

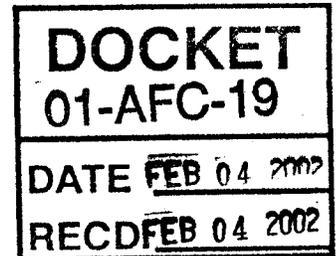


CH2MHILL

February 4, 2002

CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA
95833-2937
Tel 916.920.0300
Fax 916.920.8463

Ms. Kristy Chew
Siting Project Manager
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814



RE: Data Responses, Set 2A
Cosumnes Power Plant (01-AFC-19)

On behalf of the Sacramento Municipal Utility District, please find attached 12 copies and one original of the Data Responses, Set 2A, in response to Staff's Data Requests dated January 4, 2002.

Please call me if you have any questions.

Sincerely,

CH2M HILL

John L. Carrier, J.D.
Principal Project Manager

c: Colin Taylor/SMUD
Kevin Hudson/SMUD
Steve Cohn/SMUD

**COSUMNES POWER PLANT
(01-AFC-19)**

DATA RESPONSE, SET 2A

Submitted by

**SACRAMENTO MUNICIPAL
UTILITY DISTRICT (SMUD)**

February 4, 2002



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

Technical Area: Air Quality
CEC Author: Tuan Ngo, P.E.
CPP Authors: Sierra Research

BACKGROUND

Section 8.1.5 of the AFC indicates that the entire project will utilize four General Electric 7241FA gas turbine/heat recovery steam generator (HRSG) units. This section also indicates that dry low NOx combustor and selective catalytic reduction (SCR) systems will be utilized to control nitrogen oxide (NOx) emissions to 2 parts per million (ppm) on an annual basis, or 2.5 ppm over a shorter averaging time. Staff needs the following information to verify that the SCR system can maintain the NOx emissions at the lower proposed annual level of 2.0 ppm.

DATA REQUEST

166. Please provide vendor information related to the control efficiency of the SCR system proposed for the project. The information should include the type of catalyst, the bed depth, operating temperature range, scheduled maintenance and catalyst replacement, and a discussion of methods to be used to maintain the turbine NOx emissions on a continuous basis. If this information is not available, a vendor or manufacturer's performance guarantee can be used as a substitute.

Response: In the past, the CEC staff has requested this type of information only for new turbines not previously reviewed. However, the turbines proposed for this project are General Electric 7FA turbines, which have been used in most of the projects that the CEC staff has reviewed. The SCR systems for these turbines are designed to meet a NOx level not greater than 2.0 ppm on a 1-hour average basis. However, due to a lack of field experience with NOx levels this low, SMUD is proposing a BACT level of 2.5 ppm on a short-term basis. Staff can assume that the SCR system characteristics for the Cosumnes Power Project (CPP) will be comparable to those associated with other projects that have SCR systems designed to meet a 2.0 ppm NOx level, and which the staff has previously reviewed.

BACKGROUND

Table 8.1-17 lists the typical characteristics and heating value of natural gas, and identifies a maximum sulfur content of 0.25 grain per 100 standard cubic feet (gr./100scf). PG&E has indicated in other power plant siting cases that their supplied natural gas sulfur content can go as high as 1 gr./100scf. Thus, the project's SO₂ emissions estimated may have been underestimated.

DATA REQUEST

167. Please revise the emissions calculations using the highest PG&E guaranteed sulfur content of 1gr./100scf. Alternatively, records of natural gas delivered to other SMUD facilities (on an annual basis) can be provided to demonstrate that the current proposed facility SO₂ emissions are correctly estimated.

Response: The fuel sulfur data shown in the attached table (Attachment AQ-167) were collected by PG&E at the company's Burney compressor station in northern California. The summary data shown are based on 8,758 measurements taken during the period December 18, 2000, through December 17, 2001. During this period, the monthly average sulfur content ranged between 0.22 gr/100 scf and 0.34 gr/100 scf, with an annual average of 0.28 gr/100 scf. The corresponding emission factor for sulfur dioxide ranges between 0.00062 lbs/MMbtu and 0.00094 lbs/MMbtu, with an annual average of 0.00077 lbs/MMbtu. This annual average value is approximately 10% higher than the 0.0007 lb/MMbtu value used in the AFC. During the same twelve-month period, the maximum sulfur content found during any hourly measurement was 0.49 gr/100 scf, which corresponds to an emission factor of 0.00136 lbs/MMbtu.

The derivation of sulfur dioxide emission factors shown above conservatively assumes that all fuel sulfur will be converted to and emitted as sulfur dioxide. During the initial compliance source tests of the Sutter Energy facility, fuel sulfur levels were measured and determined to be 0.18 grains/100 scf, corresponding to an average inlet sulfur level of 0.48 lbs/hr, as S. During the same tests, back-half, or condensable, particulates were determined to be approximately 1.8 lbs/hr, with much of these particulates expected to be sulfates. If only 50% of the back-half particulates were sulfates, and adjusting for the molecular weights, then the sulfur that was converted to sulfates in these tests are approximately 0.22 lbs/hr, or 46% of the sulfur present in the fuel. Since this sulfur is expected to be emitted in the form of sulfates, and not sulfur dioxide, we believe that our estimates of sulfur dioxide emissions from CPP are appropriate.

Finally, even if one were to adjust the modeled SO₂ air quality impacts to reflect the peak short-term fuel sulfur level of 0.49 gr/100 scf, these impacts would still be below all state and federal ambient air quality standards, and would remain below all established significance levels.

BACKGROUND

Staff has reviewed the SMUD proposed analytical method to demonstrate that an interpollutant offset ratio of 1.5 pound SO₂ for each pound of PM₁₀ is appropriate. The proposed offset ratio was determined using the measured annual average PM₁₀ concentrations. Because the project is likely to contribute to existing violations of the state 24-hour PM₁₀ standard, staff believes that SMUD needs to demonstrate that the

project, after mitigation, will not worsen the existing violations of this standard. Staff believes that the interpollutant offset ratio should be determined using the measured concentrations of PM10 during periods that the 24-hour standard were exceeded.

DATA REQUEST

168. Please provide a revised interpollutant offset analysis taking into account those circumstances when the measured ambient 24-hour PM10 concentrations were exceeded.

Response: The project has been demonstrated through air dispersion modeling to not cause or contribute significantly to violations of the PM10 standards. In accordance with Sacramento Metropolitan Air Quality Management District (SMAQMD) Rule 202, SMUD has proposed to use SO2 emission reduction credits to offset PM10 emissions from the CPP. The methodology used to develop an interpollutant ratio, including annual averaging of the data, has been accepted in several siting cases and in at least two permitting actions in the San Joaquin Valley Unified Air Pollution Control District.

SMUD is discussing alternative averaging periods with the SMAQMD including the use of quarterly averages, to be consistent with offset requirements under Rule 202, and peak days. We believe that quarterly averages are more appropriate than peak days. Using the peak days to develop an interpollutant ratio would be based on a very small data set, including days that may have violations resulting from unusual events such as wildfires or construction. Furthermore, offsets for criteria pollutants in the SMAQMD are based on quarterly emissions rather than maximum daily emissions. Correspondingly, the interpollutant ratio should be based on long-term averages rather than the days on which violations of ambient air quality standards occurred. SMUD will apprise the CEC of the results of the negotiations with the SMAQMD. SMUD also continues to evaluate the use of emission reduction credits generated from directly emitted PM10 sources to offset the project's PM10 emissions.

BACKGROUND

The AFC states that the project's SO2 emissions are not significant and that the Sacramento Metropolitan Air Quality Management District (District) rules and regulations do not require any SO2 emission offsets. Because SO2 is a precursor to PM10, and the area is designated as a non-attainment area for PM10, staff believes that mitigation of the project's SO2 emissions is necessary.

DATA REQUEST

169. Please identify the appropriate SO₂ mitigation measures for the proposed SO₂ emissions, such as providing SO₂ emission reduction credits (ERCs) to mitigate the project's SO₂ impacts on secondary PM₁₀ formation.

Response: The ambient air quality analysis prepared for the project demonstrated that ambient SO₂ impacts from the proposed project are well below EPA and SMAQMD significance thresholds. In addition, SO₂ emissions from the project are well below the District offset thresholds. Therefore, the Applicant has concluded that the SO₂ impacts from the project are not significant and therefore no mitigation is required.

The direct SO₂ and PM₁₀ emissions for Phase I of the CPP project are 11.0 tons/year and 79.6 tons/year, respectively, as shown in Table 8.1-23 of the AFC. SMUD's November 8, 2001, data adequacy filing with the CEC indicates that CPP will be providing direct PM₁₀ ERCs for the project to satisfy SMAQMD requirements as follows:

TABLE AQ-169A
Potential PM₁₀ Offset Sources

ERC Source	Certificate Number	Quantity (tons/yr)
Poppyridge Partners	01-00726	1.55
Poppyridge Partners	01-00727	0.32
Campbell Soup Co.	01-00737	1.71
Concrete, Inc.	01-00758	2.90
SMUD Rancho Seco	98-00471	0.12
SMUD Rancho Seco	98-00473	0.09
SMUD Rancho Seco	98-00475	0.26
SMUD Rancho Seco	98-00477	0.24
SMUD Rancho Seco	98-00479	1.58
SierraPine, Ltd	2000-04	27.93
SierraPine, Ltd	2001-19	5.47
SierraPine, Ltd	99-00004	16.47
Burns Philp Food Inc.	EC-0120	1.04
Burns Philp Food Inc.	EC-0121	4.93
General Mills, Inc.	EC-0123	1.15
General Mills, Inc.	EC-0124	1.06
Bethel World Foundation	99001-T2	33.67
Bethel World Foundation	99002-T2	0.42
Total		100.9

In addition, CPP will be providing direct SO₂ ERCs for the project, to satisfy the District's PM₁₀ offset requirements, based on an interpollutant offset ratio of 1.5:1. The November 8, 2001 data adequacy filing identifies the SO₂ offsets as follows:

TABLE AQ-169A
Potential SO₂ Offset Sources

ERC Source	Certificate Number	Quantity (tons/yr)
Poppyridge Partners	01-00726	0.03
Poppyridge Partners	01-00727	0.14
Campbell Soup Co.	01-00737	0.35
Grace Industries	95-00388	2.31
Grace Industries	95-00390	1.61
SMUD Rancho Seco	98-00471	0.35
SMUD Rancho Seco	98-00473	0.25
SMUD Rancho Seco	98-00475	0.52
SMUD Rancho Seco	98-00477	0.52
SMUD Rancho Seco	98-00479	66.72
Burns Philp Food Inc.	EC-0121	0.01
Bethel World Foundation	99001-T2	6.92
Bethel World Foundation	99002-T2	0.09
Total		79.8

If 11.0 tons/year of these SO₂ ERCs were used to mitigate the project's SO₂ impacts under CEQA (assuming that such mitigation was required), then 79.8 – 11.0 = 69.8 tons/year of SO₂ ERCs would remain as potential mitigation for the project's PM₁₀ impacts. At an interpollutant offset ratio of 1.5:1, these 69.8 tons/year of SO₂ ERCs would mitigate 46.5 tons/year of PM₁₀. When these 46.5 tons/year of PM₁₀ mitigation are added to the 100.9 tons/year of direct PM₁₀ ERCs provided, the total is 147.4 tons/year of PM₁₀ mitigation, which is well in excess of the project's maximum PM₁₀ emission rate of 79.6 tons/year.

Consequently, the above calculation demonstrates that even if the CEC staff were to conclude that the project's SO₂ emissions resulted in a significant air quality impact, the ERCs provided to satisfy the SMAQMD's requirements would nonetheless ensure that there are no significant unmitigated air quality impacts.

BACKGROUND

In the AFC and the confidential submittal, SMUD proposes to offset the proposed project's (the first 500 MW only) NO_x, VOC, and PM₁₀ emission increases with a number of emission reduction credit certificates. The provided information indicates that there is a shortfall of approximately 12,163 lbs. of NO_x in the second quarter, and 8,339 lbs. of PM₁₀ in the third quarter.

No emissions information or emission mitigation measures have been provided for the Phase II of the project.

DATA REQUEST

170. Please provide documentation that indicates that additional emission reduction credits will be secured for the NOx liability in the second quarter and the PM10 liability in the third quarter for Phase I of the project.

Response: SMUD has filed several documents with the CEC containing confidential information regarding the status of obtaining additional PM₁₀ offsets. The applicant is continuing to pursue these offsets.

With respect to the remaining NOx offset liability in the second quarter, the SMAQMD Board adopted amendments to Rule 202 on January 24, 2002, that will allow limited trading of VOC and NOx offsets between the 2nd and 3rd quarters. This amendment will allow the use of SMUD's excess VOC ERCs from the 3rd quarter to offset a portion of the NOx liability in the second quarter. The applicant is continuing to pursue additional NOx and VOC offsets in the second and third quarters to cover the remainder of the NOx liability in the second quarter.

171. Please provide emissions information and emission mitigation measures for Phase II of the project.

Response: All of the emissions calculations presented in the AFC reflect the total emissions from both Phases I and II of the project. If there is specific emissions information regarding Phase II that the CEC staff believes is missing, please specify further.

With respect to mitigation measures, SMUD is still pursuing the development of additional emission reduction credits to cover Phase II of the project. It is SMUD's intention to seek approval from the CEC for both phases, but with a permit condition that requires a detailed mitigation plan to be provided for Phase II prior to the commencement of construction of that phase. SMUD anticipates that such a condition of approval would require that the SMAQMD approve of the emission reduction credits for Phase II, and that the emission reduction credit and mitigation proposals would be subject to public comment prior to approval.

BACKGROUND

District Rule 202, Section 304 states:

"The Air Pollution Control Officer may approve interpollutant emission offsets ... provided that the applicant demonstrates through the use of an air quality model that the emission increases from the new or modified source will not cause or contribute to a violation of an ambient air quality standard."

The Elk Grove monitoring station ambient concentration data for ozone (Elk Grove) shows a trend of increasing ozone levels as well as an increasing number of violations of the state and federal ozone air quality standards. In addition, the ambient concentration data for PM10 (Sacramento) show that there is no trend in reduction of the number of violations of the state 24-hour PM10 air quality standard. Staff believes that emission increases from the proposed facility have the potential to contribute to the existing violations of ozone and PM10 air quality standards; therefore, the use of interpollutant offsets may not be consistent with the District Rule 202.

DATA REQUEST

172. Please provide a demonstration that the project's NOx emissions will not contribute to violations of ambient air quality standards.

Response: Rule 202, Section 304, outlines a two-step process by which precursors may be used to offset pollutants. In the case of the CPP, SOx emission reduction credits are proposed to partially offset PM10 emissions and VOC emission reduction credits are proposed to partially offset NOx emissions. As noted in the staff's comment, the applicant must first demonstrate that "the emission increases from the new or modified source will not cause or contribute to a violation of an ambient air quality standard." The staff's interpretation of Section 304 implies that a project emitting nonattainment pollutants cannot provide interpollutant offsets. That is, the staff's comment implies that *any* new source of emissions in a nonattainment area would exacerbate existing violations of ambient air quality standards and would not be allowed to use interpollutant offsets. Because offsets are only required for nonattainment pollutants and their precursors, then a project emitting attainment pollutants and not causing violations of ambient air quality standards, would not have to provide offsets nor use interpollutant trading. Obviously, Section 304 is not limited to attainment pollutants. Consequently, Section 304 must be interpreted to require that a project's emissions would not cause a violation of ambient air quality standards, and the interpollutant ratio must be selected to ensure that the project does not contribute to existing violations of the standards.

The second step in Rule 202, Section 304, requires that "the Air Pollution Control Officer shall impose, based on an air quality analysis, emission offset ratios in addition to the requirements of Section 303." SMUD has provided an analysis in

support of a SO_x-for-PM₁₀ ratio, which is currently being reviewed by the SMAQMD and CEC (see response Data Request 168). In addition, SMUD has provided an initial analysis in support of a VOC-for-NO_x ratio. SMUD is responding to the SMAQMD's comments on the first analysis, and is in the process of preparing a second analysis based on the Urban Airshed Model. The second analysis is intended to determine the amount of VOC reductions needed to offset the project's NO_x emissions such that the VOC reduction would be equally effective in avoiding adverse effects on ambient ozone concentrations.

SMUD will keep the CEC staff apprised of the discussions with the SMAQMD regarding the interpollutant ratio analyses and provide copies of these analyses to the CEC. It should be noted that Rule 202 also requires the written approval of the EPA for any interpollutant trades.

173. Please provide a demonstration that the project's PM₁₀ emissions will not contribute to violations of ambient air quality standards.

Response: Please see Data Response #172.

BACKGROUND

AFC Section 8.1.5.2.5 states that the project will utilize BACT such as SCR for the turbines, which will maintain the turbines' emissions of NO_x and CO to 2.5 ppm and 6 ppm (on an hourly basis), respectively. The USEPA, in recent letters to the San Luis Obispo County Air Pollution Control District and the South Coast Air Quality Management District (attached) has commented that the BACT limit for gas turbines should be set at 2 ppm for NO_x on an hourly basis while the NH₃ slip be maintained at 5 ppm. In addition, the EPA stated that BACT for CO should be set at 2 ppm on a 3-hour rolling average.

DATA REQUEST

174. Please provide a revised BACT analysis that adequately responds to EPA's comments.

Response: SMUD has serious concerns regarding the ability of advanced combustion and emission control systems to meet levels as low as those described in the data request on a consistent basis. To the best of SMUD's knowledge, these low emission rates have been proposed based on vendor guarantees. While SMUD has designed the CPP to meet a NO_x level of 2.0 ppm on a short term basis, and anticipates receiving a vendor guarantee to support that design, this does not, in fact, ensure that such a low level can be met on a consistent basis.

For example, in the letter to the South Coast AQMD cited by staff above, EPA expressed the opinion that a 2.0 ppm NO_x level “has been consistently achieved in a Region IX facility”. In response to that letter, SMUD’s air quality consultants filed a Freedom of Information Act request seeking all of the information in EPA’s possession to confirm that opinion. In a response dated December 10, 2001, EPA confirmed that it has no such information in its possession, and has not independently verified the claim that a 2.0 ppm NO_x level was being consistently achieved. Consequently, we believe that EPA’s comment letter to the South Coast AQMD should be discounted in the CEC’s review of the Cosumnes Power Project. A copy of the Freedom of Information Act request, and EPA’s response, are enclosed in Attachment AQ-174a.

With respect to carbon monoxide, SMUD expects that the Cosumnes Power Project, as designed, will achieve a CO level of 2.0 ppm on a routine basis. However, again, SMUD does not believe that such a level should be required for this facility, unless and until there is sufficient data that demonstrates that this low level can be achieved on a consistent basis. EPA’s letter to the SCAQMD acknowledges that there are a number of projects that have had permits issued recently with CO limits of 4.0 ppm. EPA’s position regarding the 2.0 ppm level is solely based on a permit issued to a facility in Massachusetts. SMUD does not believe that it is appropriate to establish BACT levels based on permit conditions in the absence of demonstrations that these low levels can, in fact, be achieved in use on a consistent basis.

Finally, with respect to ammonia, neither of the letters enclosed with the CEC’s data request indicate that BACT levels for ammonia slip should be set at 5.0 ppm. The SMAQMD’s regulations do not require a BACT determination for ammonia slip. Although EPA has indicated in one of the two letters enclosed with the CEC’s data request (the SLOAPCD letter) that they “believe” an ammonia slip limit of 5.0 ppm can be met in conjunction with a NO_x limit of 2.0 ppm, no supporting data for that conclusion is presented. In the letter to the South Coast AQMD, ammonia slip is not even mentioned by EPA. Since the CPP project is designed to meet a 2.0 ppm NO_x level, we believe it would be inappropriate to increase the uncertainty associated with compliance by simultaneously reducing the ammonia slip level. Finally, we would ask that the CEC take note of the fact that the Sutter Power Plant has not been able to achieve an ammonia slip level of less than 5.0 ppm on a consistent basis in conjunction with a 2.5 ppm NO_x level.

BACKGROUND

The gas turbines and SCR system are proposed to achieve a 10 ppm ammonia slip out the stacks. Recent power plant projects, using similar size turbines, have been licensed with an ammonia slip of 5 ppm. In addition, the ARB "Guidance for Power Plant Siting

and Best Available Control Technology" (September 1999) has recommended that Districts should consider permit conditions that limit ammonia slip to 5 ppm.

DATA REQUEST

175. Please provide documentation to demonstrate why an ammonia slip of 5 ppm is not an appropriate permit limit for this project.

Response: Please see the last paragraph of the response to Data Request #174.

BACKGROUND

A cumulative air quality impact analysis, which assesses the impacts of the project with other nearby projects that have been permitted or are being permitted, but not yet in operation, will need to be provided by the applicant.

176. Please advise as to the status of obtaining a list of projects that will be used for the cumulative impacts analysis. If the aforementioned list has been obtained, please submit the list of the emission sources to be included in the cumulative air quality impacts analysis. Upon staff's concurrence of the emission source list, perform a cumulative impact analysis using the modeling method proposed in the AFC.

Response: The applicant sent a letter to the SMAQMD on January 11, 2002, requesting information regarding sources that would potentially need to be included in a cumulative impacts analysis. The District requested additional clarifying information regarding the area in which potential sources would be located, which was provided on January 17. On January 22, the applicant's consultant received an email message indicating that no sources had been found in the search area that met the criteria specified. Therefore, the applicant concludes that there are no emission sources that need to be included in a cumulative impacts analysis.

Copies of the above-mentioned correspondence is included as Attachment AQ-176a.

BACKGROUND

The initial commissioning of the project may cause emissions that exceed the limits that would be required during normal operation. The AFC (pages 8.1-38 to 40) discusses the potential emissions of the project during this period. The discussion, however, seems to indicate that the emissions from only one turbine were considered. Information was not provided as to an estimate of the duration (weeks or months) of the initial commissioning period and whether any mitigation is proposed. In addition, the Applicant should propose specific emission limits and duration of these limits for consideration as permit limits.

DATA REQUEST

177. Please provide a description of the length of each commissioning activity or phase identified in the commissioning sequence, and the estimated emissions associated with each activity.

Response: The commissioning period is comprised of several equipment tests. These tests are briefly summarized below:

- **Full Speed No Load Tests (FSNL; no SCR)** - These tests will occur over approximately a 5-day period. The tests include a test of the gas turbine ignition system, a test to ensure that the gas turbine is synchronized with its electric generator, and a test of the gas turbine's over-speed system. During the tests, the heat input to the gas turbine will be approximately 400 MMBtu/hr, or 20% of the maximum heat input rating.
- **Part Load Tests (no SCR)** - These tests will occur over approximately a 6-day period. During these tests the gas turbine combustor will be tuned to minimize emissions and HRSG/steam line checks will be performed. During the tests, the heat input to the gas turbine will be approximately 1,120 MMBtu/hr, or 60% of the maximum heat input rating.
- **Full Load Tests (SCR Not Operational)** - These tests will occur over approximately a 4-day period. By the beginning of this test period, the gas turbine combustor will be completed tuned. Since the ammonia injection system will not be operated during this testing period, the SCR system will not be operational. The test will include further checks on the HRSG and steam lines. During the tests, the heat input to the gas turbine will be approximately 1,865 MMBtu/hr, or 100% of the maximum heat input rating.
- **Full Load Tests (SCR Partial Operation)** - These tests will occur over approximately a 5-day period. During the test the ammonia injection system will be tuned to minimize NOx. During the tests, the heat input to the gas turbine will be approximately 1,865 MMBtu/hr, or 100% of the maximum heat input rating.
- **Full Load Tests (SCR Fully Operational)** - These tests will occur over approximately a 14-day period for each gas turbine/HRSG. By the beginning of this test period the SCR system will be completely tuned and achieving NOx control at design levels. During the tests, the heat input to the gas turbine will be approximately 1,865 MMBtu/hr, or 100% of the maximum heat input rating.

Enclosed as Attachment AQ-177a is an analysis of the emissions during the commissioning of the CPP project. The following table summarizes the maximum hourly, daily, and total emissions during the commissioning tests.

TABLE AQ-177
Emissions During Commissioning Period

	NOx	CO	VOC	SOx	PM ₁₀
Maximum Hourly Emissions (lbs/hr) ¹	141.9	409.7	6.8	1.6	18.0
Maximum Daily Emissions (lbs/day) ¹	2,095	7,844	159	35	324
Total Emissions (lbs) ²	33,602	110,950	2,141	657	5,832

Notes:

¹Reflects one turbine in commissioning and one turbine in normal operation (normal operation includes 4 hours of startup/shutdown in one calendar day). Only one turbine will be commissioned at a time.

²Total emissions from commissioning operations for two turbines.

178. Please provide a discussion of any proposed mitigation. If no mitigation is provided, please explain why.

Response: Other than trying to tune the gas turbine combustor and ammonia injection systems as soon as possible during the commissioning tests, CPP is not proposing any additional mitigation measures for the commissioning period. The modeling analysis in the AFC demonstrated that no violations of the ambient air quality standards will occur as a result of the commissioning activities. In addition, the emissions during the commissioning period will count toward CPP's permitted limits and thus will be fully offset by the surrender of all required ERCs prior to commencement of operation.

179. Please provide proposed language for consideration for permit conditions that would address hourly emission levels and/or emissions for specific commissioning events, and duration (hours, weeks or months) that these emission limits would be enforced.

Response: Proposed conditions for the commissioning period have been adapted from BAAQMD permits for the Calpine LMEC, DEC and MEC projects and are shown in Attachment AQ-179a. Similar conditions have already been incorporated into the CEC's conditions of certification for these projects.

Attachment AQ-167a

PG&E Burney Compressor Station Sulfur Data

	No. of Readings	Monthly Averages			Maximum Hourly		
		Total Sulfur, as S		lbs/MMbtu as SO ₂	Total Sulfur, as S		lbs/MMbtu as SO ₂
		ppmv	gr/100 scf		ppmv	gr/100 scf	
Dec-00	336	5.42	0.32	0.00090	6.64	0.39	0.00110
Jan-01	744	4.18	0.25	0.00069	5.03	0.30	0.00083
Feb-01	672	3.74	0.22	0.00062	4.70	0.28	0.00078
Mar-01	744	4.35	0.26	0.00072	6.25	0.37	0.00103
Apr-01	719	4.69	0.28	0.00078	6.34	0.38	0.00105
May-01	744	4.72	0.28	0.00078	6.02	0.36	0.00100
Jun-01	720	5.68	0.34	0.00094	8.21	0.49	0.00136
Jul-01	744	5.43	0.32	0.00090	6.77	0.40	0.00112
Aug-01	743	5.43	0.32	0.00090	7.29	0.43	0.00121
Sep-01	720	5.08	0.30	0.00084	6.81	0.40	0.00113
Oct-01	744	3.84	0.23	0.00063	5.96	0.35	0.00099
Nov-01	720	3.96	0.23	0.00065	4.83	0.29	0.00080
Dec-01	408	4.17	0.25	0.00069	7.61	0.45	0.00126
12/18/00 - 12/17/01	8758	4.66	0.28	0.00077	8.21	0.49	0.00136



**sierra
research**

1801 J Street
Sacramento, CA 95814
(916) 444-6666
Fax: (916) 444-8373

November 12, 2001

Regional Freedom of Information Officer
U.S. EPA, Region IX
75 Hawthorne Street (CGR-3-1)
San Francisco, CA 94105

Subject: FOIA Request
EPA Region IX Air and Toxics Division

Dear FOIA Officer:

Pursuant to the Freedom of Information Act (5 U.S.C. §552), please provide copies of all of the information that EPA possesses that indicates that a 2 ppm NO_x level "has been consistently achieved in a Region IX facility" (UC San Diego), as indicated in EPA's October 25, 2001 letter to Mohsen Nazemi of the South Coast AQMD.

Thank you for your attention in this matter. Please bill Sierra Research for reasonable costs associated with assembling this material. Please call me at (916) 444-6666 with any questions regarding this request.

Sincerely,

Gary Rubenstein



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

December 10, 2001

Gary Rubenstein
Sierra Research
1801 J St.
Sacramento, CA 95814

Re: Freedom of Information Act Request RIN 00066-02

Dear Mr. Rubenstein,

This letter is in response to your Freedom of Information Act request dated November 12, 2001, regarding information that indicates that a NOx emission rate of 2.0 ppm has been achieved in practice at a Region 9 facility. The San Diego County Air Pollution Control District has informed EPA that it has data that indicates that a NOx emission rate of 2.0 ppm has been achieved in practice at the UC San Diego facility. However, EPA does not have this data, and cannot independently verify the emission level. In addition, EPA has CEMS data from the Sunlaw Cogeneration Partners facility in Vernon CA. EPA has not yet evaluated this data to determine whether it demonstrates that a NOx emission level of 2.0 ppm has been achieved at that facility.

If you have any further questions regarding this matter, please contact Roger Kohn of my staff at (415) 972-3973.

Sincerely,

A handwritten signature in black ink, appearing to read "Gerardo Rios".

Gerardo Rios
Chief, Permits Office
Air Division

January 11, 2002

Jim Jester
Public Information Office
Sacramento Metropolitan Air Quality
Control District
777 12th Street, 3rd Floor
Sacramento, CA 95814



**sierra
research**

1801 J Street
Sacramento, CA 95814
(916) 444-6666
Fax: (916) 444-8373

Re: Public Information Request
SMUD Cosumnes Power Plant

Dear Mr. Jester:

Sacramento Metropolitan Utility District has filed an Application for Certification with the California Energy Commission (CEC) for a combined-cycle gas turbine power plant. SMUD is seeking approval from the Energy Commission to construct and operate a natural gas power plant to be located south of the Rancho Seco Nuclear Plant, 25 miles southeast of the City of Sacramento, in Sacramento County. The UTM coordinates of the site are 4244.7508 km northing, 664.115 km easting (NAD 83, Zone 10). As part of the project review, the CEC requires us to prepare an analysis of the project's cumulative impacts. This is defined by the CEC as "a cumulative air quality modeling impacts analysis of the project's typical operating mode in combination with other stationary source emissions sources within a six-mile radius *which have received construction permits but are not yet operating, or are in the permitting process.*" [emphasis added] The CEC staff considers facilities having emissions increases of less than five tons per year to be *de minimis*, so facilities having emissions below this level may be excluded.

We would like to get from the District a list of projects that meet these criteria, along with sufficient emissions information and stack parameters so that we can include these sources in our air quality modeling. Please contact our accounting office at the phone number above when the information is ready, and we will provide you with a credit card number to expedite our receipt of the information.

Thank you very much for your assistance. If you have any questions regarding the information we are requesting, feel free to call.

Sincerely,

Nancy Matthews

cc: Stuart Husband, SMUD
Kevin Hudson, SMUD
Brian Krebs, SMAQMD

Nancy Matthews

From: JIM JESTER [JJESTER@airquality.org]
Sent: Tuesday, January 22, 2002 7:26 AM
To: NMatthews@SierraResearch.com
Subject: FW: Cumulative Impacts Analysis for SMUD CPP

FYI, Jim.

> -----Original Message-----

> From: BRIAN KREBS
> Sent: Friday, January 18, 2002 7:58 AM
> To: JIM JESTER
> Subject: FW: Cumulative Impacts Analysis for SMUD CPP

>
> Jim,
>
> I queried the database for these map pages and other than the pending
> permits for the Cosumnes Power Plant, there are no other equipment
> that have received construction permits but are not yet operating, or
> are in the permitting process.

>
> -----Original Message-----
> From: Nancy Matthews [SMTP:NMatthews@SierraResearch.com]
> Sent: Thursday, January 17, 2002 4:29 PM
> To: JIM JESTER; BRIAN KREBS
> Cc: Nancy Matthews; Gary Rubenstein; David Deckman
> Subject: Cumulative Impacts Analysis for SMUD CPP

>
> Jim and Brian,

>
> This is to follow up on my letter earlier this week requesting
> information
> regarding sources within 6 miles of the SMUD CPP site that might
> need to be
> included in a cumulative air quality impacts analysis as
> required by the
> CEC. Jim explained that you need Thomas Brothers map locations
> to search
> for potential sources.

>
> The power plant site is located on map 401 (page 381) of the
> "Sacramento and
> Solano Counties" book. The 6-mile area surrounding the plant
> site includes
> the following maps: 361, 362, 380, 381, 382, 400, 401, 402, 421
> and 422.

>
> We understand that there will be a \$0.25 per page charge for
> copying records
> to fulfill this request. Thank you very much for your
> assistance.

>
> If you have any questions, please do not hesitate to call.

>
> Nancy Matthews
> Sierra Research
> (916) 444-6666 (phone)
> (916) 444-8373 (fax)
> nmatthews@sierraresearch.com

>
>
>

Detailed Emission Calculations for Commissioning Period - Cosumnes Power Plant

Unit	Commissioning Test	Days	Daily Operation (hrs/day)	GT Firing Rate (MMBtu/hr)	Pollutant	Emission Factor (lbs/MMBtu)	Hourly Emissions (lbs/hr)	Daily Emissions (lbs/day)	Total Emissions During Test (lbs)	
Gas Turbine/HRSG #1	FSNL + Ign. Tests	5	12	400	NOx	0.3125	125.00	1,500.0	7,500.0	
					CO		385.00	4,620.0	23,100.0	
					VOC		3.50	42.0	210.0	
					SOx		0.0007	0.28	3.4	17.0
					PM10		9.00	108.0	540.0	
	Part Load Tests	6	12	1,120	NOx	0.0427	47.85	574.2	3,444.9	
					CO		385.00	4,620.0	27,720.0	
					VOC		3.50	42.0	252.0	
					SOx		0.0007	0.80	9.5	57.3
					PM10		9.00	108.0	648.0	
	Full Load Tests without SCR operational	4	12	1,865	NOx	0.0320	59.75	717.1	2,868.2	
					CO		0.0130	24.25	290.9	1,163.8
					VOC		0.0017	3.17	38.0	152.2
					SOx		0.0007	1.32	15.9	63.6
					PM10		9.00	108.0	432.0	
	Full Load Tests with SCR at partial control	5	12	1,865	NOx	0.0142	26.56	318.7	1,593.5	
					CO		0.0130	24.25	290.9	1,454.7
					VOC		0.0017	3.17	38.0	190.2
					SOx		0.0007	1.32	15.9	79.4
					PM10		9.00	108.0	540.0	
Full Load Tests with SCR at full control	13	12	1,865	NOx	0.0089	16.60	199.2	2,589.4		
				CO		0.0130	24.25	290.9	3,782.2	
				VOC		0.0017	3.17	38.0	494.6	
				SOx		0.0007	1.32	15.9	206.6	
				PM10		9.00	108.0	1,404.0		
Gas Turbine/HRSG #2	FSNL + Ign. Tests	5	12	400	NOx	0.3125	125.00	1,500.0	7,500.0	
					CO		385.00	4,620.0	23,100.0	
					VOC		3.50	42.0	210.0	
					SOx		0.0007	0.28	3.4	17.0
					PM10		9.00	108.0	540.0	
	Part Load Tests	6	12	1,120	NOx	0.0427	47.85	574.2	3,444.9	
					CO		385.00	4,620.0	27,720.0	
					VOC		3.50	42.0	252.0	
					SOx		0.0007	0.80	9.5	57.3
					PM10		9.00	108.0	648.0	
	Full Load Tests without SCR operational	4	12	1,865	NOx	0.0320	59.75	717.1	2,868.2	
					CO		0.0130	24.25	290.9	1,163.8
					VOC		0.0017	3.17	38.0	152.2
					SOx		0.0007	1.32	15.9	63.6
					PM10		9.00	108.0	432.0	
	Full Load Tests with SCR at partial control	5	12	1,865	NOx	0.0142	26.56	318.7	1,593.5	
					CO		0.0130	24.25	290.9	1,454.7
					VOC		0.0017	3.17	38.0	190.2
					SOx		0.0007	1.32	15.9	79.4
					PM10		9.00	108.0	540.0	
Full Load Tests with SCR at full control	1	12	1,865	NOx	0.0089	16.60	199.2	199.2		
				CO		0.0130	24.25	290.9	290.9	
				VOC		0.0017	3.17	38.0	38.0	
				SOx		0.0007	1.32	15.9	15.9	
				PM10		9.00	108.0	108.0		

**Maximum Hourly and Daily Emissions During Commissioning
Cosumnes Power Plant**

Unit	Hourly Emissions				Daily Emissions					
	NOx (lbs/hr)	CO (lbs/hr)	VOC (lbs/hr)	SOx (lbs/hr)	PM10 (lbs/hr)	NOx (lbs/day)	CO (lbs/day)	VOC (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)
One Gas Turbine in FSNL Test	125.0	385.0	3.5	0.3	9.0	1,500	4,620	42	3	108
One Gas Turbine in Normal Operation	16.9	24.7	3.3	1.3	9.0	595	3,224	117	32	216
Total =	141.9	409.7	6.8	1.6	18.0	2,095	7,844	159	35	324

**Total Emissions During Commissioning Tests
Cosumnes Power Plant**

Unit	NOx (lbs)	CO (lbs)	VOC (lbs)	SOx (lbs)	PM10 (lbs)
	Gas Turbine/HRSG #1	17,996	57,221	1,299	424
Gas Turbine/HRSG #2	15,606	53,729	842	233	2,268
Total =	33,602	110,950	2,141	657	5,832

Notes:

1. Emission factors during FSNL and ignition tests
NOx - based on information for a G.E. Model FA during FSNL (125 lbs/hr).
CO - based on hourly emission rates used for Crockett Cogeneration plant commissioning period.
VOC - based on hourly emission rates used in CPP AFC for gas turbine startups.
SOx and PM10 - emission factors based on design levels shown in CPP AFC for gas turbines.
2. Emission factors during part load tests
NOx - based on estimate for part load test tuning combustor (12 ppm @ O2).
CO - based on hourly emission rate used for Crockett Cogeneration plant commissioning period.
VOC - based on hourly emission rate used in CPP AFC for gas turbine startups.
SOx and PM10 - emission factors based on design levels shown in CPP AFC for gas turbines.
3. Emission factors during full load tests with Ox. Cat fully operational but without SCR operational
NOx, CO, VOC - based on combustor operating in pre-mix mode and Ox. Cat. operational (9 ppm NOx, 6 ppm CO and CO, 1.4 ppm for VOC).
SOx and PM10 - emission factors based on design levels shown in CPP AFC for gas turbines.
4. Emission factors during full load tests with SCR partially operational
NOx - based information with combustor operating in pre-mix mode and SCR controlling NOx to 4 ppm.
CO, VOC - based on combustor operating in pre-mix mode and Ox. Cat. operational (6 ppm CO, 1.4 ppm for VOC).
SOx and PM10 - emission factors based on design levels shown in CPP AFC for gas turbines.
5. Emission factors during full load tests with SCR fully operational
NOx, CO, VOC - based on combustor operating in pre-mix mode and SCR/Ox. Cat. operational (2.5 ppm NOx, 6 ppm CO, 1.4 ppm for VOC).
SOx and PM10 - emission factors based on design levels shown in CPP AFC for gas turbines.

Attachment AQ-179a

Sample Conditions for the Commissioning Period

1. The owner/operator of the Cosumnes Power Plant (CPP) shall minimize emissions of carbon monoxide and nitrogen oxides from the Gas Turbines and Heat Recovery Steam Generators (HRSGs), to the maximum extent possible during the commissioning period. Conditions 1 through 10 shall only apply during the commissioning period as defined above. Unless otherwise indicated, Conditions 13 through X shall apply after the commissioning period has ended.
2. At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, the combustors of Gas Turbines and Heat Recovery Steam Generators shall be turned to minimize the emissions of carbon monoxide and nitrogen oxides.
3. At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, the SCR Systems shall be installed, adjusted, and operated to minimize the emissions of carbon monoxide and nitrogen oxides from Gas Turbines and Heat Recovery Steam Generators.
4. Coincident with the steady-state operation of the SCR Systems pursuant to conditions 3 and 8, the Gas Turbines and the HRSGs shall comply with the NO_x and CO emission limitations specified in conditions X through X.
5. The owner/operator of the CPP shall submit a plan to the Stationary Source Permitting Section and the CEC CPM at least four weeks prior to first firing of the Gas Turbines describing the procedures to be followed during the commissioning of the turbines, HRSGs, and steam turbine. The plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but not be limited to, the tuning of the Dry Low-NO_x combustors, the installation and operation of the SCR systems and oxidation catalysts, the installation, calibration, and testing of the CO and NO_x continuous emission monitors, and any activities requiring the firing of the Gas Turbines and HRSGs without abatement by their respective SCR Systems.
6. During the commissioning period, the owner/operator of the CPP shall demonstrate compliance with conditions 8 and 10 through the use of properly operated and maintained continuous emission monitors and data recorders for the following parameters:

firing hours
fuel flow rates
stack gas nitrogen oxide emission concentrations
stack gas carbon monoxide emission concentrations
stack gas oxygen concentrations

The monitored parameters shall be recorded at least once every 15 minutes (excluding normal calibration periods or when the monitored source is not in operation) for the Gas Turbines and HRSGs. The owner/operator shall use SMAQMD-approved methods to calculate heat input rates, nitrogen dioxide mass emission rates, carbon monoxide mass emission rates, and NO_x and CO emission concentrations, summarized for each clock hour and each calendar day. All records shall be retained on site for at least 5 years from the date of entry and made available to SMAQMD personnel upon request.

7. The SMAQMD -approved continuous monitors specified in condition 6 shall be installed, calibrated, and operated prior to first firing of the Gas Turbines and Heat Recovery Steam Generators. After first firing of the turbines, the detection range of these continuous emission monitors shall be adjusted as necessary to accurately measure the resulting range of CO and NO_x emission concentrations. The type, specifications, and location of these monitors shall be subject to SMAQMD review and approval.
8. The total number of firing hours of each Gas Turbine/HRSG without abatement of nitrogen oxide emissions by the SCR System shall not exceed 400 hours during the commissioning period. Such operation of the Gas Turbines/HRSGs without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system in place. Upon completion of these activities, the owner/operator shall provide written notice to the Stationary Source Permitting and Field Operations Sections and the unused balance of the 400 firing hours allocated for each Gas Turbine/HRSG without abatement shall expire.
9. The total mass emissions of nitrogen oxides, carbon monoxide, volatile organic compounds, PM₁₀ and sulfur dioxide that are emitted by the Gas Turbines and Heat Recovery Steam Generators during the commissioning period shall accrue towards the annual emission limitations specified in condition X.
10. Combined pollutant mass emissions from the Gas Turbines and Heat Recovery Steam Generators shall not exceed the following limits during the commissioning period. These emission limits shall include emissions resulting from the start-up and shutdown of the Gas Turbines.

Pollutant	Daily Limit (lb/calendar day)	Hourly Limit (lb/hour)
NOx (as NO ₂)	2,095	142
CO	7,844	410
VOC (as CH ₄)	159	n/a
PM ₁₀	324	n/a
SO ₂	48	n/a

Note: Hourly limits for NOx and CO will be enforced using CEMS.

COSUMNES POWER PLANT (01-AFC-19)
DATA REQUESTS

Technical Area: Hazardous Materials
CEC Author: Alvin Greenberg, Ph.D.
CPP Authors: Karen Parker

BACKGROUND

Hazardous materials will be delivered to the power plant during operations. In order to evaluate the potential for impacts in the surrounding community, staff must have information on the number of deliveries.

DATA REQUEST

180. Please list the total number of hazardous materials deliveries expected on a weekly, monthly, and annual basis. Include a break-down of deliveries into the following categories for any material listed in AFC Table 8.12-3:
- a. Tanker trucks carrying >1000 gallons of liquid hazardous materials.
 - b. Tanker trucks carrying <1000 gallons of liquid hazardous materials.
 - c. Trucks delivering carboy's or 55-gal drums of liquid hazardous materials.
 - d. Trucks delivering compressed gas.
 - e. Trucks delivering solid hazardous materials in any amount.

Response: The table below shows the total number of hazardous materials trucks during normal operations (deliveries to the site, and waste from the site). During the construction phase, there may a series of hazardous materials deliveries of materials shown in AFC Table 8.12-3 that arrive within a short period of time, then do not occur again. Since the background statement denotes operations and not construction, the Applicant assumes CEC Staff is requesting information on deliveries only during normal operation. The deliveries shown in subsequent columns are cumulative of the previous columns, and not additive (i.e., if one water treatment chemical delivery was made per month, the yearly total would be 12 – the total annual deliveries would be 12, not 24).

COSUMNES POWER PLANT (01-AFC-19)
DATA REQUESTS

TABLE HM-180
Anticipated Hazardous Materials Deliveries During CPP Operation

Type of Delivery	Weekly	Monthly	Yearly
Tanker trucks carrying >1000 gallons of liquid hazardous materials	2-3 (29% solution aqueous ammonia)	8-12 (29% solution aqueous ammonia)	104-156 (29% solution aqueous ammonia) 8 (lubricating oil and waste lubricating oil)
Tanker trucks carrying <1000 gallons of liquid hazardous materials	0	0	4 (water treatment chemicals) 8 (cleaning fluids and waste cleaning fluids)
Trucks delivering carboy's or 55-gal drums of liquid hazardous materials	0	1 (water treatment chemicals) ¹	12 (water treatment chemicals)
Trucks delivering compressed gas	0	1 (shop welding gases)	12 (shop welding gases)
Trucks delivering solid hazardous materials in any amount	0	0	4 (oily rags, sorbents, oil filters) 4 (catalyst) ²

¹It is likely that multiple water treatment chemicals would be transported and hauled away in one delivery. If more than one supplier is used, then this delivery rate could double.

²Once every 3 to 5 years, the emissions control catalysts would need to be shipped offsite for recycling or disposal, and this would average out to approximately 4 truck shipments per year. The catalyst may be classified as solid hazardous waste.

BACKGROUND

An Offsite Consequent Analysis (OCA) for aqueous ammonia is necessary for staff to determine if additional mitigation is needed.

DATA REQUEST

181. Please provide the OCA for aqueous ammonia described in AFC Section 8.12.5.

Response: Due to the revision of the site plan, the Offsite Consequence Analysis for aqueous ammonia will be provided by February 15, 2002.

182. Please provide a schematic diagram and narrative describing the proposed catch basin under the aqueous ammonia storage tank and delivery vehicle transfer pad.

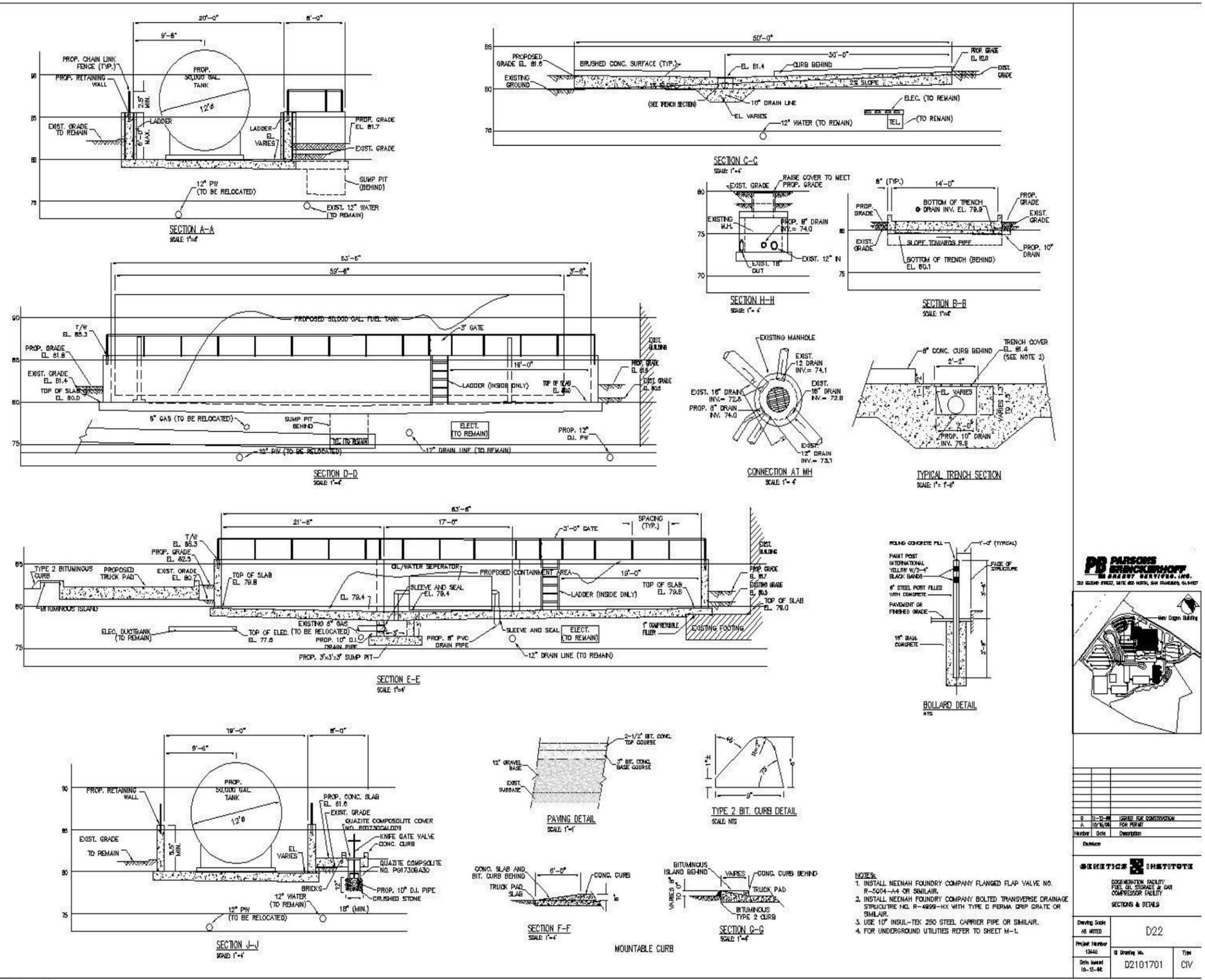
Response: Detail design of an ammonia storage tank and delivery vehicle catch basin is still several months away. However, the Applicant has provided drawings and a description of a typical unloading system for a distillate oil tank,

COSUMNES POWER PLANT (01-AFC-19)
DATA REQUESTS

noting that the ammonia unloading system at CPP will contain similar features. These drawings are included as Attachments HM-182a and b.

A bulk delivery truck parks on the designated apron. This apron has a slight curb around the periphery (similar to a “speed bump”) and the apron is also sloped such that the area drains into a trench drain. The trench drain would collect any spill within the curbed area and drain into the spill containment surrounding the storage tank. Spill containment capacity for the storage tank is significantly greater than a delivery truck so the containment volume does not require an increase in size to handle a possible delivery truck spill. The unloading hose connection area is also curbed and drains toward the trench should any liquid release occur during or after unloading from the hose or connection.

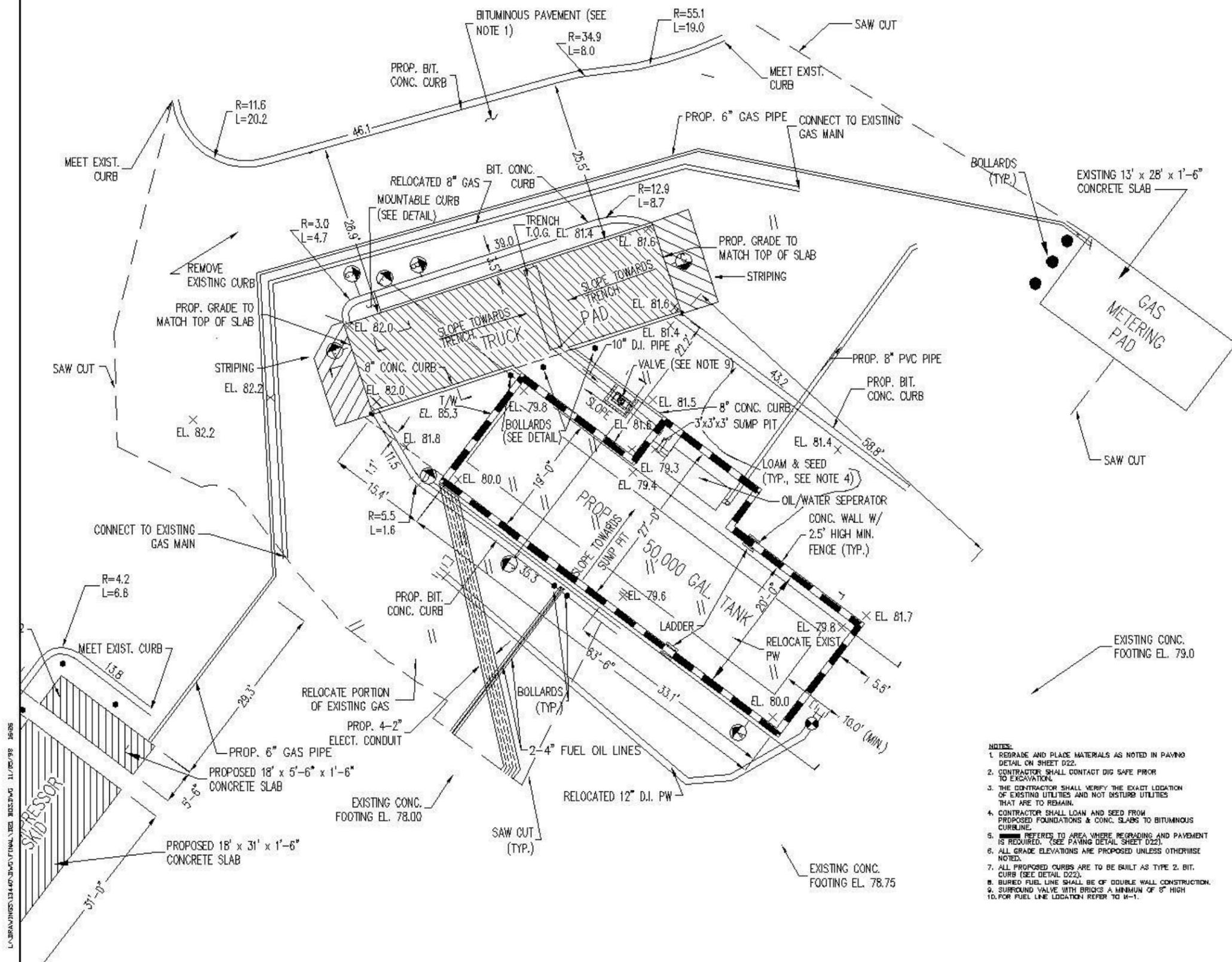
The drain from the storage tank containment area is valved and only opened manually. This valve will be opened as necessary to drain collected rain water and will remain closed at all other times. As with all equipment drains or spill containment drains, this drain goes to an oil- water separator before going to the wastewater treatment system. If there is a spill the drain valve will remain closed and the proper removal techniques will be employed in accordance with the NPDES and Stormwater Pollution Prevention Plan to safely remove and dispose of any spillage



REVISIONS NO. DATE DESCRIPTION _____ _____ _____	
Drawing Scale AS NOTED	D22
Project Number 13440	Drawing No. D2101701
Date Issued 10-15-00	Type CIV

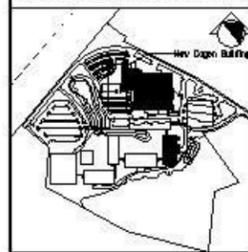
L:\DRAWINGS\13440\DWG\FINAL\2002\101500.DWG 11/15/00 14:07

DR 27, 1987 - 10/22/05 - LTV



- NOTES:**
1. REGRADE AND PLACE MATERIALS AS NOTED IN PAVING DETAIL ON SHEET D22.
 2. CONTRACTOR SHALL CONTACT DIG SAFE PRIOR TO EXCAVATION.
 3. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EXISTING UTILITIES AND NOT DISTURB UTILITIES THAT ARE TO REMAIN.
 4. CONTRACTOR SHALL LOAN AND SEED FROM PROPOSED FOUNDATIONS & CONC. SLABS TO BITUMINOUS CURBLINE.
 5. [Symbol] REFERS TO AREA WHERE REGRADING AND PAVEMENT IS REQUIRED. (SEE PAVING DETAIL SHEET D22).
 6. ALL GRADE ELEVATIONS ARE PROPOSED UNLESS OTHERWISE NOTED.
 7. ALL PROPOSED CURBS ARE TO BE BUILT AS TYPE 2. BIT. CURB (SEE DETAIL D22).
 8. BURIED FUEL LINE SHALL BE OF DOUBLE WALL CONSTRUCTION.
 9. SURROUND VALVE WITH BRICKS A MINIMUM OF 8" HIGH.
 10. FOR FUEL LINE LOCATION REFER TO M-1.

PB PARSONS BRINCKERHOFF
 222 SECOND STREET, SUITE 400, SAN FRANCISCO, CA 94107



Number	Date	Description
0	11-15-01	ISSUED FOR CONSTRUCTION
A	10/13/02	FOR PERMIT

GEOTECNICO CONSULTING
 COOPERATION FACILITY
 FUEL OIL STORAGE & GAS
 COMPRESSOR FACILITY
 PLAN

Drawing Scale	1"=10'	
Project Number	13440	
Date Issued	10-15-02	D21G16
		CM

COSUMNES POWER PLANT (01-AFC-19)
DATA REQUESTS

Technical Area: Waste Management
CEC Author: Alvin Greenberg, Ph.D.
CPP Authors: Karen Parker

BACKGROUND

The Phase I Environmental Site Assessment (ESA) that was prepared by SMUD is not complete for the 30-acre site or the 26-mile gas pipeline. Additionally, the Phase I ESA that was prepared states that 1993 ASTM guidelines were followed while the most recent standards are July 2000.

DATA REQUEST

183. Please provide a complete Phase I ESA for the 30-acre site, laydown areas, and 26-mile gas pipeline corridor according to ASTM 2000 guidelines.

Response: As stated in our letter filed January 11, 2002, SMUD objects to this Data Request as an unnecessary project expense. However, based on discussions at the Data Response Workshop held on January 25, 2002, it is SMUD's understanding that the CEC staff is satisfied with information furnished in the AFC for the 26-mile gas line. In addition, SMUD agrees to provide a Phase I ESA for the 30-acre plant site.