February 2, 1998

Ms. Charlene L. Wardlow
Environmental Manager
Calpine Corporation
1160 N. Dutton, Suite 200
Santa Rosa, CA 95401

Dear Ms. Wardlow:

SUTTER POWER PROJECT DATA REQUESTS

Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission staff requests the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess project alternatives and potential mitigation measures.

Data requests are being made in the areas of: air quality, biological resources, cultural and paleontological resources, hazardous materials management, land use, public health, soils and water resources, transmission system engineering and visual resources. Written responses to the enclosed data requests are due to the Energy Commission staff on or before March 4, 1998, or at such later date as may be mutually agreed.

If you are unable to provide the information requested, need additional time to provide the information or object to providing it, you must, within 15 days of receipt of this notice, send a written notice to both Commissioner Michael C. Moore, Presiding Member of the Committee for the Sutter Power Project proceeding, and me. The notification must contain the reasons for not providing the information, the need for additional time and the grounds for any objections (see Title 20, California Code of Regulations section 1716 (e)).

A publicly noticed workshop is scheduled for February 10, 1998, at the Energy Commission, to discuss and clarify these data requests. Staff will be available to answer questions regarding the data requests and the level of detail required to answer the requests satisfactorily.

If you have any questions regarding the enclosed data requests, please call me at (916) 654-4074, or Marc Pryor, the assistant project manager, at (916) 653-0159.

Sincerely,

Paul C. Richins, Jr.
Energy Facility Siting Project Manager

Enclosure

cc: Sutter Power Project Proof of Service List
Ray Menebroker, Air Resources Board
Mike Negrete, Central Valley Regional Water Quality Board
Sam Castillo, Department of Fish and Game
John Nelson, Department of Fish and Game
Bob Orcutt, Department of Fish and Game
Ron Schlorff, Department of Fish and Game
Dale Whitmore, Department of Fish and Game
Jerry Boles, Department of Water Resources
Ken Corbin, Feather River Air Quality Management District
Chris Mobley, National Marine Fisheries Service
Keith Martin, Regional Water Management Authority
Larry Williams, Sacramento National Wildlife Refuge
George Carpenter, Sutter County Community Services Department
Gary Kraus, Sutter County Office of Emergency Services
Ginger E. Fodge, U.S. Army Corps of Engineers
Matt Haber, U.S. Environmental Protection Agency, Region IX
Kelly Hornaday, U.S. Fish and Wildlife Service
Mark Littlefield, U.S. Fish and Wildlife Service
Lori Rinek, U.S. Fish and Wildlife Service
John Bridges, Western Area Power Administration
Nick Chevance, Western Area Power Administration
Loreen McMahon, Western Area Power Administration
Morteza Sabet, Western Area Power Administration

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SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

Table of Contents

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

Technical Area: Air Quality
Author: Magdy Badr and Keith Golden

ISSUE: The Application for Certification (AFC) identifies different levels of emission rates for the same pollutant in different tables. The carbon monoxide (CO) and particulate matter (PM10) emission rates reflected in Appendix 8.1E are different from those submitted in Appendix 8.1J. Additionally, the guaranteed nitrogen oxide (NOx) and volatile organic compound (VOC) emissions in Appendix 8.1E are different than those reported in Appendix 8.1J and in the air quality section 8.1. It is also our understanding that the applicant has proposed a revised NOx concentration of 3.5 parts per million (ppm) (Revised Authority to Construct Permit Application, p. 13, January 9, 1998). The tables below should reflect this new proposed NOx level.

1. a. Please provide the maximum continuous hourly air emissions rates, excluding start-up and shut-down, for each combustion turbine generator (CTG), CTG plus duct burner and cooling tower in a table format similar to the following. A separate table should be provided for each turbine manufacturer being considered (GE and Westinghouse).

	Units	NOx	ROC	PM10	CO	SOx
CTG	lb/hour					
CTG + Duct Burner	lb/hour					
Cooling Tower	lb/hour					

b. Please provide all the assumptions and calculations which were used to calculate the above air pollutant emission rates.

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

2. a. Please provide, in a table format similar to the one below the SPP's maximum daily and annual emissions. A separate table should be provided for each turbine manufacturer being considered (GE and Westinghouse).

	Hours/Day	NOx	ROC	PM10	CO	SOx
Start-up per CTG						
CTG max. emissions steady state						
CTG + Duct Burner						
Cooling Tower						
Total daily emissions per combustion turbine train						
Total project daily emissions (lbs/day)						
Total annual emissions (tons/year)						

b. Please provide all the assumptions and calculations which were used to calculate the above air pollutant emission rates.

3. Please provide the manufacturers' letters that guarantee the above emission rates for the CTG, duct burner, and manufacturers' letters of the efficiency of the cooling tower drift eliminators.

ISSUE: The AFC reflects that a supplemental duct burner will be utilized in the operation of the Sutter Power Project (SPP) for 5460 hours each year (page 8.1-18). However, in Appendix 8.1E, it is stated that the duct burner will only fire when ambient temperatures are at 115^{o} F. Staff requests clarification as to the operational parameters for the firing of the duct burner.

4. Please describe the criterion, including the derivation of the annual operation of 5460 hours, that was used to determine when the duct burner will be utilized in the operation of the SPP.

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

ISSUE: Appendix 8.1E, p. 4, shows start-up emissions for the Westinghouse 501F combustion turbine. However, there is no information presented on start-up emissions from the GE Frame 7FA that is also being considered for this project. Staff requests the start-up and shut-down emissions for the GE 7FA turbine in order to sufficiently analyze the project.

5. Please provide emissions data for hot start-up, cold start-up and shutdown conditions for the GE Frame 7FA turbine.

ISSUE: The SPP's operation will require the installation of a cooling tower. As described in the AFC, page 8.1-20, it is a six-cell mechanical cooling tower with a drift rate of 0.0006 percent. The PM10 emissions calculation associated with the operation of the cooling tower assumes that 50 percent of the total suspended particulate (TSP) associated with the mist drifting from the cooling tower are PM10. Staff considers that all particulate emissions from the cooling tower drift are PM10.

6. Please explain the rationale for assuming that PM10 emissions represent only 50 percent of TSP from the cooling tower drift.

7. The cooling tower TSP and PM10 hourly emissions rates presented on page 8.1-20 are different from those presented in table 8.1-18 on page 8.1-24. Please explain these discrepancies.

ISSUE: Appendix 8.1L, submitted on January 8th, 1998, lists various sources of emission reduction credits (ERCs) considered by the applicant to offset the project's emissions. These sources are located in four different air quality management districts including Placer, Feather River, Sacramento Metropolitan and Colusa.

8. Please describe the status of your efforts to acquire ERCs, and provide a schedule of milestones which you plan to accomplish to acquire options to purchase the required ERCs prior to the Commission's decision on the project.

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

Technical Area: Biological Resources
Author: Linda Spiegel

ISSUE: The waste water discharge contains chemical constituents that could affect fisheries in the Sutter Bypass and Sacramento River, and giant garter snakes in the SPP effluent conveyance canals. This effluent will be mixed with waste water discharge from Greanleaf 1 power plant and chemicals from irrigation run off in the conveyance system.

9. Please provide a list of measures that will be taken to mitigate the direct, indirect (e.g. prey species), and cumulative impacts of the waste water discharge from the SPP project to the spring-, fall-, late fall-, and winter-run chinook salmon, Central Valley Steelhead, Sacramento splittail, and giant garter snake.

ISSUE: The waste water discharge can cause an increase in temperature within the effluent conveyance canals and in the Sutter Bypass. Table 8.2-11 provides estimates of temperature changes as a result of the effluent under various operating conditions and water flows. The column labeled "Scenario" in this table lists various flows that are not defined in the table or in the text.

10. Please define the flow scenarios listed in Table 8.2-11.

ISSUE: The SPP footprint will take 1 acre of a 4.19 acre wetland (SPP - 33). Mitigation proposed to minimize impacts from construction vehicles to this pool and surrounding wetlands is to cover these with a construction cloth.

11. Please describe in more detail what a construction cloth is and how it will protect the surrounding wetlands from impacts due to construction activities.

ISSUE: Table 8.2-9 of the AFC shows 12 acres (9.9 acres of grassland and 2.1 acres of wetland) of permanent habitat lost due to construction of the power plant. Construction activities may also result in temporary disturbance to areas outside of the power plant footprint.

12. Please describe all actions that will be taken to minimize disturbance to areas surrounding the power plant footprint, identify the amount of habitat that will be temporarily disturbed by construction activities, and describe measures planned to mitigate for temporary habitat disturbances caused by construction activities.

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

ISSUE: Table 8.2-13 of the AFC shows that 0.006 acres of giant garter snake habitat will be temporarily lost due to placement of thirty-two 40-inch diameter utility poles. Staff believes that placement of utility poles represents a permanent loss of habitat to both giant garter snake and Swainson's hawk and that construction activities may create temporary habitat disturbances. Further, it is unclear if the area needed for the utility pole foundations are included in the 0.006 acres.

13. Please explain how this action would not represent a permanent loss of Swainson's hawk foraging and giant garter snake habitat and how placement of the utility poles will be done in a manner that does not cause further temporary impacts to the habitat. Also, please identify the dimensions of the foundations needed for the utility poles, including, if appropriate, any additional area required for corner poles.

ISSUE: The AFC is inconsistent regarding the need to use laydown areas for equipment storage (see pages 8.2-25, 8.5-43, 8.2-49, and 8.2-62). On AFC pg 8.2-43, the applicant states that "If deemed necessary, a biological clearance will be obtained for those areas."

14. Please explain what is meant by a biological clearance, and under what criteria and authority a clearance will be deemed necessary.

ISSUE: The switchyard will be located on a 4-acre upland area that will consist of a 1.9-acre footprint and a 10-foot strip of cleared vegetation around the footprint's perimeter. The entire 4-acre area will be surrounded by a chain link fence. The AFC states that 1.9 acres of Swainson's hawk foraging habitat and giant garter snake upland habitat will be permanently lost from construction of the switchyard (Table 8.2-13). This implies that the remaining 2.1 acres, including the 10-foot strip of cleared vegetation, remains suitable Swainson's hawk foraging and giant garter snake habitat and that no temporary loss of habitat will occur from construction activities. Some methods used for clearing vegetation, such as herbicides, may impact biological resources.

15. Please describe the features of the remaining 2.1 acres of habitat as they will appear after construction, and discuss how this habitat will be of continued value to the Swainson's hawk and the giant garter snake. Also, describe the methods that will be used to keep the 10-foot strip surrounding the footprint cleared of vegetation and steps that will be taken to avoid or mitigate temporary impacts from construction and maintenance activities.

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

ISSUE: Surveys for Swainson's hawks along the pipeline route, west of the Sacramento River, were conducted once on April 30 (letter dated January 8, 1998 from Calpine). Swainson's hawk nesting season begins in April, but many nests are constructed after April 30. Swainson's hawk nests can be difficult to detect in the canopies of large trees, and the pipeline route west of the Sacramento River has several oak trees in the vicinity that are suitable nest sites. Locations of all known nest sites in the project vicinity must be identified to conduct a thorough biological analysis.

16. Please provide the expected dates to survey for Swainson's hawk nests in 1998 and the date the results of these surveys will be provided to the Energy Commission staff.

ISSUE: The wetlands located within the 77-acre SPP site support species of vernal pool fairy shrimp. Mosquito abatement techniques are known to cause impacts to vernal pool fairy shrimp and its habitat.

17. Please describe what, if any, steps have been or will be taken to control mosquitos on site and how these techniques may impact the aquatic biota occurring in the wetlands.

ISSUE: The AFC (page 8.2-66) states that a Biological Assessment will be prepared to address potential impacts to special status species and proposed mitigation measures to avoid or reduce those impacts, as required under a Section 7 consultation of the federal Endangered Species Act. The AFC (page 8.2-70) describes permits that must be obtained to comply with applicable Laws, Ordinances, Regulations, and Standards (LORS). Consultation with the California Department of Fish and Game will also be required for state listed species. Compliance with these LORS in a timely manner will prevent unnecessary delays in the certification process.

18. Please provide a schedule outlining the expected time frames for completing the consultation process with appropriate agencies and for obtaining the necessary permits.

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

ISSUE: AFC pages 8.2-66 through 8.2-71 describes general mitigation measures for state and federally listed species and wetlands. For mitigation measures to be successful, it is important that there be clear and detailed instructions for responsible individuals to carry out. This is best accomplished by the preparation of a Biological Resources Mitigation Implementation Plan (BRMIP), which will be used to implement mitigation measures in consultation with the project's designated biologist. The BRMIP is intended to address all sensitive biological resources (including non-listed species) that could be affected by the project.

19. Please provide a detailed draft BRMIP that includes details of proposed mitigation and monitoring actions addressing the following items:

    - Qualifications of a designated biologist employed by the applicant to ensure the provisions of the BRMIP are properly carried out;

    - Identification of all sensitive biological resources to be impacted, avoided, or mitigated by project construction and operation;

    - Provisions for including all conditions agreed to in the U.S. Fish and Wildlife Section 7 Consultation and California Department of Fish and Game (CDFG) Endangered Species Memorandum of Understanding and/or Biological Opinions;

    - Provisions for including all mitigation, monitoring and compliance conditions included in the Commission's Final Decision;

    - Provisions for including all conditions required in a CDFG Streambed Alteration Permit, if applicable;

    - Clear description of the means of providing required habitat compensation, including provisions for acquisition, enhancement and management, for any loss of sensitive biological resources;

    - Clear description of mitigation measures required for each sensitive biological resource;

    - All locations, on a map of suitable scale, requiring temporary protection identification and avoidance during construction;

    - Duration of each type of monitoring, all monitoring locations, and a description of monitoring methodologies and frequency;

- Performance standards to be used to help decide if and when proposed mitigation is, or is not, successful and a process to recommend changes in mitigation;

- Detailed description of a worker education program, including what specific subjects will be covered, to what extent written and/or video material will be used, provisions for workers to acknowledge they have received and agree to abide by the education program; and,

- Any other items the applicant feels are important and should be included in the BRMIP.

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

Technical Area: Cultural and Paleontological Resources
Author: Kathryn Matthews

ISSUE: For the technical areas of cultural and paleontologic resources, the potential for impacts to the resources is directly related to the extent of project-related disturbance to the ground surface and to the width and depth of disturbance below the ground surface. Either type of disturbance can dislocate sensitive resources and significantly rearrange and/or destroy the depositional context of the resources below the surface. To analyze the potential for project impacts to cultural and paleontologic resources, staff requests relatively detailed information on the extent of surface and sub-surface ground disturbance associated with construction of the project and related facilities.

The AFC indicates that PG&E will need to reconfigure a 4-inch gas pipeline located in Colusa County, on the west side of the Sacramento River. Section 7.3 (AFC page 7-4) describes PG&E's construction methodology for gas pipelines, including providing a range of widths and depths of trenching for placement of the pipe. The description is given as "typical" but appears to be keyed to the proposed 16-inch pipeline.

20. Please discuss whether the extent of surface disturbance and the expected dimensions of the trenches for the 4-inch pipeline will be the same as for the 16-inch pipeline, or will smaller equipment be used to decrease the extent of disturbance. If the methods are different, what is the estimated extent of surface and sub-surface disturbance associated with construction of the 4-inch pipeline?

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

Technical Area: Hazardous Materials Management
Author: Rick Tyler

ISSUE: The Sutter County Department of Community Services, Office of Emergency Services has identified several concerns regarding their ability to effectively respond to an accidental release of anhydrous ammonia given the potential release quantities associated with the proposed project. In addition, they have raised concerns regarding the resources necessary for them to participate in the federal Risk Management Program (RMP) which will require review of all plans and procedures and auditing of all RMP implementation at the facility. These concerns are described in the January 6, 1998 letter from the Assistant Director, Gary Kraus (Attachment A).

21. Please provide a discussion regarding the concerns raised in the attached letter from Sutter County Department of Community Services, Office of Emergency Services and describe how these concerns will be addressed.

ISSUE: A protocol is described in Section 8.12.3 of the Sutter Power Project AFC for the modeling a worst case accidental release of anhydrous ammonia from the proposed facility. While staff generally agrees with the proposed protocol, we believe that additional information regarding probability of occurrence will be needed to assess the significance of impacts if the modeling suggests the possibility of off-site impacts.

22. Please provide modeling of an accidental release of ammonia as described in the protocol provided in Section 8.12.3 of the AFC. The worst case scenario should also include emissions from a free spreading pool between the storage tank and the delivery vehicle unless a catchment basin between the delivery vehicle and the diked area under the storage tank is to be included as part of the project. This modeling should also include an evaluation of the probability of occurrence associated with concentrations exceeding 75 ppm at any off-site receptor included on Figures 8.12-1 (a) and (b). This should include evaluation of the probability of the accidental release scenario, concurrent worst case meteorological conditions described in the protocol and winds in the direction of any impacted receptor.

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

Technical Area: Land Use
Author: Amanda Stennick

ISSUE: Staff will be assessing the potential temporary land use, agricultural and biological resource impacts of the project and related linear facilities. Page 8.4.6 of the AFC (paragraph following Table 8.4-2) states that "The plant site will probably serve as the laydown area..." for the construction of the proposed transmission line route. Figure 1.1-2 (Site Arrangement of the SPP Project) does not indicate the proposed laydown area. Page 8.2-25, Figure 8.2-4 shows a "possible laydown area" in the northeast area of the existing Greenleaf plant.

23. Please indicate the locations of the proposed laydown, staging and storage areas for:

    - Construction of the proposed transmission line route, and switching station;
    - Construction of the proposed 16-inch gas pipeline route;
    - Construction of the proposed 4-inch gas pipeline route; and,
    - Construction for the power plant facilities.

24. For each of the locations identified in question 23 above, please provide the following:

    - Whether the proposed laydown, staging and storage areas will be on vegetated, paved, or otherwise disturbed sites;
    - Describe the habitat of the proposed laydown, staging and storage areas;
    - The number of acres for each proposed laydown, staging and storage area;
    - Which of the areas identified in question 23 above (laydown, staging and storage) were included in pre-AFC or post-AFC cultural and paleontological resource surveys.

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

Technical Area: Public Health
Author: Mike Ringer

ISSUE: Natural gas dehydrator facilities may emit toxic air contaminants which could require an assessment of potential public health risks and possible mitigation depending on site specific circumstances. PG&E will address these concerns during the New Source Review Authority to Construct permitting process.

25. Please provide a schedule showing when PG&E will apply for Authority to Construct permits for the dehydrators from the Colusa County APCD and the Feather River AQMD as well as when the permits are likely to be issued.

ISSUE: Groundwater containing potentially toxic constituents will be used for plant operations such as cooling and will ultimately be discharged both to the atmosphere and to surface waters where there may be potential public health concerns.

26. Please provide sampling data for bromide in SPP site groundwater as well as estimated concentrations in the cooling tower effluent.

27. Please provide the results of the surface water modeling referred to on AFC page 8.6-11 for metals and other compounds of concern including bromide which may be found in plant effluent. Please include all waste streams which may contribute to the discharge such as demineralizer regeneration wastes, cycle makeup treatment wastes, cooling water blowdown, boiler blowdown, and chemical feed area drains.

28. Please provide the results of the screening cancer risk assessment for cooling tower effluent in public water supplies as referenced on page 8.6-11 of the AFC. Please include all carcinogens which are expected to be in the effluent. Also include results for chronic noncancer hazards.

29. Please clarify if the model SPP effluent could contain mercury. (Table 8.14-6 lists ND for mercury in the effluent although the site groundwater in Table 8.14-2 lists 0.0016 mg/L).

30. Please indicate whether acute and chronic health risk assessments discussed in the AFC include noncriteria pollutant emissions from the cooling tower drift. If they do not, please provide a screening level analysis for potential constituents of concern such as arsenic, barium, and mercury and any others as appropriate.

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

ISSUE: Toxic chemicals will be used for operating and maintaining the boilers and cooling towers and may be contained in the effluent discharged to surface waters, leading to potential public health concerns.

31. Please specify which O_2 scavengers may be used.

32. Please provide material safety data sheets for chemicals (including those listed in question 31 above) anticipated to be used for routine water conditioning.

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

Technical Area: Soils and Water Resources
Author: Joe O'Hagan

ISSUE: Construction of the Sutter Project may induce water and wind erosion at the power plant site and along the associated linear facilities.

33. Provide a draft erosion control, revegetation and stormwater management plan that identifies measures that will be implemented at the power plant and associated facilities. The plan will identify all permanent and temporary measures in written form and depicted on a construction drawing(s) of appropriate scale. The elements of the plan shall include temporary and permanent measures including stormwater runoff control and revegetation efforts. Measures addressing Nation Wide Permits 12 and 26 requirements for 401 Water Quality Certification should be identified. Revegetation efforts should address both erosion control and habitat restoration. Revegetation information in the plan should specify the type of seed and fertilizer, seeding and fertilizer rate, application method, the type and size of any container plants to be used and the criteria for judging revegetation success. The plan should also identify maintenance and monitoring efforts for all erosion, stormwater runoff control and revegetation measures including measures to rectify unsuccessful revegetation efforts.

34. Appendix 9A, page A-6 indicates that site drainage facilities will be designed for a 25-year, 24-hour rainfall, and that these facilities will be designed to prevent flooding of permanent plant facilities during a 100-year, 24-hour storm. Please clarify this apparent discrepancy.

35. Please provide a plot plan showing existing and proposed contours for the power plant site. The plan should be at a scale of one inch equals one hundred feet (1"=100') and indicate permanent drainage features.

ISSUE: Wastewater discharges from the proposed project may adversely affect water quality, aquatic resources and public health.

36. Page 8.2-61 of the AFC states that an instream water temperature model (SNTemp-Stream Network Temperature Model) will be used to estimate temperature changes along discharge waterways between the project and Pumping Plant No. 2. It goes on to state that if there is an association between the effluent and an increase in water temperature at the pumping plant, additional analysis will be done for the Sutter Bypass and the Sacramento River. Please identify and justify all the parameters and assumptions used in the temperature modeling as well as identify the results. Please provide and

discuss the results of model calibration and uncertainty analysis. Also provide, if appropriate, when modeling of project temperature effects on the Sacramento River and the Sutter Bypass will be done.

37. On page 8.6-11 of the AFC, it is stated that surface water dispersion modeling will be conducted in accordance with EPA Water Quality Assessment (1985). For metals, these guidelines recommend MINEQL. However, other fate and transport models are also available which may be used to address metals and other constituents. Please provide a surface water quality modeling protocol that identifies as well as justifies the model selected, the constituents to be addressed and the other parameters to be addressed. The protocol should be discussed at a workshop prior to the modeling being conducted.

38. Because of the potential for water quality impacts resulting from the project effluent discharges, please provide a discussion of potential mitigation measures that would reduce the effects of the effluent discharge on receiving waters. Such mitigation measures should include chemical or physical water supply or wastewater treatments. Potential measures to be considered may include, but are not limited to, ion exchange, reverse osmosis, crystallization and chemical precipitation. In addition, the discussion should address discharging the wastewater to the Yuba City wastewater treatment plant. The discussion should include a review of the economic and water quality advantages or disadvantages for each of the alternatives considered.

ISSUE: The proposed project will require an average of 4.3 million gallons of groundwater per day. Adjacent property owners have expressed concerns about project groundwater pumping on their wells.

39. The AFC in Table 8.14-4 indicates that average daily groundwater demand is 4.336 million gallons per day (mgd) and maximum demand is 6.353 mgd. It is unclear from the table and the discusion in the text how these numbers were developed and for what time periods the project will require the maximum amount of groundwater. Please provide an explanation of how groundwater demand was estimated and at what frequency the maximum flow will be required.

40. The AFC on page 8.14-22 provides a well drawdown analysis for one new well located in the northeast corner of the site. This analysis indicates that a well drawdown of one foot will result from this well operating for one year. The project, however, will be operating with three new wells in addition to the existing wells which are being used for the Greenleaf 1 Project. Please provide a drawdown analysis for the three Sutter Power Project wells and a drawdown

analysis of these wells and the Greenleaf 1 wells operating at the same time. The analysis should identify the anticipated drawdown on neighboring wells for the life of the project or until a steady state condition is reached.

41. Because of the high water demand of the proposed project, alternative cooling technologies that would reduce water use should be evaluated. Please provide an analysis of the cost and water consumption associated with the use of dry or wet/dry cooling technology for the proposed project. The analysis should identify for both dry and wet/dry cooling technologies the estimated capital and operating costs and anticipated water demand. This analysis should identify all assumptions, examples and information sources used in the analysis.

42. Because of the high water demand of the proposed project, alternative sources of cooling water should also be evaluated. In the prefiling material, it is stated that treated municipal wastewater effluent from the Yuba City water treatment plant would be available in sufficient quantity and quality to supply the project. The discussion goes on to indicate that major economic, environmental and permitting issues need to be addressed before this could become a viable alternative water source. Please provide a more detailed discussion of economic and environmental issues involved in using this effluent as a cooling water source. This analysis should identify and discuss the need and costs associated with necessary upgrades at the wastewater treatment plant, construction and operation of an eight mile long pipeline and changes in water treatment at the proposed power plant.

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

Technical Area: Transmission System Engineering
Author: Al McCuen and Ean O'Neill

ISSUE: Staff will be performing an independent assessment of the applicant's power flow analysis and assumptions to determine conformance with transmission system reliability criteria and to identify potential mitigation measures.

43. a. There are two different ratings for the California Oregon Intertie (COI), Midway-Vincent, and Pacific Direct Current Intertie (PDCI) listed in Appendix 6A. Please explain the following discrepancies in the power flow analysis and indicate which values are correct.

    - Pages 9 and 10 show the following ratings used in the base case:

      COI: 4800 MW
      Midway-Vincent: 2000MW
      PDCI: 2400 MW

    - Page 18 shows the following ratings used in the base case:

      COI: 4632 MW
      Midway-Vincent: 1755 MW
      PDCI: 2176 MW

    b. Which ratings were used in the base case? If the ratings on page 18 were used, would the higher ratings on pages 9 and 10 have any significant impact on the outcome of your analysis?

44. In Appendix 6A, Single Line Diagram, C9011 is missing and C9011a was inserted twice. Please provide a copy of C9011.

45. In Appendix 6A, Attachment 3, C90opb is listed twice. Please explain whether the same case was used for two different studies.

46. When will the Final Interconnection Study be completed? When the study is submitted, please show loads and losses and enlarged single line diagrams that include Tesla, Vaca-Dixon, Bellota and Pit River.

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

Technical Area: Visual Resources
Author: Gary Walker

ISSUE: Staff will be determining the degree of visual impacts of the major structures of the project. The visual resources data adequacy revisions (page 8.11-18) provided the height but only one of the two other major dimensions (length or width) of the major structures.

47. Please revise the submission to include the length, width, and height of the major structures of the project. Additionally, please include the dimensions of the switchyard proposed for the termination of the proposed transmission line, under the Western 230 kV transmission line and towers, mentioned on page 8.11-20.

ISSUE: Staff will be determining the accuracy of the simulations provided.

48. The AFC contains visual simulations of the power plant and transmission line. Please provide a discussion demonstrating that the simulated size of the facilities is accurate. Include a description of the simulation technology used and the means for verifying the accuracy of the simulation.

49. Please provide the dimensions of the major structures of the existing Greenleaf 1 facility for comparison purposes.

ISSUE: Staff needs to understand the impact assessment methodology used in the AFC.

50. The AFC, in regard to power plant impacts (pages 8.11-18 to 8.11-19), specifies why a visual impact level was arrived at for Key Observation Points (KOPs) 1, 2, and 5. Please provide similar explanations for KOPs 3 and 4.

51. The AFC, in regard to transmission line impacts (page 8.11-20), specifies why a visual impact level was arrived at for KOPs 5 and 6. Please provide a similar explanation for KOP 4.

ISSUE: Staff will be determining the impact of the proposed transmission lines.

52. The AFC (page 8.11-20) states that from KOP 5, a view from the corner of South Township and O'Banion roads, "project transmission poles are clearly visible from this view." The AFC then states that "The visual impact from this location is considered moderate because of pole visibility." Please explain why the visual impact is not considered high.

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

ISSUE: Staff needs to determine the effectiveness of the proposed mitigation measures.

53. The AFC (p.8.11-23) states that "plantings will probably be comprised of a mixture of evergreen and deciduous plants rather than a single species, in order to provide year-round coverage." Since deciduous plants do not provide year-round coverage, why would they be used at all?

54. The AFC (p.8.11-4) mentions two dehydrator units proposed as parts of the project. Please specify the dimensions of each of the natural gas dehydrating units. Please specify the height of the fencing and vegetation that will surround them.

55. The AFC (p.8.11-20) states that one of the mitigation measures for visual impacts to residences at KOP 4 will be not placing the poles directly in front of these homes. To help staff determine the effectiveness of this measure, please specify the distance that a pole can be moved to accomplish such a goal. Please also describe any placement mitigation for the corner pole at South Township and O'Banion Roads (KOP5).

ISSUE: The AFC (p.6-23) states the "Three line routes to the proposed switching station have been considered and discussed with property owners. Two shorter routes, although more economically attractive, were eliminated from consideration due to concerns by property owners and users. The route shown on Figure 6.1-3 was selected because it best addresses land owner issues of:

- Access for recreational use, e.g., hunting.
- Access for aircraft for planting and maintaining crops.
- Visual impact for area residents.

56. Given the potential visual impact of routing the line along South Township Road, please explain how the chosen route best addresses land owner issues of visual impact for area residents.

57. Please describe in more detail how and to what degree the chosen route best addresses the landowner issue of access for recreational use, e.g., hunting, and specify how and the degree to which the other two routes would interfere with such recreational use.

58. Please describe in more detail how and to what degree the chosen route best addresses the landowner issue of access for aircraft for planting and maintaining crops. Please include a description of the direction or directions used for aircraft planting and maintenance of the farmland bounded by the Sutter Bypass, Pierce Road, South Township Road, and O'Banion Road.

59. Please explain how all of these concerns were weighed in coming to the conclusion that the proposed route best addresses the issues discussed.

SUTTER POWER PROJECT
DATA REQUESTS
(97-AFC-2)

Attachment A
Letter of January 6, 1998 from Gary W. Kraus, Asst. Director
Sutter Co. Dept. of Community Services
Office of Fire and Emergency Services

Paul Richins, Siting Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Dear Mr. Richins:

I have reviewed the application for CalPine's power plant on Township Road in the Oswald Area. There are fire issues that will need to be addressed based upon my review of the documents, attendance at a hearing in Sacramento last summer and conversations with Rick Tyler of the California Energy Commission.

1. The applicant should avoid use of quantities of Anhydrous Ammonia or any other chemical that will trigger Federal RMP and PSM requirements. The reason being that the county wishes to avoid the need for costly regulatory staff to handle the associated reporting requirements. Such increased expenses would be passed on to CalPine.

2. CalPine has indicated that their employees would be trained in emergency response to mitigate, somewhat, the need to expand the fire department to handle emergencies at their facility. However, their Application for Certification states that only three employees will be onsite during non-office hours (128 hours weekly). It would be a reasonable assumption that these employees are essential to running some facet of the plant. How then are they able to handle any type of emergency that would require the use of respiratory protection, air monitoring or fire fighting? A reported chemical emergency of fire at this facility should bring an immediate response of a fully equipped HazMat Team for Level "A" entry with a minimum of seven Technical/Specialists plus appropriate support staff. In that regard additional Fire Department personnel will likely be needed.

3. From the site plan it appears that a single 20 foot wide road is the sole access to the project. Given that routine traffic as well as emergency access will enter the complex in this manner, the roadway is not wide enough. Also, a second means of access for use during emergencies meeting UFC standards must be provided in a location remote to the primary access.

4. Currently, the County Fire Department provides HazMat Team services throughout Sutter County. However, equipment is dispersed throughout the three manned stations. All equipment should be brought together at a central point and placed on a single piece of equipment. CalPine should be responsible for all or part of the acquisition cost of such a vehicle as well as the cost of additional HazMat equipment, suits and monitoring equipment, as may be needed to handle both onsite and transportation related incidents. Other specialized equipment to be carried on such a vehicle would include high angle and confined space rescue gear. Because of the risks associated with the construction and commission of this facility the vehicle and equipment should be on line and personnel trained in its use prior to significant construction beginning onsite.

5. The effect of Impact Fees and Special Taxes should be evaluated with respect to mitigate the cost of obtaining, manning and maintaining the required equipment.

We appreciate the opportunity to provide these preliminary comments early in the process. It is anticipated that as we continue with the application process, new issues or currently unseen issues may arise that will result in other concerns by this office.

Sincerely,

Gary W. Kraus, Assistant Director
Fire and Emergency Services

GWK:rlb

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