[b]
Excavator- Backhoe/loader	50-100	83[b]
Excavator – loader	50-100	79
Vibratory Roller	100-175	73
Portable Compaction roller	175-300	75
Truck- Water	Onroad	83
Forklift	50-100	79
Dump Truck	Onroad	88[b]
Service Truck- 1 ton	Onroad	83
Truck- Fuel/Lube	Onroad	83
Concrete Pumper Truck	Onroad	85
Tractor Truck 5th Wheel	Onroad	87
Trucks- Pickup ¾ ton	Onroad	83
Trucks- 3 ton	Onroad	80
Diesel Powered Welder	25-50	78
Light Plants	25-50	?
Portable Compaction- Vibratory Plate	25-50	76
Portable Compaction- Vibratory Ram	25-50	76
Articulating Boom Platforms	25-50	?
Pumps	Gasoline	76
Air Compressor 185 CFM	25-50	81
Air Compressor 750 CFM	25-50	81

Concrete Vibrators	25-50	90
Concrete Trowel Machine	25-50	85
Fusion Welder	25-50	?
Portable Power Generators	25-50	78
Ambient Background	-	46
Base Noise Level		100.04
Duty Cycle (50%)[c]		-3.01
Distance Attenuation[c]		-23.97
Barrier Attenuation[c]		-17.5
CONSTRUCTION NOISE LEVEL		**55.55**

[a] U.S. EPA, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, December 31, 1971, Figure 1 and Table IV and Federal Register, v. 39, no. 121, July 21, 1974, pp. 22297-22299.

[b] Application, Table 6.7-7.

[c] Response to CURE Data Request 41.

This table shows that the ambient noise level on the trail would increase from 50 dBA, estimated by the Applicant based on only six pieces of equipment, to 56 dBA, based on the equipment used to estimate construction air emissions. Actual noise levels could be somewhat higher as we were unable to find noise levels for some of the equipment that would be used. Thus, Project construction would increase ambient noise levels from 46 dBA at present, to 56 dBA or by 10 dBA. The Draft IS indicates that an increase of 5 to 10 dBA "may be considered significant." (DIS, p. 12-7.) Thus, notwithstanding staff's caveats, which are discussed above, this is a significant impact based on the upper end of staff's significance threshold. It is also significant based on the 5 dBA significance threshold used by the CEC in numerous prior decisions.

E. Barrier Attenuation Was Overestimated

The construction noise analysis assumes that the barrier would reduce ambient noise levels by 17.5 dBA. Response to CURE DR 41. We were unable to reproduce this value and believe that it is high. The practical insertion loss for barriers ranges from 10 to 20 dBA. A value of 17.5 dBA appears to be high for site conditions. The barrier dimensions and geometry (distance from source to barrier and barrier to receptor) were not provided in any of the documents that we have reviewed. The barrier height differs on the north and south side of the barrier. We are concerned that the height on the south side, which is much higher than on the north side, was used in the barrier calculations. We request that staff provide the basis for the barrier insertion loss assumed in the construction noise analysis and confirm that it is reasonable.

F. Backup Bells Were Not Analyzed

Repetitive, pure-tone noises are generally the most irritating. The backup bells on earth moving equipment are highly irritating and are generally a major cause of noise complaints around construction sites. The Draft IS did not acknowledge nor analyze the impact of backup bells. Further, the construction noise levels reported in the Draft IS do not include noise from backup bells. As discussed below, these alarms result in significant construction noise impacts that must be mitigated.

For worker safety reasons, the Occupational Safety and Health Standards ("OSHA") require construction vehicles to sound a backup alarm when backing up or to have an observer signal that it is safe to do so. Backup alarms, which are employed on most construction sites, emit a distinct attention-drawing sound at a fixed interval, which has to be audible above the surrounding noise level. (29 C.F.R. § 1926.601 b(4).)

Backup alarms on heavy-duty equipment emit up to 112 dBA at 4 feet (a minimum increment of 5 decibels above ambient noise is typically considered audible).[55,56,57] Standard backup alarms emit a consistently loud noise at a fixed interval regardless of background noise levels and regardless of whether anyone is behind the vehicle. Self-adjusting or manually-adjustable backup alarms, which have settings of 87 and 107 dBA at 4 feet, increase or decrease their volume based on background noise levels, but are only available for smaller equipment such as backhoes or trucks.

Assuming a typical backup alarm noise level of 112 dBA at 4 feet, the attenuated noise level on the recreational trail from backup bells alone would

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[55] Society of Automotive Engineers, Recommended Practice: Criteria for Backup Alarm Devices, SAE J994, Society of Automotive Engineers, Warrendale, PA.

[56] *See*, *e.g.*, Star Headlight and Lantern, Co., Warning Systems, Backup Alarms, http://www.starheadlight.com/pages/products/baclUp/63000.htm, accessed May 24, 2003, or R.F. Knapp Company, Radar Alarm Systems, http://www.rfknappco.com/web2/products/alarms/, accessed May 24, 2003.

[57] C.J. Schexnayder and J. Ernzen, Mitigation of Nighttime Construction Noise, Vibrations, and Other Nuisances, A Synthesis of Highway Practice, NCHRP Synthesis 218, National Cooperative Highway Research Program, Transportation Research Board, National Research Council, National Academy Press, Washington, DC, 1999.

be 57 dBA.[58] Thus, backup bells alone would increase the noise along the recreational trail by 11 dBA. These bells are one of the most common causes of annoyance and community complaints from construction activities and are known to cause considerable irritation. This is a significant impact that was not identified in the Draft IS.

G. Boulder Removal Not Considered

The site contains a large number of boulders, many of which are too large to haul away. The Application acknowledges that "some blasting may be required during the construction to remove some large boulders at the site. If blasting occurs, the construction noise levels will exceed the CEC threshold. This impact cannot be fully mitigated. " (Ap., p. 205.)

X. OPERATIONAL NOISE IMPACTS ARE SIGNIFICANT

The Draft IS estimated operational noise impacts at the nearest residence,[59] noise monitoring location LT-1, located 2,870 feet from the nominal acoustical center of the site. This analysis indicates that noise levels would increase by 5 dBA. This impact should be significant, based on previous siting cases. Further, this analysis underestimates the impacts for the reasons set out below.

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[58] Construction noise from 15 pieces of equipment operating with backup bells, each emitting at 112 dBA at 4 ft: $[10\log(15(10^{11.2}) - 3.01 - 20\log(4/790) - 17.5] = 57.3$ dBA.

[59] Although the DIS claims that LT-1 is the nearest residence, it is not. The nearest residence is actually just 660 feet from the southern boundary of the Project site and is located at 7297 Jurupa Ave.

A. Wrong Significance Threshold Used

The Draft IS concluded that Project operation would increase nighttime noise levels by 5 dBA. However, the Draft IS concluded that this "increase would be barely noticeable; staff considers it an insignificant impacts and finds the project's operational noise levels in compliance with CEQA guidelines." (DIS, p. 12-10.)

However, a 5 dBA increase would ordinarily be considered a significant noise impact because it represents a more than doubling of the sound pressure level. This threshold is widely used to determine the significance of noise impacts for purposes of CEQA. Further, the Commission itself has relied on this threshold in many other siting decisions.[60] Therefore, operational noise impacts are significant.

B. All Noise Sources Were Not Included

The noise analysis for the nearest residential receptor located at LT-1 appears to include only one turbine train, instead of two. Further, it does not include the zero liquid discharge system. Response to CURE Data Request 39, Attach. 5. Thus, noise impacts may be underestimated by about 3 dBA. This would increase Project noise levels to 45 dBA, cumulative noise to 46

[60] Blythe Energy Power Plant Project, November 2000, p. 252; Malburg Generating Station Project, May 2003, p. 259; Contra Cost Unit 8 Power Project, May 2001, pp. 60, 66; Henrietta Peaker Project, March 2002, pp. 99, 105; High Desert Power Project, May 2000, p. 193; Inland Empire Energy Center, pp. 300, 307; Los Esteros Critical Energy Facility Project, July 2002, p. 291; Metcalf Energy Center, September 2001, p. 396 (nighttime noise levels); Palomar Energy Project, August 2003, p. 322; Protrero Unit 7 Project, p. 57; Roseville Energy Park, June 2004, p. 4.6-9; San Joaquin Valley, January 2004, pp. 308, 317; Cosumnes Power Plant Project, September 2003, p. 126 ("past precedent"); Tesla Power Project, June 2004, pp. 417, 418.

dBA, and the change in noise to 7 dBA. Thus, ambient noise levels would exceed the City and County nighttime residential significance threshold of 45 dBA (DIS, p. 12-2) and the CEC's significance threshold of 5 dBA. This is a significant impact.

C. Nearest Residential Receptor Not Evaluated

The Draft IS evaluated operational noise impacts at what it characterized as the nearest residential receptor. (DIS, p. 12-10.) The Application indicates that this receptor is the residence at monitoring site LT-1, located 2,870 feet northwest of the site. (Ap., Table 6.7-2 and 6.7-6; Response to CURE Data Request Set 3, Attach. 5.) However, the land use section of the Draft IS, p. 11-3, indicates that a residence may be present at a dog kennel. We confirmed that there is an occupied residence at the Hidden Valley Kennel, 7297 Jurupa Avenue, about 660 feet from the southern boundary of the site. Therefore, the noise analysis did not evaluate the nearest residential receptor.

The Applicant prepared noise analyses at 15 sites. (Ap., Table 6.7-6.) Two of these, ST-9, located 1,220 feet southeast of the nominal acoustical center, and ST-7, located 620 south of the nominal acoustical center, bracket the noise impacts that can be expected at the kennel residence.[61] The operational noise levels estimated by the applicant at these locations are 60.0 dBA at ST-7 (Maaco) and 52.9 dBA at ST-9 (church). Response to CURE DR

[61] The distances are taken from the Response to CURE Data Request 36, Attachment 5. The site locations are taken from the Application, Table 6.7-2.

39, Attach. 5 and Ap., Table 6.7-6. Cumulative noise, consisting of Project operational noise and existing background (four lowest nighttime hours based on the L90), would be even higher. Thus, operational noise levels alone exceed the nighttime residential standards of both the City of Riverside and Riverside County. (DIS, p. 12-2 and Noise Table 1.) This impact is probably significant, but cannot be evaluated because the Applicant did not measure nighttime noise levels at these two receptors.

D. Nearest Church Not Evaluated

The Draft IS indicates that the City of Riverside's noise standard of 45 dBA applies to both residential receptors and churches. (DIS, p. 12-2.) A church is located at 7,110 Jurupa Avenue, 1,220 feet southeast of the nominal acoustical center (ST-9). The Applicant's analysis indicates that operational noise levels at this location would be 52.9 dBA. Response to CURE DR 39, Attach. 5 and Ap., Table 6.7-6. Thus, operational noise levels alone exceed the City's nighttime noise standard for churches. This impact is probably significant, but cannot be evaluated because the Applicant did not measure nighttime noise levels at this location.

E. Cumulative Noise Impacts Were Not Analyzed

The Draft IS claims that there are no cumulative projects and thus no cumulative noise impacts. (DIS, p. 12-12.) However, as mentioned above there are a number of capital improvement projects taking place at the adjacent wastewater treatment plant and cogeneration facility that will span

the next 5-6 years. See Exhibits 12 and 13. This Project would be constructed over the same time frame as the Project. Therefore, cumulative noise impacts would also likely be significant.

XI. THE PROJECT IS NOT ELIGIBLE FOR AN EXEMPTION BECAUSE THE GENERATING CAPACITY APPEARS TO EXCEEDS 100 MW

The Project's generating capacity apparently exceeds 100 MW, rendering the Project ineligible for an SPPE under Public Resources Code section 25541.

Under the Commission's regulations, the definition of "generating capacity" is "the maximum gross rating of the plant's turbine generator(s), in megawatts ("MW"), minus the minimum auxiliary load." The "maximum gross rating" of a combustion turbine generator "shall be the output, in MW, of the turbine generator at average operating site conditions, with the proposed fuel type, and at those water or steam injection flow rates, which yield the highest generating capacity on a continuous basis." 20 Cal. Code of Regs., section 2003. The Applicant's estimate of generating capacity is not consistent with this definition.

Gas turbines are constant volume machines and maintain constant inlet air volume. Thus, based on the ideal gas law, decreasing air temperature will increase the mass flow rate of air into the turbine. This increases generating capacity. A chiller, proposed for this Project, reduces

the temperature of the inlet air, which increases the air mass flow rate and hence the generating capacity.

The Application states that the nominal net generating capacity of both units will be about 96 MW at 72.2°F. This temperature is "the average site temperature during the months of May to October." (Ap., p. 14 and note 2.) Appendix A to the Application, which contains more detailed equipment information, indicates that the net power output at 72°F is 48,391 kW per turbine. (Ap., Appx. A, p. 1., Turbine Performance Specifications.

Aside from the fact that the DIS does not propose limiting operation of the Project from May to October, this approach is entirely inconsistent with the Commission's regulatory requirements for calculating "generating capacity." Generating capacity, as defined under Commission regulations, must be based on the "average operating site conditions" which yield the highest generating capacity on a "continuous basis." See 20 Cal. Code of Regs. Chapter 5, section 2003, subd. (b)(2)(A). The Commission therefore requires the average year-round temperature, not an artificially-limited seasonal average.

The annual average site temperature is much lower than the 72.2°F offered in the DIS, as shown by the following table that summarizes temperature data for three nearby locations:

Table 13
Dry Bulb Temperature In Vicinity Of Riverside Project Site

Month	UC Riverside 1986-2003	Riverside Fire Station 1927-2004	Ontario Airport 1973-1993
January	54.5	53.2	54
February	55.4	54.9	57
March	57.6	57.3	58
April	61.2	61.4	63
May	64.8	66.1	67
June	69.8	71.2	73
July	74.6	77.2	78
August	76.3	77.5	78
September	72.8	74.2	76
October	66.5	67.0	70
November	59.1	58.9	61
December	53.8	53.7	55
Annual	63.9	64.4	66

These data suggest that the Applicant based its temperature of 72.2.°F for the months of May through October on the Riverside Fire Station. The *annual* average temperature at this station is 64.4°F or 7.8°F lower than assumed in the Applicant's estimate of generating capacity. Using "average operating site conditions" which yield the highest generating capacity on a "continuous basis," results in an average site temperature of 64.4°F.

The Applicant did not provide a heat balance for 64.4°F. We used GT Master version 13.0, a widely used industry heat balance program, to estimate the increase in net generation from an LM6000PC turbine[62] for a

[62] We were unable to estimate the net generating capacity at 64.4°F for the Project's turbines because GT Master's turbine library does not include turbine specifications for the precise model of LM6000 turbine proposed for this Project, a GE LM6000PC Sprint turbine with variable inlet guide vanes.

7.8°F decrease in ambient temperature. This analysis indicates that net generation would increase by 302 kW per turbine for each degree F drop in temperature. Therefore, a 7.8°F drop in temperature would increase the net generating capacity by 2.4 MW per turbine compared to the 72.2°F case analyzed by the Applicant, assuming all else remains constant. The net generating capacity estimated in the Application is 48.4 MW. (Ap., Appx. A, p. 1.) Therefore, the generating capacity at 64.4oF would be about 50.8 MW per turbine and the total Project net generating capacity would be about 102 MW.

Using an annual average temperature for the site, appears to render the Project ineligible for a small project exemption under Pub. Resources Code § 25541.

Therefore, we request the Commission analyze the generating capacity that is consistent with the definitions in the Commission's regulations. This analysis should be supported by a heat balance analysis based on a recognized industry program. The program inputs and outputs should be attached to the Final Initial Study so that they may be reviewed and used as basis for testimony. These inputs should include all information on the

specific model of turbine that the Applicant proposes to use as required by Thermoflow and other similar programs to model generating facilities.

Dated: July 27, 2004

Respectfully submitted,

_____

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PROOF OF SERVICE

I, Bonnie Heeley, declare that on July 27, 2004, I deposited copies of the attached

MOTION OF THE CLAIFORNIA UNIONS FOR RELIABLE ENERGY TO CONVERT THIS PROCEEDING TO AN APPLICATION FOR CERTIFICATION AND COMMENTS ON THE STAFF'S DRAFT INITIAL STUDY

in the United States mail at South San Francisco, California, with first class postage thereon fully prepaid and addressed to the following:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 04-SPPE-01
DOCKET UNIT MS-4
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I declare under penalty of perjury that the foregoing is true and correct. Executed at South San Francisco, California, on July 27, 2004.

_____
Bonnie Heeley