Draft Environmental Impact Report

AMENDMENT OF THE SPHERE OF INFLUENCE FOR THE SACRAMENTO MUNICIPAL UTILITY DISTRICT (SMUD) AND ANNEXATION BY SMUD OF THE CITIES OF WEST SACRAMENTO, DAVIS, AND WOODLAND AND PORTIONS OF UNINCORPORATED AREAS OF YOLO COUNTY

Comments on Air Quality

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Table of Contents

List of Tables

COMMENTS

The Sacramento Municipal Utilities District ("SMUD") has proposed to expand its sphere of influence to provide retail electric service to the cities of West Sacramento, Davis, and Woodland ("Cities") and portions of the unincorporated areas of Yolo County ("Yolo Communities"). SMUD plans to acquire existing electric distribution facilities presently owned and operated by Pacific Gas & Electric Company ("PG&E") within its boundaries. In addition, the SMUD proposes to construct, modify or upgrade the facilities and equipment necessary to separate the electric distribution system from PG&E's remaining system to bring the system up to a higher standard of reliability. (Draft EIR, pp. ES-1/ES-2.) The Sacramento Local Agency Formation Commission ("LAFCo") as the Lead Agency under the California Environmental Quality Act ("CEQA") has prepared a Draft Environmental Impact Report[1] ("Draft EIR") for the SMUD's proposed amendment of its sphere of influence and annexation by SMUD of the Cities and Yolo Communities ("Program"). The Draft EIR examines the potential impacts resulting from construction and operation of the Program.

The comments below discuss the Draft EIR's failure to meet the requirements of CEQA. These comments demonstrate that the Program will result in significant impacts on air quality that were not identified in the Draft EIR and which have not been adequately mitigated. Therefore, LAFCo should re-evaluate the air quality impact analysis in the Draft EIR and re-circulate the Draft EIR for public review and comment.

I. THE PROJECT DESCRIPTION IS INADEQUATE

An EIR must provide enough analysis and detail about environmental impacts to enable decisionmakers to make intelligent judgments in light of the environmental consequences of their decisions. *See* CEQA Guidelines §15151; *Kings County Farm Bureau v. City of Hanford,* 221 Cal.App.3d 692 (1990). Under the law, the lead agency must make a good faith effort to fully disclose the environmental impacts of the project. This requirement cannot be met unless the project is adequately described and existing setting information is complete. *See County of Inyo v. City of Los Angeles,* 71 Cal.App.3d 185, 199 (1977). Both the public and decision-makers need to fully understand the implications of the choices presented by the

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[1] Sacramento Local Agency Formation Commission, Draft Environmental Impact Report, Amendment of the Sphere of Influence for the Sacramento Municipal Utility District (SMUD) and Annexation by SMUD of the Cities of West Sacramento, Davis, and Woodland and Portions of the Unincorporated Areas of Yolo County, SCH #2005092009, January 2006.

project, mitigation measures, and alternatives. *See Laurel Heights Improvement Ass'n v. Regents of University of California,* 6 Cal.4th 1112, 1123 (1988).

The purposes of reviewing and evaluating an EIR include disclosing agency analyses, checking for accuracy, and detecting omissions. (CEQA Guidelines, §§15200(a)-(c).) This objective can only be accomplished if the EIR contains sufficiently detailed information regarding its methodologies, assumptions, inputs, and results. As discussed in the comments below, the Draft EIR fails to provide sufficient information to enable informed decision-making by LAFCo, the public, and the permitting agencies.

I.A The Draft EIR Lacks a Construction Schedule and Provides No Information on the Program's Buildout Horizon

Impacts on air quality from construction and operation depend on the duration and phasing of the various Program components. Yet the Draft EIR lacks any information on the anticipated buildout horizon of the proposed Program components. The Draft EIR analyzes the physical Program Components 4, 5, 6, and 9 at the project level yet defers analysis of physical Program Components 6, 7, and 8 to a later date. (*See also* Comment II.) The Draft EIR vaguely refers to a "preliminary construction schedule" used for its air quality analysis yet fails to include this schedule. (Draft EIR, p. IV-32.) Further, the Draft EIR contains no information whatsoever on the anticipated duration of construction activities or buildout horizon for any of the individual Program components as well as the entire Program.

The lack of a detailed construction schedule, particularly the overlap of construction phases, prevents adequate review of the Draft EIR's air quality analysis. The Draft EIR must be revised to include a detailed construction schedule for those Program components that were reviewed at the project level showing the phasing of construction activities for the various project components. Further, the Draft EIR should contain a construction schedule for the remaining Program Components 6, 7, and 8 with a projected buildout horizon for each component.

I.B The Draft EIR Fails to Provide Adequate Support for Fugitive Dust Emissions Estimates from Construction

The Draft EIR presents fugitive dust emissions based on "an approximate release of 10 lb/acre-day, and on estimates of the maximum areas of disturbance for each infrastructure component." The Draft EIR concludes that fugitive dust emissions from construction of each component would be below the 150 lb/day threshold used by the Yolo-Solano Air Quality Management District ("YSAQMD") and would therefore constitute a less than significant impact. (Draft EIR, p. IV-32.)

The Draft EIR fails to provide any support for its assumptions and calculations, such as the estimates of the maximum area of disturbance of each component or the origin of the emissions factor. The Draft EIR should be revised to include all assumptions and calculations for fugitive dust emissions.

II. THE DRAFT EIR IMPROPERLY DEFERS CONSTRUCTION AIR QUALITY IMPACT ANALYSIS FOR PROGRAM COMPONENTS 6, 7, AND 8

The Draft EIR analyzes Program Components 1, 2, 3, 4, 5, and 9 at the project level but analyzes future Program Components 6, 7, and 8, a new transmission line, a new substation, and distribution system upgrades, at the program level only. The Draft EIR maintains that "[i]t is premature for this EIR to develop specific alignments for Program Component 6 or specific locations for Program Component 7." (Draft EIR, p. II-20.) Specifically, the Draft EIR states that "SMUD will determine the exact locations and configurations of such facilities only after preparation of site-specific environmental analyses, which will be contained in one or more subsequent environmental documents." (Draft EIR, p. II-4.) The Draft EIR justifies this approach *viz.* "Consistent with the tiering approach adopted by this Program and encouraged by CEQA, future environmental analyses for projects associated with this Program will concentrate on the environmental effects that may be mitigated or avoided in connection with the decision on each later project." (Draft EIR, p. II-6.) The Draft EIR further elaborates that "SMUD ... would have to prepare one or more additional environmental document(s) to analyze the impacts of these Program components on the environment at a project level. (Draft EIR, p. ES-2.)

However, despite its assertion that additional environmental documents would be prepared, it appears that LAFCo attempts to evade, rather than "tier" the environmental review for the Program, thereby never quantifying total emissions from the Program. As discussed in the following, subsequent analysis of the remaining Program components in several individual environmental documents, as proposed in the Draft EIR, would potentially fail to identify and, consequently, adequately mitigate potential significant impacts.

First, the Draft EIR indicates that SMUD will prepare a detailed construction schedule and updated emissions inventory before construction of the Willow Slough Substation and proposes mitigation measures that would be required in the event that emission of ozone precursors, when added to the other infrastructure construction anticipated at the same time, would exceed 85 lb/day, the Sacramento Municipal Air Quality Management District ("SMAQMD")'s CEQA significance

thresholds.[2] (Draft EIR, p. IV-33.) Yet no such analysis and associated required mitigation is proposed for Program Component 6, the Woodland-Elverta Transmission Line. It appears that the Draft EIR attempts to evade environmental review for this Program component. .

Second, the Draft EIR recognizes that "specific construction details of the [Willow Slough] substation or revisions to the construction schedule could result in NOx construction emissions exceeding the threshold" and that this "would be a significant impact" (Draft EIR, p. IV-32.) Despite this recognition, the Draft EIR, at this point, declares no significant impact from construction of Program components that are constructed simultaneously and defers further analysis to subsequent environmental review. (Draft EIR, p. IV-33.) Yet, the Draft EIR's construction emissions inventory, based on a preliminary construction schedule provided by SMUD, shows that construction of the Willow Slough Substation is anticipated concurrently with Program Component 4, the Power Inn Road to Hedge Substation Transmission Line. (Draft EIR, p. IV-31.) According to the Draft EIR, Program construction is anticipated to occur "generally between May 1 and September 30" and is projected to begin in 2006. (Draft EIR, pp. II-21 and G-6/G-7.) Clearly, the time period between the anticipated certification of the Final EIR for the Program and the anticipated begin of construction in on May 1, 2006 would not allow for enough time to complete a separate detailed project-level individual environmental review for the Willow Slough Substation as proposed by the Draft EIR. Thus, a detailed project-level environmental review for this Program component should have been included in the Draft EIR.

In sum, there are several indications that an adequate supplemental environmental review of the Program and all its components will not be guaranteed if the EIR is certified as proposed. The Draft EIR should be revised to include a project-level air quality analysis for all Program components that can reasonably be anticipated to have overlapping construction phases, particularly, the Willow Slough Substation.

III. THE DRAFT EIR'S AIR QUALITY ANALYSIS UNDERESTIMATES CONSTRUCTION AND OPERATIONAL EMISSIONS AND FAILS TO IDENTIFY SIGNIFICANT IMPACTS

As demonstrated in the comments below, the Draft EIR's air quality analysis considerably underestimates construction emissions, and, consequently, fails to

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[2] The SMAQMD recommends only a quantitative significance threshold for NOx but not for ROG. Further, the Draft EIR should have required the YSAQMD's lower significance thresholds of 82 lb/day to determine significance of ozone precursors.

identify and adequately mitigate significant impacts from construction diesel exhaust emissions and fugitive dust emissions. If estimated correctly, NOx and PM10 emissions from construction of the Program would exceed the YSAQMD's and SMAQMD's quantitative daily significance thresholds.

III.A The Draft EIR Improperly Reduces SMAQMD's Recommended Emission Factors for Off-road Equipment and, thus, Fails to Identify Significant NOx Emissions

For its construction emissions estimates, the Draft EIR's air quality analysis relies on predicted emission factors for diesel exhaust from off-road construction equipment for the year 2006 contained in the SMAQMD's Guide to Air Quality Assessment. (Draft EIR, pp. G-6/G 7.) The SMAQMD's predicted emission factors for off-road equipment are provided in pounds of pollutants per day. (SMAQMD 07/04, p. 3-6, Table 3-2.) The Draft EIR's air quality analysis reduces these emission factors for all off-road equipment by 20%, assuming an "80% active cycle." (Draft EIR, pp. G-7 through G-10.) This reduction is improper because typical load factors and typical daily hours of operation of the equipment at a construction site are already factored into the emission factors developed by the SMAQMD. (SMAQMD 07/04[3], p. 3-5.) In fact, the procedure recommended by the SMAQMD for using the emission factors contains no such provisions but simply requires multiplying the predicted emission rate in pounds per day for each pollutant times the number of pieces of equipment. (SMAQMD 07/04, p. 3-6.)

I estimated emissions from Program construction adjusting the emission factors for off-road equipment to 100% of the SMAQMD-recommended emissions factors and otherwise using all of the Draft EIR's assumptions. Attached Table A-1~~Table A-1~~ presents the detailed calculations based on the Draft EIR's emissions calculations spreadsheet[4]; inset Table 1

~~Table 1~~ summarizes the results.

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[3] Sacramento Metropolitan Air Pollution Control District, A Guide to Air Quality Assessment in Sacramento County, July 2004.

[4] Emissions calculation spreadsheet provided as attachment to email by Joe Trapasso, URS, to Thomas Enslow, Adams, Broadwell, Joseph & Cardozo, Re: Response to January 18, 2006 Request for Spreadsheet, January 26, 2006.

Table 1: Summary of Daily Construction Emissions

Program Component	Construction Phase	Total Daily Emissions (lb/day) HC/ROG	CO	NOx	PM10
4. Power Inn Road to Hedge Transmission Line Reconstruction	1. Construct Foundations*	4.7	40.8	33.3	0.7
	2. Install Poles*	3.1	27.9	17.6	0.4
	3. Install Conductors	2.5	21.4	15.5	0.5
5. North City Interconnection	1. Construct Foundations	2.5	21.1	17.9	0.4
	2. Install Poles	1.7	15.4	9.0	0.2
	3. Install Conductors	2.5	21.4	15.5	0.5
6. Woodland to Elverta Transmission Line	1. Grading/Foundations	5.0	42.4	37.0	0.7
	2. Install Poles	4.7	41.6	26.6	0.7
	3. String Conductor	3.5	28.9	22.6	0.7
7. Willow Slough Substation	1. Grading/Underground Work*	5.	36.5	40.5	1.4
	2. Install Foundations	2.6	21.9	18.9	0.42
	3. Install Equipment	1.7	15.6	9.2	0.2
Maximum anticipated overlap (components & phases marked*)		**12.9**	**105.2**	**91.4**	**2.6**
YSAQMD significance threshold		82	-	82	150
SMAQMD short-term significance threshold		-	-	85	-
Thresholds exceeded?		no	no	YES	no

As
Table 1

~~Table 1~~ demonstrates, NOx emissions from construction would exceed the YSAQMD's significance threshold of 82 lb/day as well as the SMAQMD's significance threshold of 85 lb/day. By introducing a fictitious "active load factor," the Draft EIR reduced estimated emissions from construction to below both Districts' NOx significance thresholds. Therefore, the Draft EIR erroneously concluded that Program construction would not result in significant adverse impacts on air quality. If using the correct calculation procedure, NOx emissions would considerably exceed both Districts' significance thresholds. The Draft EIR's air quality analysis must be revised to address this error and the Draft EIR must require adequate mitigation to reduce or eliminate the significant impact from NOx emissions.

III.B Construction Activities May Not Incorporate SMAQMD's Assumptions Used to Develop Emission Factors and Construction Equipment May Not Meet Predicted 2006 Diesel Exhaust Emission Factors, Resulting in Higher Actual Emissions than Estimated

The Draft EIR's air quality analysis relies on predicted emission factors for diesel exhaust from off-road construction equipment contained in the SMAQMD Guide to Air Quality Assessment for the year 2006. (Draft EIR, pp. G-6/G 7.) The

SMAQMD's predicted emission factors were developed to reflect average emissions from construction equipment in future years, taking into account the composition of the entire construction vehicle fleet including a certain fraction of newer vehicles that comply with CARB Tier 1 or Tier 2 emissions standards. However, the Program's construction fleet may not reflect the predicted average construction fleet assumed for developing the SMAQMD's construction emission factors for off-road equipment.

Given the long life of diesel engines, in-use pre-1996 equipment may remain in use for decades without any retrofitting and may therefore be used by the contractor crews contracted for construction of the Program. Therefore, the Draft EIR cannot rely on 2006 emission factors unless it specifically requires that the construction equipment meet the SMAQMD's predicted emissions as an enforceable mitigation measure.

In fact, to ensure that a project's construction emissions do not exceed emissions estimates using these emissions factors, the SMAQMD's Guidelines require explicitly that the lead agency should include the following conditions for construction activities:

- The number of pieces of equipment operating at the construction site should be limited to the number used in the emissions calculations.
- The amount of grading on any one day should be limited to the area used in the emission calculations.
- If the emission calculations are based on the use of newer, low-emitting equipment, then the project construction should be limited to using only the low emission equipment.
- Maintain heavy-duty earthmoving, stationary and mobile equipment in optimum running conditions, because emission estimates assume proper engine tuning. (SMAQMD 07/04, p. 3-13.)

The Draft EIR contains none of these provisions. Thus, actual diesel exhaust emissions from equipment used on site may be considerably higher than those presented in the Draft EIR because construction activities and equipment may not incorporate these control measures as well as other assumptions, *e.g.*, percentage fleet mix meeting Tier 1 or Tier 2 standards, relied on to develop the SMAQMD's predicted emission factors.

Therefore, the Draft EIR should be revised to reflect either the potential use of pre-Tier 1 construction equipment or, alternatively, to include mitigation measures requiring construction contractor fleets to meet the SMAQMD's 2006 emission factors as well as the SMAQMD's above-cited conditions.

III.C The Draft EIR's Assumptions for Phasing Construction Emissions Are Flawed, Resulting in Underestimates of Diesel Exhaust Emissions and Failure to Identify Significant Impacts on Air Quality

The Draft EIR's air quality impact analysis determined which construction phases of the various Program components may potentially overlap based on a preliminary construction schedule provided by SMUD. (*See* Comment II.) The Draft EIR determined that the construction phases involving the largest emissions that may overlap would be construction of foundations and installation of poles for Program Component 4, the Power Inn Road to Hedge Substation Transmission Line Reconstruction, and the grading/underground work for Program Component 7, the Willow Slough Substation. The Draft EIR concludes that emissions of all pollutants would be below the YSAQMD's daily significance thresholds and, thus, less than significant. (Draft EIR, p. IV-31.)

The Draft EIR provides neither the SMUD's preliminary construction schedule nor any other support for its assumption that none of the other construction phases would be constructed concurrently. Further, the Draft EIR contains contradictory information with respect to the potential overlap of Program Component construction phases. One the one hand, the Draft EIR states that "[e]ach phase is such that, at any given location, one phase must be complete before the next can occur." (Draft EIR, p. IV-31.) On the other hand, the summary of daily emissions contains emissions from two phases of one Program component, *i.e.* Phase 1, construction of foundations, and Phase 2, installation of poles, for Program Component 4, the Power Inn Road to Hedge Substation Transmission Line. (Draft EIR, p. IV-31, Table IV.C-3.) No explanation is provided for this discrepancy.

The Draft EIR estimated potential NOx emissions from construction of Phase 1 and 2 of Project Component 4 plus emissions from Phase I of Program Component 7 at 74.9 lb/day. From the Draft EIR's project description, it appears that Program Component 5, the North City Interconnection would be constructed concurrently with Program Component 4. (*See* Comment II.) Phase 1 (construction of foundation) of Program Component 5, has been estimated by the Draft EIR's air quality analysis at 14.9 lb/day. Thus, total NOx emissions from construction of these four phases would be 89.8 lb/day (74.9 lb/day + 14.9 lb/day, exceeding the YSAQMD's and quantitative daily significance threshold for NOx of 82 lb/day. Simultaneous construction of any other construction phase of Program Component 5 would similarly result in exceedance of the YSAQMD's significance threshold.

In aggregate, the individual flaws in the Draft EIR's air quality analysis present pervasive evidence that construction emissions presented in the Draft EIR are considerably underestimated. As a result, the Draft EIR fails to identify and

adequately mitigate significant impacts. The Draft EIR should be revised to address the above mentioned problems and be recirculated for public review.

III.D The Draft EIR Fails to Identify Potential Significant Impacts from Construction Fugitive Dust Emissions

The Draft EIR's fugitive dust emissions estimates for Program construction are based on the maximum daily acreage disturbed for each infrastructure component and an average emission factor of 10 lb/acre-day of PM10. Estimated emissions for Program Components 4, 5, 6, and 7 are 1.1 lb/day, 0.07 lb/day, 113 lb/day, and 5 lb/day of PM10, respectively. The Draft EIR concludes that fugitive dust emissions would be below the YSAQMD's significance threshold of 150 lb/day of PM10 and therefore less than significant. (Draft EIR, p. IV-32.) However, as discussed in the following, fugitive dust emissions could potentially be substantially higher.

The emission factor of 10 lb/acre-day of PM10 for fugitive dust emissions from construction sites is presumably based on the average fugitive dust emission factor for construction activities contained in the computer model URBEMIS[5], which is recommended by the SMAQMD Guide to Air Quality Analysis to estimate emissions from project construction and operation. The URBEMIS model also provides a worst-case emissions factor of 38.2 lb/day of PM10. (URBEMIS 04/5[6], p. 25.) Thus, fugitive dust emissions from Program construction could potentially be up to 3.82 times higher than estimated by the Draft EIR. Conditions at the construction site that would generate emissions of 13.3 lb/acre-day of PM10, only marginally higher than the average emissions factor of 10 lb/acre-day of PM10, would result in exceedance of the YSAQMD's daily quantitative significance threshold of 150 lb/day of PM10.[7] Construction of the Willow Slough Substation, could, under worst-case conditions, for example, on windy days, result in fugitive dust emissions of 431.7 lb/day of PM10.[8] This would substantially exceed the YSAMQD's significance threshold.

Thus, the Draft EIR failed to identify and adequately mitigate a potential significant impact. These emissions would contribute to the existing violations of

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[5] URBEMIS is a computer program that can be used to estimate emissions associated with land development projects in California. URBEMIS stands for "Urban Emissions Model."

[6] Software User's Guide: URBEMIS2002 for Windows with Enhanced Construction Module, Version 8.7, Emissions Estimation for Land Use Development Projects, April 2005.

[7] (113 lb PM10/day) × (13.3 lb PM10/day) / (10 lb PM10/day) = 150.3 lb/day.

[8] (113 lb PM10/day) × (38.2 lb PM10/day) / (10 lb PM10/day) = 431.7 lb/day.

PM10 ambient air quality standards in the Sacramento Valley air basin. The Draft EIR must be revised to identify this potential significant impact and require adequate mitigation.

III.E The Draft EIR's Operational Emissions Estimate Fails to Include Entrained Road Dust and Fails to Identify a Potential Significant Impact

The Draft EIR's emissions estimates for the operational phase of the Program, namely service and maintenance emissions, includes only diesel exhaust emissions. However, diesel exhaust emissions are not the only emissions from the SMUD's vehicle fleet. When vehicles travel paved or unpaved road, particles are pulverized by the force of the wheels, lifted and dropped from the rolling wheels, and lifted from the road surface due to strong air currents in turbulent shear with the surface behind the vehicle. This entrained road dust can be a considerable source of emissions from vehicle travel on paved and unpaved roads. Road dust originates from many sources, including atmospheric fallout, windblown dust, brake and tire wear, and loose materials along the shoulders of the road which is entrained by mechanical turbulence created by vehicles.[9] The Draft EIR fails to include an emissions estimate for entrained road dust particulate matter emissions from the SMUD's operational vehicle fleet. (*See* Draft EIR, Appx. G, Table G-8.)

The U.S. EPA has developed empirical formulas for calculating entrained road dust from vehicle travel on unpaved and paved roads, which were incorporated into URBEMIS2002, the computer model recommended by the SMAQMD for estimating emissions. (URBEMIS 04/05, pp. C-2 through C-4.) The CARB has developed an emission factor for unpaved roads of 2.27 pounds of PM10 per vehicle mile traveled ("VMT"). (*See* URBEMIS2002, operational emissions module.)

Daily entrained road dust emissions from the SMUD's vehicle fleet could potentially exceed the YSAQMD's 150 lb/day significance threshold and result in a significant impact that was not identified in the Draft EIR. For example, using the total daily mileage for the SMUD's daily service and maintenance trips, 388.6 VMT/day[10], and assuming 20% travel on unpaved roads along the Program's transmission lines, would result in 176.4 lb/day of PM10 from entrained road dust based on the CARB's emission factor of 2.27 lb/VMT.[11] This would exceed the

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[9] H. Moosmuller *et al.*, Particulate Emission Rates for Unpaved Shoulders Along a Paved Road, Journal of the Air & Waste Management Association, v. 48, 1998, pp. 398-407.

[10] 83.0 VMT/day (2 line trucks) + 83.0 VMT/day (2 foreman trucks) + 93.0 VMT/day (2 trouble shooters) + 129.5 VMT/day (3 meter readers) = 388.6 VMT/day

[11] 388.6 VMT/day × 0.20 × 2.27 lb PM10/VMT = 176.4 lb/day PM10

YSAQMD's quantitative daily significance threshold. Additional weekly trips for substation maintenance would add to the total entrained road dust emissions attributable to vehicle travel. (*See* Draft EIR, Table G-8.)

These emissions estimates only serve as example of the potential magnitude of entrained road dust emissions. The Draft EIR does not contain sufficient information on the percentages traveled by the SMUD's vehicle fleet on paved and unpaved roads. However, these estimates illustrate that the YSAQMD's significance threshold could be exceeded. Thus, construction fugitive dust emissions could potentially result in a significant impact that was not identified in the Draft EIR. Therefore, the Draft EIR's operational emissions estimates must be revised to include entrained road dust emissions attributable to maintenance and operational vehicle travel.

IV. THE DRAFT EIR FAILS TO REQUIRE ADEQUATE MITIGATION FOR SIGNIFICANT ADVERSE IMPACTS ON AIR QUALITY

The Draft EIR finds several significant and unavoidable adverse impacts on air quality from construction and operation of the Program. These include diesel exhaust particulate matter emissions from construction equipment and vehicle travel for service and maintenance activities during the operational phase of the Program. (Draft EIR, pp. IV-34/IV-35.)

Because of the severe air quality problems in the region, LAFCo can not adopt a statement of overriding considerations for significant and unavoidable impacts on air quality unless it first requires all feasible mitigation to reduce or eliminate these significant impacts, which it did not, as discussed in the following comments. The Draft EIR must be revised to require adequate mitigation for all potential significant adverse impacts on air quality.

IV.A The Draft EIR Fails to Require Mitigation for Significant Impacts from Diesel Exhaust Particulate Matter Emissions from Construction

The Draft EIR finds significant and unavoidable impacts for diesel exhaust particulate matter emissions from construction yet fails to require adequate mitigation to ensure a reduction of these emissions. (Draft EIR, p. IV-34.) Mitigation measure AQ-1, which includes reduction of particulate matter emissions by 45% and controlling visible emissions from off-road diesel-powered equipment to not exceed 40% opacity, would only be required if any of the proposed subsequent environmental documents for Program components 6, 7, or 8 determined that ozone precursor emissions would exceed the SMAQMD's significance thresholds for ozone precursors of 85 lb/day. (Draft EIR, p. IV-33.) Thus, if these documents would

determine no significant impact for ozone precursor emissions, the significant diesel exhaust particulate matter emissions identified in the Draft EIR would remain unmitigated.

A number of feasible control options are available to reduce construction diesel exhaust particulate matter emissions as discussed in Comment V. These mitigation measures should be evaluated and required in a revised EIR.

IV.B The Draft EIR Fails To Require Adequate Mitigation for Construction Diesel Exhaust NOx Emissions

The Draft EIR states that SMUD will prepare a detailed construction schedule and updated emissions inventory before construction of the Willow Slough substation to determine whether the emissions from this construction, when added to any other infrastructure construction anticipated at the same time, will result in the emission of ozone precursors in excess of 85 lb/day. In the event that the limit would be exceeded, SMUD would require the incorporation of mitigation measures. These measures, incorporated into air quality mitigation measure AQ-1, include reduction of NOx and PM10 emissions and control of visible emissions from diesel-powered construction equipment. (Draft EIR, p. IV-33.)

Mitigation measure AQ-1(i) provides that "[b]efore construction of the Willow Slough substation, SMUD will provide a plan for approval by LAFCo, in consultation with SMAQMD, demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction program, including owned, leased, and subcontractor vehicles, will achieve a programwide, fleet-average, 20% NOx reduction and 45% particulate reduction, compared to the most recent CARB fleet average at the time of construction." (Draft EIR, p. IV-33.) Considerably lower emissions reductions can be achieved through a variety of emission controls. As discussed in Comment V.A, reductions of over 90% of NOx, ROG, and PM10 is feasible and should be required. (*See* Comment V.A.)

IV.C The Draft EIR Fails to Require Mitigation for Cumulative Impacts on Air Quality from Construction and Operation of the Program

In recognition of the severe non-attainment status of the Sacramento Federal Ozone Nonattainment Area, the Draft EIR properly concludes that the Program would have significant cumulative impacts on air quality due to a change in existing power plant operations, construction emissions, and operation and maintenance emissions. Yet the Draft EIR fails to require any mitigation for this significant impact, instead finding it unavoidable *viz.* "the cumulative effect of any increases in emissions of the precursors to ozone may be considered a significant cumulative

impact that cannot be mitigated feasibly until attainment status has been achieved." (Draft EIR, pp. IV-36, V-8, and VII-2.) This approach clearly conflicts with the CEQA requirements to mitigate the impacts anticipated with project implementation, whether they are strictly project-specific or cumulative. (State CEQA Guidelines §15126.4.)

CEQA requires that the discussion of cumulative impacts include full consideration of all feasible mitigation measures that could reduce or avoid any significant cumulative effects of a proposed project. The SMAQMD's Guide to Air Quality Assessment, for example, specifically recommends that "[a]n EIR shall examine reasonable options for mitigating or avoiding any significant cumulative effects of a proposed project." (SMAQMD 07/04, p. A-8.) The Draft EIR's failure to require mitigation therefore invalidates its cumulative impact conclusions.

The SMAQMD Guide to Air Quality Assessment contains a long list of mitigation measures. (SMAQMD 07/04, Table E-2.) The Draft EIR should revised to evaluate the feasibility of mitigation measures to reduce its significant impacts from its operation.

Therefore, the Draft EIR should be revised and recirculated to allow the public to understand the clear implications of the Program's implementation and to require adequate mitigation.

V. ADDITIONAL FEASIBLE MITIGATION FOR CONSTRUCTION EMISSIONS EXISTS AND SHOULD BE REQUIRED TO MITIGATE SIGNIFICANT IMPACTS

The CEQA Guidelines §21002 require agencies to adopt feasible mitigation measures in order to substantially lessen or avoid otherwise significant adverse environmental impacts of a proposed project. (*See also,* Pub. Res. Code §21081(a); CEQA Guidelines §15370.) To implement this requirement, an EIR must set forth mitigation measures that decisionmakers can adopt at the findings stage of the process. (CEQA Guidelines §15126(c).) For each significant effect, the EIR must identify specific mitigation measures. Where several potential mitigation measures are available, each should be discussed separately and the reasons for choosing one over the other should be stated. (CEQA Guidelines §15126(c).) Mitigation measures should be capable of "avoiding the impact altogether," "minimizing impacts," "rectifying the impact," or "reducing the impact." (CEQA Guidelines §15370.)

The Draft EIR finds several significant and unavoidable adverse impacts on air quality from construction and operation of the Program. These include diesel exhaust particulate matter emissions from construction equipment (Draft EIR, p. IV-34.) As discussed in Comment III, the Draft EIR fails to identify potential

significant impacts for NOx and fugitive dust PM10 emissions from construction. LAFCo must impose feasible mitigation to mitigate these significant impacts, which it did not.

As discussed below, there are numerous relevant and reasonable fugitive dust and diesel exhaust mitigation measures contained in the CEQA guidelines and rules of air districts and other agencies that should be required for this Program to mitigate its significant construction impacts. The comments below discuss the specific inadequacies of the Draft EIR's proposed mitigation program and propose feasible mitigation measures to lessen or eliminate the significant adverse effects of Program construction.

V.A Diesel Exhaust Mitigation Measures

As discussed in Comments III and III.D, Program construction would result in significant emissions of NOx which are not properly mitigated. The Draft EIR contains no mitigation measures to reduce these significant emissions.

There are a number of mitigation measures that are routinely required as CEQA mitigation by air districts and other agencies in California for construction projects, (*e.g.*, the mitigation programs routinely implemented by the SMAQMD and California Energy Commission ("CEC") decisions), including:

- Perform regular preventive maintenance to reduce engine problems;
- Use CARB ultra-low sulfur fuel for all heavy construction equipment;
- Ensure that all heavy construction equipment complies with U.S. EPA or CARB 1996 diesel standards;
- Use diesel particulate exhaust filters, unless incompatible with a particular piece of equipment.
- Use of alternative fueled diesel construction equipment;
- Conversion to cleaner engines;
- Installation of high pressure injectors on diesel construction equipment;
- Limit the hours of operation of heavy duty equipment and/or the amount of equipment in use;
- Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set);
- Restricting engine size of construction equipment to the minimum practical size;

- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways;
- Implement activity management (*e.g.*, rescheduling activities to reduce short-term impacts);
- Electrification of construction equipment;
- Substitution of gasoline-powered for diesel-powered construction equipment;
- Installation of catalytic converters on gasoline-powered equipment;
- Minimization of construction worker trips by requiring carpooling and by providing for lunch onsite;
- Lengthening of construction period during smog season (May through October), so as to minimize the number of vehicles and equipment operating at the same time;
- Utilization of new technologies to control ozone precursor emissions as they become available and feasible;
- Use of electricity from power poles rather than temporary diesel power generators.

The following discusses the use and feasibility of post-combustion controls and the use of alternative diesel formulations.

V.A.1 Post-combustion Controls

Post-combustion controls, such as oxidation catalysts and particulate filters, are devices that are installed downstream of the engine on the tailpipe to treat the exhaust. These devices are now widely used on construction equipment and are capable of removing over 90% of the PM10, CO, and ROG from engine exhaust, depending on the fuel and specific engine. The most common and widely used post-combustion control devices are particulate traps (*i.e.*, soot filters), oxidation catalysts, and combinations thereof. The CARB evaluates, comprehensively reviews, and verifies many variants of these devices on an ongoing basis.[12]

These devices are commonly required as mitigation for construction emissions. The Massachusetts Turnpike Authority ("MTA") implemented a voluntary program in the fall of 1998 which resulted in retrofitting 70 pieces of

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[12] California Air Resources Board, Diesel Emission Control Strategies Verification, http://www.arb.ca.gov/diesel/verdev/verdev.htm.

construction equipment with oxidation catalysts (Kasprak et al. 2001[13]) at the "Big Dig," the massive, 5-year, $10 billion-plus Central Artery/Tunnel Program in Boston's North End and one of the largest infrastructure construction projects in the country.

These controls have also been widely required to mitigate construction emissions in California. The CEC, which follows a CEQA-equivalent process in licensing of new power plants larger than 50 megawatts ("MW"), has required these devices on many projects. The Sunrise Power Program was recently constructed using this equipment.[14] No problems were encountered. Several other 500+MW power plants have been licensed and constructed successfully using these controls, including High Desert[15], Elk Hills[16], Pastoria[17], Western Midway-Sunset[18], Mountain View[19], Contra Costa[20], and Cosumnes[21], among others. (All of the CEC siting decisions are posted at www.energy.ca.gov under the name of the individual facility.)

Post-combustion controls have also been required as conventional CEQA mitigation in EIRs. The El Toro Reuse Draft EIR[22], page 2-124, AQ-11k and AQ-11l,

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[13] Alex Kasprak, Guido Schattanek, and Ping K. Wan, Emission Reduction Retrofit Program for Construction Equipment of the Central Artery/Tunnel Project, Proceedings of the Air & Waste Management Association's 94th Annual Conference & Exhibition, June 24-28, 2001. Also see: www.epa.gov/OMS/retrofit/documents/bigdig_case_01.htm, accessed June 18, 2004.

[14] California Energy Commission, Commission Decision, Sunrise Power Project, December 2000, Condition AQ-C3, p. 120.

[15] California Energy Commission, Commission Decision, High Desert Power Project, May 2000, Condition AQ-3(o), p. 107.

[16] California Energy Commission, Commission Decision, Elk Hills Power Project, December 2000, Condition AQ-C2(3), p. 123.

[17] California Energy Commission, Commission Decision, Pastoria Energy Facility, December 2000, Condition AQ-C3, p. 108.

[18] California Energy Commission, Commission Decision, Western Midway Sunset Power Project, March 2001, Condition AQ-C2, p. 114.

[19] California Energy Commission, Commission Decision, Mountain View Power Project, March 2001, Condition AQ-C2, p. 34.

[20] California Energy Commission, Commission Decision, Contra Costa Unit 8 Power Project, May 2001, Condition AQC-2, p. 12.

[21] California Energy Commission, Commission Decision, Cosumnes Power Plant, September 2003, Condition AQ-SC3, p. 13.

[22] County of Orange, Draft Environmental Impact Report, No. 573 for the Civilian Reuse of MCAS El Toro and the Airport System Master Plan for John Wayne Airport and Proposed Orange County International Airport, April 2001.

required the use of particulate traps with a minimum 80% PM10 efficiency and selective catalytic reduction ("SCR") or comparable technology with a minimum 70% NOx reduction on all off-road construction equipment. The Stanford University General Use Permit Application Draft EIR[23], page 4.11-10, AQ-1, required a range of measures to minimize diesel engine exhaust, including catalytic converters and particulate traps. The City of San Diego in the Padres Ballpark Final EIR[24] required the control of 95% of engine exhaust emissions, using, among others, oxidation catalysts, particulate filters, and "Blue Sky" low-emission engines. Similarly, the Port of Oakland required the use of new engines or post-combustion controls on trucks serving its Vision 2000 expansion project. The Port's air quality mitigation program is now partially in place and has been very successful in reducing emissions.[25]

All of these post-combustion controls are feasible for construction of this Program. Therefore, the Draft EIR should be revised be prepared requiring the use of post-combustion controls on off-road equipment specifying target control levels.

V.A.2 Alternative Diesel Formulations

Alternative diesel fuels exist that achieve substantial PM10 and NOx reductions compared to CARB diesel, including Aquazole™, Clean Fuels Technology's water-emulsified diesel fuel, and PuriNOx™.

Aquazole was verified by CARB on August 9, 2002, as achieving a 16% reduction in NOx and a 60% reduction in PM10 compared to CARB diesel. (CARB 08/02[26].) Clean Fuels Technology's water emulsified diesel fuel was verified by CARB on September 9, 2003, as achieving a 15% reduction in NOx and a 58% reduction in PM10 compared to CARB diesel. (CARB 09/03[27].)

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[23] Santa Clara County, Draft Environmental Impact Report, EIR Stanford University Draft Community Plan and General Use Permit Application, June 23, 2000.

[24] City of San Diego, Final Subsequent Environmental Impact Report, Ballpark and Ancillary Development Projects, and Associated Plan Amendments, September 13, 1999 and Draft Subsequent EIR, May 12, 1999, p. IV-262, I8.A.89.

[25] Port of Oakland, Summary Report #5, Vision 2000 Air Quality Mitigation Program, February 2002.

[26] Letter from Dean C. Simeroth, Chief, Criteria Pollutants Branch, to Phillippe Mulard, TotalFinaElf, Verification of TotalFinaElf's Aquazole, August 9, 2002, http://www.arb.ca.gov/fuels/diesel/altdiesel/080902aquzl.pdf, accessed February 1, 2006.

[27] Letter from Dean C. Simeroth, Chief, Criteria Pollutants Branch, to Dan Klaich, Clean Fuels Technology, Inc., Verification of Clean Fuel Technology's water emulsified fuel, September 9, 2003, http://www.arb.ca.gov/fuels/diesel/altdiesel/090903clnftech.pdf, accessed February 1, 2006.

Most information on the use of an alternative diesel fuel formulation is available about PuriNOx™, verified by CARB on January 31, 2001 as achieving a 14% reduction in NOx and a 63% reduction in PM10 compared to CARB diesel. The CARB also determined that ROG emissions are at least 25% lower than any applicable diesel emission standard. (CARB 01/01[28].) It can be used in any direct-injection, heavy-duty compression ignition engine and is compatible with existing engines and existing storage, distribution, and vehicle fueling facilities. Operational experience indicates little or no difference in performance and startup time, no discernable operational differences, no increased engine noise, and significantly reduced visible smoke. (Hagstrand 6/04[29].)

This fuel has been successfully used in heavy-duty off-road and on-road equipment, including by the Tri-Delta Transit Authority fleet in Contra Costa County, by the County of Sacramento at the Keifer Landfill and North Transfer station, in off-road construction equipment at very large residential construction projects in Sacramento, in truck fleets operated by Pacific Cement in San Francisco and Ramos Oil in Dixon, in yard hostlers at the Port of Long Beach, in off-road equipment operated by Hanson Aggregate in San Francisco, and in yard haulers at the Port of Houston. (Howes 4/00[30] and Hagstrand 6/04.) Six yard tractors have been operating on PuriNOx™ at the Port of Houston since April 2000. The Texas Natural Resource Conservation Commission ("TNRCC") has also approved PuriNOx™ fuel for funding under Texas Senate Bill 5.

PuriNOx™ fuel is available from fuel distributors Ramos Oil in Sacramento and R.V. Jensen in Fresno and is competitively priced at a surcharge over regular diesel of about 10 cents per gallon.[31] It has been required as mitigation for construction exhaust emission impacts. For example, the NASA Ames Development Plan DEIS,[32] page 4.4-34, requires "where reasonable and feasible, use alternative diesel fuels. The CARB has verified reductions of NOx by almost 15%, and particulate matter by almost 63%, from use of alternative diesel fuels, describing PuriNOx™. See also construction exhaust mitigation in the Bickford Ranch Final

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[28] Letter from Dean C. Simeroth, Chief, Criteria Pollutants Branch, to Thomas J. Sheahan, Lubrizol, Verification of Lubrizol Corporation's PuriNOx Fuel, January 31, 2001, http://www.arb.ca.gov/fuels/diesel/altdiesel/PuriNOxveri.pdf, accessed February 1, 2006.

[29] Personal communication, Petra Pless/Phyllis Fox with Hep Hepner, Ramos Oil Co., Dixon, CA, (916-371-3289, ext. 242) and Bill Hagstrand, Lubrizol (440-347-6592), March and June 2004.

[30] Peter Howes, An Evaluation of the Effects of PuriNOx™ on Exhaust Emissions from Yard Haulers at the Port of Houston, April 2000.

[31] Personal communication, Petra Pless with Bill Hagstrand, Lubrizol (440-347-6592), June 21, 2004.

[32] NASA Ames Research Center, NASA Ames Development Plan, Draft Programmatic Environmental Impact Statement, November 2001.

EIR, page 1-24, requiring 10% to 20% NOx emission reductions, to be achieved by both engine selection and fuel selection. ("Includes the use of emulsified fuel in non-certified engines...".)

V.B Feasible Fugitive Dust Mitigation

As discussed in Comment III.D, fugitive dust emissions from Program construction would potentially result in significant adverse impacts on air quality. The Program is required to implement the fugitive dust control provisions contained in the SMAQMD's Rule 403 and required in the Draft EIR's Best Management Practice ("BMP") 6. (Draft EIR, p. II-26.) However, air quality mitigation measures must, by definition, go beyond existing regulations. (SMAQMD 07/04, p. 4-9.) Thus, compliance with Rule 403 alone does not constitute mitigation because it is already required by law. Additional mitigation exists and should be required.

Several agencies have conducted comprehensive studies of fugitive dust control measures to bring their region into compliance with national ambient air quality standards on PM10. For example, the South Coast Air Quality Management District ("SCAQMD") has sponsored research, passed regulations (*e.g.*, Rule 403[33]), and published guidelines that identify best management practices for controlling fugitive dusts at construction sites. The *Rule 403 Implementation Handbook*[34] contains a comprehensive list of such measures. Clark County, Nevada, has also sponsored research, passed regulations (Rule 94), and published best management practices for controlling fugitive dust from construction activities.[35] Clark County's *Construction Activities Dust Control Handbook* contains a comprehensive list of best management practices.[36] Similarly, Arizona has developed guidance to control fugitive PM10 emissions.[37]

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[33] South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403, Fugitive Dust and Proposed Rule 1186, PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations, February 14, 1997.

[34] South Coast Air Quality Management District, Rule 403 Implementation Handbook, January 1999.

[35] P.M. Fransioli, PM10 Emissions Control Research Sponsored by Clark County, Nevada, Proceedings of the Air &Waste Management Association's 94th Annual Conference & Exhibition, Orlando, FL, June 24-28, 2001.

[36] Clark County Department of Air Quality Management, Construction Activities Dust Control Handbook, March 18, 2003.

[37] Arizona Department of Environmental Quality, Air Quality Exceptional and Natural Events Policy PM10 Best Available Control Measures, June 5, 2001.

Several of the measures included in these agency guidelines are feasible and therefore should be considered for adoption here under CEQA Guidelines §15126.4 and §15091.

- In staging areas, limit size of area; apply water to surface soils where support equipment and vehicles are operated; limit vehicle speeds to 15 mph; and limit ingress and egress points. (CCHD)
- Use bedliners in bottom-dumping haul vehicles. (Rule 403 Handbook)
- Empty loader bucket slowly and minimize drop height from loader bucket. (CCHD)
- Clean wheels and undercarriage of haul trucks prior to leaving construction site. (CCHD)
- Gravel pads must be installed at all access points to prevent tracking of mud on to public roads. (SBCAPCD)
- Install and maintain trackout control devices in effective condition at all access points where paved and unpaved access or travel routes intersect. (CCHD)
- All roadways, driveways, sidewalks, etc., to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. (SLOCAPCD)
- Pave all roads on construction sites. (MBUAPCD)
- To prevent trackout, pave construction roadways as early as possible; install gravel pads; install wheel shakers or wheel washers, and limit site access. (CCHD, SLOCAPCD)
- Limit fugitive dust sources to 20 percent opacity. (ADEQ)
- During clearing and grubbing, prewet surface soils where equipment will be operated; for areas without continuing construction, maintain live perennial vegetation and desert pavement; stabilize surface soil with dust palliative unless immediate construction is to continue; and use water or dust palliative to form crust on soil immediately following clearing/grubbing. (CCHD)
- Require a dust control plan for earthmoving operations. (ADEQ)
- Prior to land use clearance, the applicant shall include, as a note on a separate informational sheet to be recorded with map, these dust control requirements. All requirements shall be shown on grading and building plans. (SBCAPCD, SLOCAPCD)

- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. (SBCAPCD, SLOCAPCD)
- Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hrs. (BCAQMD, CCHD)[38]

All of these measures are feasible and various combinations of them are routinely required elsewhere to reduce fugitive PM10 emissions. *See*, for example, the fugitive dust control program for the Big Dig (Kasprak and Stakutis 2000[39]), for the El Toro Reuse Draft EIR[40], and for the Padres Ballpark Final EIR[41]. Because fugitive dust PM10 emissions from Program construction would be significant (*see* Comment III.D), all of these measures should be required in a revised Draft EIR.

VI. THE DRAFT EIR FAILS TO EVALUATE INDIRECT IMPACTS FROM INCREASED POWER GENERATION

CEQA review requires the analysis of indirect impacts. (CEQA Guidelines, §15064(d).) The SMAQMD's CEQA Guidelines also emphasize that "CEQA requires that in evaluating the significance of a project's potential air quality impacts, the Lead Agency shall consider direct physical change in the environment *and reasonably foreseeable indirect physical change in the environment which may be caused by the project.* (SMAQMD 07/04, p. 2-10, emphasis added.) The Draft EIR fails to correctly address indirect impacts from increased power generation.

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[38] The following acronyms are used in this listing of mitigation measures: ADEQ = Arizona Department of Environmental Quality; BCAQMD = Butte County Air Quality Management District; CCHD = Clark County (Nevada) Health District; MBUAPCD = Monterey Bay Unified Air Pollution Control District; SBCAPCD = Santa Barbara County Air Pollution Control District; SLOCAPCD = San Luis Obispo County Air Pollution Control District.

[39] A. Kasprak and P.A. Stakutis, A Comprehensive Air Quality Control Program for a Large Roadway Tunnel Project, Proceedings of the Air & Waste Management Association's 93rd Annual Conference and Exhibition, June 18-22, 2000.

[40] County of Orange, Draft Environmental Impact Report No. 573 for the Civilian Reuse of MCAS El Toro and the Airport System Master Plan for John Wayne Airport and Proposed Orange County International Airport, Draft Supplemental Analysis, Volume 1, April 2001, pp. 2-121 to 2-123.

[41] City of San Diego, Final Subsequent Environmental Impact Report to the Final Master Environmental Impact Report for the Centre City Redevelopment Project and Addressing the Centre City Community Plan and Related Documents for the Proposed Ballpark and Ancillary Development Projects, and Associated Plan Amendments, V. IV. Responses to Comments, September 13, 1999, pp. IV-254 to IV-256.

The Draft EIR concludes that the SMUD's new Cosumnes Power Plant ("CPP"),a gas-fired power plant located 25 miles southeast of the City of Sacramento scheduled for completion in early 2006, would operate "as often as possible, regardless of the proposed annexation" and, therefore, would not result in any indirect impacts from the Program due to increased emissions from CPP. (Draft EIR, p. IV-29.)

An independent evaluation by David Marcus, an energy consultant, however, concluded that, as a result of the annexation, the CPP would operate longer and more intensively under the Program than if PG&E continued to provide retail electric service in the area. Because of the way the energy market operates, there will likely be hours when the CPP would not operate under current conditions, but would operate under the annexation Program. (Marcus 02/06[42].)

Additional emissions from increased operation from the CPP would contribute to the already dismal air quality in Sacramento Valley air basin. The Sacramento Valley air basin has been designated "serious non-attainment" for ozone due to its ongoing violations of the federal 8-hour and state 1-hour and 8-hour ambient air quality standards for ozone. (Draft EIR, p. IV-25.) In addition, the Sacramento Valley air basin is also in non-attainment of the state ambient air quality standards for PM10 and PM2.5.[43] (Draft EIR, p. IV-31.)

The emissions resulting from the increased operation of CPP must be disclosed and evaluated in a recirculated Draft EIR. Furthermore, measures to mitigate indirect emissions contributing to potential significant impacts must be identified and adopted.

VII. CONCLUSION

As discussed in the comments above, the Draft EIR fails to meet the requirements of CEQA for a number of reasons.

For example, as discussed in Comment I, the Draft EIR fails to provide an adequate project description to asses the environmental consequences of Program construction and operation. Specifically, the Draft EIR lacks a construction schedule and information on the program's buildout horizon; fails to provide adequate

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[42] David Marcus, Letter to Peter Brundage, Sacramento LAFCo, Re: SMUD Annexation DEIR, February 16, 2006.

[43] Yolo and Solano Counties are unclassified for PM2.5.

support for fugitive dust emissions estimates from construction; and fails to identify sensitive receptors and fails to adequately analyze impacts on sensitive receptors.

As discussed in Comment II, the Draft EIR improperly defers analysis of several Program components.

Further, as discussed in Comment III, the Draft EIR significantly underestimates project-related construction emissions and, consequently, fails to identify and adequately mitigate significant adverse impacts on air quality from diesel exhaust emissions and fugitive dust. In addition, the Draft EIR fails to adequately mitigate significant individual and cumulative impacts it had identified. (*See* Comment IV.) The Draft EIR must be revised to fully analyze and adequately mitigate the impacts of all aspects of the proposed project. A majority of defects in the Draft EIR could be addressed by adopting additional feasible mitigation measures that would eliminate or reduce significant and unavoidable impacts of the project. (*See* Comment V.)

The Draft EIR also fails to consider the indirect impacts of the Program, which would result in increased operation of the Cosumnes Power Plant with associated emissions of pollutants. (*See* Comment VI.)

In sum, the Draft EIR suffers from numerous deficiencies, many of which would independently render it inadequate under CEQA. For all of these reasons, LAFCo should revise the Draft EIR to include an updated air quality impact analysis including all methodologies, assumptions, inputs and results and re-circulate the Draft EIR for public review and comment.

Table A-1:
Construction Emissions Calculations
Assuming 100% Load Factor

Table A-1:
Emissions Calculations for SMUD Annexation Construction Emissions Inventory

Woodland to Elverta 115-kV Transmission Line

Phase 1 Grading & Foundations

No.	Equip.	Assumed duty cycle or trip data: trip/day ea	mi/trip	ROG lb/day	CO lb/day	NOx lb/day	PM10 lb/day
				Results:			
2	drill rigs	100% active cycle		4.42	37.5	30.44	0.7
4	pu trucks	4	10	0.2690	3.7967	0.4412	0.0036
5	concr. trks.	4	10	0.2437	0.5758	5.5858	0.0159
2	fl.bed trks.	4	10	0.0278	0.4780	0.5389	0.0070
			TOTALS	**4.961**	**42.350**	**37.006**	**0.726**

Phase 2 Install Poles

No.	Equip.	Assumed duty cycle or trip data: trip/day ea	mi/trip	ROG lb/day	CO lb/day	NOx lb/day	PM10 lb/day
				Results:			
3	cranes	100% active cycle		4.32	36.81	25.11	0.69
4	pu trucks	4	10	0.2690	3.7967	0.4412	0.0036
4	fl.bed trks.	4	10	0.0555	0.9559	1.0778	0.0139
			TOTALS	**4.645**	**41.563**	**26.629**	**0.707**

Phase 3 String Conductor

No.	Equip.	Assumed duty cycle or trip data: trip/day ea	mi/trip	ROG lb/day	CO lb/day	NOx lb/day	PM lb/day
				Results:			
3	fl.bed trks.	4	10	0.0417	0.7169	0.8084	0.0104
4	pu trucks	4	10	0.2690	3.7967	0.4412	0.0036
1	crane	100% active cycle		1.44	12.27	8.37	0.23
2	line tens. (note: used air compressor as surrogate)	100% active cycle		1.7	12.12	13.02	0.5
			TOTALS	**3.451**	**28.904**	**22.640**	**0.744**

Table A-1:
Emissions Calculations for SMUD Annexation Construction Emissions Inventory

Willow Slough Substation

Phase 1 Grading, Underground Work

No.	Equip.	Assumed duty cycle or trip data: trip/day ea	mi/trip	ROG lb/day	CO lb/day	NOx lb/day	PM10 lb/day
				Results:			
1	D6 tractor	100% active cycle		1.45	10.35	11.12	0.43
2	backhoe	100% active cycle		1.3	9.28	9.96	0.38
1	compactor	100% active cycle		1.84	13.12	14.1	0.54
4	concr. trks.	4	10	0.1950	0.4606	4.4687	0.0128
2	fl.bed trks.	4	10	0.0278	0.4780	0.5389	0.0070
3	pu trucks	4	10	0.2018	2.8475	0.3309	0.0027
			TOTALS	**5.015**	**36.536**	**40.518**	**1.372**

Phase 2 Foundations

No.	Equip.	Assumed duty cycle or trip data: trip/day ea	mi/trip	ROG lb/day	CO lb/day	NOx lb/day	PM10 lb/day
				Results:			
1	drill rig	100% active cycle		2.21	18.75	15.22	0.35
3	concr. trks.	4	10	0.1462	0.3455	3.3515	0.0096
3	pu trucks	4	10	0.2018	2.8475	0.3309	0.0027
			TOTALS	**2.558**	**21.943**	**18.902**	**0.362**

Phase 3 Install Equipment

No.	Equip.	Assumed duty cycle or trip data: trip/day ea	mi/trip	ROG lb/day	CO lb/day	NOx lb/day	PM10 lb/day
				Results:			
1	crane	100% active cycle		1.44	12.27	8.37	0.23
3	pu trucks	4	10	0.2018	2.8475	0.3309	0.0027
2	fl.bed trks.	4	10	0.0278	0.4780	0.5389	0.0070
			TOTALS	**1.670**	**15.595**	**9.240**	**0.240**

Table A-1:
Emissions Calculations for SMUD Annexation Construction Emissions Inventory

Power Inn Road to Hedge Transmission Line Reconstruction

Phase 1 Construct Foundations

No.	Equip.	Assumed duty cycle or trip data: trip/day ea	mi/trip	ROG lb/day	CO lb/day	NOx lb/day	PM10 lb/day
				Results:			
2	drill rig	100% active cycle		4.42	37.5	30.44	0.7
2	concr. trks.	4	10	0.0975	0.2303	2.2343	0.0064
3	pu trucks	4	10	0.2018	2.8475	0.3309	0.0027
1	fl.bed trks.	4	10	0.0139	0.2390	0.2695	0.0035
			TOTALS	**4.733**	**40.817**	**33.275**	**0.713**

Phase 2 Install Poles

No.	Equip.	Assumed duty cycle or trip data: trip/day ea	mi/trip	ROG lb/day	CO lb/day	NOx lb/day	PM10 lb/day
				Results:			
2	cranes	100% active cycle		2.88	24.54	16.74	0.46
3	pu trucks	4	10	0.2018	2.8475	0.3309	0.0027
2	fl.bed trks.	4	10	0.0278	0.4780	0.5389	0.0070
			TOTALS	**3.110**	**27.865**	**17.610**	**0.470**

Phase 3 String Conductor

No.	Equip.	Assumed duty cycle or trip data: trip/day ea	mi/trip	ROG lb/day	CO lb/day	NOx lb/day	PM10 lb/day
				Results:			
1	crane	100% active cycle		1.44	12.27	8.37	0.23
1	line tens.	100% active cycle		0.85	6.06	6.51	0.25
1	fl.bed trks.	4	10	0.0139	0.2390	0.2695	0.0035
3	pu trucks	4	10	0.2018	2.8475	0.3309	0.0027
			TOTALS	**2.506**	**21.416**	**15.480**	**0.486**

Table A-1:
Emissions Calculations for SMUD Annexation Construction Emissions Inventory

North City Interconnections

Phase 1 Construct Foundations

No.	Equip.	Assumed duty cycle or trip data trip/day ea	mi/trip	ROG lb/day	CO lb/day	NOx lb/day	PM10 lb/day
				Results:			
1	drill rig	100% active cycle		2.21	18.75	15.22	0.35
2	concr. trks.	4	10	0.0975	0.2303	2.2343	0.0064
2	pu trucks	4	10	0.1345	1.8983	0.2206	0.0018
1	fl.bed trks.	4	10	0.0139	0.2390	0.2695	0.0035
			TOTALS	**2.456**	**21.118**	**17.944**	**0.362**

Phase 2 Install Poles

No.	Equip.	Assumed duty cycle or trip data trip/day ea	mi/trip	ROG lb/day	CO lb/day	NOx lb/day	PM10 lb/day
				Results:			
1	cranes	100% active cycle		1.44	12.27	8.37	0.23
3	pu trucks	4	10	0.2018	2.8475	0.3309	0.0027
1	fl.bed trks.	4	10	0.0139	0.2390	0.2695	0.0035
			TOTALS	**1.656**	**15.356**	**8.970**	**0.236**

Phase 3 Install Conductors

No.	Equip.	Assumed duty cycle or trip data trip/day ea	mi/trip	ROG lb/day	CO lb/day	NOx lb/day	PM10 lb/day
				Results:			
1	crane	100% active cycle		1.44	12.27	8.37	0.23
1	line tens.	100% active cycle		0.85	6.06	6.51	0.25
1	fl.bed trks.	4	10	0.0139	0.2390	0.2695	0.0035
3	pu trucks	4	10	0.2018	2.8475	0.3309	0.0027
			TOTALS	**2.506**	**21.416**	**15.480**	**0.486**